

DENMARK

MAIN MARKET DEVELOPMENTS

The broadband penetration rate in Denmark continues to be one of the highest among the EU countries. While the take-up of mobile broadband in Denmark is increasing, the number of fibre to the home (FTTH) connections is also growing. Fixed broadband continues to grow, although at a slower rate. The demand for higher broadband speeds increased during 2010. Fixed PSTN telephony continues to decrease, whereas IP telephony increased, in terms of subscriptions. There has been some further consolidation in the fixed market, with the purchase of one fibre provider by the incumbent. The energy companies which are in the process of rolling out fibre have created a joint broadcasting content provider. Mobile penetration increased further from an already high level.

The total revenue generated by the Danish electronic communications sector in 2009 equalled to €5.5 billion, almost the same as the revenues generated during the preceding year. The fixed sector's revenues amounted to €1.86 billion, while the mobile market's revenue totalled €2.28 billion. Overall investments in the electronic communications sector totalled €1.13 billion. The investment over revenue ratio in the Danish telecom sector for 2008 was 20.6%, the second highest in the EU.

More and more Danes are using bundled packages. Triple play (comprising Internet, telephony – either fixed or mobile- and TV) take-up is increasing, corresponding to 3.2 % of the population in July 2010, compared to 2% in December 2008. There is no quadruple play available yet.

MAIN REGULATORY DEVELOPMENTS

On 1 June 2010 the Danish Government announced a new ambitious broadband coverage objective of 100 Mbps for all households and enterprises by 2020. The previous target was that all Danish households should have access to a broadband connection of 0.5 Mbps by the end of 2010. In an annual report, the National IT and Telecom Agency (NITA) monitors broadband development. In 2017 the government will launch an independent external review to assess the status of broadband deployment in regards to the 2020-objective.

The broadband objectives set out by the Danish Government are technology neutral and are to be achieved by the market. As a step towards the 2020-objective, the Ministry of Science Technology and Innovation published a "*Digital Growth Work Programme*", in June 2010 which includes 35 initiatives for promoting digitalisation in Denmark. The initiatives include the option of setting coverage and roll-out requirements in future spectrum licences.

A new Frequency Act entered into force on 1 January 2010. The new Act expanded the existing rules on secondary trading to also include the trading of parts of licences, while also introducing a technologically neutral approach towards the use of frequencies. The new Act also includes provisions regarding anti-competitive behaviour which prevents efficient use of spectrum resources to the detriment of competition (ban on spectrum hoarding). Newly adopted secondary legislation (that is related to this issue) also entered into force on 1 January 2010, along with a revised Frequency Plan. The Act provided that primarily auctions would be used in the case of a scarcity of frequencies. Spectrum has also been traded during 2010. In this context, licensees should notify NITA of any plans to transfer a licence. The new

frequency legislation and the revised Frequency Plan are intended to transpose parts of the revised EC regulatory framework on electronic communications.

The Danish draft primary legislation intended to finalise the transposition of the new EC regulatory framework was submitted to the Parliament and was expected to be adopted in February 2011, enforceable as of 25 May 2011. Secondary legislation is also in the pipeline and is scheduled to enter into force on 25 May 2011.

NRA

The Danish NRA, *IT- og Telestyrelsen* (NITA) was considered by most operators to have carried out its tasks appropriately, although certain operators considered that NITA could have been more transparent, with regard to the decision making process. NITA's independence is set out in national legislation. The Telecommunications Complaints Board made 7 rulings in 2010, all of which except one upheld NITA's decisions. NITA has concluded all but one second round market analyses during the reporting year.

ECONOMIC REGULATION

Broadband

Broadband plans

Privatised electricity utility companies continue to invest in the roll-out of FTTH networks, with around 200 000 homes passed and is expected continue the roll-out of fibre networks in order to offer 100 Mbps to customers. In addition, the incumbent continues its VDSL strategy of upgrading its network, and rolling out fibre to the street cabinet (i.e. a backbone network) in combination with the fibre network acquired with the take-over of a fibre operator in the Copenhagen area in 2010.

Market situation

Denmark is one of the countries with the highest broadband penetration in the EU. With a 38.8% in January 2011 (compared to a 37.8% a year ago), this figure is well above the EU average of 26.6%. Mobile broadband is also increasing significantly, with a penetration rate of 14.4% in January 2011 (calculated on the basis of dedicated service cards/modems/ keys only), much higher than the EU average (7.2%). An alternative operator is the market leader for mobile broadband, closely followed by the incumbent. An alternative operator launched LTE retail products on 1 January 2011. The fixed broadband market is considered close to saturation, although the number of new broadband lines is still increasing, but at a slower rate (currently under 1 % per year). Operators compete mainly by providing new products such as IPTV. Broadband speeds are increasing in Denmark, with 42.7% of the broadband subscriptions sold with speeds of at least 10 MBps in January 2011.

While the incumbent continues to be the main broadband provider, its overall market share for broadband subscriptions decreased marginally to 62.3% in January 2011, compared to 63.6% in January 2010. The incumbent continues to be the leading provider on the DSL market, with a market share for DSL subscriptions of 72.8% in January 2011 (increasing marginally from 72.8% in January 2010). DSL is still the leading technology, accounting for 57.8% of all fixed broadband lines in January 2011, although its share in this regard is falling (EU average 77.2%). Fibre accounted for most of the growth in fixed broadband connections, and corresponded to 8% of all broadband lines in January 2011.

The market share held by VoIP operator (measured by traffic volume) was 23.1% in December 2009.

Regulatory issues

In 2010, the NRA carried out a horizontal analysis of the effect of wholesale regulation on the broadband market, which was published in November 2010. This Report showed that multicast and NGA networks benefit from considerable economies of scale, therefore making the business case for alternative operators difficult. According to NITA, Virtual Unbundled Local access (VULA) could be considered as a solution to existing problems on this market.

One operator has filed a complaint with the National Competition Authority (NCA) regarding the pricing of multicast, alleging that it is very difficult to provide IPTV due to the high multicast prices. Currently, the incumbent and one other operator offer triple play (voice, broadband and IPTV) over the copper network in Denmark. The content provider owned by the energy companies also provides IPTV, but with a very small market share. Another operator has ceased to provide IPTV, due to insufficient margins because of the high multicast prices as referred to above. One operator has filed a complaint with the NCA regarding the difficulty to switch operator for subscribers of bundled packages that include IPTV.

The mandatory membership and payment to local cable TV associations as mentioned in previous reports is still considered by most operators to constitute a significant barrier to fibre roll-out, and to competition. The High Speed Broadband Committee set up in 2009 published its Recommendations in January 2010 which recommended the elimination of the compulsory membership of local cable TV associations. On 26 May 2010, a political agreement was reached in this regard. A draft Bill aimed at removing the option to specify terms in *new* district plans requiring compulsory memberships was expected in February 2011. It is expected that a draft Bill revoking the terms included in the *existing* district plans requiring compulsory membership will be proposed later in 2011.

NITA continued to work on its general model for calculating a potential margin squeeze for all broadband products provided over the incumbent's copper network including triple play. NITA consulted on another version of this model in mid November 2010. In 2010, one alternative operator filed a complaint with the NCA regarding the prices set for broadband lines that are supplied to the Danish Government as part of a public call for tender, alleging a margin squeeze or predatory pricing. The NCA is currently analysing this case.

Wholesale prices for a number of products that operators purchase from the incumbent for access to the copper loop such as the prices for shared access and for LLU decreased in 2010, following NITA's decision in 2009. In September 2010, NITA notified the regulated prices for LLU and bitstream of the incumbent as of 1 January 2011. This measure was not adopted by the end of the reporting year.

NITA made a decision regulating the market for broadband access in the autumn of 2010, designating the incumbent as an SMP operator, and requiring this operator to provide access to fibre to other providers. The incumbent considered that the additional obligations that followed the SMP designation were burdensome. While the incumbent has, in the recent past, acquired several smaller operators (all of which had a turnover just under the threshold as set down under national merger regulation), they continued this process in 2010 by acquiring an energy company providing fibre. This acquisition has given the incumbent access to a fibre network in Copenhagen, and enabled it to become a more fully fledged copper, cable TV, and

fibre provider. Following the acquisition, fibre wholesale prices have increased and alternative operators maintain that they no longer were allowed access to the relevant fibre network. Certain alternative operators have lost customers, due to the fact that regulation for access to share fibre was not applicable before 1 July 2011, and thus some operators were not able to provide services over fibre (such as IPTV). With regard to NITA's decision to impose *ex-ante* regulation on the fibre access market, operators await the setting of the final fibre prices. A decision in this regard was expected in April 2011. These prices would apply from 1 May 2011 throughout the whole year of 2011.

In 2010, fifteen electricity companies established a jointly owned broadcasting content provider, which uses both the fibre networks of the electricity companies and the incumbent's network to deliver nationwide content (Internet, TV, etc.) in competition with the incumbent. This company launched its commercial operations in September 2010. Following this, a number of other content providers that also use the electricity companies' fibre network faced the threat of losing access to the fibre networks of the electricity companies as of 1 January 2011. There have been a number of complaints to the NCA concerning this issue

Mobile

Market situation

The mobile telephony market is characterised by strong competition at retail level, while mobile broadband is increasing significantly. The SMS market, however, remains stable. Mobile penetration in Denmark has risen further to 136.6% in October 2010 (compared to 133.4% in October 2009), and is therefore significantly above the EU average of 124.2% (in October 2010). In October 2010, the market share of the incumbent's mobile subsidiary (including affiliated companies) for voice services, in terms of subscribers, was 40.5%, which represented a decrease from the 42.4% registered in October 2009. The market share of the main competitor (including the affiliated companies), based on subscribers was 28.0% (representing a slight decrease from 28.1% in October 2009). According to NITA's statistics, the incumbent's market share for mobile broadband increased to 13.4% on 30 June 2010 (up from 7.6 % on 30 June 2009).

Regulatory issues

In the autumn of 2009, NITA imposed asymmetric Mobile Termination Rates (MTRs) on mobile operators, allowing the new 3G mobile provider to charge higher mobile termination rates than the other mobile network providers for the year 2010 [0.51DKK (€0.068), whereas the other three mobile network operators could only charge 0.44DKK (€0.059)]. All mobile termination rates will be set at a symmetric level to DKK 0.33 (€0.04) from 1 May 2011. The setting of symmetric MTRs was welcomed by all mobile network operators, with the exception of the new entrant, who had previously expressed concerns that the setting of symmetric MTRs distorted competition. As regards SMS termination, NITA, upon applying the three criteria test, decided that the market for SMS termination was suitable for *ex-ante* regulation.

Roaming Regulation

The recent amendments to the Roaming Regulation (regarding the new cut-off clause) have been implemented on time, despite the previous concerns expressed by operators that they would have to wait for suppliers of relevant systems.

Fixed

Market situation

The number of fixed telephony subscriptions (PSTN lines) is decreasing in Denmark while there is a growing number of IP telephony subscriptions. The decrease in fixed traffic, and increase in mobile traffic, continues, and in 2009 only 40.9% of the voice traffic was fixed, whereas mobile traffic accounted for 59.5%. The Danish incumbent continues to be the largest provider for telephony on the fixed network, and its market share has increased marginally. In December 2009, the incumbent's market share for all types of fixed calls (measured by traffic volume) was 67.8% (compared to 65.2% from the previous year), 69.9% for national calls, and 39% for international calls.

IP telephony is also increasing, and corresponded to 23.1% of all fixed calls in December 2009. On 30 June 2010, IP telephony accounted for 34% of fixed telephony subscriptions, whereas traditional PSTN continues to decrease (only accounting for 59% of all fixed telephony subscriptions at the same date) according to NITA's statistics.

Regulatory issues

LRAIC prices for 2010 have been determined on the basis of the revised model of 2009, resulting in lower prices for a number of services.

Alternative operators were concerned about the incumbent's dominance in the fixed market, and stress that there has been no decline in its market share, which has been stable for around 10 years now. As they claimed, it was difficult to change their market position given the fact that the wholesale ULL prices which are regulated remain almost stable while the decreasing retail prices due to increasing competition are partially driven by service providers, some of which are acquired by the incumbent.

Broadcasting

Market situation

Cable is still the leading television platform in Denmark with 1.7 million households subscribed. The take-up of IPTV remained stable during the reporting year amounting to 0.78% of the Danish population. Fewer Danish subscribers were using satellite TV during 2010, (10.2% of TV households in July 2010 compared to 14.7% a year ago).

Regulatory issues

Digital switchover successfully took place in November 2009, with no practical problems encountered.

HORIZONTAL REGULATION

Spectrum management

800 MHz-band: A decision was made in June 2009 to use the digital dividend (the 790-862 MHz frequency band) for purposes other than broadcasting, and, in particular, for mobile broadband. In August 2010, it was politically decided that the frequencies in the 800 MHz-band would be auctioned out by the end of 2011. The licenses may include certain coverage requirements, in particular for rural areas. Since 16 March 2010, the central part of the 800 MHz-band (i.e. 823-831 MHz) has been reserved for PMSE. In the spring of 2010, a public consultation regarding the use of the digital dividend took place. There was support for using the digital dividend for mobile broadband, but concerns were raised over possible interference problems related to wireless microphones, to which a solution has now been found. The digital dividend in the 800 MHz will be used for mobile broadband from 1 January 2013.

900 MHz-band and 1800 MHz-band: The amended GSM Directive has been implemented by amending both the national frequency allocation table and the licence conditions of the existing licences in the 900 and 1800 MHz frequency bands, and by redistributing the existing 900 and 1800 MHz licences to accommodate a fourth operator in both frequency bands in order to ensure that competition is not distorted. On 23 December 2009, NITA issued decisions to the three existing licence holders in the 900 MHz-band and 1800 MHz-band, which provided for a re-farming of the frequencies within the two frequency bands. Consequently, 2 x 5 MHz in the 900 MHz-band and 2 x 10 MHz in the 1800 MHz-band were liberated for the benefit of a new entrant. Furthermore, the Decisions provided that the existing licences in the 900 MHz and 1800 MHz bands should be terminated by the end of 2019 and by mid 2017 respectively. As of 1 January 2011, these licences are technology and service neutral in accordance with the amended GSM Directive and the Commission Decision. However, the existing licences may only be used for commercial purposes using GSM technology between 1 January and 1 May 2011. Upon the expiry of the existing licences in 2017 and 2019, the licences will may be awarded through auctions with an expected licence term of 15 years (i.e. up until the end of 2034 (900 MHz) and mid 2032 (1800 MHz); a decision on this issue was pending at the time of drafting this report). With regard to the liberated spectrum, an auction was planned to be held in the autumn of 2010. However, only one application to participate in the auctions was received. Accordingly, on 18 October 2010 a new licence in each frequency band was awarded by NITA to this applicant, which previously did not hold any frequencies in these bands. The two new licences, which entered into force on 1 January 2011, are both technology and service neutral and are valid until the end of 2034 (900 MHz) and mid 2032 (1800 MHz). Between 1 January and 1 May 2011, the two new licences may only be used for commercial purposes using GSM technology.

2.6 GHz-band: An auction process was completed in May 2010 covering all of the frequencies in the 2.6 GHz frequency band. Four operators were granted frequencies in this band, three of which received 2 x 20 MHz, while the fourth one received 2 x 10 MHz. Three of the four operators also received blocks of unpaired frequencies of respectively 10 MHz, 15 MHz and 25 MHz in the 2.6 GHz frequency band. All licences, which are technology and service neutral, were issued in June 2010, and will expire in 2030 with no possibility of prolongation. This spectrum is suitable for mobile broadband based on standards such as LTE and WiMAX, but may also be used for other purposes, such as mobile TV. It is expected that most operators will use the spectrum to provide LTE, however.

Rights of way and facility sharing

Mobile operators continue to express concerns about the difficulty in obtaining permits for erecting masts and antennae due to health concerns in the municipalities, and are concerned that these problems may delay the future development of mobile broadband. NITA is still taking an active role in facilitating a constructive dialogue between the mobile operators and the local authorities. NITA has developed guidelines on masts, and is holding a dialogue with the municipalities, as is the Minister for Science, Technology and Innovation. A possible change and simplification of the procedures for case handling is also being considered.

THE CONSUMER INTEREST

Consumer complaints

Consumer complaints are handled by the independent complaints board Teleankenævnet, which in 2010 it received 548 complaints (compared to 596 in 2009). The majority of complaints concerns billing issues, in particular on data downloads (number of complaints on this is rising)

Tariff transparency and quality of service

In 2010, the telecommunications industry launched the following four initiatives to improve transparency, and thereby consumer confidence; 1) a consistent use of the term “fee”, 2) the development and use of a factsheet for fixed and mobile subscriptions, 3) a common agreement within the industry on how to market broadband speeds, and 4) a guide to customers on the risks of unintentional data use. Despite these initiatives, consumer representatives and certain market players consider that further initiatives to improve transparency is needed, especially regarding call set up charges.

Number portability/switching

Many operators consider that it would be technically possible to port numbers in one day both in the case of mobile and fixed numbers. At the same time, these operators foresee certain practical difficulties related to the 30 day notice period in contracts, and the 6-month minimum binding period. According to NITA, however, the Danish rules relating to minimum contract and notice periods do not prevent the implementation of the 1-day porting rule, and there is an obligation for end users to fulfil financial obligations under their contracts. Fixed number portings have increased marginally from 132 404 in the first half of 2009, to 133 129 in the first half of 2010. According to NITA, the number of mobile numbers that have been ported has increased significantly from 281 000 in the first half of 2009, to 524 059 in 2010.

Net neutrality

Net neutrality continued to be discussed in Denmark involving NITA, consumer representatives, and operators. An effort is being made to set out a forum where discussions can be held and guidance may be set out. An industry code of practice was expected in the first half of 2011.

Universal service

According to Danish legislation, additional mandatory universal services, such as maritime emergency services in Denmark and Greenland, ISDN, and leased lines, which are not within the scope of Universal Service as defined by the Universal Service Directive (USD), are, in the case that they give rise to a net cost, to be financed by any profits accrued from the

provision of those services falling within the scope of Universal Service as defined in the USD (such as voice telephony). Based on the concerns expressed by one operator, the universal service mechanism in Denmark, and, in particular, the designation and compensation mechanisms as set out under Danish legislation, have been examined by the Commission services. As a result, the Commission opened infringement proceedings against Denmark in January 2011 as it considered that certain elements of the Danish universal service framework were contrary to EU legislation. A phasing out of ISDN and leased lines services began 2010. The Danish authorities are currently not intending to extend Universal Service to broadband.

European emergency number 112

NITA has not received any complaints regarding the 112 number in Denmark. 112 has been the only emergency number available since 1992. Caller location information is available from both fixed and mobile networks, with the push forward technology applying for the provision of caller location information to public safety points (PSAPs) as soon as a call is received. The 112 number is also routed automatically for international roamers, and no problems concerning caller location for international roamers have been reported.

Harmonised numbers for harmonised services of social value (116)

The 116 000, 116 111 and 116 006 numbers have been assigned by NITA to two operators, one of which is the incumbent. Both the 116 000 number, which is a hotline for missing children, and the 116 111 number, which is a child helpline, are operational. However, the 116 006 number, which is a helpline for the victims of crime, is not yet operational. While the 116 117 and 116 123 numbers have been published on NITA's website as being available, no applications have been received until the end of the reporting period.

e-Privacy

In 2010 a Committee on piracy was set up under the Ministry of Culture which is aimed at investigating initiatives that could strengthen the enforcement of copyright on the Internet (in order to reduce illegal downloads). The Committee was expected to report to the Danish Government in the second quarter of 2011. No decision by the government has been taken by the end of the reporting year.