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signed by Mr Jordi AYET PUIGARNAU, Director

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COMMISSION STAFF WORKING DOCUMENT

Europe's Digital Progress Report 2017

EU Digital Progress Report — 2017

Telecoms chapter

THE NETHERLANDS

1.

Competitive environment

Coverage	NL-2015	NL-2016	EU-2016
Fixed broadband coverage (total)	100%	100%	98%
Fixed broadband coverage (rural)	100%	100%	93%
Fixed NGA coverage (total)	98%	98%	76%
Fixed NGA coverage (rural)	97%	98%	40%
4G coverage (average of operators)	no data	91%	84%

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

Fixed broadband market

Fixed broadband coverage is among the best in the EU, with the Netherlands being the top performer in terms of connectivity. 43.8% of the population are subscribed to fast broadband services, the highest figure in the EU (EU average: 32.7%)¹. Share of fixed broadband subscriptions over 30 Mbps is 68.5% (EU average: 36.9%)². As regards broadband subscriptions by technology type, the DSL accounts for 43% (EU average: 67%), Cable accounts for 44% (EU average: 19%) while fibre-to-the-home (FTTH) accounts for 13% (EU average: 11%).

Fixed broadband market shares	NL-2015	NL-2016	EU-2016
Incumbent market share in fixed broadband	42.1%	41.4%	40.7%
Technology market shares			
DSL	44.8%	42.7%	66.8%
Cable	44.2%	44.1%	19.1%
FTTH/B	11.0%	13.1%	10.7%
Other	-	-	3.4%

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

The incumbent KPN holds a stable 41% share of the broadband market, close to the EU average of 40%. In mid-2016, the incumbent had a market share of 55-60% on the retail market for business network services. The two largest competitors in this sector had market shares of 10-15%. Currently, Ziggo and KPN have approximately equal shares of the broadband market, while KPN still has a strong position on the fixed telephony market. The Netherlands also has many small broadband initiatives in rural areas, with some of these being part-funded by end-users themselves. They pay a lump sum and/or higher monthly fees for the broadband connection. Furthermore, the lowest fixed broadband price (12-30 Mbps or above) in The Netherlands is €19.71, compared to €21.33 at EU level³.

¹ http://digital-agenda-data.eu/datasets/digital_agenda_scoreboard_key_indicators

² http://digital-agenda-data.eu/datasets/digital_agenda_scoreboard_key_indicators

³ Source: Fixed broadband prices in Europe in 2016 (Empirica). Prices expressed in EUR/PPP, VAT included. Data as of autumn 2016.

The prices of bundles increase yearly and the higher prices for fixed services are increasing as well. While there is currently competition mainly between triple play offers, quadruple play (including mobile) will likely become more important in the future. An important underlying reason is that both KPN and Ziggo are able to offer quadruple play on their own networks (bearing in mind Ziggo Vodafone merger). In general, the impact of bundling is increasing, as according to the Netherlands Authority for Consumers and Markets (ACM), the internet is the most important part of a bundled offer. By mid-2016, 11% of the broadband market was internet only, 22% dual play, 57% triple play, and 10% quadruple play.

New entrants' DSL subscriptions by type of access (VDSL excluded)	NL-2015	NL-2016	EU-2016
Own network	-	-	0.7%
Full LLU	64.4%	65.9%	75.3%
Shared access	4.7%	3.3%	4.1%
Bitstream	30.1%	30.7%	13.4%
Resale	0.7%	-	6.6%

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

The Dutch electronic communications market is undergoing consolidation. The major merger between Ziggo and Vodafone was finalised by the end of 2016, subject to Vodafone divesting its consumer fixed business in the Netherlands⁴. In November 2016, T-Mobile announced that it would be buying Vodafone's fixed assets. Furthermore, the internet service provider (ISP) Stipte, known as 'Scarlet' when first established, was acquired by domestic rival Fiber NL in January 2016. Stipte, which uses ADSL, VDSL and FTTH technologies to provide internet, TV and telephony services, retained its own branding following the takeover.

Charges of Local Loop Unbundling (monthly average total cost in €)	NL-2015	NL-2016	EU-2016
Full LLU	8.4	8.4	9.2
Shared Access	0.8	0.8	2.4

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

In August 2016 KPN announced it is expanding its trials of Vplus technology, with plans to test it in early October 2016 in three locations in Rotterdam and one in Haarlem, in addition to three sites in Hillegom. Vplus is a DSL technology that allows operators to provide aggregate download/upload speeds up to 200Mbps/300Mbps over one copper pair at distances of up to 500 metres.

Mobile market

Mobile market	NL-2015	NL-2016	EU-2016
Market share of market leader	-	-	34%
Market share of second largest operator	-	-	28%
Number of MNOs	4	4	-
Number of MVNOs	86	86	-
Market share of MVNO (SIM cards)	19%	19%	-

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

⁴ After the merger, the companies started operating as VodafoneZiggo.

The mobile termination rate in the Netherlands, set at €0.001861 per minute, is above the EU average of €0.0010836 per minute. The termination rate for text messages is €0.0056. This has been agreed since 2012 and is the highest such price in the EU. Furthermore, 84.6% of all active mobile users use mobile broadband (EU average: 83.9%), with four operators having rolled out LTE networks covering 91% of the population (EU average: 84%)⁵.

According to ACM, there is no evidence of fixed services being replaced by mobile services. In its most recent wholesale local access decision (December 2015) the ACM concluded that mobile internet is not a substitute for fixed internet (based on cost differences, capacity constraints on mobile, different usage patterns etc.). In its fixed telephony market review, ACM also concludes that mobile voice is not in the same relevant market as fixed telephony services. Fixed consumers (telephony and internet) also generally have mobile phones, indicating that fixed and mobile are complements rather than substitutes. There are currently 86 mobile virtual network operators (MVNOs) on the Dutch market, most of which are independent. Although the number of MVNOs fell between 2015 and 2016 their joint-market according to the ACM stays stable at 19%, excluding Tele2⁶.

Mobile broadband prices	NL-2015	NL-2016	EU-2016
Least expensive offer for handset (1 GB + 300 calls basket)	27	28	30
Least expensive offer for tablet and laptop (5 GB basket)	22	22	18

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

In November 2016 KPN announced it had begun providing voice-over-LTE (VoLTE) services to its customers. It stated that the 4G voice technology would provide customers with fast call set-up, high-definition (HD) sound quality and a maintained 4G internet connection throughout the call. KPN will begin a phased deployment of VoLTE services after completing initial tests with Samsung (currently enabling KPN customers with Samsung S6 and S6-Edge devices to make VoLTE calls). In the coming months more devices will support the new technology. Later Vodafone launched both VoLTE and voice-over-Wi-Fi (VoWiFi) for its customers. Tele2 also launched VoLTE at the end of 2016. Furthermore, in November 2016 T-Mobile claimed it was the first operator to deploy tri-band carrier aggregation (3C) LTE in the Netherlands. This new service allows for greater 4G data capacity and higher connection speeds of up to 300Mbps for end-users. T-Mobile has launched over 450 base stations supporting the technology in over 90 cities and towns across the country.

In July 2016, KPN announced that the Netherlands had become the world's first country to have a nationwide LoRa network for Internet of Things (IoT) applications. LoRa is a low power, long-range wide-area network technology designed to connect wireless battery-powered equipment such as smart meters and remote sensors. KPN claims it now offers nationwide connectivity and that it already has 1.5 million devices contracted to use the network.

⁵ <https://ec.europa.eu/digital-single-market/en/scoreboard/netherlands>

⁶ In the previous report, this percentage still included Tele2's market share, but now Tele2 has built its own 4G network it is no longer an MVNO.

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

a. Spectrum

Harmonised band	MHz spectrum assigned ⁷	% of the harmonised band assigned
700 Mhz	0	0%
800 MHz	60	100%
900 MHz	70	100%
1500 MHz	0	0%
1800 MHz	150	100%
2000 MHz paired	120	100%
2600 MHz	190	100%
3400-3600 MHz	190	95%
3600-3800 MHz	200	100%

The Netherlands has assigned 90% of the EU harmonised spectrum available for electronic communications services⁸. In 2016 licences were issued for the 3.5 GHz spectrum, whereby licensees are obliged to use the spectrum within 6 months and to continue thereafter. Moreover, the licensee should take steps to prevent interference with satellite communications from the Ministry of Defence.

To extend the 2100 MHz licences a one-time-only fee of €23,628,000 per operator has been set. These licences have been extended for four years up to 31 December 2020. This promotes genuine competition and encourages optimal use of spectrum resources. The licences for mobile communications are based on service and technology neutrality. Operators are allowed to deploy small cells within their licences for mobile communications' spectrums, without requiring special authorisation. Equally, no specific authorisation from the Radio communications Agency is needed to operate free WiFi. The starting point of the new frequency policy is an efficient market in which social developments (such as company-specific telecom needs) can be absorbed as much as possible and be guaranteed by the market itself. Where there is necessary additional rules can be set.

Concerning the latest spectrum assignments for wireless broadband (WBB) there were 50 licences issued for local WBB within the 3410-3800 MHz band by the end of 2016. Preparations are under way to auction licences in the 700 MHz, 2100 MHz and 1450-1492

⁷ Including guard bands.

⁸ This percentage slightly differs from the one used in the EDPR country profile following feedback from the authorities concerned and reflected in the above table.

bands (L-band). These should take place in the second and third quarters of 2019, while the conditions for the licence auctions should be known by the beginning of 2017.

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

Generally, the Dutch broadband strategy favours a market-based infrastructure rollout. It thereby puts key emphasis on the role played by local and regional parties in coordinating and simplifying the process. The principal task of local government is to create the right conditions, such as planning and coordination of excavation works, shortening and reducing the costs of licensing procedures or promoting the development of broadband and use of applications and services. Where market-based infrastructure rollout fails, local and regional operators may assist and provide for funding and financing instruments. The central government's role is mainly to support NGA (Next Generation Access) rollout by informing municipalities about the various aspects of a broadband project (e.g. state aid opportunities within EU state aid rules), ensuring the exchange of knowledge and best practices and providing an overview of current developments.

In June 2016 the Ministry of Economic Affairs published the presentation on the new Strategic Planning Memorandum Mobile communications and on plans for the granting of mobile bands⁹. In July the Ministry published the 'Digitale Agenda — Vernieuwen, vertrouwen, versnellen' (Digital Agenda — Renew, trust, accelerate)¹⁰. These documents, which define ICT strategies and lines of action for 2016-2017, do not contain any specific coverage or penetration targets and are strongly focused on demand side measures, i.e. promoting digitisation (e.g. in education, healthcare and business) and cyber security/privacy. In December the Ministry of Economic Affairs sent the parliament a survey on the trend in future demand and supply of digital connectivity for the next ten years¹¹. Also, in the second half of 2016¹², it sent an overview of developments on broadband deployment in remote rural areas¹³.

There was considerable progress in 2016, through a combination of investments by market parties, efforts of local governments and citizens' initiatives. Market parties are investing in fibre roll out, upgrades of existing networks, and fixed-wireless solutions. In recent years Vodafone invested in fibre roll-out based on ODF-access FTTH (covering more than a million households). T-Mobile will fulfil the challenger role after the divestment of Vodafone's fixed activities. KPN also continues to roll out fibre and invests in upgrading the copper network (implementing VDSL vectoring and pair bonding). There is already take-up of the virtual unbundled local access (VULA)-product, mainly by Tele2.

⁹ <https://www.rijksoverheid.nl/documenten/publicaties/2016/06/30/presentatie-planning-strategische-nota-mobiele-communicatie-en-verdelingen>

¹⁰ Available online (Dutch version):

<https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/rapporten/2016/07/05/digitale-agenda-vernieuwen-vertrouwen-versnellen/digitale-agenda-vernieuwen-vertrouwen-versnellen.pdf>

¹¹ <https://www.rijksoverheid.nl/ministeries/ministerie-van-economische-zaken/documenten/kamerstukken/2016/12/16/kamerbrief-over-verkenning-digitale-connectiviteit>

¹² <https://www.rijksoverheid.nl/documenten/kamerstukken/2016/12/07/tweede-kamerbrief-inzake-de-nota-frequentiebeleid-2016>

¹³ <https://www.rijksoverheid.nl/ministeries/ministerie-van-economische-zaken/documenten/kamerstukken/2016/12/16/kamerbrief-over-snel-internet-in-het-buitengebied>

No broadband projects are currently funded through structural funds. Furthermore, there is the EFSI funded project LTE VOLTE — High Speed Mobile Internet Rollout. The project concerns investment in the expansion and capacity increase of the 4G mobile networks in Sweden and in the Netherlands. The project aims to achieve almost full outdoor coverage in the Netherlands by 2018 and to further increase indoor coverage in densely populated areas.

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

Following the expiry of the deadline for transposing the Broadband Cost Reduction Directive (BB CRD) on 1 January 2016, the Commission has opened infringement proceedings against the Netherlands for failure to notify the Commission of its transposition measures.

The remaining national measures, notably the national Regulation on civil construction (e.g. building) and the Law on the information exchange of overhead and underground networks, are still in the process of being finalised.

3. Regulatory function

While the ACM is responsible for telecoms, post, transport, energy, competition issues and consumer issues, the Ministry of Economic Affairs remains responsible for spectrum authorisation. The Minister does not approve the annual work programme, but decides on the ACM's budget. The ACM sends the annual report, which describes the implementation of tasks, to both the Minister for Economic Affairs and the Minister of Infrastructure. As regards setting general rules in the electronic communications field, it is the Minister for Economic Affairs who acts as national regulatory authority. As of 1 July 2016 new legislation has come into effect which has raised the maximum fines the ACM can impose¹⁴.

Regarding market regulation, an important ongoing court case concerns fixed and mobile termination rates. The Dutch Supreme Court (CBB) formally referred the pending case to the Court of Justice of the European Union for preliminary questions, which were answered in September 2016 with a decision expected in April the first quarter of 2017. Furthermore, appeals launched in 2016 concerned wholesale local access and Fibre-to-the-office (FTTO). A Court decision is expected in the second quarter of 2017. The current mobile termination rate imposed, following a court decision, is based on the BU LRAIC + cost accounting model. The new regulation for wholesale local access (market 3a) has been in place since 1 January 2016¹⁵.

On 1 September 2016 the ACM published its market decision on ODF-Access FTTO (also known as market 3a). In this The ACM imposed no rules on this market, on which KPN competes with Eurofiber and other operators. Following the Commission's approval of the Vodafone Ziggo merger, the ACM launched a new market analysis of the country's telecoms markets.

The National Regulatory Authority follows the Commission's Recommendation on non-discrimination and costing methodologies.

4. Consumer issues

¹⁴ <https://zoek.officielebekendmakingen.nl/stb-2016-22.html>

¹⁵ ODF-FttH, MDF-Access and VULA on the networks of KPN.

There were approximately 4500 consumer complaints on telecoms-related issues in 2016, a number that has fallen from an estimated 5500 in 2015. A significant number in 2016 were related to pricing and billing.

Number portability

Number portability		NL-2015	NL-2016
Fixed	Number of transactions [1]	1,733,487	808,246
	Transactions as a % of total numbers [1]	9.3%	11.8%
	Maximum wholesale price [2]	2	2
	Maximum time under regulation (number of working days) [2]	5	5
Mobile	Number of transactions [1]	1,343,762	1,526,053
	Transactions as a % of total numbers [1]	6.2%	7.1%
	Maximum wholesale price [2]	-	-
	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.

As of 1 July 2016 the voluntary self-regulation for switching has been extended to end-users that are not consumers. The receiving provider leads the switching process. There are no changes regarding number portability from previous years.

Transparency

In the Netherlands operators are obliged to offer contracts for a maximum of 12 months with a maximum commitment period of 24 months for consumers. Since October 2016, Dutch law has allowed businesses to terminate the contract at any time, with a one-month notice period when the contract period has been extended tacitly. The termination period for businesses can be a maximum of three months, but only when this extended period is requested explicitly by the business end-user.

With regards to transparency, the ACM has done a sweep on providers' websites and found that not all the information required is provided. The ACM is planning to make a guidance document available to providers in the first half of 2017.

The availability (or lack of) of a communication service has been addressed in a law that will come into effect on 1 July 2017. This law states that when the service is down for more than 12 hours the provider needs to compensate the subscriber. However, the subscriber has to request the compensation him or herself.

Roaming

In the Netherlands in the first quarter of 2016, the average retail Eurotariff price for roaming was €0.149 per minute for outgoing calls (higher than the EEA average of €0.112 per minute), €0.043 per minute for incoming calls (higher than the EEA average of €0.026 per minute) and €0.05 per text message (higher than the EEA average of €0.047 per text message). As regards data, the price was €0.191 per MB (above the EEA average of €0.047 per MB)¹⁶.

In the case of excessive roaming charges over a longer period, the ACM can investigate and issue fines. Companies violating the rules can be fined up to 10% of their total relevant revenue. The relevant revenue means revenue that was made with the service(s) that the violation pertains to. In some cases the relevant revenue and resulting fine may not adequately reflect the severity of the violation. In that case, ACM may decide to use a broader definition and may, for example, use the total (annual) revenue of the company. So ACM has some flexibility in determining which revenue to use. In this context, in the year 2016 ACM imposed a fine of €196,000 on MVNO Lycamobile for charging roaming charges above the price cap in 2011 and 2012. Furthermore, in the Netherlands there are no extra regulatory measures other than the EU regulation.

Net neutrality

Article 6 of the Telecoms Single Market (TSM) Regulation (Regulation (EU) 2015/2120) stipulates that Member States are to lay down the rules on penalties applicable to infringements of Articles 3, 4 and 5. The deadline to notify the Commission of these rules and measures was 30 April 2016. The Netherlands has laid down rules on applicable penalties for infringements of Articles 3, 4 and 5 of the Regulation and the necessary measures to ensure that they are implemented according to Article 6. The legal power to issue penalties for infringements will be laid down in Article 15.1 (3) and 15.4 (3)a of the Telecommunications Act. However, by end of year 2016 ACM did not yet have the power to apply penalties due to an error in the law which assigned it this legal power.¹⁷ The ACM's power to enforce the Regulation (this excludes its power to fine ISPs) has been effective since 3 November 2016 and is retroactive to 30 April 2016.

In addition, following the adoption of the Regulation, Telecommunications Act (Tw) was amended in October 2016 so to include the explicit ban on any kind of price discrimination, including zero rating. It was claimed that a further analysis of the TSM provisions revealed that the TSM regulation would contain an implicit ban on price discrimination and zero-rating offers through Articles 3(2) and in particular 3(3). The Commission disagrees with this analysis.

On 9 December 2016 the ACM issued a decision (case number 16.1043.29) to T-Mobile, which offers zero-rated music streaming services. This service is prohibited under national law, while the TSM regulation does not explicitly ban zero rating, but calls for a case-by-case assessment. According to the ACM, this legislation will not be dropped in the Netherlands and the ban on tariff differentiation will remain. The ACM decision states that T-Mobile should stop its data free music service within 20 working days of this decision. Should T-Mobile refuse to carry out the ACM's order, it could be fined €50,000 per day, up to a total maximum of €500,000.

¹⁶ International Roaming BEREC Benchmark Data Report October 2015 — March 2016, BoR (16) 160.

¹⁷ ACM is competent to hand out penalties since 28th of February 2017.

T-Mobile should also inform the ACM about abiding by the decision. The ACM decision is based on Article 7.4a of Tw, which forbids any type of price discrimination. T-Mobile challenged the decision before the Dutch court. The court proceedings are expected to commence in April 2017. The Commission is in contact with the Dutch authorities on this matter.

Universal service

The designated operator, KPN, provides access at a fixed location, telephone services and functional internet access, as well as the mediation service ‘Teletolk’ for the deaf and hard of hearing. Thanks to good connectivity the Netherlands does not experience any major broadband inclusion gap. Directory enquiry services, directories and public payphones are no longer part of the designated USO, but are still being offered by the market. The demand for these services is diminishing.

112 and access for disabled end-users to emergency services

112 is the only emergency number in the Netherlands and 112 calls are answered within three seconds on average. In addition to Dutch, calls can be answered in German and English. The 112 operator can source the location of the caller within one second. According to the latest E-communications household and telecom single market survey, 61% of Dutch people know they can use 112 everywhere in the EU.

Disabled end-users can dial 112 directly via smartphone, tablet or computer. For this they need Total Conversation software (ETSI TS 126 114) through which they can call via text, voice and video. The cost of this software is covered by health insurance. Through a mediation service (‘Teletolk’) disabled end-users can also contact 112 with real-time text 24 hours a day. The 112 text-call is then put through directly to 112. In addition, they can call 112 on weekdays from 7:00h to 20:00h and at weekends and on public holidays from 10:00h to 16:00h through a sign language interpreter (‘Teletolk’ mediation). Disabled end-users that still use analogue textphones can call the emergency number 0800-8112. For non-emergencies disabled end-users can call 0900-1844.

5.

Conclusion

The Netherlands is among the best in terms of connectivity in the EU. As regards broadband deployment, there seems to be further scope for exploring the opportunities opened up by transposing the Cost Reduction Directive.