

# Croatia

	Croatia				EU
	DESI 2017	DESI 2018	DESI 2019		DESI 2019
	value	value	value	rank	value
<b>1a1 Fixed broadband coverage</b>	<b>97%</b>	<b>99%</b>	<b>&gt;99.5%</b>	<b>8</b>	<b>97%</b>
% households	2016	2017	2018		2018
<b>1a2 Fixed broadband take-up</b>	<b>70%</b>	<b>70%</b>	<b>72%</b>	<b>19</b>	<b>77%</b>
% households	2016	2017	2018		2018
<b>1b1 4G coverage</b>	<b>67%</b>	<b>73%</b>	<b>94%</b>	<b>19</b>	<b>94%</b>
% households (average of operators)	2016	2017	2018		2018
<b>1b2 Mobile broadband take-up</b>	<b>78</b>	<b>82</b>	<b>84</b>	<b>21</b>	<b>96</b>
Subscriptions per 100 people	2016	2017	2018		2018
<b>1b3 5G readiness</b>	<b>NA</b>	<b>NA</b>	<b>0%</b>	<b>13</b>	<b>14%</b>
Assigned spectrum as a % of total harmonised 5G spectrum			2018		2018
<b>1c1 Fast broadband (NGA) coverage</b>	<b>60%</b>	<b>68%</b>	<b>83%</b>	<b>20</b>	<b>83%</b>
% households	2016	2017	2018		2018
<b>1c2 Fast broadband take-up</b>	<b>7%</b>	<b>14%</b>	<b>19%</b>	<b>26</b>	<b>41%</b>
% households	2016	2017	2018		2018
<b>1d1 Ultrafast broadband coverage</b>	<b>NA</b>	<b>35%</b>	<b>39%</b>	<b>26</b>	<b>60%</b>
% households		2017	2018		2018
<b>1d2 Ultrafast broadband take-up</b>	<b>0%</b>	<b>1%</b>	<b>5%</b>	<b>26</b>	<b>20%</b>
% households	2016	2017	2018		2017
<b>1e1 Broadband price index</b>	<b>56</b>	<b>63</b>	<b>72</b>	<b>26</b>	<b>87</b>
Score (0 to 100)	2016	2017	2018		2017

## 1. Progress towards a gigabit society

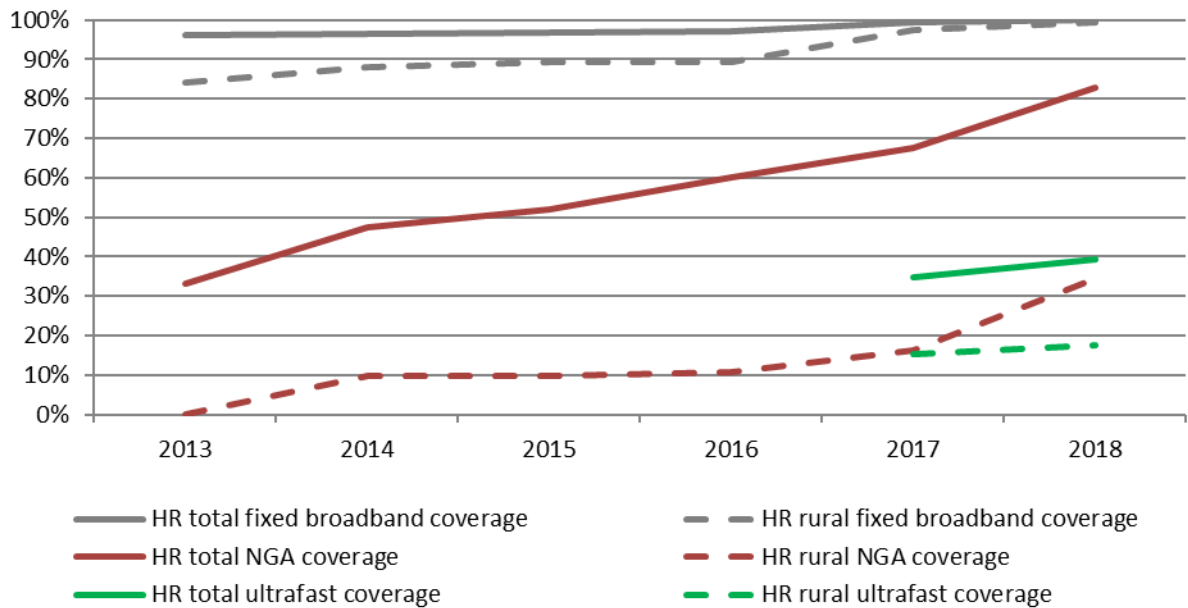
Croatia reached 100 % fixed broadband coverage for all households (both total and rural) in 2019. On next generation access (NGA) coverage, Croatia improved by 15 p.p. compared to 2018, reaching the EU average of 83 %. However, significant regional differences in NGA coverage persist. Croatia modestly improved its ultrafast broadband coverage, but remains significantly behind the EU average. On total ultrafast coverage, Croatia is 20.5 p.p. below the EU average, while ultrafast coverage in rural areas reached 17.4 %, still below the EU average of 29.2 %.

On fibre to the premises (FTTP), Croatia continued to increase coverage, but coverage remains below the EU average. More than half of Croatia's ultra-fast broadband lines are FTTP. On rural coverage, Croatia reached 3.7 % in comparison to marginal coverage of 0.2 % that it had in 2017, closing still significantly below the EU average (14.1 %).

Currently, there are no investments in ultra-fast networks in areas of no commercial interest. According to the Croatian authorities, the reasons for that are low demand mostly caused by unfavourable demographic situation and low economic activity in general in these areas. However, in some urban areas, there is parallel NGA infrastructure, and there are signs that infrastructure-based competition is starting to develop.

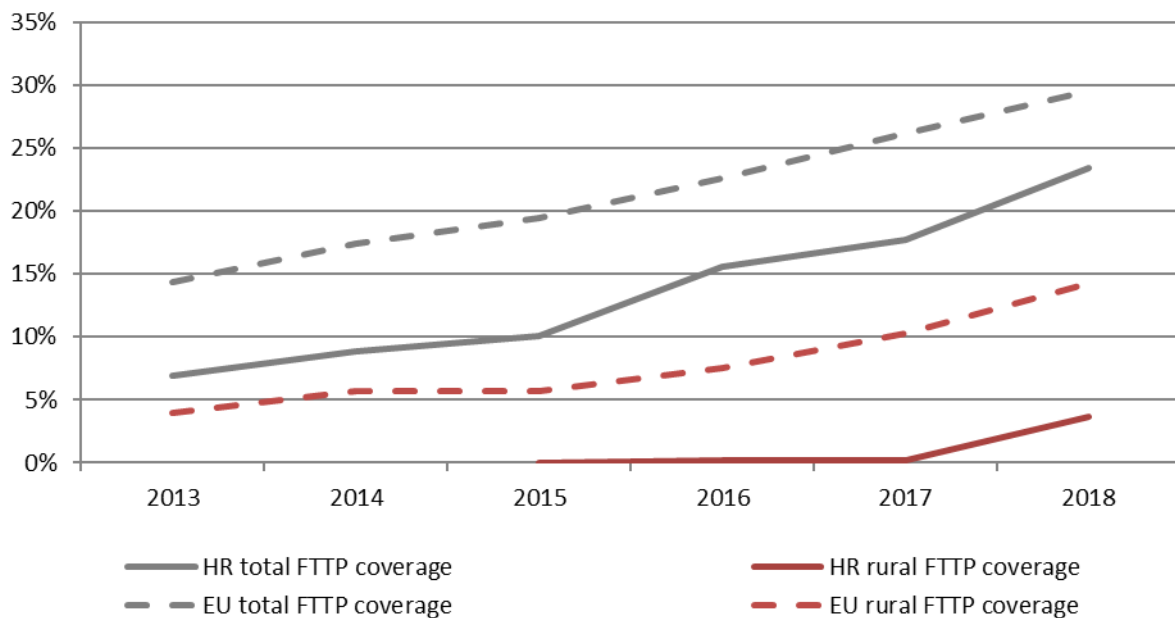
There are two national, EU-co-financed NGN schemes in Croatia: the Framework national programme for the development of broadband access infrastructure (ONP) and the National programme for backhaul broadband infrastructure development (NP-BBI). For the implementation of ONP, there is €123 million available from the European Regional Development Fund (ERDF), and for the implementation of NP-BBI there is €101.4 million available, of which €86.2 million is being provided by the ERDF. Both programmes focus on areas where high-speed connectivity is neither available nor planned due to a lack of commercial interest.

**Fixed, NGA and ultrafast coverage, total and rural at Member State level (% of households), 2013-2018**



Source: Commission services, *Broadband coverage in Europe Study*, commissioned to IHS and Point Topic. 2013-2014 data as of end of December; 2015-2018 data as of end of June. Ultrafast coverage metrics are available for 2017 and 2018.

**Fibre-to-the-premises (FTTP) coverage, total and rural at Member State level (% of households), 2013-2018**



Source: Commission services, *Broadband coverage in Europe Study*, commissioned to IHS and Point Topic. 2013-2014 data as of end of December; 2015-2018 data as of end of June.

The Ministry of Regional Development and EU funds is responsible for the ONP as intermediary body 11 and HAKOM is responsible as a competent authority for ONP at national level. The public call for

<sup>1</sup> According to Article 123 of Regulation EU 1303/2013, a Member State may designate one or more intermediate bodies to carry out certain tasks of the managing or the certifying authority under the responsibility of that authority. In particular,

state aid within the ONP was expected by the end of 2018 but it was published on 19 March 2019.<sup>2</sup> By the end of Q3 of 2018, there were 68 new projects covering white areas in 448 municipalities expected to apply on the public call in 2019<sup>3</sup>.

In April 2018, the Croatian government finally adopted the NP-BBI programme, which was already approved under the EU state-aid rules in June 2017. According to a government decision, company OiV is responsible for technical implementation of the programme, and the Directorate-General for Strategic Planning and EU funds of the Ministry of the Sea, Transport and Infrastructure (hereinafter: the MSTI) is designated as CAB.

Although all funding was made available, no significant implementing measures were undertaken in 2018. Therefore, the implementation of both programmes is seriously delayed and the milestones are being postponed, putting at risk the absorption of available funds. Apart from the ONP, there are no other specific programmes in place that target rural and underdeveloped areas. It appears that the government is relying solely on the ONP to bridge the digital gap between urban and rural areas. It follows that the goals set for 2020 for NGA coverage will be hard to achieve.

The current national development strategy for broadband access is not aligned with the objectives of the gigabit society. However, preparatory work to achieve this alignment has already started. Work has also begun on the development of the draft national development strategy for 2030. An independent evaluation of the implementation of the strategy (hereinafter: 'the Study') was conducted in 2017 and 2018<sup>4</sup>. The results of the Study led the MSTI to decide to revise the strategy primarily to align it with the targets in the gigabit society. Some of the proposed actions have already been implemented.

In the WiFi4EU first call, 224 eligible entities from Croatia each won vouchers for €15,000.

In 2018, Croatia introduced additional measures to make it more attractive for operators to invest in the deployment of 5G networks and services<sup>5</sup>. In June 2018, Croatia abolished the one-off fees for the use of radio spectrum for public mobile networks amounting to HRK 150 m. per mobile network operator, for each new frequency band. In November 2018, the amount of the annual fee for the use of the radio frequency spectrum was further reduced for all three operators by 50 %, reducing the amount to the levels that have been used in 2014. A 5G working group was also set up that consisted so far of Croatian national regulator (HAKOM) and operators. The aim of the 5G group is to identify possible challenges and barriers to 5G deployment. Other institutions and industry bodies are also starting to get more involved in the working group. However, a deployment roadmap or strategy for 5G has not yet been adopted. An action plan for the deployment of 5G will be a part of the revised national broadband strategy that is planned for Q4 2019.

Limited 5G trials that began in 2017 continued in 2018. In summer 2018, HT and A1 reported tests of 5G. In June 2018, HT's first test-network operating in the 3.5 GHz spectrum band was implemented with the pre-installed 5G system. HT expects the first 5G commercial networks to be operational in 2020. In July 2018, in its presentation of 5G technology, A1 demonstrated for the first time its fully functional 5G equipment with a data transfer rate of over 20 Gbps.

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managing authority of the Operational Programme Competitiveness and Cohesion has designated different bodies as intermediate bodies to perform certain tasks for the managing authority. In this particular case there are two levels of IBs, the first layer is mostly in charge of preparation, launching the calls for proposals and selecting projects whereas the second layer is comprised of institutions, mainly agencies, working directly with the beneficiaries in grant contract implementation.

<sup>2</sup> Available at: <https://strukturnifondovi.hr/natjecaji/javni-poziv-za-iskaz-interesa-za-sudjelovanje-u-postupku-pred-odabirana-temelju-odobrenih-planova-razvoja-sirokopojasne-infrastrukture-a-vezano-za-odabir-prihvatljivih-prijavitelja-te-ispunjavanje-k/>.

<sup>3</sup> The prior technical evaluation of the projects was carried out by HAKOM, therefore the number is known.

<sup>4</sup> Study is available at: <http://www.mppi.hr/default.aspx?id=3625>.

<sup>5</sup> In December 2017, Croatia reduced the amount of the annual fee for the use of the radio frequency spectrum for all three operators by one third.

A1's project 'Croatian multi-gigabit islands – the examples of Rab & Cres' was a finalist in the European Broadband Awards 2018 in the 'territorial cohesion in rural and remote areas' category. The project's goal was primarily to provide multi-gigabit connectivity from the mainland to the remote island areas of Rab and Cres through a hybrid solution that used optical links and microwave radio links<sup>6</sup>.

Commercial fibre to the home (FTTH) deployment continued in 2018, and 67 new rollouts of optical fibre distribution networks covering 49,725 households (and other potential users) were announced; rollout is planned to start in 2018. A1 continued its FTTH roll out in 2018 (41,220 covered users in 2018 compared to 38,293 in 2017). The incumbent slowed down its rollout significantly with seven new optical fibre distribution networks covering only 8,505 users in 2018 compared to 26,114 in 2017. However, HT continued the reconstruction of its copper network by building street cabinets and new nodes. Since the beginning of 2018, HT has built 44 new cabinets and nodes (combined), and it has implemented — or is planning to implement — vectoring on all of these. HT started to test G.fast technology on fibre to the business (FTTB) networks, and expects commercial deployment to start in 2019.

## 2. Market developments

Due to the consolidation<sup>78</sup> in the market in recent several years, the Croatian telecommunications market is now strongly consolidated. The incumbent HT and A1 (the second largest operator) dominate the fixed market. Overall, there were no major changes of market share in the past year. The entry of a strong new operator could increase competition, bringing benefits such as greater choice for users, price declines, and improvements in quality, just as the entry of TELE2 Croatia to the mobile market did.

There are two wholesale-only broadband network operators in the market. Digital City is present only in the city of Zagreb, and Infrastruktura is active in few smaller cities. Having limited coverage, both wholesale-only operators cannot significantly affect the market.

Although mobile telephony penetration is almost 102.3 % in Croatia, 78 % of households continue to have a fixed-telephone-network subscription. It therefore appears that Croatian end-users are not substituting their fixed line with a mobile subscription.

The number of users of bundled services continued to grow. Apart from '2-play' (internet and mobile) and '3-play' (internet, mobile and TV) bundles, there are also offers for '4-play' bundles of services (including fixed telephone network, internet, TV and mobile). More than half of all bundle subscriptions in Croatia include TV/content services. It appears that the TV/content services are one of the main drivers for subscribing to a bundle, due to the savings that end-users can benefit from. It is expected that this TV/content market segment will continue to grow. The pay-TV market in Croatia<sup>9</sup>

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<sup>6</sup> <https://ec.europa.eu/digital-single-market/en/content/croatian-multi-gigabit-islands-examples-rab-cres-croatia>.

<sup>7</sup> In 2006, HT acquired Iskon Internet. In June 2014, HT took over management of Optima Telekom. In October 2015 A1 (under former name of VIPnet) merged with Amis Telekom. In 2017, Optima Telekom merged with H1 Telekom, and A1 (under former name of VIPnet) acquired local alternative telecommunications operator Metronet Telekomunikacije.

<sup>8</sup> In June 2014, Croatian incumbent HT took over management of alternative fixed network operator Optima Telekom following the completion of the pre-bankruptcy settlement procedure and the adoption and registration of the decisions by the General Assembly of Optima Telekom. The Croatian Competition Agency (AZTN) ruled that the duration of the concentration of HT and Optima Telekom shall be limited to a period of four years, starting from HT's acquisition of control. On 9 June 2017, AZTN approved a prolongation of the HT's management rights over Optima Telekom until 10 July 2021. The incumbent must commence with the transparent, objective and non-discriminatory sale procedure of its shares held in Optima in January 2020 via a competitive international call for tender. The sales procedure should be prepared by 1 July 2019 and preference will be given to a potential buyer that is not yet present in the Croatian market.

<sup>9</sup> IPTV, SATTV, cable reception, digital terrestrial reception.

continues to grow in 2018: its customer base increased by 4 % compared to 2017. Around 28 % of pay-TV subscribers have an IPTV subscription. The HT group has a 55 % share of the pay-TV market.

In July 2017, Slovenia Broadband announced that it planned to acquire Nova TV in Croatia. On 26 March 2018, the Croatian Competition Agency cleared the merger between Slovenia Broadband and Nova TV after the Electronic Media Agency assessed the merger as ‘admissible’ under the special provisions of the Electronic Media Act. The acquisition of Nova TV was completed in July 2018 for €86.4 million.

In November 2018, HT announced the acquisition of 100 % of HP Produkcija, the owner and operator of Evotv, which had a 6 % share of the pay-TV market in Croatia. Evotv has been in operation since 2012, and has been gaining market share since its entry to the market, becoming the third-largest pay-TV operator due to its wide availability. Evotv is widely available because it does not use traditional infrastructure. Instead, it uses digital terrestrial reception via free-to-air technology, allowing it to easily reach rural areas and islands. This means that it can already reach 94 % of households. HT uses the IPTV and SATTV technologies to broadcast its pay-TV services. In January 2019, HAKOM decided to launch an in-depth investigation into HT’s acquisition of Evotv, as its preliminary assessment showed that the acquisition could have a significant effect on the pay-TV market. HAKOM also considered whether the negative effects that could follow approval of the acquisition could override the possible positive effects and thereby significantly distort competition. However, on 27 February 2019 HAKOM approved<sup>10</sup> the acquisition provided certain conditions were met to eliminate any potential negative effects that the acquisition might have on competition<sup>11</sup>.

## **2.1. Fixed Markets**

There was no new consolidation in 2018 in the fixed market. Seven new operators submitted prior notification for provision of electronic telecommunication services on the fixed telephony market.

In the fixed market, HT (the incumbent and a part of the Deutsche Telekom Group), its affiliated company Iskon (100 % owned), and Optima Telekom (HT has control over Optima Telekom), continue to have a stable and high market share. These three companies account for 76 % of the fixed voice market, 69 % of the fixed broadband market, and 55 % of the pay-TV market. With the recently approved acquisition of Evotv, HT further increased its market share in the pay-TV market. HT also dominates the business market, with a 67 % share of the market for business users in fixed telephony services and a 70 % share of the market for business users in fixed broadband.

The Croatian fixed broadband market continued to grow at an annual rate of 3 % in 2018, reaching 1.11 million fixed broadband connections at the end of July 2018.

DSL remains the dominant technology for the delivery of broadband access services in Croatia, but its decline continued at a similar pace as the EU average. In Croatia, there is modest competition from cable networks and FTTH/B technology.

Consequently, FTTH take-up increased from a marginal level in 2017 to 5.3 % coverage in 2018.

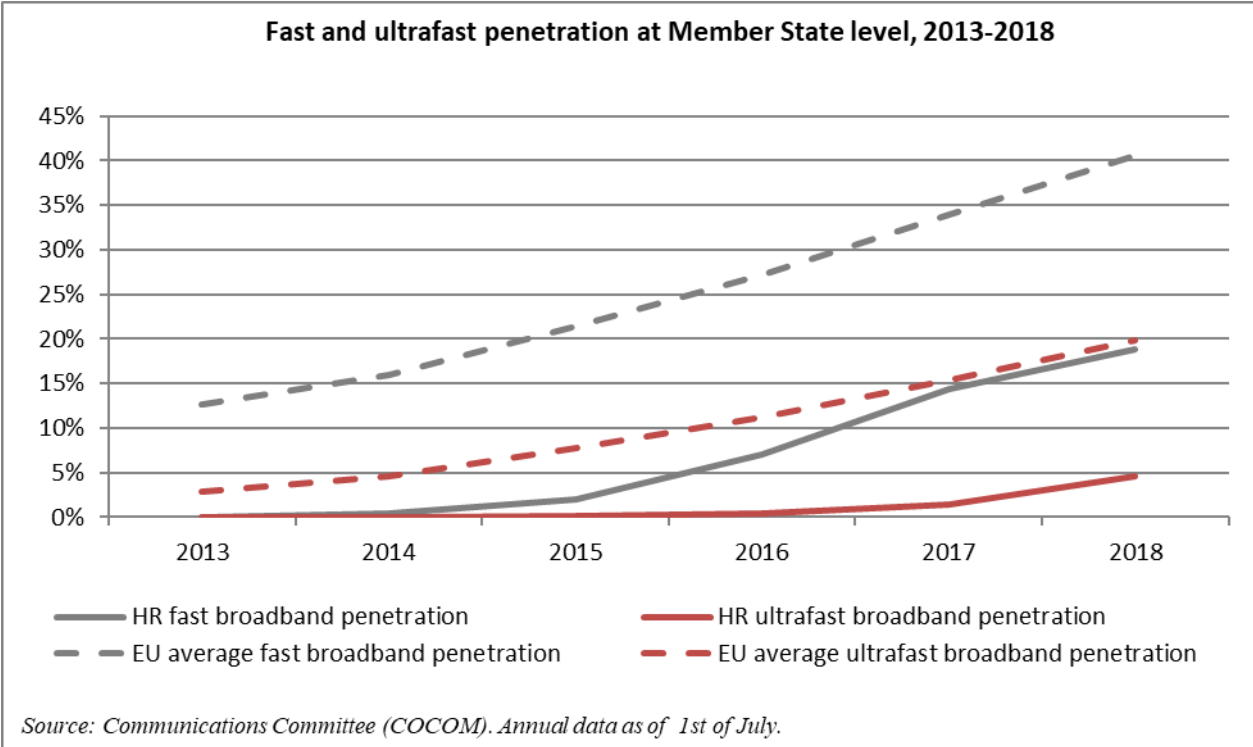
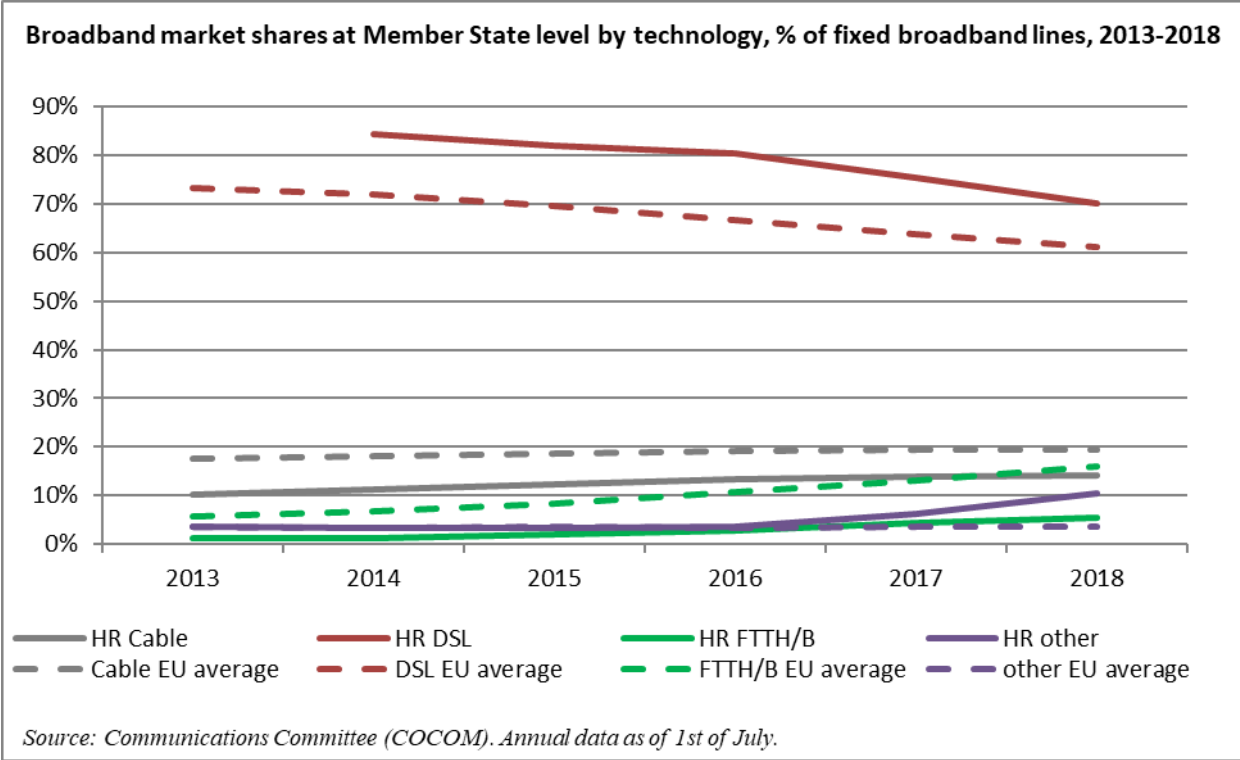
The transition to fast broadband connections is slower than in other EU Member States, with Croatia ranking 26<sup>th</sup> out of 28 for fast broadband take-up in 2018. Fast broadband penetration increased from 14.4 % in 2017 to 18.8 % in 2018, a level that is still less than half the EU average of 40.6 %. The

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<sup>10</sup> Thresholds set in the Croatian Competition Act (Article 17) were not cumulatively met. Therefore, according to the Croatian Act on Electronic Communications (Article 68), HAKOM was competent to assess the notification.

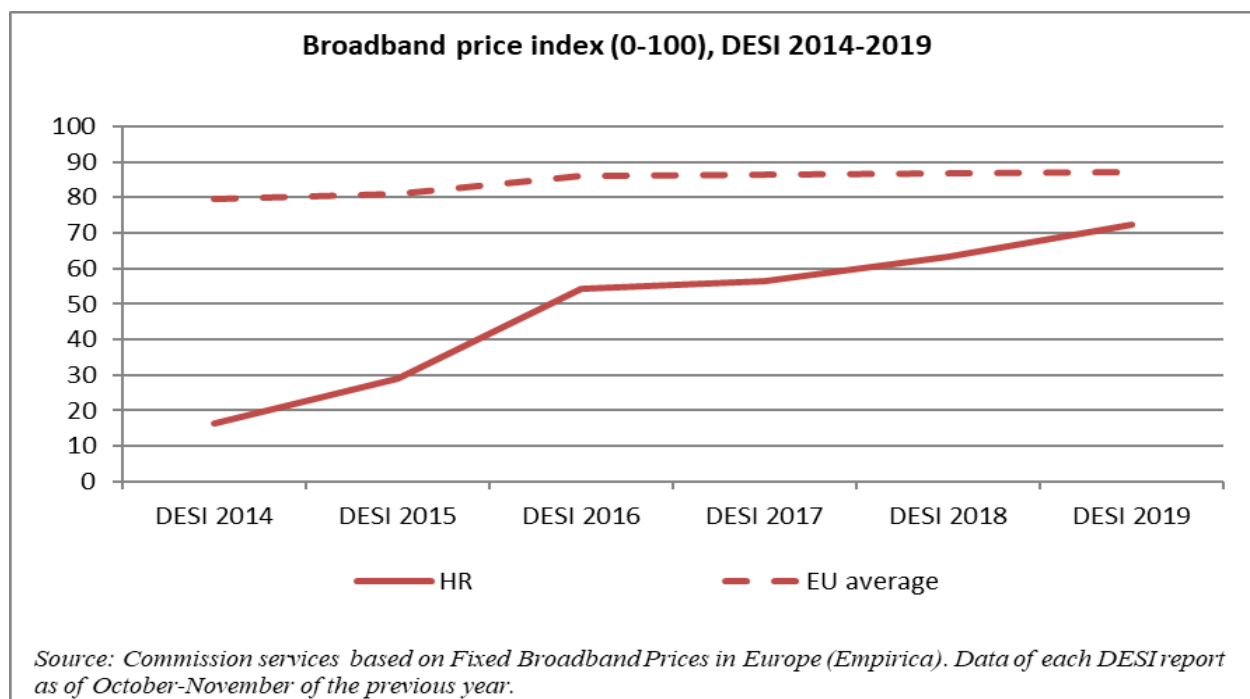
<sup>11</sup> Decision available here: [https://www.hakom.hr/UserDocsImages/2019/odluke\\_rjesenja\\_presude/Odluka-Kona\\_%C4%8Dno\\_%20rje\\_%C5%A1enje\\_%20mjere\\_%20-EVO\\_%20TV-20190227\\_%20v\\_%201.0..pdf](https://www.hakom.hr/UserDocsImages/2019/odluke_rjesenja_presude/Odluka-Kona_%C4%8Dno_%20rje_%C5%A1enje_%20mjere_%20-EVO_%20TV-20190227_%20v_%201.0..pdf).

penetration of ultrafast broadband increased from 1.4 % to 4.6 %, remaining significantly below the EU average of 19.9 %.



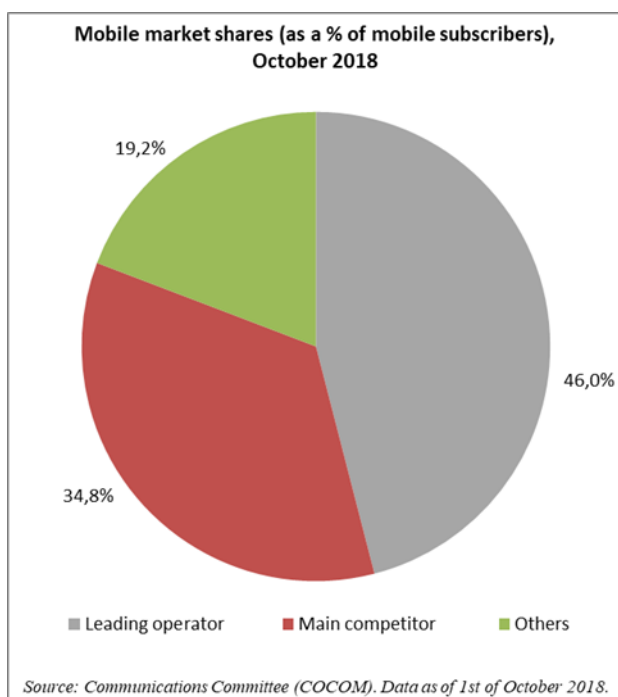
Despite HAKOM’s 2017 analysis that concluded that there were no legal or regulatory obstacles to co-investment, there were no co-investment agreements for the rollout of fixed broadband lines or any co-investment initiatives in 2018. Additional incentives could be explored.

Fixed broadband prices in Croatia are in general higher than the EU average, but they continued to decline in 2018<sup>12</sup>.



## 2.2. Mobile markets

There are three mobile network operators (MNOs) that compete in the Croatian mobile market, and this is reflected in the increasing affordability of handset offers.



As of October 2018, the leading mobile operator in Croatia had a 46.0 % share of the market for mobile subscribers. With 34.8 %, its main competitor followed, while the remaining operator served 19.2 % of the subscribers.

The number of mobile subscribers increased 1 % year-on-year. There was a decline in the prepaid market, while the post-paid subscriber base continued to grow, continuing the general shift in the market from prepaid to post-paid.

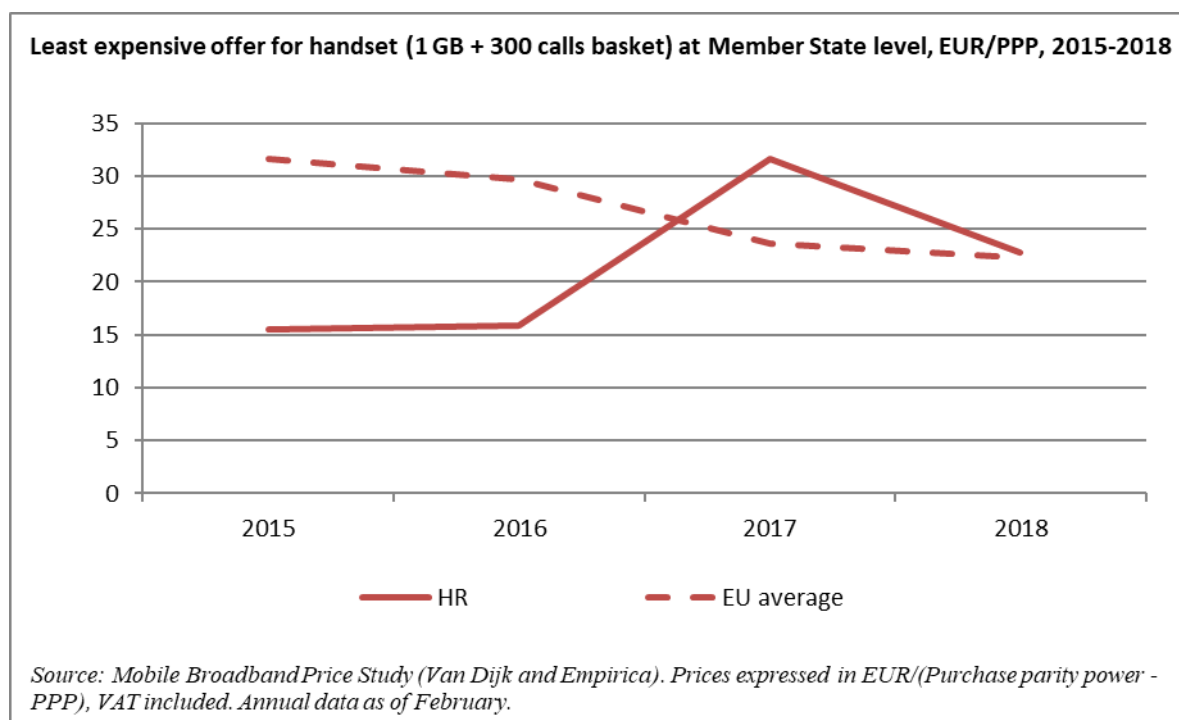
Several MVNOs are registered, but according to HAKOM none of them are actually providing services. Over-the-top (OTT) players (such as Skype, WhatsApp, Viber, etc.) have a significant influence on the mobile market. In the first six months of 2018,

<sup>12</sup> The fixed broadband price index weighs the cheapest retail offers from: standalone, double play (BB + TV, BB + fixed telephony) and triple play (BB+TV+fixed telephony) and three speeds categories - 12-30 Mbps, 30-100 Mbps and +100 Mbps. This indicator presents values from 0 to 100 (which should not be read as prices) and the higher the values, the better the country performs in terms of affordability of prices relative to purchasing power.

SMS traffic volume declined by 13 % in comparison to the same period in 2017. However, mobile voice services are not declining. On the contrary, use of mobile voice services increased by 3.01 % in the same period. By the end of June 2018, mobile users in Croatia had already consumed 75 % of the total mobile data traffic they consumed in 2017.

Croatia significantly improved its performance in terms of 4G coverage reaching the EU average of 94 % in 2018. All three mobile operators offer 4G services with competitive packages. For mobile broadband, in 2018, there were 84 subscriptions per 100 people<sup>13</sup>, a figure that is still below the EU average of 96 subscriptions per 100 people. The reason for this might be that Croatian users are still not substituting mobile subscriptions for their fixed line (78 % of all households have a subscription to the fixed telephone network). Currently there are no plans to phase-out 2G or 3G.

Prices for mobile broadband continued to fall in 2018, and are now at the same level as the EU-28 average.



### 3. Regulatory developments

#### 3.1. Spectrum

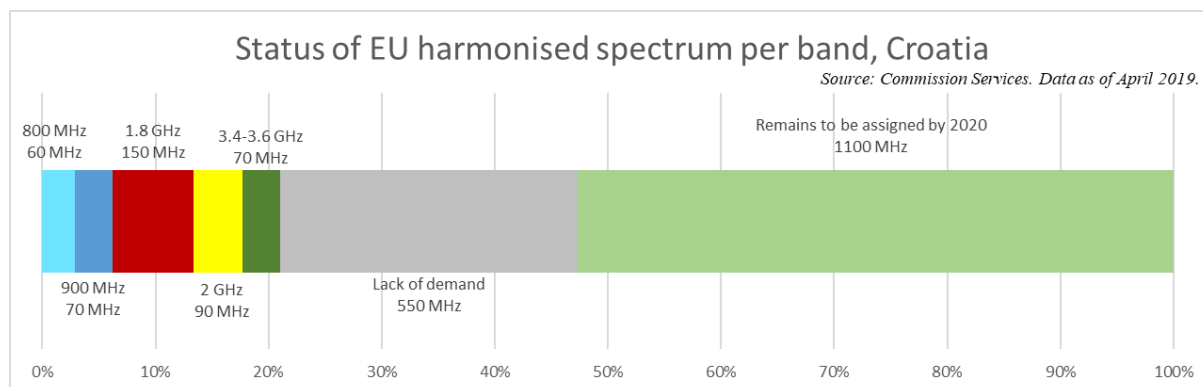
Croatia has assigned 440 MHz (which is 21.1 % of the spectrum harmonised at EU level) for wireless broadband<sup>14</sup>. This is below the EU average of 39 %. No auctions of spectrum took place in 2018. In the 3,400-3,594 MHz band, 124 MHz is available but not used. After 4 November 2023, the whole band will be available countrywide. The 3.594-3.8 GHz band will be available countrywide after 31 December 2020 (122 MHz is already available). Available spectrum in both bands is not in a contiguous block.

<sup>13</sup> All active users in July 2018.

<sup>14</sup> The 5G spectrum readiness indicator is based on the amount of spectrum already assigned and available for use for 5G by 2020 within the so-called 5G pioneer bands in each EU Member State. For the 3.4-3.8 band this means that only licences aligned with the technical conditions annexed to Commission Decision (EU) 2019/235, are considered 5G-ready. On the contrary, the percentage of harmonised spectrum takes into account all assignments in all harmonised bands for electronic communications services (including 5G pioneer bands), even if this does not meet the conditions of the 5G readiness indicator.



The spectrum that remains to be assigned is in the 700 MHz, 2.6 GHz, 3.6-3.8 GHz, and 26 GHz bands. A review of spectrum assignment in pioneer bands is in the internal reflection phase<sup>15</sup>. The timely assignment of the pioneer bands could improve prospects for wireless connectivity.



In November 2018, the Commission sent a letter of formal notice to Croatia because it did not adopt a national plan — and did not decide any specific date — for the start and completion of the assignment process of the 700 MHz band for wireless broadband electronic communications services in compliance with the deadline set by Decision 2017/899<sup>16</sup>.

At the end of 2017, coordination agreements with neighbouring countries had been signed, but local television plans and the transition period were still to be negotiated. Croatian authorities report that, from experience, the timing of transition in the neighbouring non-EU countries (Serbia, Bosnia and Herzegovina, and Montenegro) would largely determine whether it would be possible to use the 700 MHz band spectrum for mobile services in Croatia. In addition, there is still unresolved interference from Italian TV stations with coordinated Croatian channels, which will influence the availability of the sub-700 MHz band for Croatian TV stations.

In June 2018, Croatia abolished the one-off fees for the use of radio spectrum for public mobile networks amounting to € 2m. per mobile network operator, for each new frequency band. In November 2018, the annual fee for the use of the radio frequency spectrum was further reduced for all three operators by 50 %, reducing the amount to the levels that have been used in 2014.

In February 2019, Croatia notified that it had fully implemented Decision (EU) 2017/1483 (Short Range Devices - SRD)<sup>17</sup>.

### 3.2. Regulated access

In February 2018, HAKOM issued conditions for IP interconnection. They contained technical details on IP interconnection with mobile networks in the market for wholesale voice-call termination on individual mobile networks (market 2 of the 2014 Commission Recommendation on relevant markets<sup>18</sup>). Croatia's draft decision on IP interconnection had previously been notified to the Commission and the Commission did not comment.

<sup>15</sup> 5G Observatory Report 2 (up to December 2018), European 5G Observatory, prepared by IDATE. Available here: <http://5gobservatory.eu/wp-content/uploads/2019/01/80082-5G-Observatory-Quarterly-report-2-V2.pdf>.

<sup>16</sup> Decision (EU) 2017/899 of the European Parliament and of the Council of 17 May 2017 on the use of the 470-790 MHz frequency band in the Union, *OJ L 138*, p. 131.

<sup>17</sup> Commission Implementing Decision (EU) 2017/1483 of 8 August 2017 amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices and repealing Decision 2006/804/EC, *OJ L 214*, 18.8.2017, p. 3–27.

<sup>18</sup> Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, Text with EEA relevance, *OJ L 295*, 11.10.2014, pp. 79-84.

In February 2018, HAKOM also issued the Decision amending the reference offer for the wholesale central access market (market 3b of the 2014 Commission Recommendation on relevant markets<sup>19</sup>). In the Decision, HAKOM set: (i) the monthly fee for wholesale broadband access (WBA) based on fibre to the distribution point (FTTDP)<sup>20</sup>; and (ii) detailed arrangements (obtaining customer agreements, discounts) in cases where HT's active equipment is powered by means of return power supply. The draft decision was previously notified to the Commission and it did not comment.

Additionally, in February 2018, the Commission registered a notification from HAKOM on amendments to the symmetrical regulation on access to fibre distribution networks (market for wholesale local access at a fixed location, market 3a of the 2014 Commission Recommendation on relevant markets). HAKOM proposed to repeal the Ordinance on optical fibre distribution networks imposing obligations on all operators in Croatia who deploy optical fibre distribution networks (terminating segment of FTTH access network). In response to this notification, the Commission issued a comment on the need to ensure effective access to the fibre terminating segment in Croatia. In particular, the Commission invited HAKOM to reconsider its plans to repeal the Ordinance, and said that Croatia should keep the objectives that were set in 2014 to ensure effective access to the fibre terminating segment. Finally, HAKOM did not repeal the Ordinance in question.

In May 2018, HAKOM issued a Decision on three criteria for testing and analysing the market for access to the public telephone network at a fixed location (market 1 of the 2007 Commission Recommendation on relevant markets<sup>21</sup>). Market review was previously notified to the Commission. The Commission issued a comment on the commercially negotiated prices for wholesale line rental bundled with other wholesale access services. In this comment, the Commission asked HAKOM to monitor whether access seekers, in particular those who are independent from HT, could acquire wholesale line rental bundled with other wholesale services, if they so demand, on fair and reasonable terms. The Commission asked HAKOM to ensure that there was no margin squeeze between HT's (and its affiliated companies) wholesale and retail offers.

In October 2018, HAKOM issued a provisional measure on the margin squeeze test. The measure was applicable only for the prolongation of the deadline for the notification to HAKOM of retail prices on markets 3a and M3b (from 8 to 20 days prior to the application). This provisional measure was not notifiable under Article 7 of the Framework Directive<sup>22</sup>.

In November 2018, the Commission registered a notification from HAKOM, concerning call origination on the public telephone network provided at a fixed location (market 2 of the 2007 Commission Recommendation on relevant markets). Since the market for fixed call origination is no longer listed in the 2014 Recommendation on relevant markets, HAKOM conducted the three-criteria test<sup>23</sup>. HAKOM found that the criteria were cumulatively met, and therefore concluded that the market was still susceptible to ex ante regulation. In response, the Commission commented on the need to: (i)

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<sup>19</sup> *Ibid.*

<sup>20</sup> The fibre is extended to the last distribution point, usually located approximately 300 m from the relevant building. The remaining part of the network consists of copper elements.

<sup>21</sup> Commission Recommendation 2007/879/EC of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (2007 Recommendation on Relevant Markets), OJ L 344, 28.12.2007, p. 65.

<sup>22</sup> Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive), OJ L 108, 24.4.2002, p. 33, as amended by Directive 2009/140/EC, OJ L 337, 18.12.2009, p. 37, and Regulation (EC) No 544/2009, OJ L 167, 29.6.2009, p. 12.

<sup>23</sup> According to the 2014 Recommendation on Relevant Markets, the three-criteria test is carried out to determine whether: (i) the markets defined are characterised by high non-transitory barriers to entry, (ii) the markets defined lack a tendency to effective competition, and (iii) competition law is insufficient to address identified market failures.

further substantiate the SMP finding in the final measure; and (ii) closely monitor developments in the market for wholesale fixed call origination.

On 15 January 2019, the Commission registered a notification from HAKOM concerning the markets for wholesale call termination on individual public telephone networks provided at a fixed location and wholesale voice call termination on individual mobile networks (markets 1 and 2 of the 2014 Commission Recommendation on relevant markets). In response, the Commission issued a comment on the efficient level of termination rates, asking HAKOM to: (i) consider updating the current model with readily available and more up-to-date input data (i.e. traffic volumes); and (ii) assess the pertinence of the outcomes to the transition to the Eurorate, which must take into account the weighted average of efficient costs in the EU.

HAKOM resolved four regulatory disputes.

Most of the provisions of Directive 2014/61/EU<sup>24</sup> (the Broadband Cost Reduction Directive – BBCRD) have been transposed in Croatia through amendments to the Electronic Communications Act and the Act on Measures to Reduce the Cost of Deploying High-Speed Electronic Communications Networks.

The main competent authority for the implementation of this Directive is the Croatian national regulatory agency HAKOM, which ensures compliance with many requirements under this Directive, such as the national dispute settlement.

However, the central state administration body for construction and spatial planning, the State Geodetic Administration<sup>25</sup> (SGA), is the competent body for the creation and operation of a centralised Single Information Point (SIP). Contractors are obliged to announce planned and ongoing civil works on the website of the State Geodetic Administration. SGA set up a portal<sup>26</sup> for the purpose of SIP, but it is not yet fully functional.

Some examples of joint usage of infrastructure across sectors was reported, such as the use of physical infrastructure (poles) of the electrical distribution networks by telecom operators for deployment of high-speed networks.

The study on the implementation results of the strategy concluded that the implementation is divided between several public bodies<sup>27</sup>, but that none of these bodies is competent to holistically monitor the implementation of the BBCRD. Another issue that was discovered is that nobody has been appointed to inform the stakeholders, such as network providers and building co-owners and their representatives.

#### **4. End-user matters**

HAKOM received 1,556 complaints and 1497 complaints have been resolved as disputes between end-users and their operators<sup>28</sup>. The main source of consumer complaints were terms of contracts, followed by disputes over bills, quality of service, and special tariff services.

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<sup>24</sup> Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks, Text with EEA relevance, OJ L 155, 23.5.2014, pp. 1-14.

<sup>25</sup> Državna geodetska uprava.

<sup>26</sup> <https://e-obavijesti.dgu.hr/>.

<sup>27</sup> Ministry of the Sea, Transport and Infrastructure, HAKOM, Ministry of Construction and Spatial Planning and State Geodetic Administration.

<sup>28</sup> Data until 1 November 2018.

Legal obligations on the summary of essential contract information did not change. However, a working group for amendments was set up. This working group covers new obligations for operators on contract transparency.

According to the 2018 Consumer Markets Scoreboard, Croatia is assessed poorly by consumers for its fixed telephone services (ranking 20<sup>th</sup> out of 25 services assessed in Croatia), with as many as 9.5 percentage points below the market's EU average score<sup>29</sup>. Equally, the markets for mobile telephone services and internet provision did not show an improvement in their market performance indicator score between 2015 and 2017 and stand 8.4 and 6.1 percentage points below the markets' respective EU average scores.

#### **a. Net neutrality**

There were two cases in 2018. HAKOM carried out one formal assessment of a possible violation of Article 3(3) of Regulation 2015/2120/EU, concerning technical discrimination of traffic as part of the tariff option 'StreamOn' put on the market by the incumbent. The 'StreamOn' offer also involves traffic management measures, as bandwidth for video streams was throttled to a maximum of 2 Mbps (480p). This constituted unequal treatment of data traffic, and was therefore assessed under Article 3(3) of the Regulation. Upon HAKOM's intervention HT voluntarily aligned its offer with the Regulation, so no formal decision was taken. HAKOM also assessed the tariff option 'GO Video streaming' from the A1 operator, another zero-rating offer. The 'GO Video streaming' offer also involved traffic management measures, as bandwidth for video streams was throttled to a maximum of 0.9 Mbps (480p). This constituted unequal treatment of data traffic, and was therefore assessed under Article 3(3) of Regulation. A1 undertook to change the terms of service until the end of March 2019 to comply with the Regulation.

#### **b. Roaming**

HAKOM has not identified any case of confirmed or potential non-compliance with the RLAH rules, which have been in force since June 2017.

In Croatia, demand for roaming services continues to grow<sup>30</sup>. BEREC data also show clear evidence of seasonal tourist movements in Croatia. The reported data indicate that traffic for calls made grew by 4.8 % in Q1 2018, compared with Q1 2017<sup>31</sup>. Croatian end-users consumed 18.2 times more roaming data in in Q1 2018 than in Q1 2017<sup>32</sup>.

#### **c. Emergency communications - 112**

According to the 2018 Communications Committee (COCOM) 112 Implementation Report, calls to the emergency number 112 are answered within 5.2 seconds and 92 % of all calls are answered within 10 seconds<sup>33</sup>. The Commission is currently looking into the functioning of emergency communications and the 112 number in Croatia, focusing particularly on instant provision of caller location and equivalent access to emergency services.

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<sup>29</sup> Consumer Markets Scoreboard 2018 Edition, p. 126.

<sup>30</sup> International Roaming BEREC Benchmark Data Report October 2017 - March 2018, BoR (18) 160, Date of registration: 10.10.2018, [https://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/reports/8251-international-roaming-berec-benchmark-data-report-october-2017-march-2018](https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/8251-international-roaming-berec-benchmark-data-report-october-2017-march-2018)

<sup>31</sup> Figure 31 of the International Roaming BEREC Benchmark Data Report October 2017 - March 2018.

<sup>32</sup> Figure 72 of the International Roaming BEREC Benchmark Data Report October 2017 - March 2018.

<sup>33</sup> Implementation report is available here: <https://ec.europa.eu/digital-single-market/en/news/2018-report-implementation-european-emergency-number-112>.

## **5. Institutional issues**

In 2018, HAKOM cooperated with AZTN in the supervision of HT's managing rights over Optima Telekom<sup>34</sup>.

On 11 July 2018, the High Administrative Court rejected a complaint submitted by A1 (formerly known as VIPnet)<sup>35</sup>. The Court sided with HAKOM's argument that an operator may ask for changes in regulatory obligations, including prices, set out in its final decision only if it provides prima facie evidence that circumstances have significantly changed. Otherwise, the operator may not ask for a change of the final decision issued in proceedings where public consultations had been held and where the operator in question had had an opportunity to provide comments.

In DESI 2018, it was reported that many operators complained about the excessive right-of-way fee charged by local municipalities. The calculation and the amount of the fees are set in HAKOM's Ordinance on confirmation and compensation for the right of way<sup>36</sup>, which sets the fee. In the meantime, HAKOM initiated discussions with relevant stakeholders on possible future regulation of the right-of-way fees. HAKOM has also opened a public consultation on the Ordinance<sup>37</sup>. Operators have welcomed this initiative, but remain cautiously optimistic.

## **6. Conclusion**

In 2018, some slow progress was achieved. However, it has not been sufficient to increase Croatia's DESI ranking for connectivity. Croatia could speed up the rollout of the approved EU-funded access and backhaul networks to avoid the risk of losing EU funds. While the reduction of fees for the use of radio-spectrum is a positive development, Croatia still lacks a dedicated comprehensive strategy for 5G deployment and a roadmap for the timely assignment of the pioneer bands, both of which could improve its prospects for improving its wireless connectivity.

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<sup>34</sup> On 9 June 2017, the incumbent HT's management rights over Optima Telekom were prolonged until 10 July 2021.

<sup>35</sup> Case UsII-24/17-6.

<sup>36</sup> Ordinance on confirmation and compensation for the right of way, Croatian Official Journal 152/2011, 151/2014, 95/2017.

<sup>37</sup> Public consultation was closed on 6 December 2018.