Nasjonal
kommunikasjons-
myndighet

# Appendix 1
# Analysis of the wholesale markets for termination on the public telephone network at a fixed location (Market 1)

**Case no. 1705298**

**19 March 2019**

# Summary

The Norwegian Communications Authority (Nkom) made a decision in the wholesale market for termination on the public telephone network at a fixed location (formerly Market 3) on 22 January 2016. This document contains Nkom's updated market analysis of this market.

The document constitutes Annex 1 to the draft decision designating undertakings with significant market power and imposing specific obligations in the wholesale market for call termination on the public telephone network at a fixed location (Market 1). The market analysis will provide the basis for applying sector-specific measures in markets in which providers with significant market power are identified.

Chapter 1 contains a description of the background to and framework for the market analysis.

In Chapter 2, Nkom defines the relevant markets, based on guidelines from the EFTA Surveillance Authority (ESA). In its recommendation concerning relevant markets, ESA has defined the relevant product markets for termination of public telephony services on fixed networks. Nkom finds that the relevant markets under Norwegian conditions are in line with the Recommendation.

Based on its assessment of substitutability, Nkom finds that the relevant product market includes both analogue (PSTN) and digital (ISDN) access to the copper-based access network, as well as access via other fixed/location-bound access networks for broadband telephony. The relevant wholesale markets are derived from the product markets. The termination markets are defined as comprising the conveyance of calls from the point of exchange of interconnection to end-users that are connected to a fixed electronic communication network.

Chapter 3 contains market information for the relevant markets, including history, development trends and an overview of market operators.

Chapter 4 contains Nkom's analysis of whether there are undertakings with significant market power in the relevant markets. As in the previous analysis, Nkom has found that all operators who offer such a service and have influence over their own termination rate have significant market power for the termination of calls to their own end-users. This implies that Altibox AS, Broadnet AS, eRate AS, ICE Norge AS, NextGenTel AS, Orange Business Norge AS, Puzzel AS (formerly Intelecom Group AS), Telenor ASA, Telia Norge AS[1] and Verizon Norway AS have significant market power in their respective markets for call termination on fixed networks. Nkom has placed special emphasis on the entry barriers within the individual relevant markets being absolute, and that there are no other factors, such as buyer power, that have a sufficient disciplinary effect on the exercise of the market power.

[1] In July 2018, Telia Company AB acquired Get TDC Norge. The merger was approved by the Norwegian Competition Authority on 5 October 2018.

# Contents

# 1 Introduction

## 1.1 Background and framework for the analysis

1. The regulatory framework for electronic communication is based on five Directives adopted by the European Union (EU).[2] These Directives have been implemented in Norwegian law by Act no. 83 of 4 July 2003 concerning electronic communications (The Electronic Communications Act) and the appurtenant regulations, including Regulation no. 401 of 16 February 2004 on electronic communications networks and services (Electronic Communications Regulation)

2. The regulatory framework must lay the foundation for the harmonisation of regulation in the EEA, limit entry barriers and facilitate sustainable competition for the benefit of users.

3. It follows from Sections 3-2 and 3-3 of the Electronic Communications Act, and Norway's obligations under the EEA Agreement, that identification of undertakings with significant market power must take place in accordance with the guidelines and recommendations prepared by the EFTA Surveillance Authority (ESA) under the new framework directive for electronic communications services:

- Guidelines for analysis and assessment of significant market power[3]
- Recommendation on relevant markets (hereinafter referred to as the "Recommendation")[4]

4. The Commission adopted new guidelines for analysis and assessment of significant market power, 26 April 2018. ESA is expected to adopt equivalent guidelines. On practical grounds, the basis applied is the Commission's new guidelines (hereinafter referred to as the SMP Guidelines).

[2] Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services (Framework Directive); Directive 2002/20/EC on the authorisation of electronic communications networks and services (Authorisation Directive); Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive); Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive); Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications).

[3] EU SMP guidelines 26. April 2018 (https://ec.europa.eu/digital-single-market/en/news/communication-smp-guidelines)

[4] EFTA Surveillance Authority Recommendation 11 May 2016 (http://www.eftasurv.int/media/decisions/College-decision---Revision-of-ESA-Recommendation-on-Relevant-Markets-susceptible-to-ex-a.pdf) with the Commission's Explanatory Note 9 October 2014 (https://ec.europa.eu/digital-single-market/news/explanatory-note-accompanying-commission-recommendation-relevant-product-and-service-markets)

5. ESA revised the original Recommendation[5] concerning relevant markets in 2008. In this respect, the number of pre-defined markets for ex-ante regulation was reduced from 18 to 7. The Commission has revised the list of relevant markets again and adopted a new Recommendation on 9 October 2014. ESA published an identical recommendation for the EEA/EFTA countries on 11 May 2016. In the Recommendation, the wholesale market for termination of public telephony services on individual fixed networks constitutes one of the predefined markets.

6. According to the SMP Guidelines, an assessment of relevant markets and significant market power must be based on a market analysis. The assessment must be anchored in competition law methodology. The SMP Guidelines and the Recommendation, together with the provisions of the Electronic Communications Act, particularly Sections 3-1 and 3-3, will therefore form the legal framework for the market analysis.

7. The Electronic Communications Act's definition of significant market power in Section 3-1 reads:

> *"A provider has significant market power when the provider individually or jointly with others has economic strength in a relevant market affording the provider the power to behave to an appreciable extent independently of competitors, customers and consumers. Significant market power in one market may result in a provider having significant market power in a closely related market."*

8. The term “significant market power” in the Electronic Communications Act is very close to the competition law standard of “dominant position” (“dominance”).

9. In the document "Methodology for market analysis" (the methodology document) Nkom has elaborated on the criteria for the market analysis in certain respects. The Methodology Document is not legally binding, but expresses Nkom’s understanding of the guidelines that Nkom is obliged to follow. The market analysis will therefore be undertaken in accordance with the views and assessments expressed in the methodology document. In the event of any inconsistencies between the Methodology Document and the SMP Guidelines or the Recommendation, the Methodology Document will take precedence. The document in no sense regulates the Norwegian Competition Authority’s assessments in accordance with the Norwegian Competition Act. This analysis is based on the methodology document dated 11 June 2009.

10. In the following, this Annex will be referred to as the market analysis and contains Nkom’s analysis of whether there are providers with significant market power in the markets for call termination on fixed networks.

11. The market analysis will be subject to regular review and therefore have a limited forward-looking time horizon, cf. Section 9-3(2) of the Electronic Communications Act and clause 14 of the SMP Guidelines. This analysis has a time horizon of two to three years.

## 1.2 Previous market analyses and decisions in the markets for termination on fixed networks.

12. This is Nkom’s fourth analysis of the markets for call termination on the public telephone network at a fixed location. The markets are referred to in the analysis as the markets for call termination on fixed networks.

[5] The EFTA Surveillance Authority Recommendation of 14 July 2004 was identical to the Commission Recommendation of 11 February 2003.

13. The previous analyses have been based on the prevailing market definitions recommended by ESA. In the 2004 Recommendation, the market for call termination on fixed networks was designated as Market 9. The market was retained in the ESA Recommendation from 5 November 2008, but was now referred to as Market 3. The definition of the market remained unchanged.

14. ESA has conducted a further revision of the list of relevant markets and adopted a new recommendation on 11 May 2016. The wholesale market for call termination on fixed networks is still included on the list, but is now designated as Market 1.

15. The preceding analysis are dated 24 March 2006, 8 April 2008 (supplementary analysis of Altibox AS), 1 August 2011 and 22 January 2016. The table below provides an overview of Nkom's decisions and providers that have been designated as having significant market power.

| **Nkom's decisions** | **Providers designated as having significant market power** |
|---|---|
| 24 March 2006 | Consorte AS, Equant Norway AS, MCI WorldCom AS, NetCom AS, NextGenTel AS, Priority Telecom Norway AS, TDC Song AS, Tele2 Norge AS, Telenor ASA, Telio AS, Ventelo Norge AS |
| 8 April 2008 | Altibox AS |
| 1 August 2011 | Altibox AS, Hafslund Telekom AS, Intelecom Group AS, Network Norway AS, NextGenTel AS, Orange Business AS, TDC AS, Tele2 Norge AS, Telenor ASA, TeliaSonera Norge AS, Telio Telecom AS, Ventelo AS, Verizon Norway AS |
| 22 January 2016 | Altibox AS, Intelecom Group AS, Intelligent telecom services AS, NextGenTel AS, Orange Business AS, Phonero AS, TDC Get, Telenor ASA, TeliaSonera Norge AS, Verizon Norway AS |

*Table 1 Providers with significant market power in the markets for call termination on fixed networks.*

# 2 Market definition

## 2.1 Market definition in general

16. As already stated, the market analysis are based on the Recommendation, and Nkom must assess whether ESA's predefined market is appropriate for Norwegian conditions. In addition, the product market must be described and defined and the geographical market defined. The relevant markets are to be defined in accordance with the principles of competition law.

### 2.1.1 The product market

17. A relevant product market comprises products or services (the terms are used interchangeably below without any difference in meaning) that are sufficiently substitutable. The starting point for the definition of a relevant product market is an assessment of demand-side substitutability. Demand-side substitutability exists when two or more products in the

market are, in the perception of the end-user, mutually exchangeable or substitutable on the basis of characteristics, price and area of utilisation.

18. If there is substitutability on the supplyside, it may be relevant to consider this in the definition of the relevant market. Supply-side substitution will be relevant if it has the same immediate and direct effect as demand-side substitution. This presumes that the providers as a response to small but significant and non-transitory changes in relative prices can change their production to the products or services in question and market them in the short term without this entailing significant extra costs or risks. If these conditions are met, the additional production will have a disciplinary effect on the affected providers' competitive behaviour. Such immediate and direct effects will have equivalent effects to demand-side substitution.[6]

19. An acknowledged method of analysing substitutability is the so-called "hypothetical monopolist test" (SSNIP test)[7], which attempts to find the best-defined market in which a hypothetical monopolist can exercise market power. This test assesses the effect of a marginal, but significant (in practice 5-10 per cent) and permanent increase in the price of the relevant product, based on the assumed price level in a market with effective competition. All other prices are assumed to be unchanged. The question is whether the price increase can be made profitable for the hypothetical monopolist. An alternative product is a substitute if the price increase cannot be implemented without losing sales at a scale that makes a price increase unprofitable. The price increase may be unprofitable because customers switch to the alternative product (demand-side substitutability) or because providers of other products change their production to the relevant product (supply-side substitutability).

20. The Recommendation does not make use of the SSNIP test an absolute requirement in the market definition. Similar methods may therefore also be used. Regardless of method, the hypothetical assessment should be supplemented by factual information about behaviour on the supply- and demandsides to the extent that such information is available. On the demand-side, factors such as the end-users' access to information, the costs of changing provider and other lock-in mechanisms should be taken into consideration. On the supply- side, account should be taken of a provider's actual potential to change production, as well as any regulatory conditions that prevent rapid market entry by competitors in the market.

### 2.1.2 The geographical market

21. Once the relevant product markets have been determined, the geographical market is defined. In accordance with clause 48 of the SMP Guidelines, the geographical market is defined as the area in which the relevant product is offered on approximately similar and sufficiently homogeneous competitive terms. Geographical markets within electronic communications have traditionally been defined based on the relevant network’s propagation, and the jurisdiction of the legal regulation of the market[8].

22. Nkom can define regional or national markets. The jurisdiction for defining transnational markets is vested with ESA.

23. It might make sense in the case of some product markets to divide them into geographical markets that are smaller than the nation state, since there are local providers of electronic communications services covered by the relevant product market, or to identify local variations in the competitive conditions.

[6] EEA Supplement to the Official Journal of the European Union, no. 28 16.7.1998 Announcement by the EFTA Surveillance Authority regarding the definition of the relevant market within competition law in the European Economic Area (EEA), Section 20, ff.

[7] “Small but Significant Non-transitory Increase in Price”. See clause 29 of the SMP Guidelines.

[8] Clause 51 of the SMP Guidelines.

24. BEREC[9] published its updated “Common Position on Geographic Aspects of Market Analysis (definition and remedies)”[10] in 2014. In this document, BEREC describes the recommended procedure for any geographical definition of the market.

25. In Chapter 2.3.8 Nkom assesses whether there is a need for a more detailed geographical analysis of the Norwegian markets for call termination on fixed networks.

## 2.2 Market definition in previous decision

26. The starting point for the market definition in Nkom’s previous analysis was the market for termination of public telephony services on fixed networks (Market 3) in ESA's Recommendation. Nkom concluded with the following market definition at wholesale level:

- Conveying of calls from the lowest point for exchanging interconnection to end-users that are connected to a fixed electronic communication network. For calls taking place solely within a single provider’s network, the terminating part of the call within an interconnection area will be included in the market.
- For service providers who have influence over their own termination rate, the termination of calls to their own end-users constitutes a separate market. The individual market also includes any termination of calls to end-users with service providers who have indirect interconnection via the service provider that controls the termination rate.
- Traffic based on broadband telephony that is arranged for any-to-any connectivity.
- Interconnection-related services have a close connection to the market.
- Nkom equates demand for termination from an operator's own activity with demand for equivalent external offers.
- Geographically, the market is delimited to the individual networks’ respective areas of coverage within Norway.

## 2.3 Definition of the markets for call termination on fixed networks

### 2.3.1 Product definition in the Recommendation

27. The definition of the markets for call termination on fixed networks was not changed in the ESA Recommendation from 2016. There are no significant changes either to the guidelines issued for the definition of this market in the Commission's Explanatory Note to the Recommendation[11]. The Commission states that the relevant market is restricted to the individual terminating operator's network. In concrete terms, this entails that the Commission defines the relevant market for call termination on fixed networks, whereby the principle of technology neutrality entails that both PSTN/ISDN telephony and voice over broadband (VoB) are included.

[9] Body of European Regulators for Electronic Communications (BEREC)

[10] http://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/common_approaches_positions/4439-berec-common-position-on-geographic-aspects-of-market-analysis-definition-and-remedies

[11] https://ec.europa.eu/digital-single-market/en/news/explanatory-note-accompanying-commission-recommendation-relevant-product-and-service-markets

28. In this Chapter Nkom summarises the main guidelines for definition of the relevant product market.[12]

29. The Commission refers to the previous Explanatory Note from 2007 in which it is stated that call termination on fixed networks is the least replicable input factor in the production of call services for the retail market. Call termination is thereby regulated in all member states.

30. The Commission emphasises market failure in the termination markets as a consequence of the Calling Party Pays (CPP) principle. According to this principle, only the party placing the call (the calling party) pays for the call. Because the termination rate is set by the party that controls the network receiving the call (the terminating operator), the calling party has little or no ability to influence the termination rate. The CPP principle is currently the norm in all European countries.

31. The Commission finds there is no demand-side substitutability at the wholesale level. A call to one particular end-user is not substitutable with a call to another end-user. For an end-user to be able to reach a specific end-user on another network, the originating provider has no other choice than to terminate the call on the network to which the end-user in question is connected. For that reason, demand at the wholesale level is derived directly from demand at the retail level.

32. Similarly, supply-side substitutability is regarded as less relevant. However, the Commission does not rule out that, in compliance with general competition law, there may be mechanisms in the retail market that could restrict competition. It is pointed out that if a national analysis were to come to such a conclusion, it would be supported by empirical evidence.

33. Since the operator and product are closely linked, the Commission discusses whether other forms of communication could represent real substitutes on the supply and demand sides, respectively. In that case, this might represent a *de facto* limitation to the ability of the provider to set termination rates regardless of customers, competitors and consumers. However, the Commission concludes that other forms of communication do not currently represent full substitutes, on either the demand or the supply side. To the extent that substitutes exist on the demand side, such as calls to mobile phones or the use of other communication channels, such as OTT services[13], it does not seem that these alternative communication forms would have a disciplining effect on the pricing of termination on fixed networks.

34. One consequence of the definition is that all termination providers on fixed networks have a 100 per cent market share of call termination on their own networks. According to the Commission, the absence of significant market power in such a situation can only be determined if there is buyer power that can sufficiently discipline the market power.

### 2.3.2 Definition of the Norwegian product market

35. Nkom's market analyses in conjunction with both the decision of 1 August 2011 and the decision of 22 January 2016 included a review of the wholesale markets for origination and termination. In the latter decision it was concluded that the market for origination no longer justified sector-specific advance regulation. This analysis therefore solely concerns the wholesale market for termination on fixed networks.

36. In the market analysis for the decision of 22 January 2016, Nkom performed a relatively extensive assessment of substitutability on the demand and supply sides, based on Norwegian market conditions. In that assessment Nkom concluded that the relevant Norwegian product

[12] Explanatory note, Chapter 4.1.3

[13] OTT stands for "over-the-top" and refers to services offered via the Internet.

markets were in line with the Recommendation from 2016. Nkom believes that these conditions are still viable and current and refers to the aforementioned analysis.

37. These assessments of product market definition entail that call termination in mobile networks is not included in the market definition of call termination on fixed networks.

38. With regard to OTT services, Nkom believed that an increasing scope would exert pressure on traditional voice services. However, such services must be arranged for any-to-any communication, for them to be considered to be a public telephony service. In practice, this means that they must use numbers from the E.164 number plan for both outgoing and incoming calls. As of today, most OTT services are still not adapted for any-to-any connectivity, and Nkom's assessment that voice services from OTT providers are not substitutable for traditional telephony therefore still applies.

39. On defining the market, Nkom has applied ESA's Recommendation and the definition on which the previous decision was based. The market definition in the Recommendation is based on termination of calls in the PSTN/ISDN network. Below, Nkom assesses whether other products are substitutable and must thereby be covered by the market definition.

### 2.3.3 Broadband telephony

40. In Nkom's market analysis of the decision of 22 January 2016, Nkom concluded, on the basis of its substitutability assessment, that broadband telephony arranged for any-to-any connectivity was part of the relevant retail market.

41. VoB based on the IP protocol can be supplied via various types of access networks, including xDSL, fibre and HFC networks (hybrid fibre/coax networks, which may also be referred to as cable TV networks). For termination of calls, end-users will not notice which network technology the call is terminated in, so that the aforementioned technologies for broadband telephony must be deemed to be substitutable.

42. VoB that is arranged for any-to-any connectivity normally uses a telephone number from the national number plan to set up a connection between users. Functionality and service quality largely correspond to PSTN/ISDN telephony. When switching from PSTN/ISDN to VoB, subscribers can also retain their geographical telephone number. Based on a demand-perspective, there is therefore much to suggest that this type of broadband telephony is substitutable for PSTN/ISDN.

43. VoB that is not or is partly arranged for any-to-any connectivity, cf. Nkom's memo of principle[14], is not deemed to be substitutable with PSTN/ISDN telephony. Reference is also made to the description of OTT services in Chapter 2.3.2.

44. From a demand perspective, Nkom believes that VoB arranged for any-to-any connectivity is substitutable with PSTN/ISDN, in terms of both functionality and service quality. Nkom's assessment is supported by how end-users will not notice which network technology the call is terminated on, nor are termination rates expected to be differentiated by technology in the future. Nkom therefore believes there is a basis for considering the services substitutable for most customer groups.

### 2.3.4 Internal use versus external offers

45. In previous analyses, Nkom has assumed that the relevant wholesale market includes both internal and external demand for termination. This is because this traffic product is a necessary input factor in the retail market, which in turn entails that the procurement of this element will constitute the demand in the wholesale market. The inclusion of internal traffic in

[14] https://www.nkom.no/marked/ekomtjenester/regelverk/prinsippnotat-om-bredb%C3%A5ndstelefoni

Regulation of broadband telephony pursuant to the Electronic Communications Act, 14 June 2006.

the call termination markets is of little significance, however, since each individual network is defined as a separate market in which the provider has a 100 per cent market share.

### 2.3.5 Indirect interconnection

46. Some providers in the retail market do not have their own interconnection agreements, but instead have indirect interconnection via an agreement with another provider. The extent to which a buyer of indirect interconnection produces termination itself, or acts solely as a reseller, will vary. Further, it is not given that other providers will be able to see which provider's end-users the traffic terminates with, as providers that buy indirect interconnection can use number series and provider codes that were originally allocated to the provider with the direct interconnection agreement.

47. On determination of the termination markets, it will be decisive whether each individual provider sets and controls its own termination rate. If, in reality, the provider with the direct interconnection agreement sets the termination rate for the underlying provider, termination for both providers in combination will constitute part of a common service and a shared market.

### 2.3.6 Termination of calls to value-added services (VAS)

48. Termination of value-added service calls after processing and number conversion in IN (Intelligent Network) equipment may be likened to general termination of calls. Such traffic would thus be included in the markets for termination in the fixed network if the call is routed further to a geographic number in the fixed network. However, if instead the termination takes place directly in the VASP's equipment, the VASP can choose to connect to various providers. From an end-user perspective, calls to such location-independent numbers have a different purpose and functionality than a call to a geographic number. Like in previous analyses, Nkom therefore believes that termination in the VASP's equipment (location-independent number) is not part of the termination markets. The relevant market thereby solely includes termination to geographical numbers.

### 2.3.7 Connection services, etc.

49. In addition to termination, a solution for physical and logical affiliation between the networks is a prerequisite for interconnection with Telenor or other providers. Examples of required services will be traffic capacity (TKP), and transmission capacity/separate communication (for SS7-based interconnection) or a Tier-3 VPN service for IP-based interconnection (SIP).

50. As in previous analyses, Nkom assumes that interconnection-related services are closely related to the relevant termination markets and thus can be subject to separate regulation, as part of the regulation of these markets.

### 2.3.8 Definition of the Norwegian geographical markets for termination

51. As stated in Chapter 2.1.2, the “BEREC Common Position on Geographic Aspects of Market Analysis (definition and remedies)”[15] states a recommended approach to any geographical definition of the market. BEREC recommends that the geographical analysis be introduced with an assessment of the development in competition in the retail market. BEREC has identified the following indicators as the most relevant on determining whether it is necessary to conduct a complete geographical analysis in order to assess whether it is appropriate to define local markets:

- Geographical differences in providers’ networks and coverage
- Number of providers in the retail market, and their market shares, in different geographical areas
- Geographical differences in prices and product offerings

[15] Chapter IV b.

52. As there is no end-user market for termination, Nkom assesses these indicators within the wholesale market for termination.

53. Telenor provides call termination in the entire country, while the network's coverage is all of Norway. As described in Chapter 3.4, most of the providers have an access form (interconnection agreement) which means that the entire country can be considered to be one interconnection area, with identical termination rates across the country. With regard to broadband telephony service providers without their own access network, the total national offering of fixed broadband – in practice the entire country – will constitute the potential geographic market. For local/regional broadband providers that also offer VoB for their own broadband customers, the network's area of coverage will constitute the potential geographic market.

54. The competitive conditions for termination are considered identical throughout Norway. It would be very difficult for providers to differentiate between termination rates for calls to different geographical telephone numbers. Nor is it possible to separate service providers and areas from one another with regard to the quality of the call termination product.

55. Wholesale customers cannot change to another company in the area in question, as it is not possible to terminate a call with companies other than the company to which the end-user has tied their subscription.

56. As demand and supply-side substitutability is thus impossible in geographically bounded areas, Nkom finds that the geographic markets for call termination on the telephone network (provided) at a fixed location shall still be limited to the individual networks' coverage areas in Norway. Nkom thus does not see any need to perform a full geographical analysis.

57. On this basis, Nkom considers the geographic market for termination to be the individual networks' respective areas of coverage within Norway.

### 2.3.9 Conclusion regarding the definition of the wholesale markets

58. In Nkom's assessment, the wholesale markets for call termination on the public telephone networks in individual fixed networks comprise the following:

- Traffic based on PSTN/ISDN, as well as broadband telephony that is arranged for any-to-any connectivity.
- Conveyance of calls from the point for exchanging interconnection to end-users that are connected to a fixed electronic communication network. For calls taking place solely within a single provider's network, the terminating part of the call within an interconnection area will be included in the market. However, this is of little practical importance for the analysis.
- For service providers who have influence over their own termination rate, the termination of calls to their own end-users constitutes a separate market. The individual market also includes any termination of calls to end-users with service providers who have indirect interconnection via the service provider that controls the termination rate.
- Interconnection-related services that have a close connection to the markets.
- Nkom equates demand for termination from an operator's own activity with demand for equivalent external offers.
- Geographically, the markets are limited to the individual networks' respective areas of coverage within Norway.

# 3 Market information

## 3.1 History

59. The markets for public telephony services in the fixed network were liberalised in 1998, and the liberalisation enabled new service providers to enter the market with new offers that competed with Telenor's offers. The competing offers were at first based on prefix traffic and, in the business market, also on direct connections (subscriptions and traffic via own and/or leased accesses).

60. In the summer of 1999, carrier pre-selection and number portability were introduced. Using carrier pre-selection, Telenor's competitors could offer all fixed calls, while number portability helped improve the competitive conditions for Telenor's competitors who based their service on direct access.

61. Shortly after liberalisation, many of Telenor's competitors sought an access/subscription product in the wholesale market so that they could offer a comprehensive telephony product package in the residential market as well, incorporating both subscription and calls. In autumn 2001, Nkom imposed an obligation on Telenor to offer such a product, and Telenor launched its product at the end of 2002/beginning of 2003. However, the decision was revoked by the Ministry of Transport and Communications on 10 June 2003 due to the lack of a legal authority for such an order. Telenor nevertheless chose to continue to offer the wholesale line rental product.

62. At the beginning of 2004 the first Voice over Broadband (VoB) service for residential customers was launched. This type of service had existed in the business market a few years previously, but in a limited scope. VoB is offered by providers both with and without their own access network.

63. As from 2017, Nkom withdrew the regulation of the end-user market for fixed telephony, and the wholesale market for call origination on fixed networks. After this, Telenor has no longer been required to offer wholesale products for carrier pre-selection/prefix and wholesale line rental, which were required in the end-user market for fixed telephony. Telenor still offers the wholesale line rental product, and at the end of 2017 there were 44,768 wholesale line rentals in total, distributed on three operators.

64. Interconnection on fixed networks has been regulated throughout the period. After the liberalisation Telenor has been required to offer interconnection services at cost-oriented prices. In 2006, Telenor was made subject to price-cap regulation for termination, while reasonable prices were imposed on other providers of termination on fixed networks. As from and including 2012, all providers of termination services on fixed networks are subject to price-cap regulation.

## 3.2 Development in the overall market

65. The total number of fixed telephony subscriptions has been decreasing since 1996. Figure 1 shows the number of fixed telephony subscriptions in the period from 2012 to the end of 2017.

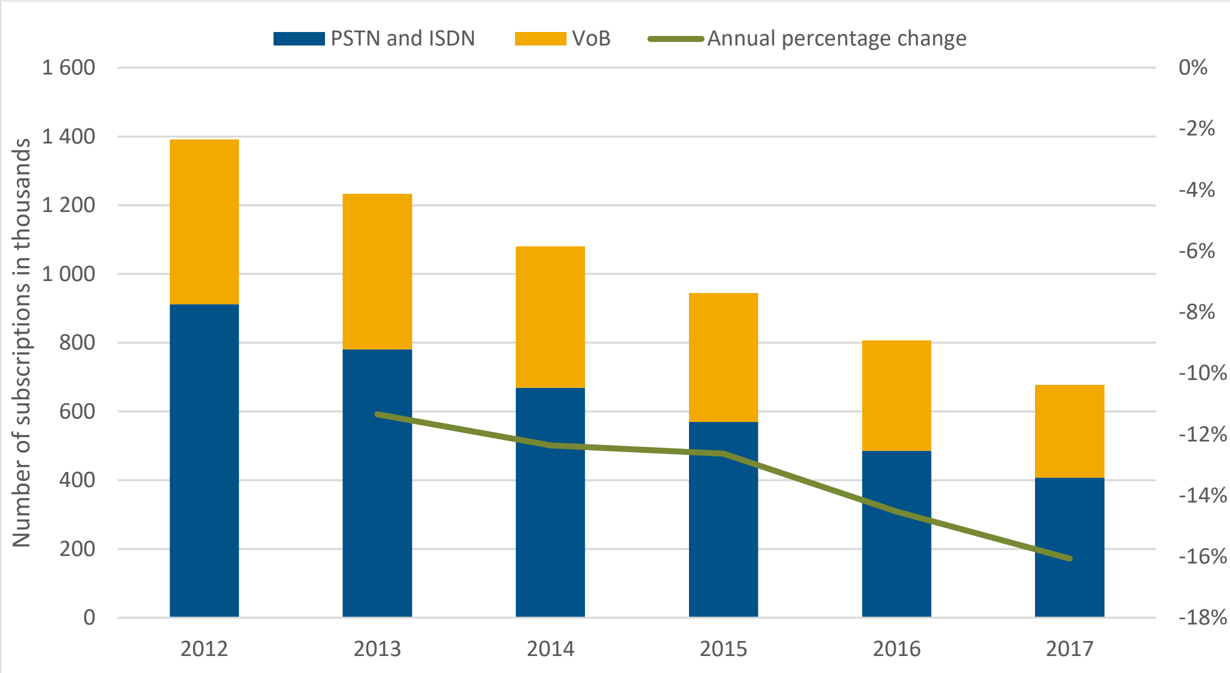


*Figure 1 Number of subscribers to fixed telephony. Percentage annual change.*

66. The number of fixed telephony subscriptions totalled 677,490 at the end of 2017. The decrease in 2017 was about 16 per cent. The decline since the previous analysis is as high as 37 per cent.

67. At the end of 2010, around 41 per cent of all Norwegian households had no fixed telephony subscription. At the end of 2017 this share was 79 per cent, which is an increase of 38 percentage points.

## 3.3 Technology switch

68. In 2012, Telenor issued a notice that it would implement a modernisation programme that would phase out the traditional fixed-line telephone (PSTN/ISDN) and switch to IP-based technology. The reason for this was that the telephone exchanges were starting to get old and difficult to maintain. The original schedule had the phasing out completed by 2017. Telenor has since withdrawn this schedule, and the completion date for the modernisation programme/migration may lie beyond 2020.

69. Work on how to migrate customers to new technology is in progress. On its website, Telenor still offers new sale of traditional fixed telephony based on PSTN/ISDN. For customers with a broadband connection, either via the copper network (DSL), HFC network or fibre, broadband telephony is relevant. Telenor is also testing other broadband telephony solutions in the form of mobile broadband products.[16] For customers without access to broadband connection, a mobile-based home phone solution may be an option. Telenor offers such a solution today[17]. At the end of 2017 there were 155 customers with a home phone subscription.

[16] https://www.insidetelecom.no/artikler/500-kobbersentraler-gar-med-underskudd-hver-dag-br/439782

[17] https://www.telenor.no/privat/telefoni/#tab1=0

## 3.4 Interconnection

70. Two or more networks are often involved in the conveyance of telephone calls. Traffic that is conveyed between networks is known as interconnection, while the sites where the traffic is transferred from one network to another are referred to as points of interconnection. Interconnection can occur in a number of variants depending on which provider end-users are customers of.

71. Most providers of a certain size have an interconnection agreement with Telenor (direct interconnection). Telenor’s key position in the market means that many of the service providers use Telenor to transfer traffic between themselves (transit). However, several providers have entered into direct interconnection agreements with each other, so that traffic does not have to be in transit via Telenor. This applies to e.g. Get TDC and Telia. Direct interconnection agreements between other providers were initially used to exchange interconnection in mobile networks, but also provide the opportunity to exchange interconnection between providers of fixed telephony.

72. Some smaller providers do not have their own interconnection agreements with Telenor, but instead use indirect interconnection through an agreement with another provider. These use number series and provider codes originally allocated to the provider with the direct interconnection agreement.

73. Until the summer of 2012, Telenor's core network that conveys interconnection was divided into 12 interconnection areas with a total of 13 points of interconnection. Interconnection in Telenor's fixed network was then described as traffic at two levels – local and national, respectively – depending on whether the traffic went through one or more interconnection areas. In Telenor's interconnection agreement, this was described as within and outside the interconnection area, respectively. In most other countries in Europe, interconnection has been offered at three levels: local, regional and national. However, in the summer of 2012 big changes were made in Telenor's interconnection system. The number of interconnection points was strongly reduced. Today, Telenor's fixed network is divided into four interconnection areas with a single point of access in each area, with the exception of Oslo, which has two access points. Even though there are four interconnection areas with a total of five access points, the cost of termination is no longer dependent on how far traffic is transported in the Telenor network and there is thus no basis for the concepts of local/national interconnection and inside/outside interconnection area in a price/product context. The entire country is now considered to be one interconnection area.

74. Today, Telenor offers interconnection via the SS7[18] and SIP[19] protocol. SIP interconnection has a rather different set-up to SS7 interconnection, since the entire country constitutes one single unified interconnection area. The physical affiliation of SIP interconnection in Telenor’s network is achieved via affiliation to Telenor's broadband network through the Operator Connect product. Telenor delivers two routers in the provider’s location in Norway that are physically linked to Telenor's IP network through separate fibre connections. This means that all SIP interconnection between Telenor and the provider in Norway is delivered via the geographical locations where the Operator Connect affiliation solution is established.[20]

75. For SS7 interconnection, Telenor offers an interconnection agreement consisting of a basic component (Basic) and an additional component (Pluss supplementary agreement). The Basic component primarily concerns the services and products that Telenor is required to

[18] Signalling System No.7

[19] Session Initiation Protocol

[20] Cf. standard agreement on SIP interconnection, clause 2, and Annex 1.

offer, while the Pluss supplementary component describes services that Telenor offers in addition to Basic.

76. Telenor has offered SIP interconnection, i.e. direct connection based on the SIP protocol, since the spring of 2017. SIP will be introduced as a gradual transition whereby both SS7 and SIP function in parallel for a period of time. Telenor offers a separate standard agreement concerning SIP interconnection.

## 3.5 Overview of market operators

77. The providers of fixed telephony in the retail market currently use various business models in order to realise their services, and many do not have their own interconnection offers. According to Nkom's statistics, at the end of 2017 there were 54 providers of fixed telephony[21]. Most of these providers have indirect agreements on interconnection, and thus leave service production to other providers to varying degrees. Nkom has identified 10 operators that have their own offers of termination on fixed networks: Altibox AS, Broadnet AS, eRate AS, ICE Norge AS, NextGenTel AS, Orange Business Norway AS, Puzzel AS (formerly Intelecom Group AS), Telenor ASA, Telia Norge AS[22] and Verizon Norway AS.

78. In April 2018, Broadnet AS acquired Kvantel from NextGenTel Holding AS.[23] Kvantel has its own interconnection agreement with Telenor.

79. Intelecom Group AS hived off its mobile services to a separate company called Puzzel AS in April 2017. Puzzel AS continues the interconnection agreement with Telenor.

80. ICE Norge AS and eRate AS were not covered by Nkom’s previous decision in the markets, but both have now concluded interconnection agreements with Telenor that include termination on fixed networks.

81. The degree of control over the access network also varies between providers of termination. At one end of the scale is Telenor with its nationwide copper access network, which is used to offer both PSTN/ISDN and broadband telephony. Some providers use Telenor’s access network as the basis for offering PSTN/ISDN through carrier pre-selection/prefix and the purchase of call origination from Telenor (indirect connection). This e.g. applies to Get TDC and Phonero (both now owned by Telia). For traffic that is to be terminated with end-users that use carrier pre-selection/prefix, Telenor undertakes the termination of the call since the end-user is physically connected to Telenor’s network. Nkom is aware that Get TDC and Phonero also have business customers on their own access (direct connection, preferably achieved via leased lines). In such cases, these companies will be responsible for the termination of calls to the relevant end-users. There are also a large number of service providers offering broadband telephony. The largest of these is NextGenTel (Telio brand name), which can supply VoB to all end-users with a broadband connection, regardless of their broadband providers, and thus appears as an access-independent provider. The partners in the Altibox collaboration supply VoB based on their own rolled out fibre access – so-called access-dependent connection.

82. A number of the service providers covered in this market analysis only offer their fixed telephony services in the business market. Orange Business Norway, Puzzel, Phonero (Telia) and Verizon Norway are examples of these companies.

[21] 53 providers of broadband telephony and seven providers of PSTN/ISDN (six operators offer both services).

[22] In July 2018, Telia Company AB acquired Get TDC Norge. The merger was approved by the Norwegian Competition Authority on 5 October 2018.

[23] Kvantel became part of Broadnet AS from 1 July 2018.

### 3.6 Overview of the termination markets

83. The figures Nkom has collected for 2017 show that in total just under 1.6 billion terminated voice minutes were sold in the fixed network that year. Equivalent figures for 2014[24] were approx. 2.0 billion minutes.

84. For termination, each network constitutes a separate market. This relates to the monopoly position of each provider when it comes to offering termination in its network, cf. the definition in Chapter 2.3. Since each network constitutes a separate market, it is not relevant to assess the distribution of market shares. It can nevertheless be interesting to compare how much traffic the different providers terminate. The figure below shows the breakdown of terminated call minutes among the largest providers that control termination, based on the figures for 2017. Telenor accounts for the clear largest share of terminated traffic, at 45 per cent in 2017. Other smaller providers' total share accounts for less than 1 per cent, and is not shown in the figure.

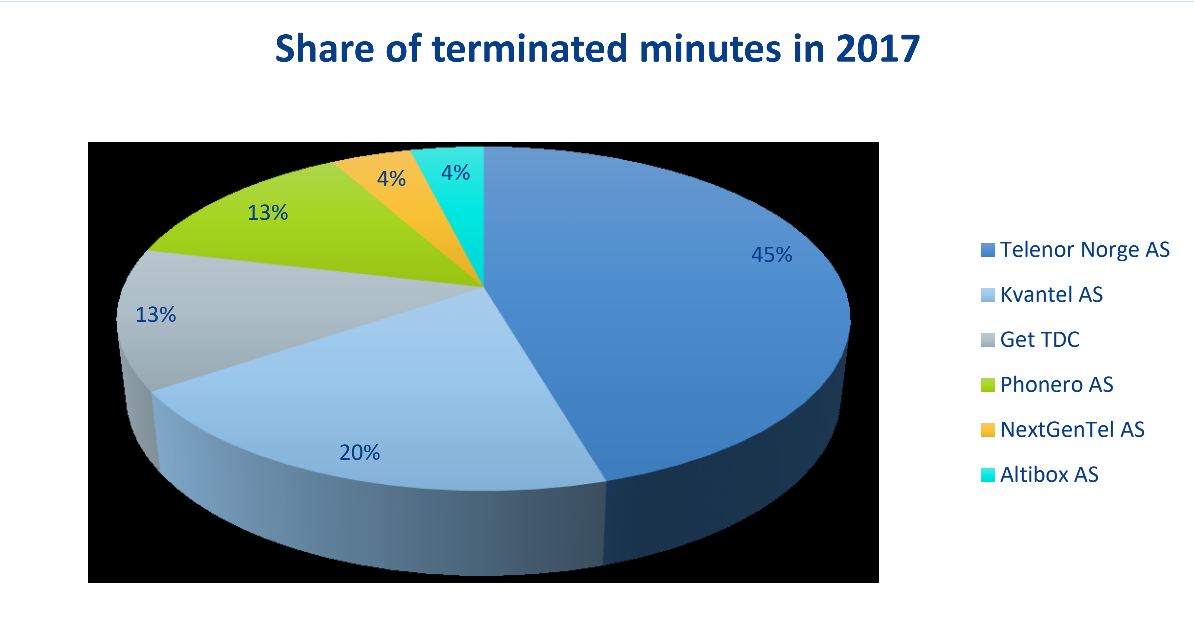


*Figure 2 Providers' share of the total number of externally terminated minutes on fixed networks for 2017.*

## 4 Analysis of the wholesale markets for termination of public telephone services on fixed networks.

### 4.1 Introduction

85. In the analysis of 22 January 2016, Nkom concluded that Telenor and nine other providers had significant market power in the relevant termination markets. In its assessment, Nkom emphasised that providers have a 100 per cent market share for termination in their own

[24] Nkom's previous market analysis for this market was based on full-year figures for 2014.

networks, that there are absolute entry barriers in the markets and thus no potential competition within the time horizon of the analysis, and that incentives to reduce termination rates are absent. Nkom also did not find that countervailing buying power would be able to sufficiently curtail the providers' exercise of market power for call termination on their own networks.

86. In this chapter, Nkom undertakes a new assessment of whether there still are providers with significant market power in the relevant markets.

87. The assessment of significant market power is based on Chapter 3 of the SMP Guidelines. In accordance with clause 13, on the basis of existing market conditions, Nkom has based the assessment on a forward-looking market analysis. The time horizon for this analysis is approximately two to three years.

88. The Electronic Communications Act's terms for significant market power are laid out in its Section 3-1. The provision stipulates that:

> *"A provider has significant market power when the provider individually or jointly with others has economic strength in a relevant market enabling the provider to act independently of competitors, customers and consumers to a significant extent."*

89. The service providers' market shares form the basis for the analysis. Nkom then assesses prices and price development, entry barriers and potential competition, as well as market power or negotiating strength on the demand side (buyer power). In Nkom's view, the remaining criteria specified in the SMP Guidelines provide little or no information that is significant to the assessment of significant market power in the relevant termination markets. For that reason they will not be subject to further discussion.

90. Significant market power can be attained by one undertaking alone (single dominance) or together with others (collective dominance). However, for the markets concerned, the issue of collective dominance is irrelevant, since there is only one provider in each market.

91. For the sake of good order, Nkom wishes to emphasise that significant market power is the relevant assessment theme, and not anti-competitive misuse of significant market power. It is therefore not central to the significant market power assessment whether any market power/dominance is actually misused or not. However, this does not mean that a provider's behaviour in the market is irrelevant to the assessment of significant market power. Even if structural factors are accorded the greatest weight in the assessment, behaviour that helps create or maintain competitive advantages may justify the conclusion of significant market power.

## 4.2 Market shares

92. According to the SMP Guidelines[25], a natural starting point for analyses of significant market power is to assess market shares. If a provider's market share exceeds 50 per cent, it would be exceptional for the provider not to be considered to have significant market power. Market shares can be measured by revenue, volume or number of customers. The characteristics of the relevant market will determine how market share is measured.

93. According to the market definition of the markets for call termination in individual public telephone networks provided at a fixed location, there is only one service provider in the individual market. Regardless of which market share measurement is used, each service provider thus has a 100 per cent market share in the respective market. All operators who offer termination themselves thus represent individual markets. As stated in Chapter 3.5 Overview of market operators, the following operators offer termination on fixed networks:

[25] See clauses 54-57 of the SMP Guidelines.

Altibox AS, Broadnet AS, eRate AS, ICE Norge AS, NextGenTel AS, Orange Business Norway AS, Puzzel AS (formerly Intelecom Group AS), Telenor ASA, Telia Norge AS and Verizon Norway AS. These providers are thus monopolists with regard to the termination of calls to their own end-users.

94. The companies' market shares in the relevant markets are thus far higher than the significant market power thresholds specified by the Commission. However, on assessing significant market power, Nkom considers the companies' market shares in conjunction with other relevant assessment criteria, cf. clause 58 of the SMP Guidelines. In the following, Nkom considers prices and developments in prices, entry barriers and potential competition as well as buyer power.

## 4.3 Prices and price developments

95. Price levels and developments in prices over time can often indicate the degree of competition in a market, or the degree of potential competition, and can thereby provide an indication of whether a provider has market power. In the wholesale markets for termination on fixed networks, the definition states, however, that each market solely comprises one provider. Since each individual provider does not have competitors within its market, there is per definition no price competition in this market.

96. In Nkom's decision dated 1 August 2011, all providers with their own offers of termination were, as mentioned, designated providers with significant market power. Further, all providers were made subject to price controls in the form of maximum prices based on LRAIC. In 2016, maximum termination rates based on LRIC alone were imposed on the providers. The price development has thereby to a great extent been dictated by the price regulation, so that this information is of limited value for the assessment of market conditions.

97. The table below shows regulated termination rates in the period from 2006 to 2018.

| Provider | 24.3.06 | 1.1.12 | 1.1.13 | 1.1.14 | 1.4.16 | 1.1.17 | 1.1.2018 |
|---|---|---|---|---|---|---|---|
| Telenor | start fee 5.4<br>per min 3-8<br>red. tariff per min 2.6 | 3.9 | 3.2 | 2.6 | 0.6 | 0.6 | 0.6 |
| Telia | Affordable prices | 3.9 | 3.2 | 2.6 | 0.6 | 0.6 | 0.6 |
| Network Norway | | 3.9 | 3.2 | 2.6 | | | |
| Tele2 | Affordable prices | 3.9 | 3.2 | 2.6 | | | |
| TDC | Affordable prices | 3.9 | 3.2 | 2.6 | | | |
| Get TDC | | | | | 0.6 | 0.6 | 0.6 |
| Phonero | | | | | 0.6 | 0.6 | 0.6 |
| Orange Business | | 3.9 | 3.2 | 2.6 | 0.6 | 0.6 | 0.6 |
| NextGenTel | Affordable prices | 3.9 | 3.2 | 2.6 | 0.6 | 0.6 | 0.6 |
| Intelligent telecom services | | | | | 0.6 | 0.6 | 0.6 |
| Intelecom group | | 3.9 | 3.2 | 2.6 | 0.6 | 0.6 | 0.6 |
| Altibox | | 3.9 | 3.2 | 2.6 | 0.6 | 0.6 | 0.6 |
| Hafslund Telekom AS | | 3.9 | 3.2 | 2.6 | | | |
| Verizon | | 3.9 | 3.2 | 2.6 | 0.6 | 0.6 | 0.6 |
| Ventelo | Affordable prices | 3.9 | 3.2 | 2.6 | | | |

*Table 2 Development in regulated termination rates on fixed networks stated in øre, excluding VAT.*

98. However, the market situation in the period immediately preceding this decision shows that competition from other providers has little effect when providers are setting their own termination rates.

99. In Nkom's decision of 24 March 2006, a price cap was imposed on Telenor, while other service providers of termination were required to set "reasonable termination rates". The prices were be based on Telenor's prices, but could deviate if special conditions so dictated. It was thus in the first instance up to the providers themselves to clarify the termination rates between them.

100. However, soon after Nkom's decision was issued it became clear that there was disagreement between Telenor and the providers whose termination rates to some extent deviated considerably from Telenor's termination rates about what a reasonable termination rate would be. Consequently, Nkom received complaints from Telenor claiming that several of the providers' termination rates could not be considered reasonable. Between 2007 and 2009, Nkom undertook individual assessments of the termination rates of service providers that had set substantially higher prices than Telenor. The termination rates in all of these cases were reduced as a result of regulations imposed by Nkom (the decisions were later upheld by the Ministry of Transport and Communications after an appeal process).

101. The above means that termination rates have been more or less the same for the different providers since 1 July 2009. These have coincided with the regulated maximum prices shown in Table 2. At the same time, Nkom's intervention in relation to some providers shows that providers are not generally affected by competition from other providers when setting their own termination rates. No provider that had set a significantly higher termination rate than Telenor voluntarily chose to reduce their rate to a level equivalent to the other providers. Such a pricing strategy would not be possible over time in a market with competition. If there were competition to offer a uniform product like termination, the providers would have to be at virtually the same price level to be able to sell their product. The aforementioned assessments help to show that the markets for termination are separate markets in which each individual provider does not face competition.

## 4.4 Entry barriers and potential competition

102. Potential competition from new providers will normally affect a dominant provider's behaviour in the market, including price setting. Various forms of entry barriers may, however, weaken or remove the basis for potential competition.

103. The relevant markets are limited to voice termination in the individual provider's fixed network. With the current technology, it is still not possible for anyone other than the provider who has a customer relationship to the subscriber to offer the termination service. This applies both to services based on traditional circuit– switched technology and services based on VoB.

104. The lack of opportunity for others to offer such a service forms the core of the competition problems in this market and is the very reason for the individual networks being regarded as individual markets. Within the two to three-year time horizon of the analysis, it appears to be impossible for other providers to enter the respective termination markets. In such a market, the entry barriers will therefore be absolute, and there is thus no potential competition. Therefore, Nkom does not find it necessary to carry out a more detailed assessment of entry barriers such as sunk costs and economies of scale.

105. In addition, the Calling Party Pays principle (CPP) in practice reduces the significance of potential competition in the termination markets since the end customers will not have any incentive to change provider as a result of competitors who offer lower termination rates. The principle further gives the provider who demands high termination rates the opportunity to subsidise its own customers' calls with the revenues from termination. The end customers of the provider that imposes the high termination rate may therefore benefit from retaining this service provider, however.

106. Absolute entry barriers and the consequential absence of potential competition within the time horizon of the analysis therefore suggest that Altibox AS, Broadnet AS, eRate AS, ICE Norge AS, NextGenTel AS, Orange Business Norge AS, Puzzel AS (formerly Intelecom Group AS), Telenor ASA, Telia Norge AS and Verizon Norway AS have significant market power in their respective markets for call termination on fixed networks.

## 4.5 Conditions on the demand side

### 4.5.1 General about buyer power

107. The markets for termination of voice in individual fixed networks are characterised by the service providers having a 100 per cent market share, the absence of competitors and no potential competition. For that reason there is a strong presumption that undertakings in these markets can behave independently of competitors, competitors and consumers, cf. Section 3-1 of the Electronic Communications Act. Buyer power is a factor that may indicate that providers of termination services on fixed networks do not actually have significant market power.

108. The comments to the Commission's Recommendation state the following:

> ”*However, such a market definition - call termination on individual networks - does not automatically mean that every network operator has significant market power; this depends on the degree of any countervailing buyer power and other factors potentially limiting that market power.*”

109. Nkom believes that buyer power exists when a defined buyer or groups of buyers are sufficiently important to the seller to be able to exercise influence on the price that the seller charges for the goods or service. Exercising buyer power in the individual markets for termination of voice in the fixed network will thus entail that buyers of termination are able to have an impact on the monopolists' setting of own termination rates.

110. When assessing buyer power in connection with significant market power, however, it is not sufficient to state that service providers who demand the termination service potentially have buyer power or that the provider has actually exercised buyer power. The question in this context is whether the seller of termination is subject to buyer power to such a degree that the buyer power provides a basis for departing from the presumption that it may act independently of competitors, customers and consumers. In what follows, the issue is discussed as a matter of whether the buyer power is sufficiently effective.

111. Buyer power is deemed to be sufficiently effective if it is able to generate virtually the same outcome that could be expected in a market characterised by competition. This means, among other things, that the provider is prevented from setting termination rates that are substantially higher than the price that could be expected in a competitive market.

112. Providers of termination services are in a reciprocal relationship in that they act as buyers and sellers of termination in one another's networks. Profits from the call termination product will thus depend on the difference between revenue from termination on the operator's own network and expenses for termination on other operators' networks. Reduction of the termination rate by one seller of termination might therefore in principle provide a basis for buyers of termination to reduce their own termination rates. Termination rates that are higher than a cost-oriented price and the price that would have been achieved in a functioning market indicate that the buying power is not sufficiently effective. A decrease in others' termination rates that is not reflected in a provider's own termination rates may also be an indication that the buying power is not sufficiently effective.

113. Buying power is not an absolute concept; rather it refers to the relative power of a buyer in negotiations with a seller for a specific good or service. The degree of buying power will thus vary according to the particular constellation of buyers and sellers.

114. Factors of general importance for the ability to exercise buyer power in the individual termination markets include:

- If the buyer is able to cover his needs in a way other than by buying from the seller, including the possibility of reducing or refraining from purchasing.
- The buyer's importance to the seller by virtue of the buyer's purchase volume.
- Whether the buyer can offer something of interest to the seller, such as access to other markets.
- The regulatory context in which any buyer power is exercised, including any specific obligations, as well as the parties’ expectations of the outcome of referring any dispute on the signing or implementation of interconnection agreements to Nkom.

115. Nkom has assessed factors that can generally serve to reduce the opportunity to exercise buyer power; see Annex 1 to the decision dated 22 January 2016, and believes that these assessments are still valid. Reference is therefore made to that decision for an assessment of these factors. In the following chapter, Nkom examines factors that are of significance to determining whether any of the companies covered by this analysis are exposed to buyer power that is regarded as being sufficiently effective.

### 4.5.2 Nkom's assessment of whether the specific providers are exposed to buyer power

116. As part of its assessment of buyer power, Nkom will choose a "modified greenfield approach", namely disregarding the obligations in the market that is the subject of the market analysis. One starting point for assessment of buyer power could be how the companies set their termination rates before the companies became subject to regulatory price caps. Most of the companies covered by this analysis have, however, been subject to regulatory price caps

for a longer period. Nevertheless, price caps will not prevent any buyer power from driving prices down to a level below the price cap.

117. In the analysis dated 1 August 2011, Nkom's starting point was the situation as it stood before most providers were made subject to price caps. As described in Chapter 4.3 Prices and price development, the “reasonable price” requirement led to several providers setting termination rates far above Telenor’s regulated price. The prices were only lowered on the intervention of Nkom. These cases showed that Telenor could not exercise sufficient buyer power in relation to providers with termination rates that deviated significantly from Telenor's own charges. The conclusion in Nkom's analysis was that providers were not sufficiently subject to buyer power to change the presumption about significant market power. In Nkom's opinion, there is no specific evidence to suggest that the previous conclusions about buyer power should be amended. Against this background, Nkom deems it sufficient to undertake a limited individual assessment of buyer power.

118. Since 1 August 2011, the termination rates of all providers have been subject to price regulation in the form of price caps based on LRAIC. In the decision of 22 January 2016, price caps were set for all providers of termination on fixed networks based on pure LRIC. In principle, the price caps will not prevent a possible buyer power from driving prices down to a level below the price cap. However, Nkom assumes that as the price cap is based on a cost-oriented level, it is difficult to claim that competition would have driven prices even lower or that the absence of price reductions show a lack of buyer power. New, smaller providers of termination may, however, be exposed to the buying power of larger operators, so that they adapt to a regulated price level. The certainty that all providers of termination during a two to three year period will be subject to price-cap regulation reduces incentives to oppose this. Nkom therefore believes that to a great extent this regulation, rather than buying power, disciplines pricing.

119. Against this background, Nkom believes that the assessments of the providers' price setting in the analysis of 1 August 2011 remain the most relevant basis for assessing buyer power. In this analysis, Nkom concluded that the termination providers were not exposed to sufficient buyer power to be able to waive the assumption of significant market power.

### 4.5.3 Summary of buyer power

120. The lack of alternative providers and the opportunity to ensure any-to-any connectivity through interconnection obligations mean that the opportunities for exercising bargaining power over sellers of termination of voice in the fixed network are strongly reduced.

121. Nkom has found no indications that Altibox AS, Broadnet AS, eRate AS, ICE Norge AS, Intelligent telecom services AS, NextGenTel AS, Orange Business Norway AS, Puzzel AS (formerly Intelecom Group AS), Telenor ASA, Telia Norge AS and Verizon Norway AS are subject to sufficient buyer power in their respective termination markets.

122. As explained above, the key question is whether the companies concerned are subjected to buyer power that can discipline the companies’ termination rates to the level they could expect in a market characterised by competition. Nkom believes that the price level that several of the companies applied before they became subject to price-cap regulation clearly shows that this is not the case. On the contrary, in Nkom’s view the price level before price-cap regulation showed that the providers have both incentives and opportunities to set prices that are higher than would have been possible in a market with functioning competition.

123. Accordingly, Nkom’s conclusion is that the buyer power that the analysed service providers are subject to is not sufficiently effective to depart from the presumption that the service providers have significant market power in the market for call termination in their own fixed networks.

## 4.6 Conclusion concerning significant market power

124. Altibox AS, Broadnet AS, eRate AS, ICE Norge AS, NextGenTel AS, Orange Business Norway AS, Puzzel AS (formerly Intelecom Group AS), Telenor ASA, Telia Norge AS and Verizon Norway AS are each the sole provider of call termination to their own end-users. They all thus have a 100 per cent market share within their own individual markets.

125. The assessment of price development for call termination in Chapter 4.3 also shows that the providers do not have incentives to voluntarily reduce their termination rates down to a level that corresponds to a market with competition. Because the entry barriers within the individual relevant markets are absolute, there is no potential competition within the time horizon of the analysis. Therefore, in principle, all providers will be able to have significant market power. For this not to be the case, weighty factors must exist that have a disciplinary effect on the exercise of market power. These factors can primarily be assumed to relate to countervailing buying power.

126. As indicated in the findings above, Nkom does not believe that countervailing buyer power can reduce the providers' exercising of market power for termination of calls in their own networks to a sufficient degree.

127. On this basis, Nkom has concluded that Altibox AS, Broadnet AS, eRate AS, ICE Norge AS, NextGenTel AS, Orange Business Norway AS, Puzzel AS (formerly Intelecom Group AS), Telenor ASA, Telia Norge AS and Verizon Norway AS have significant market power in their respective markets for call termination on individual fixed networks.