

The Digital Single Market Strategy

The Nordic NRAs' viewpoints

25 August 2015

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1 Introduction

The Nordic communications regulatory authorities agreed at their meeting in Helsinki on 4th and 5th of May 2015 to produce a document describing the Nordic viewpoints regarding the European Commission Communication¹ on Digital Single Market published on the 6th of May 2015. The comments concentrate mainly on telecom regulation as this is the common field of mandate for the Nordic communications regulatory authorities.

The Nordic regulators welcome the Commission's initiative and support strongly the objective of creating a true digital single market where all the users can benefit from the easily accessible and well-functioning online activities.

This document has been prepared as a common effort by the communications regulatory authorities from the five Nordic countries: Erhvervsstyrelsen (Denmark), Viestintävirasto (Finland), Póst- og fjarskiptastofnun (Iceland), Nasjonal kommunikasjonsmyndighet (Norway) and Post- och telestyrelsen (Sweden).

2 Five Nordic national markets or a sub-European regional market?

The Nordic electronic communications market covers the five Nordic countries, namely Denmark, Finland, Iceland, Norway and Sweden. The communications services are enjoyed by a total population of circa 26 million inhabitants and additionally business users representing approximately 5 per cent of the EEA population and a good 9 per cent of the respective gross domestic product.

The similarities of the five Nordic countries correspond to the market operators as well as features of the electronic communications market and its development trends. The operators active in the Nordic countries are partly the same and seem to consider the Nordic countries or a group of them as one market. This is mainly due to language and geographical location aspects. Especially Denmark, Norway and Sweden seem to be treated to a large extent as a Nordic sub-market.

TeliaSonera operates in all the Nordic countries except Iceland. The Norwegian based Telenor operates in Norway, Denmark and Sweden. Likewise, the operator using 450 MHz band is under the same ownership in all those three countries. Tele 2 covers currently Sweden and used to be active in Norway whereas Hutchison 3 or merely 3 is active in Denmark and in Sweden. Denmark's largest operator TDC operates in Denmark, Sweden and Norway. In Norway TDC operates as a MVNO. Furthermore, TDC also owns the Norwegian cable-TV and broadband company Get. In Finland Elisa and DNA provide mobile services in addition to TeliaSonera. Iceland has its specific operators that are not present in the other Nordic countries.

When looking at the market key figures the Nordic countries are characterised by high penetration of broadband, both fixed and mobile, and high speeds of broadband connections.

¹ COM(2015) 192 final, COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A Digital Single Market Strategy for Europe, 6.5.2015

The number of fixed broadband subscriptions has been constantly increasing in all the five Nordic countries and especially the increase has occurred in the classes for higher speeds (Figure 1.). What is more, the penetration of mobile broadband has traditionally been on a high level (Figure 2.). Even though the Nordic countries have experienced a good development of broadband penetration, there remains the challenge of how to increase the availability and take-up of fixed broadband with high speeds.

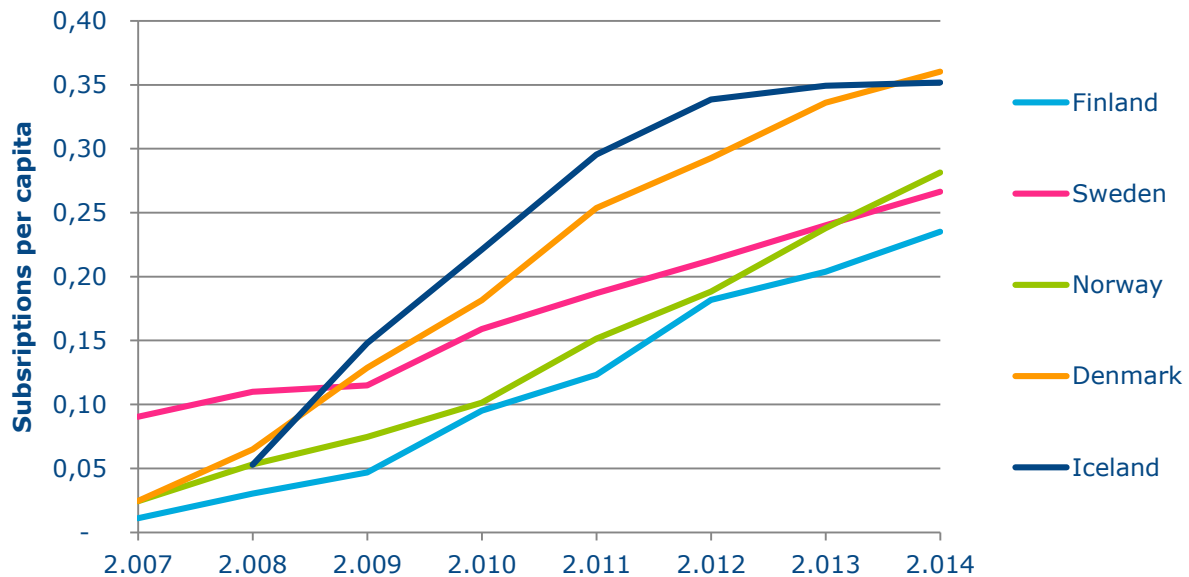


Figure 1. The Number of fixed broadband subscriptions of 10 Mbps or more per capita.

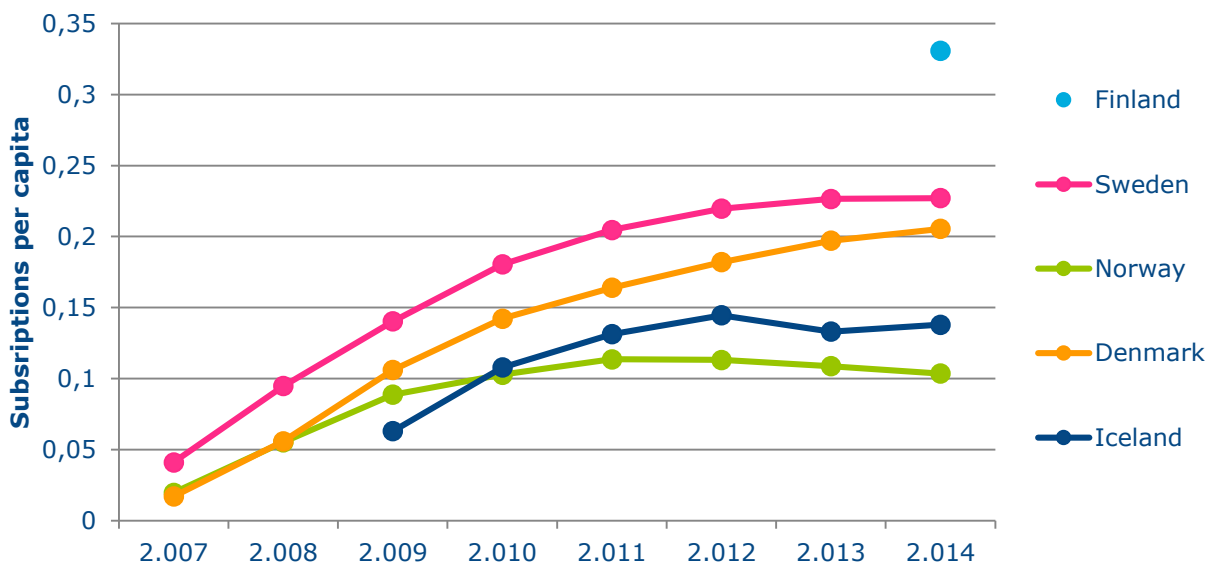


Figure 2. Number of mobile broadband subscriptions per capita. For Finland the definition has been different and only from 2014 data has been collected on such mobile broadband subscriptions where only data is used.

The end-users in the Nordic countries are heavy users of data (Figure 3.) whereas the number of fixed call minutes and SMS has been on a constant decrease (Figure 4.).

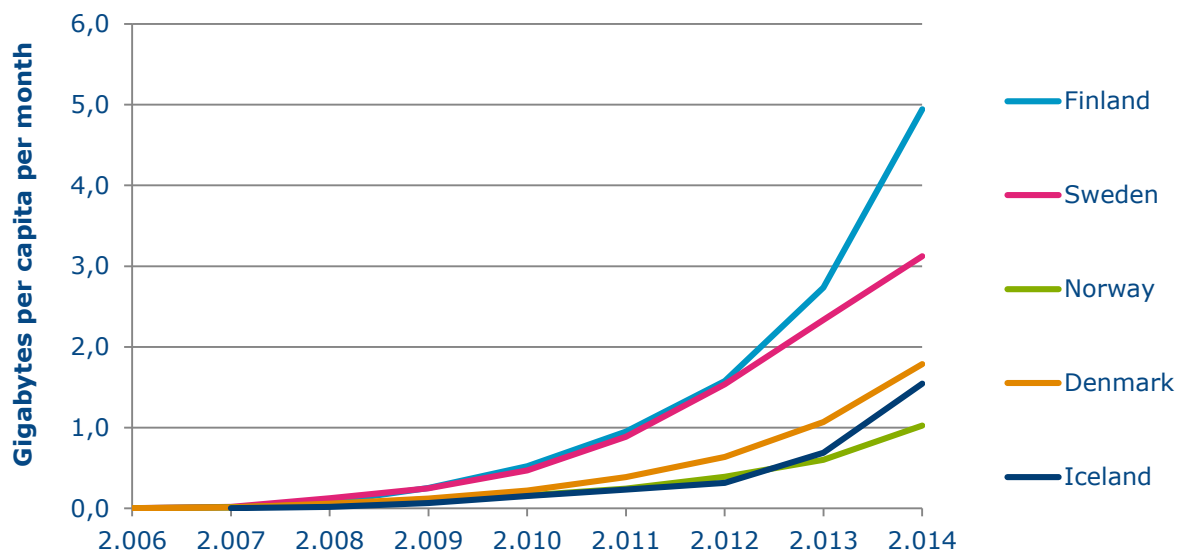


Figure 3. Mobile data - gigabytes per month

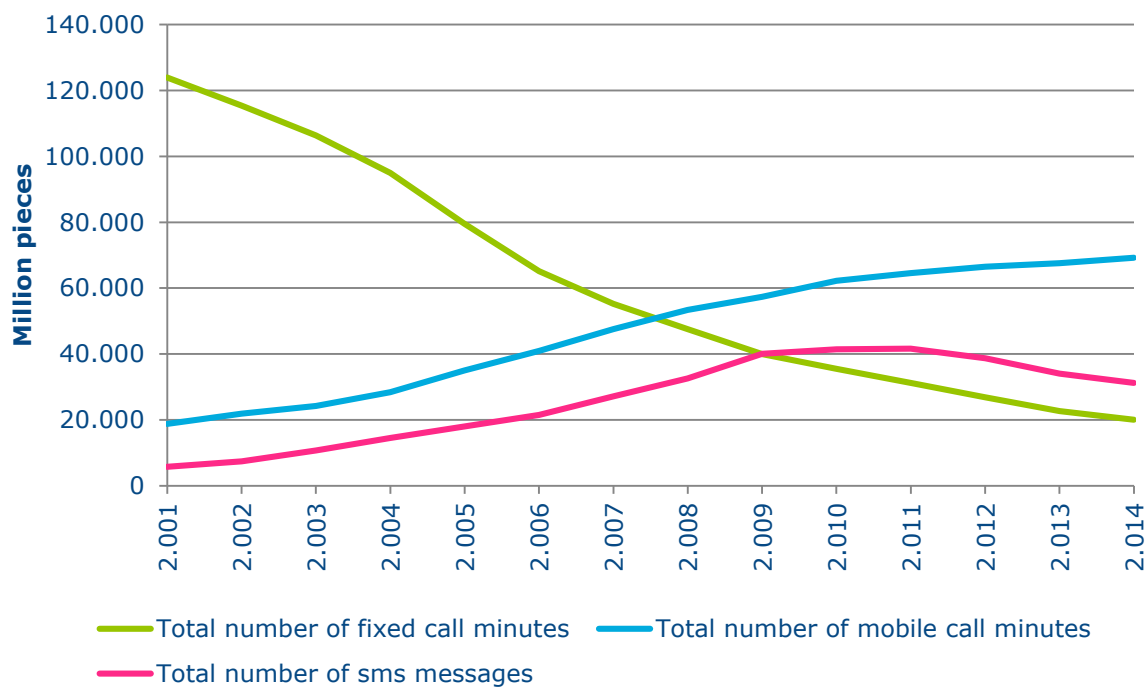


Figure 4. Minutes and messages - Nordic total

3 The DSM initiative

The European Commission published its initiative, the Communication on A Digital Single Market Strategy for Europe on May 6th 2015. The strategy contains three pillars for the : 1) Better online access for consumers and businesses across Europe; 2) Creating the right conditions and a level playing field for advanced digital networks and innovative services; and 3) Maximising the growth potential of our European Digital Economy.

The Communication describes the vision of a digital single market to be one *"where the free movement of goods, persons, services and capital is ensured and where individuals and businesses can seamlessly access and exercise online activities under conditions of fair competition, and a high level of consumer and personal data protection, irrespective of their nationality or place of residence. Achieving a Digital Single Market will ensure that Europe maintains its position as a world leader in the digital economy, helping European companies to grow globally."*

The strategy document contains a roadmap with 16 actions under the three pillars. The actions are scheduled for the years 2015 and 2016.

4 Market challenges and proposed measures

4.1 Development of the high capacity networks

4.1.1 Investments in fixed networks

Fibre networks are growing at an irregular pace throughout Europe. In some European countries fibre networks are growing at a sluggish rate and regulators are pondering the ways to create incentives for investments. In some of the countries, in particular in the Nordic region, fibre networks have already been deployed to such an extent that it has at least regionally started to replace the copper network as the primary means of fixed access for broadband services. But even within the countries where investments in fibre networks are present, irregularities exist in how, why and where these networks have evolved.

Case Sweden

The growth of fibre networks has not followed the central planning and structural deployment of a few network operators. National fibre networks are rather made up by its lesser parts, namely the local and regional networks that have been realised by several independent investors of varying size and geographical presence. End-users and interest groups in rural areas, where the investment in high speed broad band has had limited commercial attractiveness, have taken matters into their own hands and started building their own local fibre networks.

Municipalities, many times with the original intention to create an independent internal network for their services, have found themselves to be in the possession of a competitive platform from which they have been able to expand their networks and business models as demand for fibre access from residents has increased. As competition from local networks has gradually increased, the traditional operators have been quick to pick up the pace in their own investments in this new infrastructure. All these separate developments have contributed to what is becoming a nationwide coverage of fibre.

This new form of bottom-up network development has been an important element for accelerating the transition from copper to fibre. This partly chaotic market development has resulted in a heterogeneous and dynamic national infrastructure made up of networks with varying degrees of geographical reach and with many different owners.

Case Denmark

In Denmark the tendency of smaller local high capacity networks is also seen. Many local cable-TV networks have been established, typically local antenna associations. These may vary from a few hundred to many thousand households connected. Regional utility companies have also played a great role and invested heavily in local fibre networks. Partly to get a return on the investment but also due to the fact that some of the companies feel obliged to ensure that their electricity customers – i.e. owners – get access to high speed broadband.

However, in Denmark the tendency towards local high capacity fixed networks is not as strong as in Sweden. The SMP operator still plays an important role in roll-out of high capacity networks and continues to have a high market share in the broadband market. Cable-TV is the high capacity platform with the most end-users. TDC (YouSee) and Stofa are the largest operators with respectively 1,5 million and 600,000 homes passed out of 2,7 million households in the country. These two networks are mainly located around the large Danish cities.

Case Iceland

In Iceland the development of the fibre access networks has been led by public utility companies or municipalities. In large part of Reykjavik capital area and about 20% of the municipalities spread over Iceland, fibre access networks have been deployed to some extent. About 40% of homes already have access to fibre via an FTTH network. Furthermore, the incumbent operator Mila has deployed a nationwide VDSL network available in about 80% of households and capable of offering up to 100Mb/s download speeds. In order to facilitate this service, Mila has extended its fibre network to an FTTC network using copper for the last few hundred meters. Use of IPTV over high speed connections is also widespread. No cable TV networks are operated in Iceland. Demand for access to high speed networks is very high and state aid scheme for deploying fibre access networks in rural areas is being discussed.

The incumbent offers a nationwide fibre trunk network. Furthermore public utility companies are deploying trunk segments already spanning the south-west region and various other regions of the country.

Case Norway

In Norway many local and regional operators (mainly utility companies) are investing in fibre access networks in their region. Around 30 of these operators cooperate through the brand name Altibox. The Altibox partners had a total market share of more than 50 per cent of the fibre-based broadband market in 2014. Telenor, the Norwegian incumbent operator, entered the fibre-based broadband market several years after the utility companies. However, Telenor's market share in this part of the market has increased during the last few years and was around 15 per cent in 2014. The number of fibre accesses is growing quite fast, and there are nearly 600 000 active fibre subscriptions at the end of 2014 (22% of the households).

Cable-TV networks are also important for the development of high-speed broadband in Norway. Telenor and Get are the major players in this part of the broadband market and deliver jointly more than 90 per cent of the broadband subscriptions based on

cable-TV networks. The total number of active cable-TV based broadband subscriptions is just over 600 000 (25% of the households).

Nearly all high-speed broadband roll-out in Norway has been market driven. In addition, some access networks in areas that are not commercially viable have been partly state funded.

Case Finland

In Finland, the investments in fibre networks have been twofold. On the one hand, the large national operators have been deploying fibre in densely populated areas, especially in city centres. However, residential areas even within cities may face difficulties in the availability of high-speed fixed broadband. Since these operators also have a strong mobile business, they have also deployed fibre for base station transmission throughout the country.

On the other hand, a similar bottom-up development has been evidenced in Finland as in Sweden, Denmark and Norway. This development has been accelerated significantly during the past few years by the national broadband scheme. The availability of state aid has increased interest in rural area fibre projects, which have in many cases been implemented by newly established local or regional operators. As a result, the fibre network coverage achieved is quite patchy, but still the Finnish rural area broadband scheme has brought fibre coverage for approximately 55 000 households in the most rural areas of the country.

4.1.2 Mobile networks

It is important to safeguard a sustainable infrastructure based competition among mobile operators, which normally means at least three independent network operators. This has been the means in many European countries to ensure the best and most price efficient offers of mobile services to end users. However, infrastructure based competition is only sustainable in areas with a level of population density that can support economically at least three networks. In the Nordic countries this is not everywhere the case. There is a small percentage of the population who do not have mobile coverage at all, and also areas where only one or two operators have coverage.

Mobile connectivity has become everybody's lifeline to society and users in our countries expect and demand mobile coverage everywhere, including indoors in homes and offices, not only in populated areas. Coverage has therefore not only become a necessity for modern life, but it is also a question of security and safety. Ensuring this is becoming a public responsibility and questions are raised regarding how to fulfil the need for land and offshore coverage in areas where no operator finds it viable to invest in a mobile network.

In the Nordic countries mobile broadband (4G/LTE) is being rolled out to cover at least 98% of the population. For users requiring a broadband with very high speed and quality this is a complement to fixed broadband. In sparsely populated areas with 4G coverage, the broadband speed and capacity offered from mobile networks might be a good substitute to fixed broadband, depending on how many users are connected at the same time to the same base station. However, in the medium term it is not expected that mobile broadband will fulfil the average need of households, but still be an important complement to fixed broadband. An important factor here is that currently most mobile broadband products have limitations on data volumes, which is normally not the case for fixed broadband products.

4.2 SMP regulation for the future

The high capacity fixed networks, with their unique characteristics, are presenting national regulators with new challenges. Access to high capacity fixed network is becoming increasingly important as demand for higher capacity grows. Access will indeed become essential, both to ensure competition as well as for end-users to have access to the full range of digital content and services being offered over the internet.

However, regulating access to high capacity fixed networks with the regulatory tools aimed at ameliorating the inefficiencies in a market with a single monopolistic owner of one national network will at best be challenging. Fibre networks, with potentially the local dominance of different owners in different geographic areas, will rather need a different set of regulatory tools to ensure efficient competition. Analysing joint or single dominance for the many relevant geographic markets of access to fibre is a staggering prospect for regulators, which calls for more efficient regulatory tools to handle potential competition problems on these markets.

Symmetric regulation of access to fibre networks is one option that should be considered, in particular as it is unlikely that there will be a second fibre access to a house. Access to high capacity fixed networks will be extremely important to preserve end user choice and to prevent vertical integration. In the light of this discussion it is important to point out that since the situations are different from one country to another, the current SMP regulation should be replaced with a more flexible framework that could be adapted to different market conditions.

The transition to NGA-networks and the increased use of services over the internet is another development that is changing the market for electronic communication. Traditional voice services, offered through the old circuit switched networks, are facing a negative trend in traffic volume. In contrast to this, data traffic volumes continue to increase. As more and more traffic is made up of data, the need to maintain the traditional regulation on voice termination rates is becoming less relevant, and may even, within a foreseeable future, create market inefficiencies.

4.3 Universal service

Access to electronic communications service is a key factor in order to ensure participation in many aspects of today's society, not to forget public authorities' ability to serve and communicate with the public. Therefore it is important to safeguard access to the relevant electronic communication services. In this context, it would be beneficial to evaluate and update the 2002 Universal Service Directive. Several of the services mentioned in the directive could be deleted as they no longer serve their initial purpose. For instance, access to payphones and directory enquiry services are either solved through mobile communication or by free apps. In addition, with the introduction of several new means of communication (e.g. e-mail, IM-apps), it is no longer relevant to include telefax as part of universal service.

Instead, it is necessary to secure access to broadband services capable of supporting minimum services and needs of the household and business users in both urban and rural areas. Taking into consideration that needs, availability and funding may differ across the countries, it should be up to each country to decide if Universal Service on broadband should be imposed in that specific country and, in that case to set minimum requirements and quality levels for a universal broadband service.

A separate but related issue is to assess whether and how to impose forward looking Universal Service measures in terms of access to broadband to ensure that all citizens,

irrespective of where they live in that country, have access to broadband services which go beyond minimum services and provide speed and quality which is on average enjoyed by the vast majority of citizens in the country. As a general rule roll-out should be technologically neutral, and new funding mechanisms could also be considered, including state-financed roll-out and/or excise duties etc.

Furthermore, the needs of special groups, e.g. disabled citizens should be safeguarded by regulation. In the near future an increasing proportion of elderly people will be accustomed to using digital services. At the same time, digitalisation will increase the range of public and commercial services offered online. As a result, accessibility is likely to play an increasingly important role. It should be analysed what type of safeguards these different special users need and how these could be most effectively implemented. Regulatory tools applicable to all providers might be considered instead of universal service, since this would allow these users to fully benefit from the widest possible selection of services as well as the competitive prices.

4.4 Measures to promote investments and rollout

The Digital Agenda for Europe sets forward ambitious goals for broadband penetration by 2020. In order to achieve these goals a number of measures have been proposed and taken to promote the rollout of infrastructure. The Regulatory Framework now promotes market based investment and rollout of infrastructure. In addition to that, provisions have been taken to facilitate sharing of infrastructure deployment across sectors and state aid schemes have been developed and implemented to facilitate rollout of infrastructure in those areas that are constrained by market failure. These measures need to be co-ordinated, strengthened and speeded up so that the Digital Agenda goals will be fully achieved.

Furthermore, demand stimulation and demand aggregation may greatly enhance the scope of a market based roll-out while not interfering with the working of the market. There should, therefore, be a strong emphasis on exploring these options.

4.5 Improved resilience of the communications infrastructure

Measures to further enhance the general resilience of the communications infrastructure are needed to ensure consistent availability and quick recovery times of communications services, especially in the case of large disturbances, faults and e.g. climate-related catastrophes. This is increasingly important in areas which are characterised by multiple, heterogeneous networks and multiple network owners.

4.6 The scope of regulatory supervision

The Nordic regulators agree that there is a general need to evaluate and maybe revise the sector-specific competition regulation in the light of technological developments and development of telecommunications markets both in Europe and globally. It is crucial that the future regulation creates stable and favourable conditions for the development of new and innovative solutions and business models in the digital economy and that any changes of the regulation are based on thorough analyses.

Any changes to the telecommunications regulation should take into account the new competitive environment in the digital economy due to CAPS (content and applications provision services)/OTT (Over-The-Top) players delivering content services like Netflix, Skype and YouTube or other type of services using existing broadband connections in the digital value chain. Some of these players act as service providers in direct

competition with the traditional telecom operators either on the telecom market or within the audiovisual media service area.

The European Commission, BEREC and several NRAs are in the process of analysing CAPS/OTT services and their impact on the telecommunication sector. The analyses should be focused on the OTT media services and OTT communication services as they increasingly act as substitutes to media and communication services that have generated revenues for traditional telecommunications companies through the usage of e.g. telephone calls, SMS or TV subscriptions packed with broadband subscription. Moreover, OTT media services require great stability and capacity in the network. Therefore, these services also demand special requirements of the infrastructure.

With the purpose of assessing the impact on the telecommunication sectors, the analyses should describe developments and changes in the value chain and business models, including how and why some companies spread across the value chain, the strategy behind this and revenue source of the business models for both OTT players and traditional telecommunications companies.

The Nordic regulators recommend that any proposals for change in regulation await these analyses, including studies of the development and the impact on competition, consumer protection, data protection and privacy.

The playing field for all actors in the digital economy needs to be levelled out. To promote innovation and new solutions in the European digital economy, the Nordic regulators agree that the starting point should be reducing the regulatory burden where possible, rather than extending the present sector-specific regulation.

It is important that any possible roll back of the current sector specific regulation also takes into account whether certain common requirements related to information security, data protection and privacy are still needed or if general consumer protection law and competition law should be applied.

4.7 Consumer protection

When more and more people have Internet access at home, they have adopted it as a medium to search for information and shop online. The growth of online shopping changes the way consumers buy products and services. Although many consumers make purchases from sellers or providers based in their own country, several people are also shopping online across borders.

In order to encourage consumers to make more online purchases cross-border, they need to know where to get information and advice if necessary. At the moment, consumer protection rules are fragmented across Europe. This decreases consumers' trust on e-commerce across borders. In addition, providers of products and services need to know, which consumer rules are applied in different countries. A large variety of provisions increase costs and create barriers to cross-border trade inside the EEA.

The Nordic regulators believe that more consistent consumer protection rules will facilitate cross-border e-commerce and create more business opportunities for small and medium-sized firms. However, the situation is very different in the 31 EEA countries. Therefore the timing and the appropriate level of a fully harmonized consumer protection regulation needs careful consideration. Nevertheless, at least a real harmonization of consumer protection rules at a minimum level would be necessary. The rules should be as simple as possible and at the same time the adequate level of consumer protection must be ensured.

The Nordic regulators are of the opinion that general consumer protection legislation and supervision should be applied to as large extent as possible. Sector-specific consumer protection provisions should be maintained only when absolutely necessary.

A key aspect of consumer protection is the consumers' ability to switch service provider in the event the consumer is not satisfied with the quality of service or the pricing. Adequate market information is one important prerequisite for this. It should be evaluated whether long fixed term contracts are in line with this objective or whether the maximum duration of a contract should be limited to a much shorter term than currently is the case.

4.8 Towards better coordination of spectrum usage

When reviewing the Regulatory Framework, it is essential to first develop a common vision for the EU/EEA, so that the Member States and relevant bodies agree upon a shared ambition. After visualizing forward looking objectives it is possible to identify which issues that need to be dealt with, and analyse what measures would be effective and proportionate to reach the objectives. At the beginning of the framework review it is thus essential to take enough time to discuss the vision, the objectives, and the obstacles reaching the objectives. Only then it is possible to agree on measures.

The measures should be proportionate and well designed to target those areas where the problems are. This would ensure that the measures do not hamper the continued development of the markets where uptake is already high, where availability and coverage is good, where competition is sound and where innovation is ongoing.

EEA harmonization should take into account that demand is greater in some parts of Europe and that the need for quick introduction of new technologies and services (e.g. mobile broadband services) is not uniform throughout Europe.

Spectrum auction allocation principles and conditions - including duration of licenses - should remain a national competence in order to be able to determine the coverage requirements and to ensure efficient use of spectrum and competition.

The measures should rather support the parts of Europe that need to enhance coverage or availability according to demand, competition, or innovation possibilities. This means that the best way forward is to agree on EEA targets and objectives, and possibly timelines, while the exact measures that are needed could vary between markets depending on the state of the market in that country.

If the problem is for example the slow roll-out of high speed (4G) networks in some regions, an assessment of underlying reasons is needed. Is the slow roll-out in that specific region due to lack of demand, low competition and/or a low number of market players, spectrum shortage, slow or expensive building permit processes, legal uncertainties or complicated national regulations that do not underpin the construction of networks. All of these underlying hindrances require different measures and the measures should be targeted to the actual region. If the reason is spectrum shortage due to incomplete adherence to the Commission's spectrum decision, as the Digital Single Market Communication describes the example with the 800 MHz band, the Commission have the mandate to enforce its decision already in the existing framework. The framework should support the development in those regions setting objectives and principles.

5 Conclusions

A precondition for the Digital Single Market is the provision of connectivity. The bottom-up network development where the building of fibre networks have been undertaken by non-traditional actors has been an important element for accelerating the transition from copper to fibre.

It is also important to safeguard a sustainable infrastructure based competition among mobile operators, which normally requires at least three independent network operators. The public sector can play a powerful role in the market-based roll-out by promoting demand through mandatory digitalization initiatives, the development of digital skills in the population, accumulation of demand in local communities to improve a sustainable business plan, and not least through a good framework for long-term financing.

The current framework for sector-specific competition regulation is challenged. Where and in which form it might be needed in the future and where competition legislation and control would suffice needs to be assessed. The transition to NGA networks and the increased use of services over the internet changes the market for electronic communication. As more and more traffic is made up of data, the need to maintain the traditional regulation on voice termination rates is becoming less relevant.

The need for regulation continues in the fixed access networks. Symmetric regulation of access to high capacity fixed networks needs to be considered, in particular as it is unlikely that there will be a second high capacity fixed access available to a house. Since the situation differs from one country to another, the current significant market power regulation should be replaced with a more flexible framework that could be adapted to different market conditions.

Universal Service Directive needs to be assessed and updated. It is necessary to secure access to broadband services capable of supporting minimum services and needs of the household and business users in both urban and rural areas. It should be analysed what type of safeguards special groups, e.g. disabled citizens and elderly people need and how these could be most effectively implemented.

To promote innovation and new solutions in the European digital economy, the regulatory burden should be reduced where possible. This is relevant for the assessment of whether to extend the sector-specific regulation to new type of content and applications provision services or to roll back the current sector specific regulation from the traditional telecom services. At this point it needs to be considered, however, whether certain common requirements related to information security, data protection and privacy are to be extended to all the substitutable services.

The general consumer protection legislation and supervision should be applied to as large extent as possible. Sector-specific consumer protection provisions should be maintained only when absolutely necessary.

When it comes to the coordination of spectrum usage as proposed by the Communication, a common vision needs to be developed in the first phase. Spectrum auction allocation principles and conditions including duration of licenses should remain a national competence in order to be able to determine the coverage requirements and to ensure efficient use of spectrum and competition.