

# Europe's Digital Progress Report -2017

## Telecoms chapter

### FINLAND

#### 1. Competitive environment

Coverage	FI-2015	FI-2016	EU-2016
Fixed broadband coverage (total)	97%	97%	98%
Fixed broadband coverage (rural)	84%	84%	93%
Fixed NGA coverage (total)	75%	75%	76%
Fixed NGA coverage (rural)	8%	8%	40%
4G coverage (average of operators)	no data	97%	84%

Source: Broadband Coverage Study (IHS and Point Topic). Data as of October 2015 and October 2016

#### Fixed broadband market

While Finland scores substantially above the EU average in its overall 4G coverage (97% against 84% for the EU), it nevertheless lags significantly behind the EU average in fixed broadband coverage (84% and 8% against 93% and 40% for the EU respectively). Fixed NGA coverage in rural areas is an even bigger challenge, and no progress in this area was reported in 2016. It should be noted that in Finland fixed wireless and mobile wireless technologies such as Wi-Fi, WiMAX and 3GPP Long Term Evolution (LTE) are a much more popular and economical way for providing Internet access in rural areas. Especially LTE800 launch and roll-out have met on many occasions the need for fixed broadband access in rural areas. The recent deployment of the 700 MHz frequencies should further improve the quality and coverage of fast broadband in rural areas.

In 2016, Finland's largest telecom operator, Elisa, bought the TV, IT and hosting businesses of the regional operator Anvia. Anvia was Finland's fourth biggest telecoms operator, with over 60 000 broadband customers. By acquiring Anvia's relevant businesses, Elisa increased its market share from 31% to 34 % of the fixed broadband market. TeliaSonera Finland accounts for 30% of the market, DNA for 25% and the Finnet group for 8%, while various others account for the remaining 3%.<sup>1</sup>

In July 2016, there were 1.71 million fixed broadband subscriptions, 44 000 fewer than at the end of 2014. The number of ADSL subscriptions continued to decline during that year, while cable modem, fibre (Ethernet, FTTH) and VDSL subscriptions continued to rise. Roughly 52% of Finnish households have access to a fast broadband connection of 100 Mbps and 58% to a connection of 30 Mbps or more. 58% of households have a fixed broadband connection and 35% of the subscriptions are 30 Mbps or more.<sup>2</sup>

The largest operators, Elisa, TeliaSonera Finland and DNA, have invested mainly in deploying FTTB/VDSL and upgrading cable TV networks in the largest cities. At the moment, Elisa is also implementing FTTC/VDSL in the capital and surrounding region. Elisa and TeliaSonera Finland have also expressed interest in deploying vectoring. While State Aid for broadband network deployment has accelerated FTTH roll-out in some parts of rural

<sup>1</sup> Source: Ficora, market shares of fixed broadband subscriptions at the end of June 2016.

<sup>2</sup> Source: Ficora.

areas, some sparsely populated areas still offer very little population coverage for fibre-optic broadband.<sup>3</sup>

As for prices, the cheapest fixed broadband price (12-30 Mbps or above) in Finland was €16.42 (lower than the EU average of €21.33).

<b>Fixed broadband market shares</b>	FI-2015	FI-2016	EU-2016
Incumbent's market share in fixed broadband	-	-	40.7%
Technology market shares			
DSL	51.7%	46.5%	66.8%
Cable	23.1%	23.8%	19.1%
FTTH/B	24.8%	29.2%	10.7%
Other	0.4%	0.4%	3.4%

Source: Communications Committee. Data as of July 2015 and July 2016

<b>New entrants' DSL subscriptions by type of access (VDSL excluded)</b>	FI-2015	FI-2016	EU-2016
Own network	-	-	0.7%
Full LLU	-	-	75,3%
Shared Access	-	-	4,1%
Bitstream	-	-	13.4%
Resale	-	-	6.6%

Source: Communications Committee. Data as of July 2015 and July 2016

<b>Charges of Local Loop Unbundling (monthly average total cost in €)</b>	EE-2015	EE-2016	EU-2016
Full LLU	5.1	4.9	9.2
Shared Access	5.9	5.7	2.4

Source: Communications Committee. Data as of October 2015 and October 2016

<b>Mobile broadband prices</b>	FI-2015	FI-2016	EU-2016
Least expensive offer for handset (1 GB + 300 calls basket)	20	19	30
Least expensive offer for tablet and laptop (5 GB basket)	10	7	18

Source: Mobile Broadband Price Study (Van Dijk). Prices expressed in EUR/PPP, VAT included. Data as of February 2015 and February 2016

Finland features some of the least expensive mobile broadband offers in the EU (for tablet and laptop: 7 EUR/PPP against 18 EUR/PPP in the EU as a whole).

With fewer than half a million fixed telephone lines left, landline subscriptions seem to be giving way to mobile subscriptions on the market: Most Finnish subscribers use only mobile telephones. Only 1% of households use only landlines. Moreover, many subscribers have opted for 4G mobile data in preference to a fixed network subscription.

There were 490,000 landline subscriptions in July 2016. Voice calls on landlines accounted for only 5% of all voice call minutes. In recent years, landline subscriptions have fallen by between 10 and 15% annually. Some fixed operators no longer even offer them to new customers.<sup>4</sup>

<sup>3</sup> In 2015, Lapland had 6% of fibre optic land coverage (source: Ficora).

<sup>4</sup> Source: Ficora.

## Mobile market

Mobile market	FI-2015	FI-2016	EU-2016
Market share of market leader	39%	39%	34%
Market share of second largest operator	35%	34%	28%
Number of MNOs	5	5	-
Number of MVNOs	5	7	-
Market share of MVNO (SIM cards)	-	-	-

Source: Communications Committee. Data as of October 2015 and October 2016

There are currently 13 mobile operators in Finland: three mobile network operators (and one operating in the Åland Islands) holding spectrum eligible for the provision of mobile services, and eight mobile service providers. In addition to the three mobile network operators, there is one further network operator utilising the 450 MHz and 2.6 GHz bands to provide mobile broadband services (no speech) for specific user groups e.g. for critical connections and also locally for fixed wireless access.

The number of mobile subscriptions has remained static over the reporting period (9.5 million in 2016). As of October 2016, the market shares of the market leader and of the second largest operator were as follows: 39% and 34%. One new mobile virtual network operator called MOI entered the mobile market. It operates through DNA's network.

As for network sharing, the network shared by TeliaSonera and DNA, known as 'yhteisverkko', is now fully operational in eastern and northern Finland. In 2014, TeliaSonera and DNA set up a joint venture company, 'Suomen Yhteisverkko', in order to build and operate a common radio access network for 2G, 3G and 4G technologies, including passive and active sharing. Geographically, the new network covers about half the country and around 15% of the population.

## 2. Supporting measures for deployment and investment in high-speed networks

### a. Spectrum

Harmonised bands	MHz spectrum assigned	% of harmonised band assigned
700 MHz	60.0	100%
800 MHz	60.0	100%
900 MHz	70.0	100%
1500 MHz	0	0 %
1800 MHz	150.0	100%
2000 MHz paired	120.0	100%

2600 MHz	190.0	100%
3400-3600 MHz	180.0	90%
3600 – 3800 MHz	0	0%

In Finland, 76% of the spectrum harmonised at EU level for electronic communications has been assigned.

Six licences in the 700 MHz band (within the 703 - 733 MHz and 758 - 788 MHz) were auctioned in November 2016.<sup>5</sup> The operators DNA, Elisa and TeliaSonera each got two paired frequency blocks with coverage obligations. The networks have to be built so as to cover 99% of the population of mainland Finland within three years of the start of the licence period (1 February 2017). Coverage must ensure ‘reasonable indoor coverage’, that is, the telecom operators’ services must be available without additional cost to users in normal circumstances of use in users’ permanent residences or enterprises’ places of business. In order to fulfil the coverage requirement all 4G frequency bands already in use will be taken into account when determining the overall coverage of a network, i.e. 800 MHz, 1800 MHz and 2.6 GHz frequency bands.

According to Ficora, 2G and 3G licences will be renewed before 2020 and possible allocation of the sub-700 for wireless broadband is under study. As to the potential future 5G bands, these would most likely be the 26 GHz and the 3400-3800 MHz bands. Several test licences have already been issued and will be issued for 5G testing before 2020.

#### **b. EU and national investments in broadband**

In its 2008 ‘*fast broadband project*’, Finland made a commitment that, by the end of 2015, there would be an optical fibre or cable network enabling connections of 100 Mbps within two kilometres of 99% of all permanent residences and offices. According to Ficora, by the end of 2015, roughly 52% of Finnish households had access to a fast broadband connection of 100 Mbps.

So far, FICORA has allocated €49.2 million in State aid for rolling out high-speed broadband in sparsely populated areas. There are €23 million in State aid available for new projects. Implementation of the State aid scheme has now been extended until the end of 2019.

As regards the DAE target of 100% coverage with 30 Mbps by 2020, Finland is lagging behind in rural areas, where only 8% of people currently have NGA coverage. According to Ficora, financing network roll-out in sparsely populated areas is a challenge, even with government support. The Ministry of Transport and Communications is currently revising State aid rules with a view to remedying this situation.

#### **c. State of transposition of the Broadband Cost Reduction Directive**

Finland has still not fully implemented 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 (OJ L 155, 23.5.2014, p. 1).

<sup>5</sup> The auction procedure ended on 24 November 2016.

The Commission has initiated infringement proceedings against Finland for failure to transpose the Directive. According to the Finnish authorities, the Directive has been fully transposed into Finnish law in mainland Finland.<sup>6</sup> However, transposition is still incomplete in the Åland Islands. The Åland Provincial Government has drawn up a legislative proposal which is currently before the Åland Parliament. The Provincial Government expects to be able to complete transposition by the spring of 2017 at the latest.

### 3. Regulatory function

No decisions concerning market regulation were adopted in 2016.<sup>7</sup>

In 2016, Ficora did not notify any market reviews to the European Commission covering the following markets referred to in the 2014 Recommendation<sup>8</sup>: market 1 (wholesale call termination on individual public telephone networks provided at a fixed location), market 3a (wholesale local access provided at a fixed location), market 3b (wholesale central access provided at a fixed location for mass-market products) and market 4 (wholesale high-quality access provided at a fixed location), although over three years had elapsed since reviews of these markets had last been notified.

According to Ficora, the delayed market review of market 4/2014 (wholesale high-quality access provided at a fixed location) should be notified to the Commission in early 2017.

FICORA has developed an LRIC+ model recommended by the Commission for the local loop market in 2016, and that will also be taken into use when the new SMP decisions are issued.

As regards mobile termination rates (MTR), Ficora has defined the relevant price cap using the Fully Allocated Costs ('FAC') approach. In other words, it has departed from the Commission Recommendation of 7.5.2009 on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU, which recommends an approach based on long-run incremental costs ('LRIC'). The Commission departments have been scrutinising the issue. In other respects, the recommendation has been implemented and the termination rates are symmetrical. The regulated MTR is €0.125/minute at the moment, and it is symmetrical for all market players.

In July 2016 the Supreme Administrative Court handed down four decisions concerning FICORA's ex-post supervision of local loop pricing. FICORA's decisions were annulled because the law had been incorrectly applied. The Court ruled that Ficora should have applied the old Communications Markets Act, although the new legislation was already in force.

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<sup>6</sup> The following laws were adopted: Laki verkkoinfrastruktuurin yhteisrakentamisesta ja -käytöstä / Lag om sambyggnad och samutnyttjande av nätinfrastruktur (276/2016) (ref. 276/2016) (Law on the joint building and use of network infrastructure), Laki tietoyhteiskuntakaaren muuttamisesta / Lag om ändring av informationssamhällsbalken (277/2016) (ref 277/2016) (Law amending the Information Society Code).

<sup>7</sup> The latest regulatory decisions were taken in 2015, when FICORA issued an SMP decision on market 2/2014 (wholesale voice call termination on individual mobile networks) and on ex-market 18/2003 (broadcasting transmission services, to deliver broadcast content to end users). In 2015, FICORA also issued four decisions concerning ex-post supervision of cost-oriented pricing of local loops.

<sup>8</sup> Commission Recommendation 2014/710/EU 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 (OJ L 295, 11.10.2014, p. 79).

## 4. Consumer issues

### Roaming

On the basis of price levels in the first quarter of 2016,<sup>9</sup> the average retail Eurotariff price for roaming customers of Finnish mobile operators was €0.184/minute for outgoing calls (above the EEA average of €0.112/minute), €0.047/minute for incoming calls (above the EEA average of €0.026/minute) and €0.059 per SMS (above the EEA average of €0.047/Mb). The price for data was €0.057/Mb (above the EEA average of €0.047/Mb).

As regards penalties for non-compliance with roaming rules, Section 304 of the Information Society Code<sup>10</sup> empowers Ficora to impose a conditional fine.

Under Section 304 of the Information Society Code, Sections 302, 303, 308, 309, 311-315, 325, 330-332, 336, 340, 344 and 345 of the Code are also applied when monitoring compliance with Regulation (EU) 2015/2120 and penalties for infringements, as well as the settlement of disputes arising from the Regulation. The amount of any likely conditional fine is determined in accordance with the Act on Conditionally Imposed Fines.<sup>11</sup> Under Section 8 of the Act on Conditionally Imposed Fines, the amount payable should be determined on the basis of the nature and the extent of the primary obligation in question, together with the solvency of the party on whom the fine is imposed and any other relevant facts.

In April 2016, Ficora was party to two cases where the operators DNA and Elisa (one case per operator) had been contemplating taking measures deemed to be in breach of the rules stemming from Regulation 2015/2120. Elisa had announced that, as of 30 April 2016, it would restrict the speed of the data transfer of its subscribers while they were abroad. DNA had announced that it would modify the roaming tariffs payable by its subscribers. After discussions between Ficora and the two operators, both decided against taking these measures.

### Net Neutrality

Finland has laid down rules on the penalties applicable to infringements of Articles 3, 4 and 5 of Regulation (EU) 2015/2120 and the necessary measures to ensure that they are implemented in accordance with Article 6 of Regulation (EU) 2015/2120. As for roaming, under Section 304 of the Information Society Code, Ficora is entitled to impose a conditional fine for failure to comply with the Net Neutrality rules stemming from Regulation (EU) 2015/2120. The amount of any likely conditional fine is determined by Section 8 of the Act on Conditionally Imposed Fines.

The Ministry of Transport and Communications has informed the European Commission that the national legislative measure necessary to comply with Article 6 of Regulation (EU) 2015/2120 has been adopted.<sup>12</sup>

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<sup>9</sup> International Roaming BEREC Benchmark Data Report (October 2015 – March 2016).

<sup>10</sup> Tietoyhteiskuntakaari (917/2014)', 'Information Society Code', a collection of legal provisions applicable to the telecommunications sector, entered into force on 1 January 2015.

<sup>11</sup> Uhkasakkolaki (14.12.1990/1113) (Conditionally Imposed Fines Act).

<sup>12</sup> Section 304 of the Information Society Code was amended by the 'Laki tietoyhteiskuntakaaren muuttamisesta ja väliaikaisesta muuttamisesta' (17.6.2016/456) (Law on the amendment of the Information Society Code and temporary amendment) which entered into force on 20 June 2016.

## 112 and access for disabled end-users to emergency services

Under the 2015 Information Society Code and Ficora's Regulation 33<sup>13</sup>, network operators are required to implement a 112 short message service, which Finnish emergency centres should be capable of handling as of 2017.

## Number portability

Number portability		FI-2015	FI-2016
Fixed	Number of transactions [1]	22,068	16,026
	Transactions as a % of total numbers [1]	2.6%	3.3%
	Maximum wholesale price [2]	40	40
	Maximum time under regulation (number of working days) [2]	5	5
Mobile	Number of transactions [1]	557,872	540,879
	Transactions as a % of total numbers [1]	5.5%	5.7%
	Maximum wholesale price [2]	9	9
	Maximum time under regulation (number of working days) [2]	5	5

[1] Source: Communications Committee. Data as of January to September 2015 and January to September 2016

[2] Source: Communications Committee. Data as of October 2015 and October 2016

## Transparency

Ficora has developed a public website called 'MONITORI'<sup>14</sup> to inform end-users about services available on the Finnish telecommunications market. It provides information on such matters as the regional availability of TV, radio and broadband subscriptions, postal services and broadband projects. The service also contains information on severe and very severe disturbances in telephone, broadband, TV and radio connections reported to Ficora by telecoms operators.

## Universal Service

By its decision of 5 October 2016, Ficora designated three telecommunications operators as universal service providers of telephony services: Elisa, DNA and TeliaSonera Finland. This decision was taken because of changes in the circumstances applying when Ficora took its Universal Service decisions on 12 June 2013. Indeed, the speed of the Internet connection as part of a Universal Service in Finland which used to be set at 1Mbit/s has been lifted to 2Mbit/s by Regulation 439/2015 as of 1 November 2015.

Universal Service in Finland currently includes: access to a fixed or mobile phone, a 2 Mbit/s Internet connection, a text message service for hearing and speech-impaired people, an Internet service for hearing and speech-impaired people and a comprehensive contact information service.

Universal service obligations for broadband services (2 Mbs) have been imposed in 61 postal code areas, telephone services in five postal code areas and, for symmetric internet subscriptions (512 kbit/s as average speed) for hearing and speech-impaired users in 28 areas.

<sup>13</sup> Määräys 33 hätäliikenteen teknisestä toteutuksesta ja varmistamisesta (Regulation on the technical implementation and ensuring of emergency traffic).

<sup>14</sup> <https://eservices.Ficora.fi/monitori/panel>.

## **5. Conclusion**

While Finland has good fixed broadband and 4G coverage, fixed NGA coverage could be improved. Coverage in rural areas is a bigger challenge. The revision of state aid rules which is currently under way may have a positive impact on this issue in the future.