

Strategy for terrestrial television from 2020

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Only the Swedish version of the Strategy is deemed to be authentic.*

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Summary

The Swedish Press and Broadcasting Authority has produced this strategy ahead of the licensing process for terrestrial television that is being initiated in the autumn of 2019. The strategy describes the Authority's starting points and focus for the work with terrestrial television broadcasting licences about issues that are not directly regulated by the Radio and Television Act (2010:696). The strategy will apply to the entire licence period but may be revised during the period.

The Authority finds that there is still a need and demand for terrestrial television and that the terrestrial network is one of several important distribution platforms for television. The available broadcasting spectrum for terrestrial television is to be used as efficiently as possible. Consumer interests, for example, in terms of available receiver equipment, must be considered.

The Authority adopts the following positions.

- Allocated spectrum shall be used for television broadcasting.
- Available frequencies shall be subject to licencing as soon as possible.
- At least three broadcasting networks shall use DVB-T2. During the licence period, the Authority may decide that other broadcasting networks shall also migrate to DVB-T2. Such a transition shall take place if deemed necessary for technical reasons relating to frequency, or if such a transition is considered appropriate from a clear consumer perspective.
- It shall be possible to apply for a licence for both standard definition (SD) and high definition (HD) broadcasts.
- Parallel broadcasts in SD and HD quality may be permitted to a limited extent if justified from a consumer perspective.
- It shall be possible to apply for a licence for local and regional programme services.

1 Introduction

The mission of the Swedish Press and Broadcasting Authority is to promote freedom of expression and opportunities for diversity and accessibility within the press, radio and

television.¹ This chapter describes the licensing process for terrestrial television and the purpose of the strategy.

1.1 Licensing process for terrestrial television

A licence to broadcast terrestrial television and searchable teletext is granted by the government if the broadcasting operation is financed by the public service fee and by the Swedish Press and Broadcasting Authority in other cases. This licensing is regulated by the Radio and Television Act².

Prior to each licence period, the government decides the broadcasting frequencies which may be allocated in different parts of the country for terrestrial television and searchable teletext. The Authority must therefore await the government's decision on both transmission space and for how long this decision will apply before deciding on licences to broadcast terrestrial television and searchable teletext. However, the Authority may initiate the licensing process before the government makes such a decision.

A licence to broadcast television and searchable teletext may only be granted to a broadcaster that has the financial and technical resources to broadcast throughout the entire licence period and is prepared to cooperate with other license holders in technical matters. This cooperation consists of a cooperation agreement in technical matters between broadcasters. The purpose of this technical cooperation is to ensure the efficiency of certain basic common functions, such as multiplexing, electronic programme guide, standards for the software that controls certain applications and conditional access, as well as the management of programme cards. Prior to the licensing round in 2008, the Swedish Press and Broadcasting Authority, following consultation with the Swedish Post and Telecom Authority (PTS) and the Swedish Competition Authority (KKV), produced instructions for the cooperation. The license holders then entered into such a cooperation agreement³. The cooperation agreement was subject to a few minor adjustments in conjunction with the licensing process in 2014.

In the allocation of licences, particular consideration shall be given to the possibility of utilising the broadcasting frequencies for different programme services so that the broadcasts will appeal to a variety of interests and tastes, for national as well as local and regional programme services, and by a number of mutually independent broadcasting companies. In the preparatory materials to the Radio and Television Act the following is stated: *Due to the limited capacity, it is natural for the terrestrial broadcasts to primarily be used for a wide range in terms of programme genres and targeting different audiences and areas of interest. The consumers looking for a wide selection within a limited content area can find this within other forms of distribution. The selection process should therefore be geared towards the transmission of both mixed-content programme services and thematic programme services with varying focus.*⁴

¹ Read more about the Authority's mission on page 20 and on www.mprt.se.

² Chapter 4 of the Radio and Television Act (2010:696).

³ Ref. no. 361/2008 et al.

⁴ Govt. Bill 2007/08:8.

A licence entails a right to concurrently in each region broadcast the number of programme services covered by the licence during that part of the day that is specified in the licence. The licence also entails the possibility of breakdown by region.

A licence is normally valid for six years, unless there are specific reasons for the Authority to decide that the licence should be valid for a shorter period. The licences granted during an ongoing six-year period have regularly been assigned a shorter licence period so that all licences expire at the same time. The 2018 AV inquiry⁵ is tasked with reviewing whether there is a need and otherwise is advisable to change the licence period for commercial terrestrial television. The government has previously identified a need to coordinate the length of the licences granted by the government and the Swedish Press and Broadcasting Authority respectively, as uncertainty otherwise may arise as to which frequency space is available for licensing.⁶ The future licence period for public service broadcasters will be six years, i.e. from 1 January 2020 until 31 December 2025. Subsequent public service licence periods will be eight years.⁷ In the event that synchronisation is desirable as of the upcoming licence period, this means that the licences for commercial terrestrial television for this period will be valid from 1 April 2020 until 31 December 2025, i.e. for five years and nine months.

A licence may be associated with certain conditions. Content conditions may only be imposed on those programme services run by broadcasters established in Sweden or broadcasters which are otherwise covered by the Radio and Television Act. This may apply, for example, to broadcasters established in a country outside the European Economic Area (an EEA state) but which uses Swedish satellite capacity.⁸ The period of validity for licence conditions may be shorter than the licence period. In licences granted from 2014 and onward, the licence conditions in terms of technical requirements, such as conditions regarding transmission technology, have applied for shorter periods and have been reviewed regularly.

For the license holders under Swedish jurisdiction, requirements are imposed on the accessibility of television broadcasts for persons with disabilities. In determining how and to what extent the service is to be made accessible to persons with disabilities, the broadcaster's financial resources and the technical development of accessibility services are taken into account.⁹

Before deciding on a licence to broadcast television and searchable teletext, the Swedish Press and Broadcasting Authority shall consult with PTS and the Swedish Competition Authority on matters pertaining to competition. The Swedish Press and Broadcasting Authority has also consulted these authorities in developing this strategy.

1.2. Purpose of the strategy etc.

The strategy describes the Authority's starting points and focus for the work with terrestrial television broadcasting licences regarding issues that are not directly regulated by the Radio

⁵ 2018 AV inquiry (Ku 2018:03).

⁶ Dir. 2018:55.

⁷ Points 2 and 3 of the transitional provisions of the Radio and Television Act (2018:1895).

⁸ Chapter 1, Section 3 of the Radio and Television Act.

⁹ Chapter 5, Section 12 of the Radio and Television Act.

and Television Act. The purpose of the strategy is to contribute to increased clarity for market players in terms of the general conditions for the forthcoming licensing process and the conditions that may be imposed for a broadcasting licence.

In the process of developing this strategy, the Authority has consulted with PTS and the KKV and has met with a number of market players. During the spring of 2019, the Authority has published a draft of the strategy in order to give stakeholders the opportunity to provide comment. Eleven opinions have been received.

The Authority's starting point is that the strategy will apply to the entire licence period, but it may be revised during the period.¹⁰

2 Market description

The competition in the television market and viewer behaviour have changed since the current licence period began in 2014. Technology development has made it possible to consume media in new ways, which has both increased competition as well as the range of service for the audiovisual media. Competition for viewers' time and thus also advertising revenue have increased as global actors like Netflix and YouTube have acquired a very strong position in Sweden.

Digitalisation has meant that our media consumption has become more personalised and that we now have more personal control over when, where and how we consume media content. As regards the consumption of linear television, the trend is that the viewing time is decreasing, and the age gap is increasing. The oldest viewers watch a lot more than the younger ones. While traditional media continues to have a strong anchoring among the older generation, many young Swedes' consume media in a more or less exclusively digital environment. The structures pose major challenges for media companies with the ambition of reaching the entire population with their products. Although the viewing time for linear television is decreasing over time, it is still the most common way of watching television.

Broadband access

The expansion of the fibre infrastructure in Sweden continues. The government's objective is that 95 per cent of all households and companies are to have access to broadband of at least 100 Mbit/s via fibre infrastructure by 2020. In October 2018, around 81 per cent of all households and companies in Sweden had access to broadband of at least 100 Mbit/s. This represents an increase of around 4.2 percentage points from October 2017. PTS expects the coverage to increase in the next few years with the upcoming expansion in the 700 MHz

¹⁰ As explained above, it is the government that decides on the frequency space to be allocated for television broadcasting, and for what period. This strategy will be published before the government has reached such a decision.

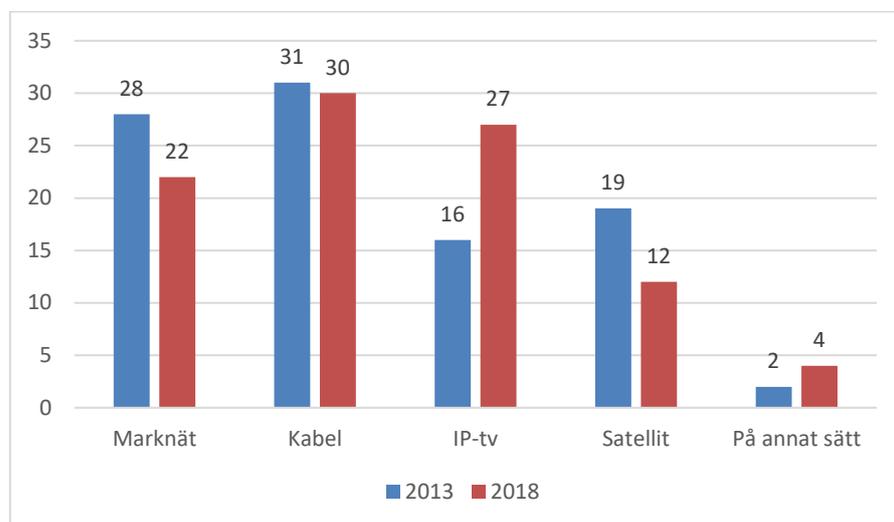
band¹¹. The availability of a broadband connection in homes has made it easier to consume media digitally.

Swedish households spend an increasing amount of money on media subscriptions, on average SEK 450 per month (2018). In 2018, household spending on SVOD services increased by 44 per cent compared to 2017. It is the subscription-based streaming services that account for the largest increase in costs.¹²

The division between different distribution platforms

There is a shift taking place between the different distribution platforms. The only distribution form that is increasing is fibre (+16%) while the number on subscriptions in digital cable, satellite, xDSL and the terrestrial network have decreased since 2012. In 2018, 22 per cent of households used the terrestrial network to receive television broadcasts.¹³ Summer cottages, second-hand and third-hand television sets are not included. Around 8 per cent, 380,000 households, only have free-to-air channels, i.e. the channels that can be received via the television antenna without requiring a subscription.¹⁴ Free-to-air channels in the terrestrial network include the channels of Sveriges Television AB (SVT), in which Utbildningsradion AB also broadcasts, TV4 in SD format, TV Finland and TV6. Just over a third of those who only have free-to-air TV in the terrestrial network also have pay-TV services on other platforms.¹⁵

The division between different distribution platforms in autumn 2013 and autumn 2018



Source: MMS Basundersökning 2013 and 2018¹⁶

¹¹ PTS Mobile and broadband mapping 2018 - PTS-ER-2019:5.

¹² www.mediavision.se/hushallens-medioutgifter-fortsatter-att-oka-kraftigt/, retrieved on 17/03/2019.

¹³ MMS Base Survey 2019:1, MMS, Mediamätning i Skandinavien AB.

¹⁴ Household use of free-to-air TV 2018, on behalf of the Swedish Post and Telecom Authority, Intermetra Business & Market Research Group.

¹⁵ Household use of free-to-air TV 2018, on behalf of the Swedish Post and Telecom Authority, Intermetra Business & Market Research Group.

¹⁶ The share that is not included is the answer options “don’t know/no information/none”.

Sale of pay-TV services

The sale of linear pay-TV services is increasing slowly but steadily over time. In 2017, the segment had a turnover of just under SEK 9.9 billion, which was in line with 2016 and 7 per cent more than in 2013. Growth has occurred even though the number of television subscriptions sold remained virtually unchanged during the period. The growth of the TV services market is due to increased subscription fees in the pay-TV market.

The sale of television subscriptions, together with the sale of television advertising, is a rough measure of the overall turnover of the commercial linear TV market in Sweden.

Change in viewer behaviour

The viewing time for linear television is decreasing over time and amounted to 133 minutes per day in 2018. The older consumer segment watches television for more than four hours per day (250 minutes), but the figures also show a decrease in consumption for the age group. Young people aged 15 to 24 watch an average of just over half an hour per day. While fewer people watch linear television, an increasing number of Swedes are using various on demand services. Netflix and YouTube have in a short time established themselves on the Swedish market and compete with the traditional broadcasters. For example, almost 1.5 million Swedes access SVT's range of programming exclusively via the internet.¹⁷

Households' access to large TV screens is increasing. In 2018, the sale of large TV screens (bigger than 65 inch) increased by 40 per cent, according to figures from ElektronikBranschen's snabbindex¹⁸.

Structural change in the TV market

Changes in the distribution stage have also occurred during the current licence period. Teracom AB has sold Boxer Access AB to Com Hem AB, which during the late autumn of 2018 has been merged with Tele2 AB. Boxer is responsible for pay-TV operations in the Swedish terrestrial network, and Com Hem is the biggest distributor on cable TV and a major player within broadband and telephony. The acquisition of Boxer gives Com Hem a strong position in the house market for pay-TV services in Sweden. For Com Hem, the deal has meant that they have been able to create a strong customer offering with broadband, TV and telephony for those living in houses.

Other structural changes taking place in the TV market include different types of vertical integration through the purchase and integration of broadcasters with broadband and telecom operators. The operators thus gain control of the entire value chain from programme content to the distribution of programmes to the individual television receiver.

¹⁷ SOU 2018:50 Ett oberoende public service för alla – nya möjligheter och ökat ansvar [An independent public service for all - new opportunities and increased responsibility].

¹⁸ ElektronikBranschen's rapid index November 2018.

3 The position of the Swedish Press and Broadcasting Authority

The Authority's standpoints and stakeholders' views on the draft strategy are presented below. The chapter starts with the overall views of stakeholders on the draft strategy.

Overall views of stakeholders etc.

The Swedish Agency for Participation is positive towards the draft strategy. *The Swedish Agency for Accessible Media (MTM)* and *PTS* have no comments on the strategy. *Nordic Entertainment Group AB (NENT Group)* finds that the Swedish Press and Broadcasting Authority has, on the whole, in its draft strategy balanced various interests against each other in a way that creates conditions for the terrestrial network to be able to compete in an increasingly competitive media market. *NENT Group* and *Bonnier Broadcasting AB (BBR)* believe that there should be a synchronised licence period for public service and the commercial broadcasters. *Sveriges Television AB (SVT)*, *Tele2 Sverige AB (Tele2)* and *Utbildningsradion AB (UR)* generally agree with the assessments and conclusions of the Authority.

3.1 The terrestrial network as a distribution platform

The Authority's assessment: The terrestrial network is one of several important distribution platforms for television broadcasting and should be enabled to maintain its position as an alternative to other distribution platforms.

Background

As stated in the previous chapter, 22 per cent of households use an antenna to receive television broadcasts. Around 8 per cent of households only have free-to-air TV. The terrestrial network therefore still has an important role in the reception of television for the public who do not have access to other distribution platforms, do not want to pay more than necessary to receive free-to-air TV, or for some other reason prefer the terrestrial network for their television reception.

The capacity of the terrestrial network is limited compared with other distribution platforms. The range of programming that is possible to offer depends, among other things, on the transmission space that the government decides may be used for television, along with the transmission and compression technology and quality of the broadcasts decided on by the Authority.

Views of stakeholders

BBR, *NENT Group*, *SVT*, *Tele2*, *Teracom AB* and *UR* share the Authority's assessment that the terrestrial network is one of several important distribution platforms for television

broadcasting and should be enabled to maintain its position as an alternative to other distribution platforms. *NENT Group* suggests that the Authority should once again have the goal of assigning the major broadcasters approximately the same number of licences in the terrestrial network and says that this is not the case today. *Teracom* alludes to the advantages of the terrestrial network; it reaches the whole country, is highly accessible, is robust and offers efficient breakdown by region. In order for the terrestrial network to continue to be relevant, Teracom emphasises the importance of the platform offering programme services demanded by households, and that they are broadcast with sufficient quality. *SVT* and *UR* maintain that if the terrestrial network is to continue to be important and relevant, the Authority must support and stimulate a development that ensures this when conducting the licensing process.

Reasons for the Authority's assessment

All distribution platforms are important for safeguarding the public's ability to access programme content. It is in the interest of the consumers that they can enjoy a wide and varied range of programme services from different operators. Similarly, it is in most broadcasters' interests to be accessible through a large number of distribution platforms in order to reach out to as many viewers as possible and to reduce dependence on a single operator.

The different distribution platforms each have their pros and cons. There are numerous reasons for why certain households choose the terrestrial network for their television reception. One of the advantages with terrestrial television is the simplicity for the consumer in receiving broadcasts, which in principle can reach the entire country, and the fact that a subscription is not required. There is also a trend of households increasingly using several distribution platforms in parallel. For broadcasters, scope is an important metric for advertising sales. As 22 per cent of households use the terrestrial network for receiving television broadcasts, the platform represents an important part for the financing of television operations.

In light of this, and despite the technical development of both services and distribution within the audiovisual medium, the terrestrial network is of great importance and contributes to diversity within television media. In the allocation of licences, the Radio and Television Act stipulates that particular consideration is to be given to the transmission space being utilised to ensure diversity in programme services, both in terms of ownership and content. In this way, the broadcasts in the terrestrial network can cater to different interests and tastes¹⁹.

3.2 Efficient frequency use

3.2.1 Use of broadcasting space

The Authority's assessment: The transmission space allocated for television broadcasts shall be used for this purpose.

¹⁹ Chapter 4, Section 6 of the Radio and Television Act.

Efficient frequency use means that if licences are not used, they should be revoked, after which free transmission space is advertised as soon as possible.

Background

Radio frequencies are a limited resource of great importance to electronic communications services of various kinds. The general aim is to ensure that the frequencies are utilised in a way that leads to the broadest possible freedom of expression and freedom of information.²⁰ This means that available space should be used as efficiently as possible. Those who have been granted a licence to broadcast terrestrial television have also been granted a licence to broadcast searchable teletext and programme-related additional services to a reasonable extent. For the license holders under Swedish jurisdiction, requirements are imposed through a separate decision regarding the accessibility of television broadcasts for persons with disabilities. In determining how and to what extent the service is to be made accessible to persons with disabilities, consideration is to be given to the broadcaster's financial resources, the technical development of accessibility services, and the capacity required.

The Authority strive to ensure effective frequency use from the viewpoint of freedom of expression. If a license holder significantly breaches conditions concerning broadcasting for a certain minimum period of time, the licence can be revoked. However, a decision to revoke may only be made if, considering the reasons for this action, this does not appear to be excessively intrusive.²¹ The Authority has previously revoked licences due to a discontinuation of broadcasts, after which the transmission space has been advertised once more.

Views of stakeholders

BBR, NENT Group, Tele2, SVT, Teracom and UR share the Authority's view that the broadcasting space set aside for television broadcasts is to be used for this purpose and that free transmission space is to be advertised as soon as possible. *The Swedish Competition Authority* also supports the proposal but suggests that the Swedish Press and Broadcasting Authority should avoid situations where the rule is used in negotiations between parties in the market for television broadcasts. A license holder that can convincingly demonstrate that it has tried to use its broadcastings space should therefore not have its licence revoked outright. *Tele2* suggests that wholly or partially unused broadcasting space reduces the competitiveness of the terrestrial network and constitutes ineffective spectrum utilisation. *Tele2* states that a quick reallocation should be given priority over the coordinated advertisement of multiple vacant licences. *Tele2* proposes that the Authority, in its processing of applications, should establish a back-up list of secondary license holders and programme services. These would, according to *Tele2*, be granted a licence if the primary license holder and/or programme services would disappear during the licence period. However, the fact that a programme service is on a back-up list would not be a guarantee of obtaining a licence. *Tele2* also proposes that any available capacity should be used to upgrade an SD licence to an HD licence. In addition, *Tele2* is of the opinion that consideration should be given to the conditions and intentions of the broadcaster with regard to concluding contracts for the provision of pay-TV. *Teracom* believes that if a company has chosen not to use a licence, this should affect how the company is assessed in future

²⁰ Chapter 3, Section 3, second paragraph of the Fundamental Law on Freedom of Expression.

²¹ Chapter 18, Sections 2 and 7 of the Radio and Television Act.

licensing. *The Swedish Agency for Participation* notes that it is becoming more common to only have accessibility features in the platforms that use the internet as a channel. The Agency believes that it is important from a user perspective to not restrict the use of accessibility features to a particular platform and indicates that the availability of frequency space for accessibility features in the terrestrial network should be ensured in those cases where accessibility requirements are applicable. *MTM* has no comments on the strategy but welcomes a dialogue on future accessibility decisions.

Reasons for the Authority's assessment

The broadcasting space is a limited resource. The broadcasting space set aside for television broadcasts is to be used for this purpose and utilised effectively. Some space should, as is currently the case, be allocated for searchable teletext and, among other things, enable programme content to be subtitled. Some of the accessibility technologies require significantly more capacity if they are broadcast in parallel with the programme service. When deciding on accessibility requirements, the Authority will take this into account. The Authority will then consult the Swedish Agency for Participation and *MTM*.

Effective frequency use requires that the licences granted are used by the license holders and that the broadcasts are carried out in accordance with the licence conditions. In this respect, the Authority's supervisory activities can contribute to effective frequency use. If licences are not used, they will be revoked, after which free broadcasting space is advertised as soon as possible. This benefit both viewers and broadcasters. As a licensing process is resource-intensive, the advertisement of vacant broadcasting space should be coordinated where possible. The Authority, however, agrees with the comments received suggesting that the Authority should not wait for a joint advertisement opportunity if this would entail that the space is not used for a long period. The possibility of coordination will be judged on a case-by-case basis. A quicker licensing process may also be achieved through a simplified advertisement, where available broadcasting space is only announced on the Authority's website. It can also be considered whether any available capacity shall instead be used to upgrade an SD licence to an HD licence.

It is not advisable to have a back-up list. It is doubtful whether this would be compatible with the provisions of the Radio and Television Act. Furthermore, such a list would probably risk quickly becoming obsolete.

Effective frequency use also means that the Authority can allow a licence to be transferred. This presupposes that the acquirer meets the basic formal requirements for a licence. In addition, the transfer may not entail that the ownership concentration among those with a licence to broadcast television and searchable teletext increases more than a limited amount, or that the transfer results in a substantial reduction in the diversity of the range of licensed programme services.²²

²² Chapter 4, Section 15 of the Radio and Television Act.

3.2.2 Transmission and compression technology

The Authority's assessment: The Authority does not currently see the need for additional broadcasting networks to switch over to DVB-T2/MPEG-4 if this is not necessitated by Sweden's frequency coordination with neighbouring countries. In such a frequency coordination, the options are either that a complete broadcasting network is migrated to DVB-T2 or that a technology transition in the broadcasting network is only partially implemented in those areas of Sweden required for such frequency coordination.

During the licence period, the Authority may be required to migrate the broadcasting networks transmitted in the DVB-T transmission technology to a more effective transmission technology if such a transition is deemed appropriate from a clear consumer perspective. In order to take into account, the technical development of both the broadcasting of television and television receivers, the licence conditions concerning transmission and compression technologies can be reviewed during the licence period.

Background

During the current licence period, a gradual transition has taken place from the transmission technology DVB-T and compression technology MPEG-2 to the more efficient technologies DVB-T2 and MPEG-4. The migration has taken place in conjunction with the evacuation of the 694–790 MHz range (the 700 MHz-band) which is no longer to be used for television.

Today's broadcasts in the terrestrial network are divided into six broadcasting networks (multiplexes). In three of the networks, the programme services are broadcast in the transmission technology DVB-T, while the remaining three use DVB-T2. SVT has one of the broadcasting networks in DVB-T at their disposal²³, and one space in DVB-T2. There are currently 50 commercial programme services in the terrestrial network, with a few of them sharing transmission space through time-sharing.

Broadcasting networks ²⁴	Transmission/compression technology	SD TV/HD TV	Number of concurrent programme services
MUX 1	DVB-T /MPEG-2	SD	5, of which SVT(UR) has 4
MUX 2	DVB-T /MPEG-2	SD	9
MUX 3	DVB-T /MPEG-2	SD	8
MUX 5	DVB-T2/ MPEG-4	SD	16
MUX 6	DVB-T2/MPEG-4	HD	6
MUX 7	DVB-T2/ MPEG-4	SD and HD	8, of which 3 are HD

Pay-TV business is managed by Boxer/Com Hem. Teracom AB broadcasts the programme services. Teracom has announced that certain additional programme services may need to switch to DVB-T2/ MPEG-4 partially in the country during the first quarter of 2020 in

²³ SVT has renounced some space in order to be able to broadcast HD TV in one of the broadcasting networks that use DVB-T2.

²⁴ In conjunction with the evacuation of the 700 band, Mux 4 was discontinued.

conjunction with the evacuation of television operations in the 700 MHz band in other Nordic countries.

Views of stakeholders

BBR agrees with the Authority's assessment that there is no need to migrate another broadcasting network to DVB-T2. *BBR* refers to a survey (January 2019) conducted by an analysis and consultancy company on behalf of SVT, Com Hem and TV4 which indicates that up to 200,000 households could be affected by a transition from DVB-T to DVB-T2. These households lack access to the technology that supports DVB-T2 and thus risk having a limited media offering. Furthermore, a transition will entail increased costs that ultimately risk being incurred by the consumer. In the event of a migration, *BBR* is of the opinion that SVT should be the party that migrates first. *BBR* believes that SVT has the power required to change the behaviour of consumers and acquire the equipment needed for adapting to a switchover to DVB-T2. *Tele2* shares the Authority's assessment and suggests that there is no clear consumer interest in further migration and that there is otherwise no reason for such a migration. Further migration to DVB-T2 would not only have clear consumer effects, it would also affect all key players in the terrestrial network's value chain, such as broadcasters, network operators and pay-TV operators. There must therefore be a consensus between the terrestrial network players regarding further migration. *NENT Group* is of the opinion that the minimum level for the number of broadcasting networks using DVB-T2 should be set at three, and that the introduction of new technologies should be implemented in a balanced way. Rapid technology shifts could affect households and make them less willing to continue to use the terrestrial network. *Teracom* does not currently see any explicit demand from the market's commercial players in terms of further migration to DVBT2/MPEG-4 and emphasises that a migration has a relatively long lead time and requires there to be a demand and willingness among broadcasters/operators that provides support for further migration. *SVT* and *UR* do not agree with the Authority's view that there are still many elderly recipients who are unable to receive broadcasts with the new transmission technology DVB-T2. The public service broadcasters' conclusions also differ from those of *BBR* (see above) in respect of the survey initiated by SVT, Com Hem and TV4. According to the public service broadcasters, the survey indicates that there is a very low percentage of households still using the first generation of digital receiver for terrestrial television (DVB-T). A comparison can be made with the analogue phase-out conducted in 2005—2007, when ten times more households were affected and needed to make an investment in new receiver equipment.

Reasons for the Authority's assessment

A transition to more effective compression and transmission technology allows the transmission space to be used more effectively, which creates space for more programme services and/or more programme services with a higher image quality. At the same time there are many viewers who still have older TV receivers that are unable to pick up broadcasts in DVB-T2. *BBR*, *SVT* and *UR* refer to the same survey but draw different conclusions from it. This shows that the survey does not convey a clear picture. The consultation responses received from the commercial players also do not advocate any further migration. This may indicate that the terrestrial network can currently be considered to be more in a more management-focused phase than expanding phase. Therefore, at present, there cannot be considered to be a need for additional broadcasting networks to switch over to DVB-T2 if this is not necessitated by the upcoming frequency coordination

with Sweden's neighbouring countries. The options are then that an entire broadcasting network is migrated to DVB-T2 or that a transition is only partially carried out in those parts of the country required for such a frequency coordination with Norway and Denmark.

Other broadcasting networks may migrate during the licence period if this is deemed appropriate from a consumer perspective. In order to create flexibility, the Swedish Press and Broadcasting Authority may therefore reconsider licence conditions concerning transmission and compression technology during the licence period.

3.3 Transmission quality

The Authority's assessment: It should be possible to apply for a licence for both SD and HD-quality broadcasts.

Background

Today, nine programme services with HD quality are broadcast in the terrestrial network. In the case of HD quality, current licence conditions indicate that the technical quality of the broadcasts should be significantly higher than standard definition TV and have an image resolution of at least 720 lines per image in progressive format. The image is updated 50 times per second.

Views of stakeholders

Tele2 and *Teracom* share the Swedish Press and Broadcasting Authority's assessment that HD-quality broadcasts are an important factor contributing to the continued competitiveness and relevance of the terrestrial network. *Tele2* emphasises that the viewers' preferences are evolving, both towards a greater interest in broad entertainment, factual programmes, sports and series, and towards a greater interest in HD quality. The competitiveness of the terrestrial network should therefore, according to *Tele2*, be expanded with more HD channels and fewer distinct niche channels. *Tele2* and *Teracom* also propose that broadcasters that have been granted a licence to broadcast in SD quality should be given the right to broadcast in HD quality on condition that available frequency resources/available network capacity allow this. *The National Association of Finns in Sweden, RSKL*, considers it extremely important that the broadcasts continue to maintain good technical quality.

In previous contact between the Swedish Press and Broadcasting Authority and some of the broadcasters, it has been indicated that some of these broadcasters do not wish for any major change in the current distribution of SD and HD programme services in the terrestrial network. They state that an HD service entails increased costs and that the SD quality is good enough. Other broadcasters have noted that as TV screens increase in size (the most common size currently purchased is reported to be 55 inch), better picture quality is also required. They therefore predict that the demand for HD-quality programme services will increase. One of the other players predicts an increased demand for even higher definition broadcasts, ultra HD (4K), and suggests that in order for the terrestrial network to be attractive it must continue to evolve and also be capable of offering 4K broadcast quality in the long term.

Reasons for the Authority's assessment

HD quality broadcasts add something to the overall range of the terrestrial network through programme content with significantly better image quality. There are currently seven commercial licences in HD quality in the terrestrial network. In order for the network to continue being as attractive as possible, consideration should be given to granting more licences in HD quality. The specific distribution between broadcasts in SD and HD quality may however be determined based on several aspects; the transmission space allocated to the terrestrial network, the applications received, the content of the broadcasts, and the ownership of those applying for a licence. As stated in section 3.2.1, the Authority may also consider whether any available capacity that arises over time should be re-advertised or whether it should instead be used to enable an existing licence broadcasting in SD quality to be broadcast in HD. In this respect, an assessment can be made based on consumer needs. A broadcast in ultra HD quality entails a resolution that is four times higher than an HD broadcast, meaning that ultra HD requires significantly greater transmission space. Taking this and the fact that there has only been interest from one of two players into account, there is no reason to include the option of applying to broadcast in ultra HD in the autumn 2019 application process.

3.4 Parallel broadcasts

The Authority's assessment: Parallel broadcasts in SD and HD quality can be justified to a limited extent based on consumer interest and the importance of the terrestrial network as an attractive distribution platform.

Background

A broadcast of a programme service in both SD and HD quality requires two separate transmission spaces. The Swedish Press and Broadcasting Authority therefore considers them to be two separate programme services that require individual licence applications.

In the licence decision from 2014, three programme services were permitted to broadcast in SD and HD in parallel, however the licence for SD broadcasts in the transmission technology DVB-T was only valid until 31 March 2017. The reason was that there was uncertainty as to what transmission space could be made available for broadcasts in the transmission technology DVB-T after this date owing to the evacuation of the 700 band. The decision also emphasised that once the scope of the transmission space had been set, conditions may allow for the advertising of licences for broadcasts in DVB-T and allowing parallel broadcasts up until 2020. The purpose of parallel broadcasts after 31 March 2017 remained to facilitate the transition to new transmission technology for the consumers.²⁵ The possibility of parallel broadcasts was extended in a decision in 2016, wherein the Authority deemed there to still be a large number of households that did not yet have access to equipment enabling the reception of DVB-T2 broadcasts. Furthermore, it was noted in the decision that SVT's broadcasting licence had been supplemented with a right to broadcast in HD quality up until 31 December 2019. One of the reasons given in the government decision was that the parallel broadcast of programme services of different quality is essential for the transition to more efficient technology to take place in such a way that it does not

²⁵ Decision of the Swedish Press and Broadcasting Authority of 31 March 2014, ref. no. 13/01812 et al.

create too big a problem for consumers (see government decision of 17 September 2015 Ku2015/02107/MF).²⁶

The Public Service Committee made the following assessment in its report on how appropriate regulation for public service broadcasting can be designed in the short and long term. *A transition to more modern transmission technology in the terrestrial network entailing that SVT can broadcast four programme services in HD quality with 99.8 per cent coverage should be carried out provided that there is a consensus between the terrestrial network's players and the Swedish Press and Broadcasting Authority concerning a transition, and that the interests of viewers can be taken into account.*²⁷ The government has announced that it intends to issue a bill regarding future terms for public service before the summer break 2019.

Views of stakeholders

BBR, NENT Group and Tele2 are of the opinion that parallel broadcasting is positive regarding the terrestrial network's ability to offer qualitative and broad content to its audience. Teracom states that if the market players find there to be a continued need for parallel broadcasting in order to reach out to all TV receivers in homes and recreational accommodation, it is important to maintain the competitiveness of the terrestrial network. SVT suggests that the sole purpose with the parallel broadcasting of select channels in both SD and HD quality has been a temporary measure for the time period between 2010, when DVB-T2 was introduced in the terrestrial network, and up until a total migration of the entire terrestrial network is expected to be complete. If the decision to cease migration at 3 multiplexers in DVB-T and 3 multiplexers in DVB-T2 becomes a reality, this also means that the plan is interrupted and that a new position must be taken concerning SVT's parallel broadcasts.

The players that currently have parallel broadcasts have emphasised the importance of continued parallel broadcasting to reach as many viewers as possible. Through a broadcast in both SD and HD quality, the range also increases, which is important in terms of advertising sales. HD TV broadcasts also generate pay-TV revenues. However, one of the players argues that if the transmission of the HD TV broadcasts can be regionalised, the need for parallel broadcasts is reduced.

Reasons for the Authority's assessment

Some viewers are still using receivers that are unable to receive DVB-T2 broadcasts and therefore cannot receive HD broadcasts. At the same time, HD TV services are being demanded by the segment of the audience that has newer TV receivers capable of receiving HD broadcasts. In order to meet the needs of both groups, there is a continued need for parallel broadcasts in both SD and HD to a certain extent.

3.5 Local and regional broadcasts

<p>The Authority's assessment: It will also be possible to apply for a licence for local and regional programme services.</p>

²⁶ Decision of the Swedish Press and Broadcasting Authority of 28 November 2016, ref. no. 16/01242 et al.

²⁷ SOU 2018:50 p. 105 f.

Background

When allocating licences to broadcast television and searchable teletext, the Authority shall take into account in particular the possibility of the transmission space being utilised for both national as well as local and regional programme services. In the strategy for 2014, the Authority already noted that local and regional broadcasters had difficulty keeping their operations financially viable, and that several licences were revoked over the years. Furthermore, the Authority's assessment was that the number of such licences that would be granted should be determined based on what is technically feasible and following an overall assessment of the applications received. In 2014, the Authority granted six local/regional licences. Five of these were revoked at the request of the license holder. According to the current licence conditions, the national licences have the right to divide the broadcast into regional programmes.

Views of stakeholders

Tele2 and *TeraCom* believe that local and regional licences should be granted if this is technically possible without reducing the terrestrial network's total capacity for the transmission of national programme services.

Reasons for the Authority's assessment

During the current licence period, it has also been difficult to achieve profitability through conducting local/regional broadcasting. However, the Radio and Television Act also stipulates that regional programme services are to be given space, but that licences should be granted based on what is technically feasible and following an assessment of the applications received. The Swedish Press and Broadcasting Authority intends, as in previous licensing rounds, to consult with *TeraCom* regarding the possibilities of granting regional and local licences without it impacting the space for national licences.

The national licences should also continue to have the right to divide the broadcast into regional programmes.

Mission of the Swedish Press and Broadcasting Authority

The mission of the Swedish Press and Broadcasting Authority within its area of activity is to promote freedom of expression and opportunities for diversity and accessibility within the press, radio and television. The mission includes monitoring and analysing developments within the media field and disseminating knowledge in this regard to the general public. In addition, the Authority makes decisions on press and media subsidies, licences for community radio, terrestrial commercial radio and television, and the registration of broadcasts, and it also supervises matters concerning radio and television broadcasts, on-demand TV and searchable teletext. The Authority also makes decisions on accessibility requirements for television broadcasts so that persons with disabilities are also able to access the programmes. Furthermore, the Authority issues publishing certificates in accordance with the Fundamental Law on Freedom of Expression. Aside from its ongoing operations, the Authority annually conducts a number of investigative assignments on behalf of the government.