

Digitisation 2013

Broadcasting and the internet – thesis, antithesis, synthesis?



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published by
die medienanstalten – ALM GbR

Imprint

Bibliographical information Deutschen Nationalbibliothek

Deutsche Bibliothek lists this publication in the German national bibliography; for detailed bibliographical data, see <http://dnb.d-nb.de>

Published by

die medienanstalten – ALM GbR
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Preface



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Dr. Hans Hege

ZAK Representative for platform regulation and digital access

The German media authorities are presenting the ninth report on digitisation in Germany. While the reports covering the last two years researched the opportunities and the risks of digitisation respectively, this year's seemingly dialectic title "broadcasting and the internet – thesis, antithesis, synthesis?" is intended to bring across that we would like to continue the discourse about the opportunities and challenges coming in toe with digitisation and which are above all owed to the clash of the worlds of broadcasting and the internet respectively.

Broadcasting and the internet coming together has long since become reality, not least on many hybrid or "smart" TV sets in the sitting rooms. For this reason, however, contradictions and discrepancies emerge again and again. They demand careful description and analysis, in a fully dialectic approach, in order to gain a new perception of digitisation and develop solutions regarding the convergence of broadcasting and the internet.

In his article, Hans Hege highlights that in the course of convergence, neutrality and thus equal opportunities and non-discriminatory access to media contents have come under threat. It is necessary to find a new balance between neutrality and priority to ensure that content which is relevant for the formation of opinion has access to capacities and can be found.

That some solutions require considerable steadfastness is explained by Gerd Bauer who outlines the obstacles faced by digital radio but also illus-

trates the benefits of the transmission standard DAB+ which offer considerable promise for the future.

The stony path to a new solution which is characterised by contradictions and discrepancies is the subject of the contribution of Guido Schneider which covers the measuring of the use of convergent moving images. A joint standard accepted by all players allowing TV consumption and videos in the internet to be offset against each other has not yet been developed.

The section on facts and figures presents the current status of digitisation on the basis of the annual survey of TV reception in Germany conducted on behalf of the media authorities. The 2013 survey was extended to also gain data on the personal use of EPGs, connected TV, OTT offers and mobile receivers. In addition, the media authorities for the first time present an analysis on the reception of radio all over Germany.

The report on digitisation shows that overcoming obstacles and clearing discrepancies in the course of the ongoing digitisation and convergence of the media commands a continuation of the debate. We hope that the report contributes to the discourse and that you find it inspiring and enlightening reading.

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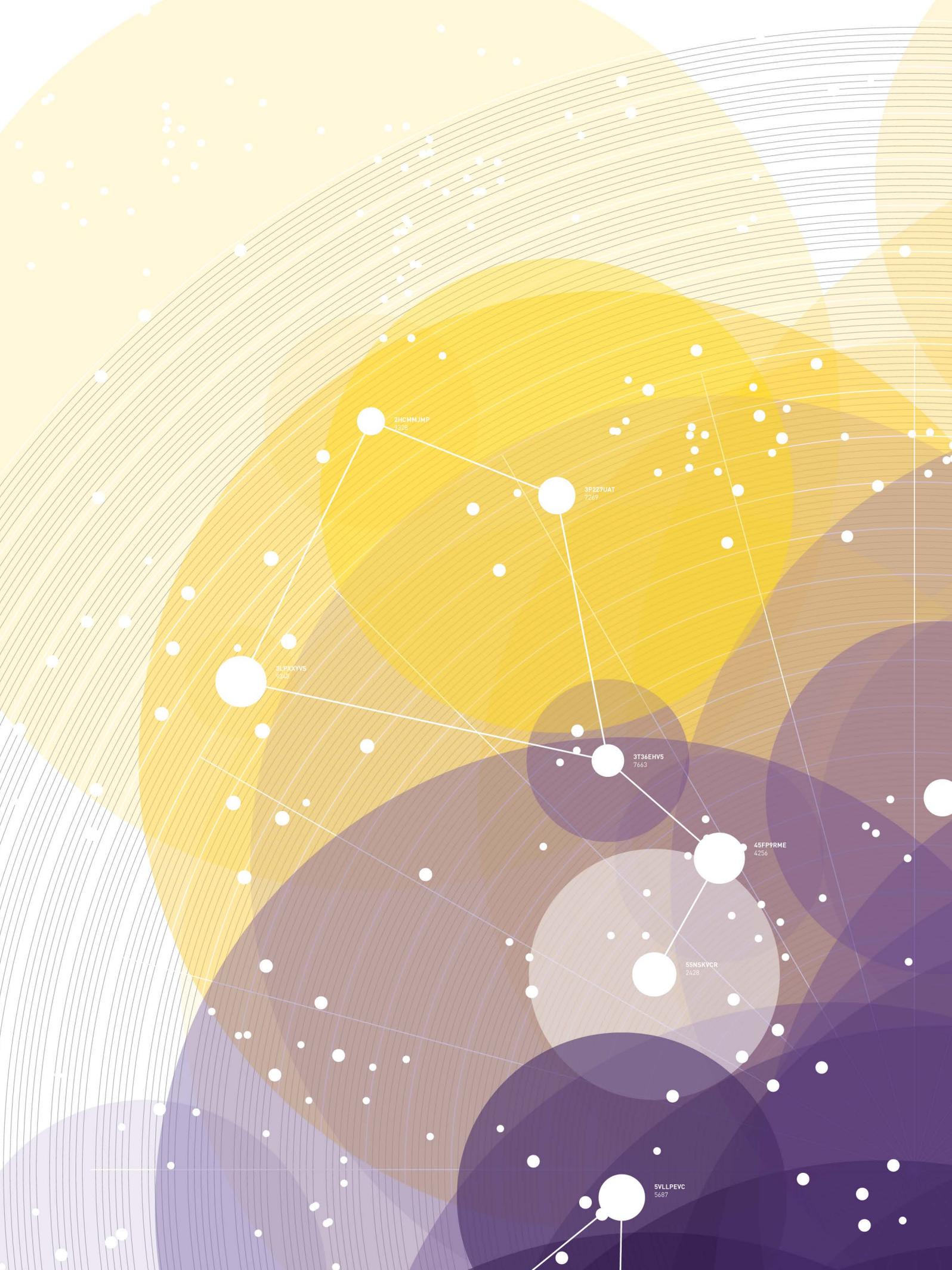
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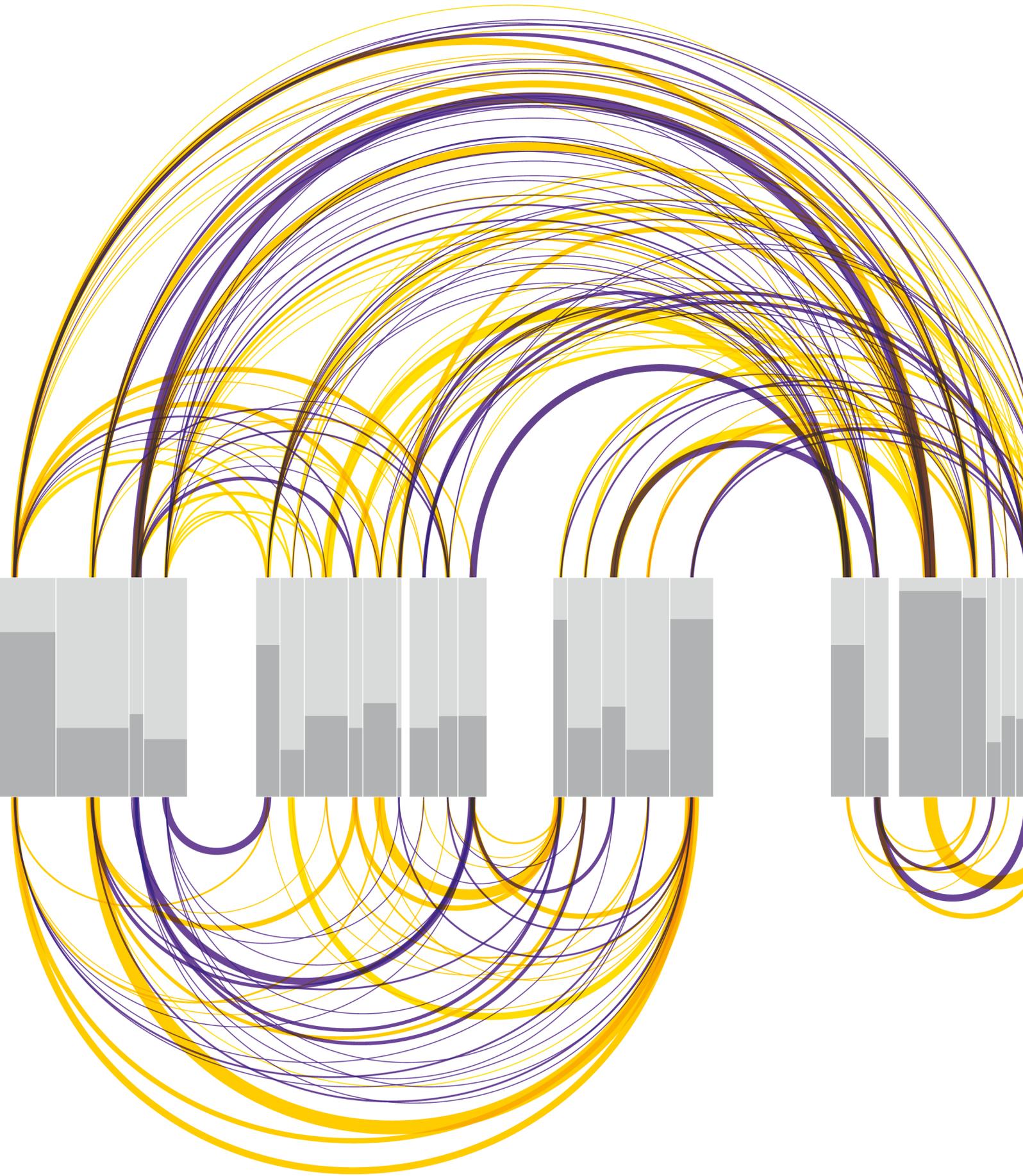
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thesis, antithesis, synthesis?



Neutrality versus priority in the net – facing the challenges of convergence

Dr. Hans Hege

For the formation of public opinion, the open internet is a sine qua non. For audiovisual media, the world-wide web is also gaining in relevance as a complementary route of transmission; in the future, it might even replace broadcasting infrastructures at least in part. However, recent tendencies appear to put the open and principally neutral architecture of the internet into question. German Telekom, for instance, is considering not only the introduction of capacity limits but also the provision of exemptions for providers taking out specific agreements with the infrastructure provider. And other network operators also plan to set up new business models on the basis of payments being made by service and content providers for preferential transportation. The concrete plans of German Telekom have given a boost to the debate on net neutrality. And the media authorities have also positioned themselves in the debate, making it clear that there must be no exceptions from a fixed capacity limitation benefiting individual providers. The transmission of the media must not be (or become) dependent on who happens to have the maximum financial clout or the optimum negotiating position.

Equal opportunities for content providers including a specific protection of new views and the opinions of minorities represent a cornerstone of media law. It would be violated, were financially powerful providers allowed to purchase preferential access options to consumers.

The media order, however, also encompasses another angle, namely that of priorities. Media are of specific importance for the formation of public opinion forming the basis of democracy. Public-sector broadcasting receives funding of a specific type, but commercial broadcasting can also use transmission capacities free of charge which others have to bid for. Platform regulation sets specific requirements for network operators allocating capacities in their infrastructure and devising navigators. In this way, some content providers are given priority over others as regards both the allocation of transmission capacities and the content listings which form the basis of navigation.

German media law operates both approaches for the objective of promoting variety and preventing dominant power of opinion; in so doing, it seeks

to achieve a balance between net neutrality and setting priorities. The convergence of infrastructures, receivers and contents brings with it the challenge that this balance has to be re-adjusted.

Joint criteria for broadcasting and the internet

The debate cannot be focused on broadcasting alone. Audiovisual content is no longer transmitted across closed broadcasting networks, nor is such content transported via platforms aggregating content for a closed overall offer in accordance with the definitions of media law. The open internet is gaining in significance due to the expansion of the transmission capacities of the networks and new types of receiver such as smartphones and tablets via which content is accessible everywhere and at any chosen time. The large screen in the home which still represents the most important device for media consumption is connected to the internet (smart TV), allowing access not only to broadcasting content but also to other applications, and that also outside the transmission times scheduled by the broadcasters.

The same content can now be transmitted both via a broadcasting infrastructure and via the internet; it is shown on the same screen, and over time, there will also be a common form of navigation. The TV set can be controlled via smartphones or tablets, permitting parallel and additional uses.

For the foreseeable future, linear consumption will retain the lion share of the daily TV diet. However, it will be increasingly influenced by factors other than the scheduling of the content providers. Social networks give recommendations, the analysis of the personal data generated through the use of search engines provides indicators concerning the tailor-made consumption of TV and video for the individual consumer.

Being transmitted and being found are key aspects of access

The digitisation of the broadcasting transmission routes reduces the relevance of the current priority provisions for capacity allocation as there is usually sufficient capacity to satisfy all demands. Access to transmission infrastructure is dependent on the business terms for which the principle of non-discrimination applies. It presents a number of difficult questions, however, as transmission services are linked to other agreements.

In the open internet, the best-effort principle warrants non-discrimination. Access to customers does not depend on agreements with the network operators. For developing new refunding options, they attempt to control access to the customer, however, employ new managed services which provide preference for those providers who take out the respective agreements and usually also pay for transport. Exempting paying providers from a capacity limit linked to tariffs presents a particularly severe discrimination against the providers operating in the open internet.

Being found will become the key issue concerning access both for digital TV and in the internet. Local and regional services as well as citizens' media will no longer be found as easily as during the period when the number of analogue channels one could flip through was still limited. Consumers obtain new options for sorting listings according to their own criteria. In order to do so, however, they have to know that local services are actually available. Media regulation generally faces the question whether and how it should promote certain content being found which had been given preferential treatment regarding capacity allocation during the period when transmission capacities were in scarce supply.

The key concepts in this respect at present are incentive regulation and “must be found”. Providers meeting specific requirements should be found more easily – no longer as a binding activity in return for the allocation of rare and therefore valuable capacity, but as an option that becomes relevant when specific requirements are met.

Navigation via sets provided or controlled by a network operator which to date is controlled under the provisions for platform regulation is complemented by other forms of being found and being looked for, and partially also replaced. The principal aspect in this respect is convergence which is visible quite practically in the applications of such receivers.

Navigation via portals (Connected TV)

Connecting the large flat screen (traditionally called TV set) to the internet allows device manufacturers to aggregate selected apps (i.e. access to certain content in the internet) in portals. These manufacturers’ portals are not yet covered by platform regulation; the question therefore has to be raised whether this situation should be amended if choice is effected from a limited range and pre-set installations.

The risk does not disappear merely because a browser connects to the open internet. A browser certainly presents a useful addition offering another option via which the consumer can surf the world-wide web in his sitting room. It should be noted, however, that accessing internet content via a browser is a completely different matter from access via an app – every user of a smartphone will confirm this. On the one hand, there is the operation which is far less comfortable as accessing a website via a browser usually requires some text to be keyed in, and the navigation

in the respective internet sites is structured in a different way than when accessing it via the flat screen. It is highly unlikely that the keyboard and the mouse will be lying side by side and next to the remote control on the table in a German TV household in the future. Not least, using a browser via a flat screen may actually meet with technical restrictions as individual websites require web applications, e.g. Flash or Java, which are not installed on the TV set.

What should be retained in line with the established procedures is the option for consumers to install additional apps and to change the user surface. The influence of the portals integrated in a TV set will also be relativized by the fact that the existing interface allows for other devices to be connected to the flat screen, e.g. by cable operators, Apple or Google. However, there are default settings or preferences or discriminations initiated by manufacturers which hold a certain potential for abuse (e.g., if the app of a news channel is presented prominently while the app of another news channel is hard to find or cannot be found at all).

Navigating in the internet and thus also via apps

What has been possible using other computers for some time, namely access to linear broadcasting services, is now also possible via smartphones and tablets, even though not quite as comfortably. Navigating the internet is a principally different affair in comparison to the world of broadcasting which has so far been a closed one. Consumers can enjoy an almost unlimited range of services and content via internet-ready devices, gain access via more and more versatile devices virtually everywhere and are less and less depen-

dent on the programme settings of content providers or the selections made by platforms. Consumers can unbundle the range of offers bundled before by others.

And yet, consumers require some orientation, reduced complexity, with the help of apps, search engines, recommendation regimes, and can make orientation easier by resorting to their own data. What form of dominant position can develop is evident when using a text search function and looking at the respective market share of Google, or when assessing the “like” function and looking at the reach of Facebook. These are no longer national, locally bound platforms, but rather enterprises operating globally which gain more and more market power due to the network effects.

For a long time, the internet and the closed world of broadcasting were separate, parallel worlds. And even if the lion share of video consumption today still relates to linear channels and the flat screen, one irrevocable change is already under way: Broadcasting is no longer on its own, be it on the receivers or on the flat screens which also offer other applications and contents. They have far more relevance for portable and mobile devices. This presents a challenge for regulation: Is there still a specificity for the flat screen which justifies specific regulation, even if it can be controlled via smaller devices (second screen)?

In the infrastructures, too, broadcasting is no longer on its own. The question today already is whether broadcasting networks are still necessary, once everyone is able to surf at a rate of 100 Mbit/s. At least the efficiency of transmission would advocate that broadcasting networks be preserved all the same.

Broadcasting now shares both networks and receivers with other media content as well as the

whole breadth of internet applications. The powerful positions of the internet thus now also catch the world of broadcasting. The search for content transmitted via linear channels and the search for video or audio content in the internet are still separate, but they will merge.

Neutrality and priority for search and navigation

Neutrality in searches is a minimum requirement which also meets the interests of the media. The objective will never be fully achieved. Each search is based on criteria, in the digital world on algorithms which themselves are based on judgments and experiences. However, agreement should be sought on a number of principles:

- Openness and completeness: It must be possible to find every content (with a verifiable justification for excluding certain contents from being found similar to the way in which this has already been established for listed material).
- Non-discrimination: For the ranking of search results, justifiable and clear criteria must be used.
- Provisions regarding vertical integration: safeguards against discrimination by the operator of a search engine with the potential to give preference to the presentation of his own activities, services and contents.
- Transparency and control of abuse: Algorithms can never be fully verified, but there is a need to consider procedures for controlling potential abuse which is not exclusively dependent on the goodwill of enterprises with a dominant position in the market.
- Data: Who owns the user data and how must they be handled?

Prioritizing searches, i.e. supporting desired content being found presents an even more complex issue, as setting priorities in each case also constitutes a form of discrimination against content which is not supported for being found.

- No prioritizing for cash: For searches, there still exists general acceptance of what German Telekom currently is putting into question as regards transmission. A better search result must not become available against cash. Currently there is no regulation to this effect, as little as the reliability of the sale of rankings in the default programme listings of receiver manufacturers.
- Sovereignty of the consumer: Is it permissible to intervene in the search process to benefit certain content? This would exceed media regulation in the broadcasting sector as it has been practised to date. Scarcity of transmission capacities requires a selection procedure which cannot be effected by the individual consumer – who is not taken into consideration, who is not available at all. Digital listings in their default settings are geared to the average behaviour of the viewers who can set up their own listings, even if they do not fulfill the criteria of media law as regards plurality and even if, for example, must-carry content is disregarded. In the internet, each consumer is free to use his own criteria; for the protection of minors, this is supported by specific programmes. A red line for “must-be-found“ would be transgressed if the user were forced to accept a search system which prioritizes certain content that cannot therefore be switched off (and if consumers are able to do so, it loses a major part of its effect). Default settings which cannot be changed and which benefit specific offers are not only problematic when they are provided by private enterprises, but also when effected by well-me-

aning regulators who would thereby overstep the limit to censorship.

On the other hand, the traditional searches are hampered by the fact that they strengthen established views and settings, and rather hinder the discourse with new and dissenting positions which constitute a classical task of the media. Commercial search engines are characterised not only by an insatiable hunger for data, but also by a natural tendency to support content that can be commercialized. It is therefore still worth considering alternatives which are publicly funded and consequently not subject to such economic constraints.

Neutrality of transmission (net neutrality) and priority

The distribution of media rates among the most important areas of the media order. A number of safeguards were developed to this effect, but also thanks to the rulings of the Federal Constitutional Court. Priorities are not unknown in German media law, be it frequency capacities allocated to broadcasting or be it the requirements concerning the allocation of capacities in the cable networks. The wholesale system for print products is a regime which was underpinned by legislation and ensures non-discriminatory access also for smaller products.

For the sector of media distribution, no model has as yet been introduced which would allow prioritizing depending on the financial and negotiating clout of the providers. This, however, is at the very core of plans to provide for exceptions from capacity limitations and to offer better quality against payment. Both the Federal Constitutional Court and the media legislator have set limits for business models which would give free rein to forces even in the area of access of media. It

would mean nothing other than to leave access for media providers to the negotiating process with those controlling the access to consumers via their networks.

According to the rulings of the Federal Constitutional Court the media order must counter potentially wrong developments in good time, in particular where a retroactive amendment is not possible. Putting the open internet at risk has such a fundamental relevance in this day and age that it is not possible to simply wait and see how the plans might actually affect new business models.

The restrictions of transmission capacity volumes planned by Telekom and supported by other network operators will have a particular impact on the audiovisual media which depend on high data rates for transmission and long consumption periods. However, the German regulators will not object to the restriction of transmission capacities, as long as it is left to consumers to decide to what degree they will obtain services via the open internet. Both integrating broadcasting networks and the storage facilities integrated in digital devices could contribute to a more efficient broadband supply.

The media regulators do, however, see a need for action in the light of the plans for granting exemptions from the capacity limitations for those services and offers for which the network operator takes out specific agreements with a provider. This would particularly badly impact on audiovisual media content as a sizeable share of consumers will tend to use offers for which a breach of the capacity limitations and a subsequent reduction is not likely. This decision will thus be at the expense of offers distributed in the internet.

The media regulators welcome the fact that bundled linear TV programmes in adequate qua-

lity are available via closed IP networks and thus a product which corresponds to the range on offer in the cable networks expanding the choice for the consumer. The regulators are, however, seriously concerned that this will be extended to media contents and services under the heading of “managed services”.

The growing distribution of broadcasting content via the internet which could result in the replacement of the traditional broadcasting networks by IP networks should the traditional broadcasting networks be given up for reasons of cost, results in the question whether there cannot be a form of prioritization by content for internet transmission.

This issue becomes particularly challenging as regards the future use of capacities. If they are left to market developments alone, audiovisual media will suffer disadvantages in that they require high data rates and data volumes while only few viewers are prepared to pay for consumption. Network operators will therefore give preference to uses under commercial business considerations which result in higher turnover yields.

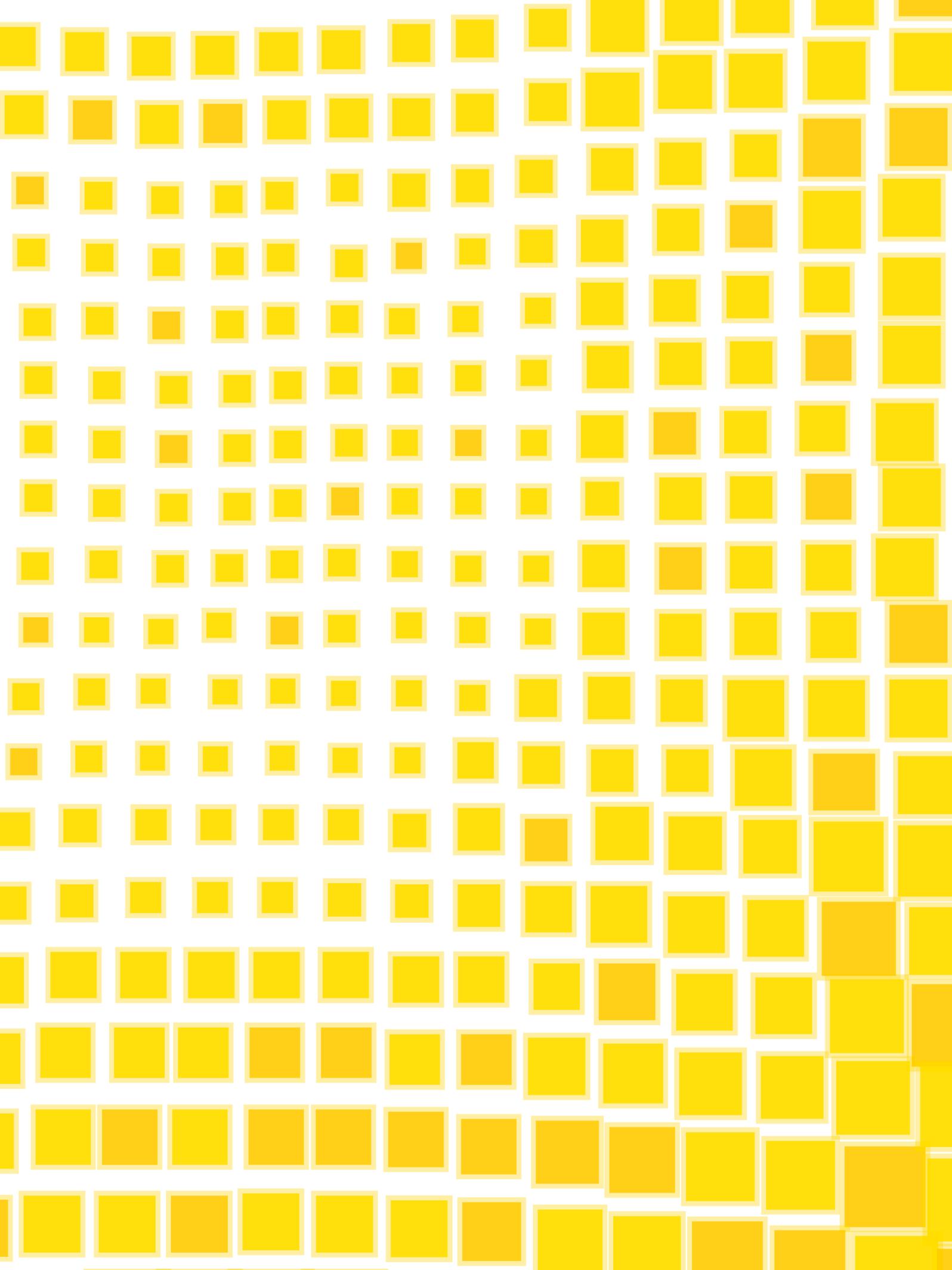
There are also good reasons to support the transmission of specific contents which are of particular relevance for social cohesion in the future. Especially if broadcasting gives up frequencies for its traditional transmission there is cause to provide for priorities for the future use of the internet for functions that continue to exist.

This presents us with the challenge (which in my opinion can be solved) to develop verifiable criteria for such preferential treatments. The traditional definition of broadcasting is not useful in this respect as it is linked to linear, simultaneous transmission. On the one hand, the definition is too expansive as there is linear content which does not justify preferential transmission, e.g.

teleshopping channels, while on the other hand, it is too restrictive as there might also be some content which is of particular relevance for the formation of opinion and is available only on demand.

It is no foregone conclusion that in the future everything produced by public-sector broadcasting for linear transmission would enjoy priority. Entertainment series shown during the early evening which are available on demand do not deserve any preference over privately funded series and films. On the other hand, privately funded media have of late become an indispensable factor for the cohesion of society and the democratic formation of opinion especially for the younger generation which on principle justifies the support of their being transmitted and found.

The new balance between neutrality and priority will thus remain a remit and challenge for the media regulators for some time to come.



Digitisation of the German television market: facts and figures

Current status of digitisation in German TV households

June 2013

Dr. Kristian Kunow

“Last but not least”- this best sums up the facts and figures concerning the current state of digitisation of German television households. Put another way, cable brings up the rear. In the light of the successful switch-off of analogue satellite, the introduction to this section last year had been “Same same, but different”. This year, the focus is concentrated on cable as the last broadcasting infrastructure which still partially operates analogue transmission. The analysis shows progress, here, too: more than half the distance has already been covered.

In 2005, the media authorities presented their first annual report on the digitisation of TV infrastructures. During May and June 2013, data on the status of digitisation in Germany were collected on behalf of the media authorities for the ninth time in succession. By adapting the methodology on which the survey was based and by extending the questionnaire, this year it was possible to establish the use of receivers and modes of reception available to consumers in the households for the first time, and to have a closer look at the effects of the continued digitisation on TV consumption.

Progress continues, but speed slows down over last year

Last year, we could report a leap in the rate of digitisation in Germany: The switchover to fully digital satellite transmission and/or the switch-off of the analogue satellite signal resulted in an exceptionally high increase of 10 percentage points. Compared to this, the rise by 3 percentage points to 80.8 per cent of digital TV households seems more like a small hop. In mid-2013, some 19.2 per cent of German TV houses still watched analogue television only; around the same time last year, it had been 22.2 per cent (Fig. 1).

The overall figure of German households watching TV via a digital infrastructure now comes to 30.8 million. In 28 million households, consumption is digital via all TV receivers available in the home while 2.8 million households watch TV both in analogue and in digital technology.

Were analogue cable signal transmission switched off overnight, just over 7.3 million German TV households would at present literally watch a black screen.

If one adds to that the 2.8 million homes that partially watch in digital technology, there still is a total 10.1 million German TV households awaiting (full) digitisation. The figure shows that this is no small feat but that there is still some effort required.

More than half of the cable homes are already digital

As was already the case in the last report, a look at the various routes of transmission and their status of digitisation reveals that attention is focused on cable. The situation of this infrastructure deserves more detailed analysis.

By mid-2013, digital cable delivered TV to 55.9 per cent of all cable households, i.e. clearly more than half (Fig. 2). The increase for cable over the

last year came to 7.7 percentage points. This is a clearly higher increase than during 2012 when the rate of cable homes going digital had been a mere 5.7 percentage points. This is a pleasing development, but there is still quite some way to go for cable to become exclusively digital.

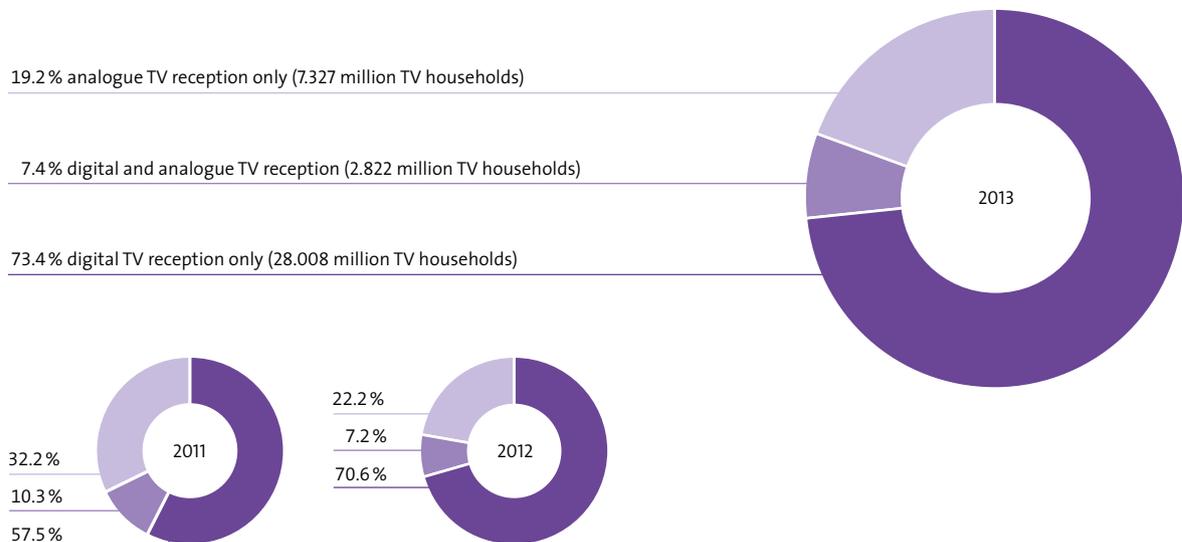
Continued digitisation of cable is geared by various factors

Terrestrial television transmission was digitised almost completely as early as the end of 2008 thanks to the „hard“ switchover to DTT and the switch-off of the last analogue channels. In April 2012, satellite followed this route, and as last year, the question still is when cable will or can follow.

The project office “klardigital” which directed the communication measures surrounding the

Fig. 1

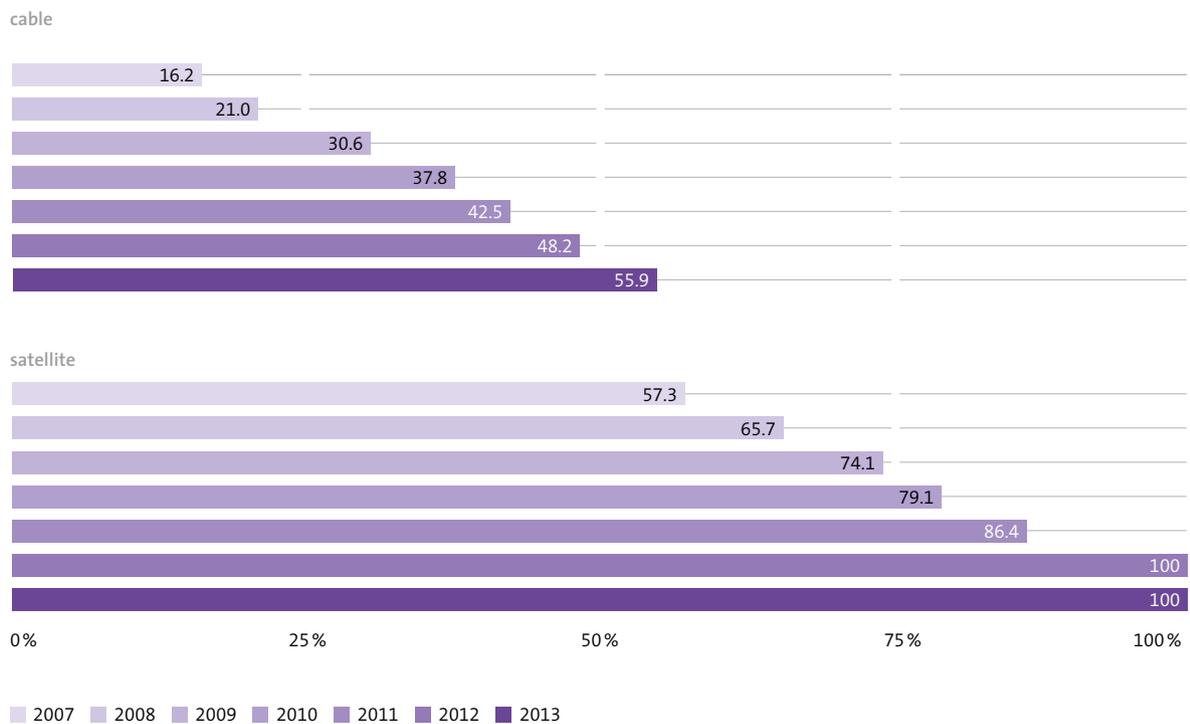
State of digitisation of TV households



Source: Digitisation Report / TNS Infratest; Basis 2013: 38.157 million TV households in Germany (Basis 2012: 37.977 million and 2011: 37.668 million)

Fig. 2

Digitisation by transmission platforms



Source: Digitisation Report / TNS Infratest; Basis: 19.859 / 19.558 / 19.765 / 19.273 / 18.928 / 18.201 / 17.656 million cable-TV households // 15.734 / 15.657 / 15.733 / 16.048 / 16.843 / 17.320 / 17.624 million satellite TV households in Germany

switch-off of the analogue satellite signal was set up in 2010. At that time, almost 80 per cent of satellite households were watching digital television. Looking at the rate of digitisation of cable since 2006, the average annual increase comes to approx. 6.5 percentage points. Were this trend to continue, it would take another four years to reach the 80 per cent mark.

However, this scenario is not inevitable, nor would the media authorities welcome it. To continue driving the digitisation of cable a number of factors

has to be taken into consideration: they relate to network operators, but also to the housing industry, and appear to point to measures of communication as the main activity.

Stopping basic encryption in the cable network

Over the last years the media authorities have repeatedly advocated the stop of basic encryption in the cable networks; in their opinion it presents a major obstacle en route to full digitisation of cable homes. In the two major cable networks

in Germany, namely the networks operated by KabelDeutschland and Unitymedia KabelBW respectively, the basic encryption of digital channels transmitted in SD quality ended by May of this year, following a ruling to this effect by the Federal Cartel Office. In the case of KabelDeutschland, the obligations imposed by the cartel authority were directed at the two major commercial broadcasting groups, ProSiebenSat.1 and RTL.

Due to this measure, the commercial channels are available in most German cable households without a smart card; this might have resulted in a stronger increase of cable digitisation than the actual rate of 7.7 percentage points mentioned above. However, it has to be taken into consideration that the cable customers affected by this change in policy also have to be (made) aware that for receiving the digital channels offered by the commercial broadcasters there is no longer any need to use a smart card which costs money; in many instances it might also be necessary for a cable household to purchase a new receiver including a DVB-C tuner in order to be able to consume the digital services which are now no longer encrypted.

Income and age in analogue cable homes

Watching television via cable is a comparatively costly affair for a TV household. By the middle of this year approx. 64 per cent of the analogue-only cable homes had a monthly net income of less than EUR 2.000 at their disposal. By comparison, only 43.1 per cent of satellite homes and just 29.8 per cent of DSL-TV households which also have to cover monthly charges, belong to this income bracket. And the additional monthly costs incurred for having a smart card activated may well be the reason why many cable households limit themselves to analogue reception.

In 66.4 per cent of the analogue cable homes, the customer interviewed was 50 years of age or older; this corresponds to a little less than 5.2 million households. The persons interviewed in about one third of the households featuring analogue cable reception only were at least 70 years of age; this corresponds to around 2.5 million homes. The figures prove that there is still a major communication effort ahead assuming that the persons living in these households will not necessarily actively seek information regarding the developments around the digitisation of television.

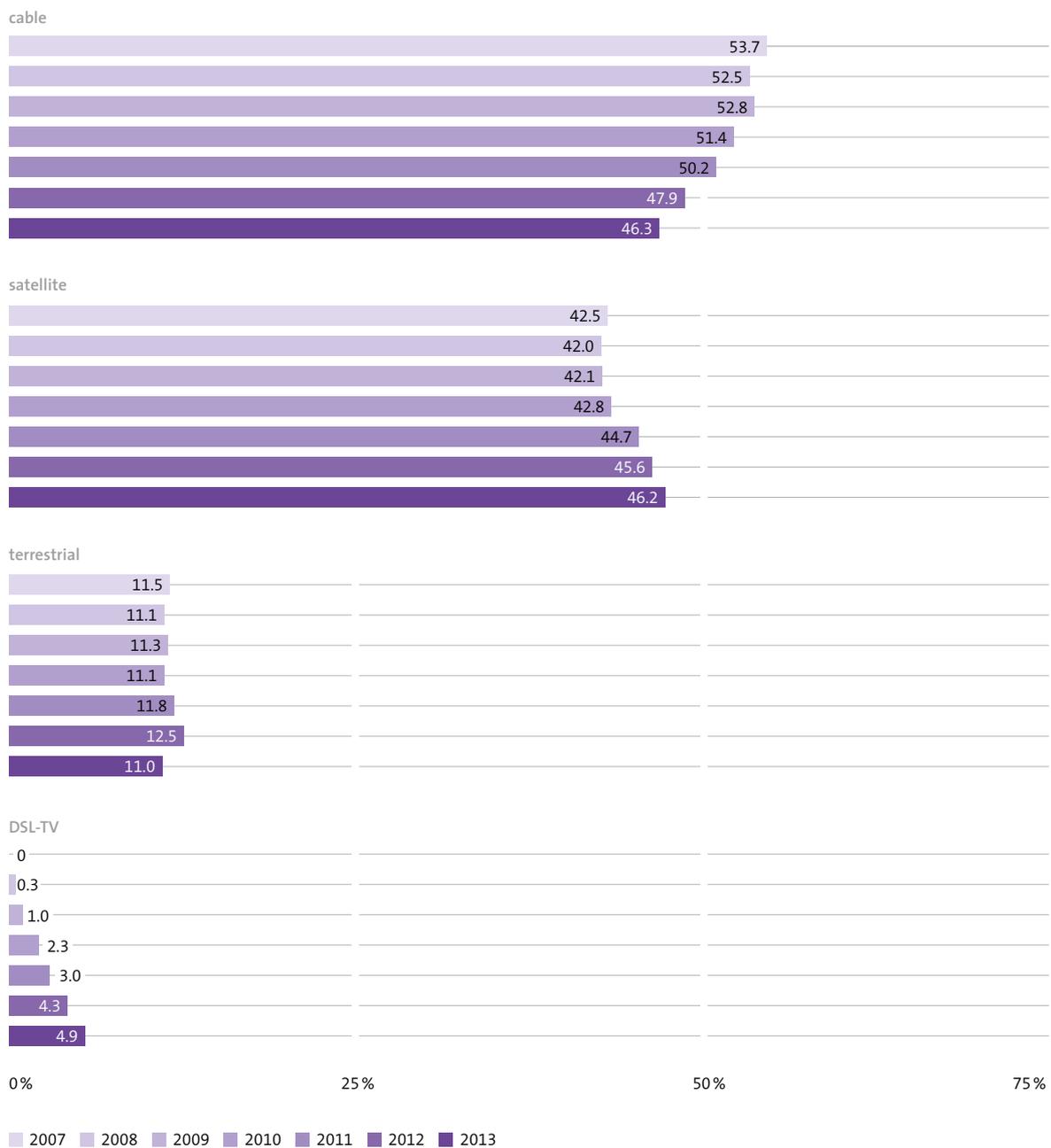
The remits of the media authorities comprise the promotion of the chances of local and regional broadcasters as well as citizens' media to be found in the digital bouquet of services. This is one of the reasons for the media authorities to assume that there is demand for information in those cable households which partly already watch channels in digital transmission quality via cable. With basic encryption in the networks of KabelDeutschland and Unitymedia having ended, at least 6.7 million digital cable households overall can now watch not just public-service broadcasting but also the commercial channels in digital quality. In the households that had previously not used a smart card, at least another channel search will be required; however, consumers will conduct the search only if they are made aware of the new options for TV reception.

No major changes in the shares of the transmission routes

For years the absolute reach of the various transmission routes has seen only slight changes. In 2013, satellite transmission again gained slightly by 0.6 percentage points while cable at 1.6 percentage points has been slipping marginally for the fifth year in succession. The range of 46.3 per cent of TV households for cable and 46.2 per cent

Fig. 3

Shares of the transmission platforms



Sum > 100% due to diversity reception

Source: Digitisation Report / TNS Infratest; Basis: 36.981 / 37.277 / 37.412 / 37.464 / 37.668 / 37.799 / 38.157 million TV households in Germany

for satellite puts the two modes of transmission for TV reception which continue to lead eye to eye. TV consumption via cable and satellite comes to 17.6 million households each in Germany (Fig. 3).

Terrestrial transmission is quite some distance behind at 11 per cent. Looking at the data for last year, terrestrial TV reception enjoys a consistent popularity in German households. In mid-2013, just under 4.2 million homes in Germany resorted to DTT, with around half of the terrestrial households making DTT the sole mode of reception. Following the decision of RTL to stop DTT transmission completely at the end of 2014, these 2.1 million German TV households will no longer be able to receive the channels of the group via terrestrial transmission. And from 2015, they would also be affected by the decision of UEFA to allocate the transmission rights for the qualifying matches of the German national team to RTL.

DSL-TV, the IP-based transmission of television, has also gained in popularity among TV consumers during the last year. By now some 4.9 per cent of German households receive their TV diet via their DSL connection. The development of this mode of transmission which is digital per se only started in 2008. Five years on, DSL-TV presents a welcome alternative to the traditional TV infrastructures in the view of the media authorities, inspiring the market to the benefit of TV viewers. According to the survey conducted by TNS Infratest, some 1.9 million TV households in Germany resort to television offers transmitted via DSL.

Mobile and nomadic TV consumption

The world of the media is getting increasingly mobile. At the latest since the penetration of smartphones, news, music, photos, videos and social networking sites have become part of everyday life of many consumers and are present

everywhere at all times. Mobile TV consumption, however, is still at a very low level.

While linear TV reception is now also possible on smartphones and tablet PCs, as a rule a WLAN connection is required since the transmission of moving images in good quality still brings the mobile networks to the limits of their capacity. Around 22.2 per cent of TV viewers owning a mobile receiver featuring internet access use the device for linear TV reception. A mere 2.5 per cent of TV viewers use mobile internet access for mobile live streaming of TV broadcasts outside their own home while 2.6 per cent use other WLAN networks and public hotspots outside their home (Fig.4).

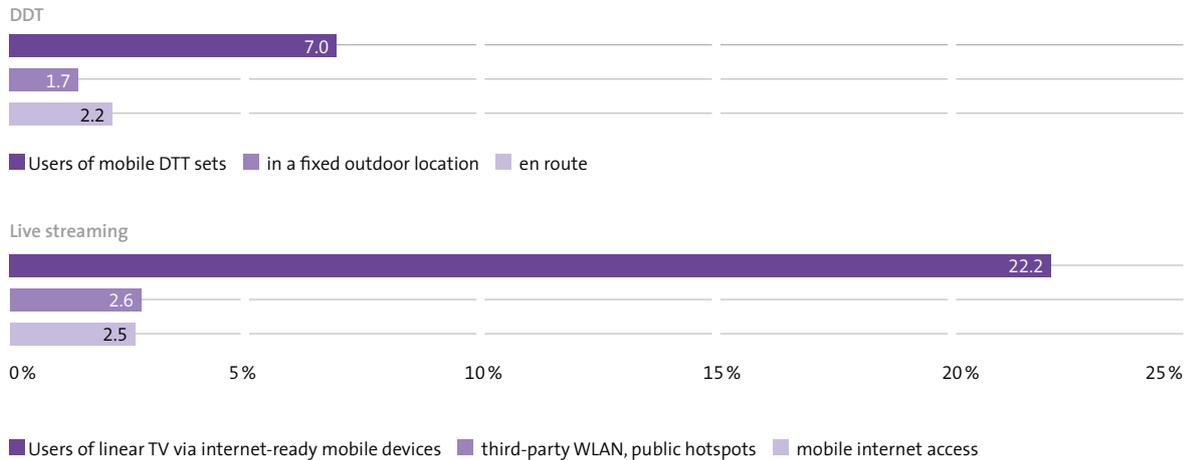
Terrestrial transmission presents an alternative to mobile TV reception via WLAN and mobile radio networks. The DVB-H standard was expected to permit reception of TV signals on mobile phones and other handhelds; however, it did not establish itself in the market, resulting in DTT not offering an option for TV reception on the smartphone and tablet PC. There are, however, other devices such as DVD players, laptops or mini TV sets with integrated DTT receivers. At least 7 per cent of TV consumers stated that they own such a mobile device permitting TV reception via DTT. On the terrace, the balcony or in the garden, 2 per cent of TV viewers in Germany use a mobile TV set featuring DTT reception while 1.7 per cent take them along to holiday flats or other fixed locations outside their own home. While travelling, 2.2 per cent of the German TV audience resort to terrestrial TV reception.

Navigation via the EPG

In the course of digitisation and the penetration of digital TV sets respectively, settop boxes and so on, electronic programme guides (EPGs) found

Fig. 4

Mobile and nomadic consumption of linear TV



Source: Digitisation Report / TNS Infratest; Basis: 70.214 million persons aged 14 years or older in Germany

their way into the German TV households. An EPG is a kind of electronic programme magazine allowing viewers to search for specific channels, to change between channels, to obtain additional information on a programme, to look for a particular broadcast and in part also to programme recordings.

Of TV consumers aged over 14 years of age who can receive digital television, some 28.6 per cent state that they use an EPG. This is equivalent to 16.1 million viewers in Germany. Almost two thirds, namely 61.4 per cent of them, frequently or basically always make use of the functions of the electronic programme guide, while about one fifth of viewers stated in the interview that they basically make no use of the EPG at all.

Major differences can be noted when looking at the frequency of use of the various functions of the EPG. Some 62 per cent of viewers using an EPG frequently or basically always resort to the programme overviews or programme informati-

on of the EPG while only 24.3 per cent use the EPG for dedicated searches of channels and individual broadcasts via the search function.

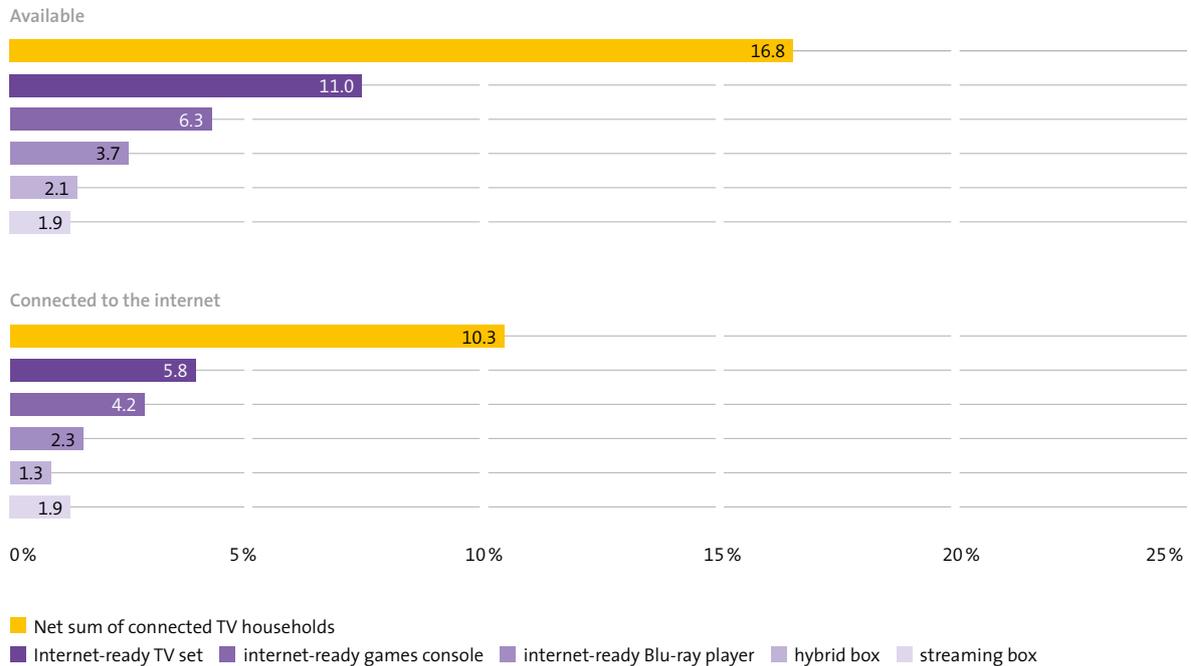
Many users adapt the EPG settings to their individual requirements, but just as many do not bother to do so. Around 46 per cent of viewers surveyed stated that they amended the favourite listing at least occasionally while 44.7 per cent of EPG users stated that they never change it. The ranking of the channels in the EPG is never or hardly ever touched by 42.1 per cent of viewers. This allows for the conclusion that the default listings of the manufacturers are kept unchanged.

Connected TV

The issue of connected TV has not lost in topicality at all – quite the contrary is the case. The merger of traditional TV and the internet on the “large screen” that used to be the sole domain of television still continues to dominate the debates of experts and others.

Fig. 5

Connected TV – connected to the internet



Source: Digitisation Report / TNS Infratest; Basis: 38.157 million TV households in Germany

A broadband connection constitutes a sine qua non for the convergence of broadcasting reception and the internet on the same screen. At a rate of 71.6 per cent the share of TV households that have a broadband connection has hardly changed compared to last year.

According to the statements of German TV households questioned, 11 per cent own at least one internet-ready TV set, i.e. a smart TV in the narrow sense of the concept. Taking also into account permanently connected devices such as internet-ready settop boxes, streaming boxes, Blu-Ray players and games consoles, the rate goes up to 16.8 per cent of TV homes (Fig. 5). And a PC, laptop or tablet PC can also upgrade the TV set

with an internet connection. Taking these devices into account, some 28.4 per cent of German TV households have at least one of the options mentioned at their disposal.

The number of TV homes which have actually connected their TV set with the internet or which own a “connected TV” set is far lower: A smart TV set is connected directly to the internet in only some 5.8 per cent of German TV households. Including the internet connections via other connected devices, the rate increases to 10.3 per cent of TV homes. In 53 per cent of TV households owning at least one internet-ready smart TV set, this would be connected to the internet. Adding connected devices to that, the share of TV households

in which at least one TV set is actually “connected”, rises to 62 per cent. By comparison to last year, this is an increase by 9 percentage points and 5 percentage points respectively.

According to the results of the survey, 3.9 million German TV households have connected at least one TV set to the internet. This trend is slightly on the rise. Last year, the rate was 3.6 per cent. Adding the options available in the home for connecting the TV set to the internet via a PC, laptop or tablet PC, 10.1 million households own internet-ready TV sets; this is the same figure as last year.

Use of VoD and HbbTV on a smart TV

The manufacturer portals of smart TV sets allow for the use of moving images on demand and/or professional video on demand (VoD) offers. A mere 12.3 per cent of the viewers interviewed who own a smart TV set connected to the internet, sta-

ted that they download professional VoD content via this set at least once a week. On the other hand, 23.3 per cent of the same group access such offers at least once a week directly via their PC, laptop or tablet PC.

Apart from the app portals of the receiver manufacturers, HbbTV provides the owners of smart TVs with the option of using content provided via the internet. According to the 2013 survey, some 54.2 per cent of users of a smart TV set connected to the internet own a set offering HbbTV functions. Using the “red button” of the remote control, these viewers can call up the additional offers of the broadcasters, e.g. programme libraries. Almost half, namely 48.8 per cent of these viewers use the additional material available via HbbTV or the internet at least on occasion. This corresponds to 26.2 per cent of users of a smart TV set and equals 1.2 million viewers (Fig. 6).

Fig. 6

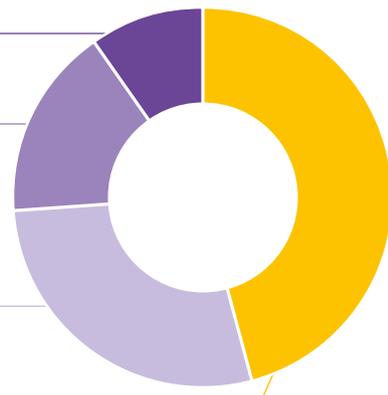
HbbTV consumption by persons with access to a smart TV set

10.0 per cent frequently consume HbbTV (0.444 million)

16.2 per cent occasionally consume HbbTV (0.721 million)

28.1 per cent never / hardly ever consume HbbTV (1.249 million)

45.8 per cent have no HbbTV functions at their disposal (2.037 million)



Source: Digitisation Report / TNS Infratest; Basis: 68.106 million persons aged 14 years or older in TV households // 4.452 million persons with access to a smart TV set.

The facts and figures outlined above show that the situation remains challenging for both network operators, broadcasters and viewers. There is no indication when the process of digitisation will be completed, nor has convergence found its way into many TV households as yet. What is certain, however, is that the media authorities will continue to follow and accompany developments closely.

The digitisation of radio reception in Germany – current status

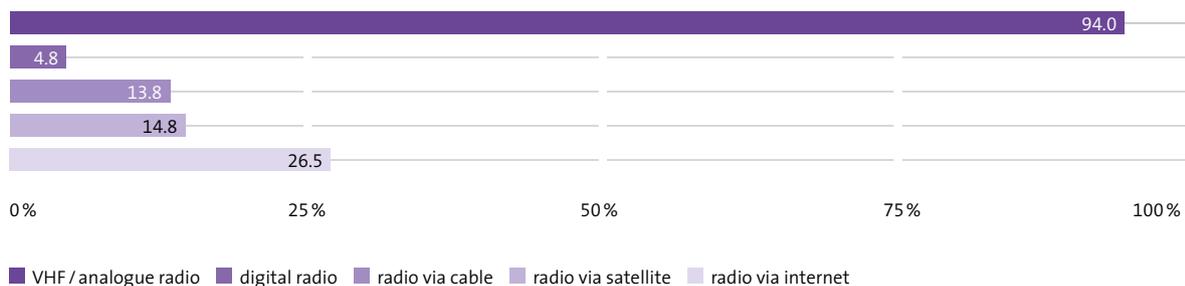
Johannes Kors

Digitalisation, convergence and the transformation of the media have been in full swing since the mid-1990s. But while television has more or less completed this process, the digitisation of radio has not yet made great progress. After a long period of gestation, digital radio undertook a restart in August 2011 on the basis of the DAB+ standard, bringing digital radio home not just regionally, but also on a national level.

The continued progress of digital radio, however, is not merely a matter of the technical distribution, but at least as much of the services on offer and actual reception. The sales data for DAB receivers available by now provide a first positive signal. According to GFU, the association of the consumer electronics industry in Germany, market penetration of DAB receivers had reached 500.000 sets by the end of 2012. GFU does not, however, cover

Fig. 1

Radio reception in Germany



Source: Digitisation Report / TNS Infratest; Basis: 70.214 million persons aged 14 or older in Germany using one or more modes of radio reception at least occasionally

sales of DAB receivers in cars or multiple receivers (hybrid radio), but according to a press release issued in mid-February 2013, demand for DAB has risen dramatically. The market penetration total of DAB receivers in Germany can therefore be set above the 2 million mark.

However, these data are first findings only, providing little information on whether and to what extent owners of DAB receivers in Germany actually listen to digital radio and how the potential audience reach relates to any of the other varied modes of reception. In the light of this situation, the Commission on Licensing and Supervision (ZAK) decided to survey and to document the status and the development of digital radio in Germany in its 2013 Report on Digitisation. The data were determined in the annual survey conducted by TNS Infratest on behalf of the ZAK. It comprised 8.600 interviews with persons aged 14 years or older. The survey thus presents a representative picture of receiver penetration and the frequency of use for the whole of Germany for the first time.

2.7 million DAB receivers in Germany

The data established in the course of the survey document in an impressive manner that analogue VHF transmission still dominates some 90 years after the introduction of radio and 20 years after the start of digital radio. 94 per cent of German households not only have VHF reception at their disposal but also own an average 3.5 receivers. The chance of a radio service to reach an audience is many times higher for VHF than for any other mode of transmission. Reception via the internet lags far behind in second place. Around one quarter of the German population (26.5 per cent) at least occasionally listen to radio on the web. A seventh each of the population now and then resorts to radio via satellite (14.8 per cent) or cable

(13.8 per cent). Digital radio is listened to with a DAB receiver by just under 5 per cent of the population. 4.5 per cent of German homes have a DAB set at home and/or in the car, putting the number of DAB receivers in German households at a sizeable 2.7 million which are used by 3.4 million listeners. In addition, DAB households on average have 1.5 sets at their disposal.

VHF still clearly dominates receivers and reception frequency

The clear lead of VHF is based not only on the ubiquitous terrestrial reception, but in particular on the large number of sets available in households and the frequency of their use. Around 140 million VHF receivers including 37.5 million car radios present an invaluable base for the reception of the services being consumed, and their economic viability. The opportunities for advertising contacts brought about in this way for the advertising industry constitute the economic basis for the commercial success.

According to the ma Radio 2013 II survey, at least 79.4 per cent of the German population listen to at least one radio channel per day (Monday to Friday). The audience reach which has been stable at just below 80 per cent for many years is based largely on the basically universal VHF penetration and the high frequency of VHF receiver utilization. 79 per cent of the German population stated during the TNS Infratest survey that they listen most frequently by far to radio via VHF. The internet is the preferred transmissions mode for radio for just 5.2 per cent while the rate for satellite and cable radio only comes to 4.7 per cent. As could be expected, DAB reception is the top reception mode for just 0.5 per cent of the German population.

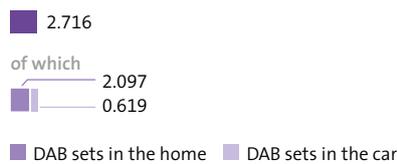
Fig. 2

Penetration of radio receivers in Germany (in million)

VHF / analogue radio sets in total



DAB receiver in total



IP radio sets



Source: Digitisation Report / TNS Infratest; Basis: 39.676 million households in Germany

Development perspectives for radio via the world-wide web

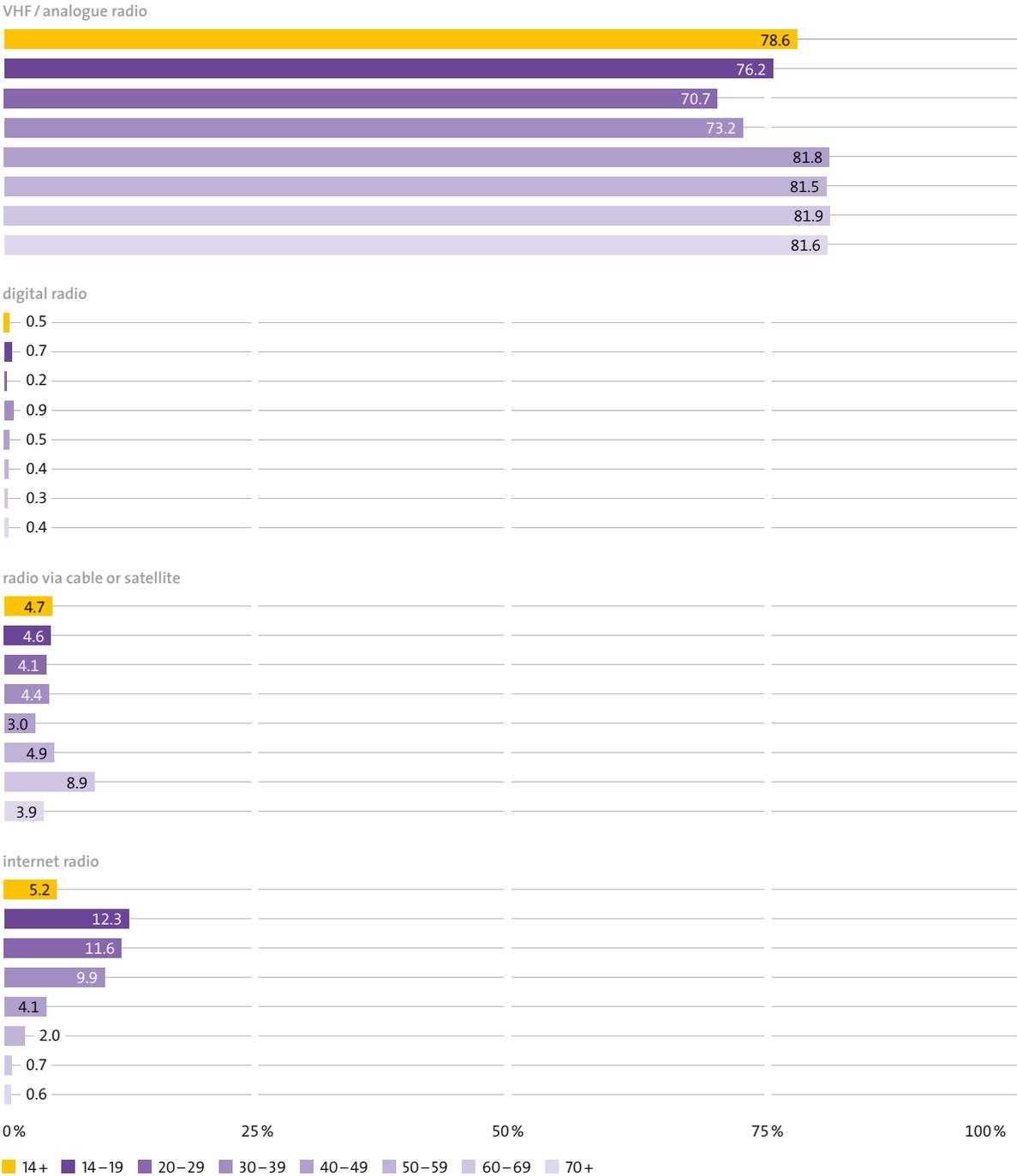
Notwithstanding the continued success story of VHF radio, a closer analysis of the age groups reveals shifts which can relativize the persistent dominance of VHF in the medium to long term. Consumers aged 20–29 years are the most likely trend-setters of change. An analogue VHF receiver (excluding VHF via mobile phone) can be found in only a good three quarters of homes in which the head of the household is younger than 30 years while the total across all age groups is 92.5 per cent. And although listening to radio via VHF is the most frequent mode of reception for 70.7 per cent of this age group as well, internet radio already scores a very significant 12 per cent as the most popular listening mode. By contrast, the average of 4.2 per cent for cable or satellite as

the preferred radio consumption mode in this age group is low, and at 0.2 per cent for digital radio very low.

There are many indications to conclude that radio listening via the internet and the modern types of receiver (smartphone and tablet PC) will successively increase in the population overall as well. Internet radio is currently still used most frequently via the PC (18 per cent of the population). In addition, 10.2 per cent listen to the radio via their mobile phones, 4.0 per cent via the so-called IP radio and a good 3 per cent via tablet PCs. If this upward trend continues in combination with an assumed reduction of the duration of radio consumption via the mobile smartphone and tablet PC, as shown by the Bavarian 2013 survey “Funkanalyse Bayern”, traditional radio will find it increasingly harder to keep its strong position in the market if

Fig. 3

Listening to radio: most frequently used mode of radio listening by age groups



Source: Digitisation Report / TNS Infratest; Basis: 70.214 million persons aged 14 or older in Germany

the competition via the internet platforms gains in strength. On the other hand, radio as a genre has so far benefited from the new modes of reception brought about by digitisation.

But there are risks for traditional VHF reception coming from other factors as well. In-car reception of popular radio channels with a high audience reach in adequate quality via the mobile internet all over Germany will probably remain a vision at least for the time being due to technical reasons. Information found in US blogs, however, indicates that US car manufacturer GM is said to have decided that from 2015, GM will no longer install VHF radios in cars but only to offer options for radio reception via LTE or the internet. This is just one example of the developments radio must watch with a view to their relevance for the future of

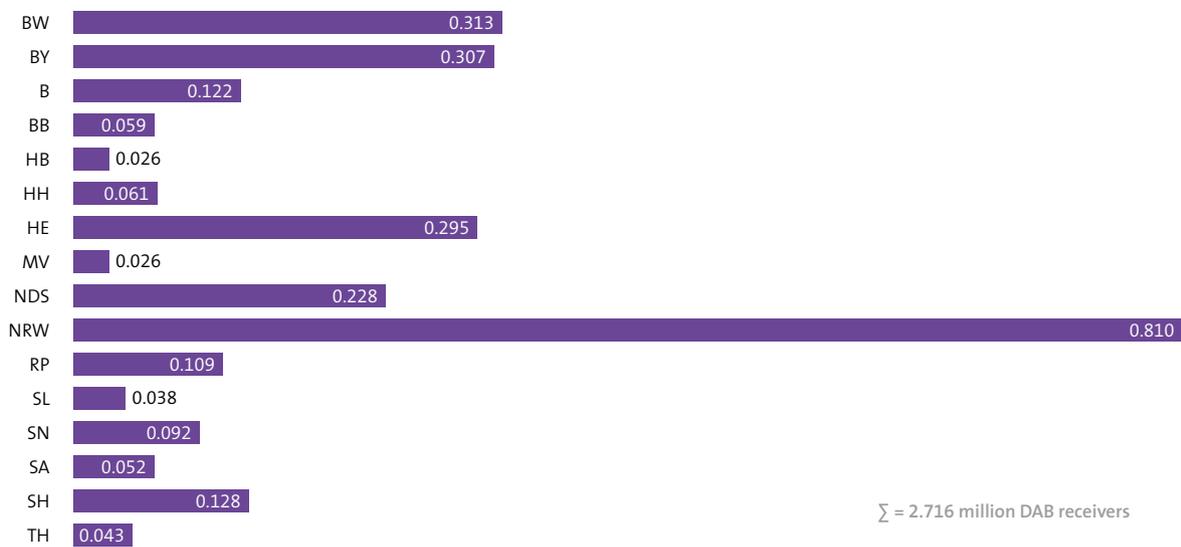
radio as a genre, as are the multimedia plans of German car manufacturers for audio fittings in connected cars.

Regional distribution of digital radio

In the light of these facts the radio sector should actively intensify its current strategy for the future transmission of radio. This includes the issue of what approach to take to digital radio. While 2.7 million DAB receivers in Germany some two years after the start of national DAB+ present a respectable rate, the figures still lag behind the high expectations of the DAB content providers. The take-up in the various German states shows a stronger penetration in the states in the south of Germany as was to be expected. The highest penetration of DAB sets, however, can be stated for

Fig. 4

DAB reception in Germany (in million)



Source: Digitisation Report / TNS Infratest; Basis: 39.676 million households in Germany

Northrhine-Westphalia at 0.81 million. It would seem that the very limited range of commercial radio channels in that land resulted in an above-average demand for DAB receivers permitting reception of additional services.

Conclusion: VHF dominates – digital radio makes good ground

Two years after the restart of digital radio, market penetration has at least reached around 5 per cent of the German population. Digital radio via the internet, however, has seen better progress with a quarter of the population listening to radio via the world-wide web. For more than one tenth of the age group 14–39 years it already constitutes the main mode of reception. This does not, however, impact greatly on VHF which is used by 94 per cent of the population via 140 million receivers in the market; for four fifth of listeners it is the most frequently used mode of reception.

Digitisation trend in European TV households unabated

Mario Hubert

In 2012, Satellite Monitor, the annual Europe-wide audience reach survey conducted by SES, confirmed the clear trend of European TV households going towards full digitisation. As was the case in the preceding years, the rate of digitisation continued to rise. By year-end 2012, the share of households already resorting to digital TV reception had reached 79 per cent of all European TV households. Put in figures, of the total 249 million TV households in Europe, 179 million receive the TV services on offer in digital quality using one of the four modes of reception (digital direct satellite, digital cable, digital terrestrial transmission or DSL-TV). This presents an increase of more than 11 million households or 6 per cent over the previous year. A look at the figures for the three preceding years during which take-up had been 19, 16 and 10 per cent respectively, however, indicates a slowdown in the trend which intensifies in direct relation to complete digitisation coming closer.

Status of digitisation in Europe

The relevance of the various transmission infrastructures for television remains unchanged in this process. During the year in which the last

analogue satellite channels were switched off, digital direct satellite reception experienced a rise of more than 3 million homes, nearing the 85 million mark; at a rate of 43 per cent, satellite continues to hold the pole position among the digital transmission infrastructures. This also applies for the ranking of all TV homes (i.e., digital and analogue) where the satellite dish on the roof also enjoys the greatest popularity for TV reception. Second place for digital households is retained by DTT at more than 59 million homes – after an increase by almost 4 million – and a 30 per cent market share, followed by digital cable at just under 36 million households (18 per cent, up by 2.7 million) and lastly, IP-TV at 17.5 million (9 per cent, up 1.5 million). France maintains its role as driver of IP-TV in Europe, being home to 8.2 million – or almost half of all IP-TV households in Europe.

With analogue switch-off of satellite transmission leading to all satellite homes being digitised by now and IP-TV by definition constitutes a digital infrastructure, the remaining 52 million analogue households in Europe are shared between cable and terrestrial transmission, with cable holding the bigger piece of this cake (33 million

households). The resulting rate of digitisation for cable therefore is 52 per cent. The number of TV households supplied with a very limited range of analogue terrestrial channels is just under 19 million; 74 per cent of terrestrial transmission is therefore effected in digital technology.

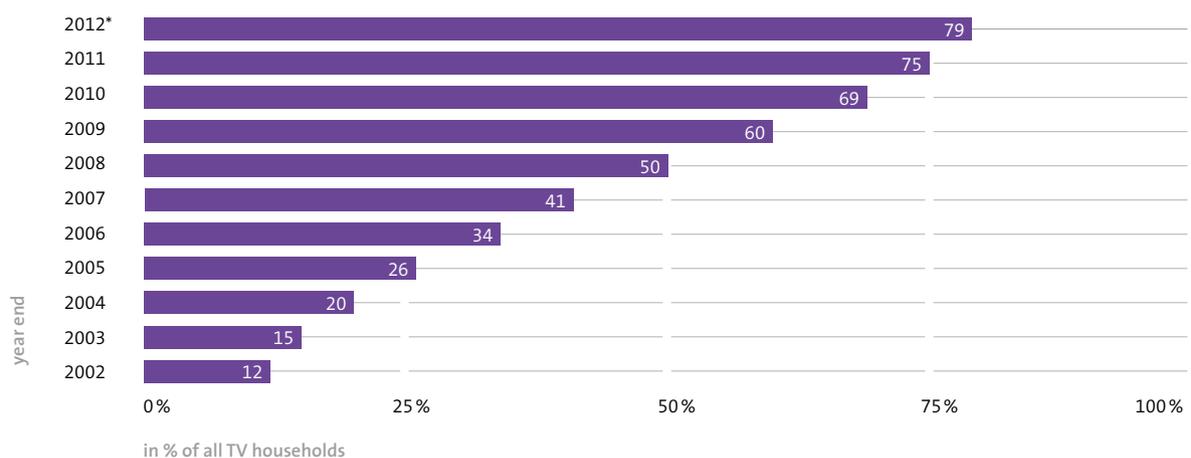
A look at developments in Western Europe versus Eastern Europe confirms the finding that change over previous years was limited. The trend of obvious regional differences in the rate of digitisation remains unchanged: While Western Europe can present a rate of 89 per cent for digital TV households, Eastern Europe comes to just half that. Digital cable is a good infrastructure to exemplify how much catching up Eastern Europe still has to do (Western Europe has reached 64 per cent compared to 31 per cent in Eastern Europe), but the difference is even more pronounced for terrestrial transmission: While in Western Europe, 93 per cent of all TV homes with terrestrial recep-

tion use DTT, viewing via digital terrestrial reception in Eastern Europe only comes to a meagre 24 per cent.

One of the main benefits of digital TV reception is the continued progress of high-definition television. This development is notable not just in the high sales figures for HDTV-ready TV sets, but also in the increase in TV households owning a HD-ready receiver alongside their HD TV set, receiving HD services and therefore in fact consuming television in high-definition quality. The rate for Europe as a whole at the end of 2012 comes to almost 65 million homes or a quarter of all TV households. With almost 35 million households or 41 per cent of digital satellite households overall, satellite can pride itself as the leading HDTV platform. Supply of HDTV via digital cable is a further 18 million households, while IP-TV reception of HDTV reaches 12 million. HDTV supply via digital terrestrial television, on the other hand, was

Fig. 1

Digitisation in Europe



* 18 of 35 countries updated by the end of 2012 | Source: Satellite Monitor, Year End 2012

available in very few countries and only on a very limited scale by the end of 2012.

HDTV also highlights the differences between Western and Eastern Europe. However, in 2012 Eastern Europe could make good a lot of ground in this sector: While some 28 of the 35 million satellite HD households are located in Western Europe, representing some 42 per cent of all satellite homes in the area, the remaining 6 million satellite HD homes are in Eastern Europe which thus comes to a regional percentage of 37 per cent. In 2011, the gap had been considerably wider at 38 versus 28 per cent.

Status of digitisation in Germany

The year 2012 was a special one for Germany as regards digitisation. On 30 April, transmission of the last analogue channels via satellite ended, concentrating satellite transmission to digital signals only from 01 May 2012. In the preceding months, mostly thanks to a varied range of information campaigns covering analogue satellite switch-off (e.g., “klardigital”), analogue satellite homes had to opt for a new mode of TV reception. The survey conducted some six months later shows that during this process, the number of satellite households in Germany went up to more than 18 million at present. This allows for the conclusion that more or less every analogue satellite household chose to “upgrade” to digital satellite reception with additional households also switching reception from other infrastructures to digital direct satellite.

Thanks to this boost for the digitisation of satellite reception, digitisation in Germany in 2012 overall experienced a clear rise: 80 per cent of all TV households (compared to 71 per cent in 2011 and 62 per cent in 2010) puts Germany slightly above the European average for the first time¹. Of the

total 38.1 million TV households in Germany, 30.5 million have gone digital by now. Satellite reception at 59 per cent sticks out more prominently than elsewhere in Europe overall as the most popular transmission infrastructure for digital television. And the shares held by the various infrastructures also show hardly any changes over the previous year: digital cable maintains its share of 30 per cent in digital households, DTT reaches 7 per cent and IP-TV comes to 4 per cent.

Analogue cable households at just below 8 million present a significant challenge as regards the potential for digitisation not merely in relation to Germany, but also in the wider European context.

Comparing the European countries

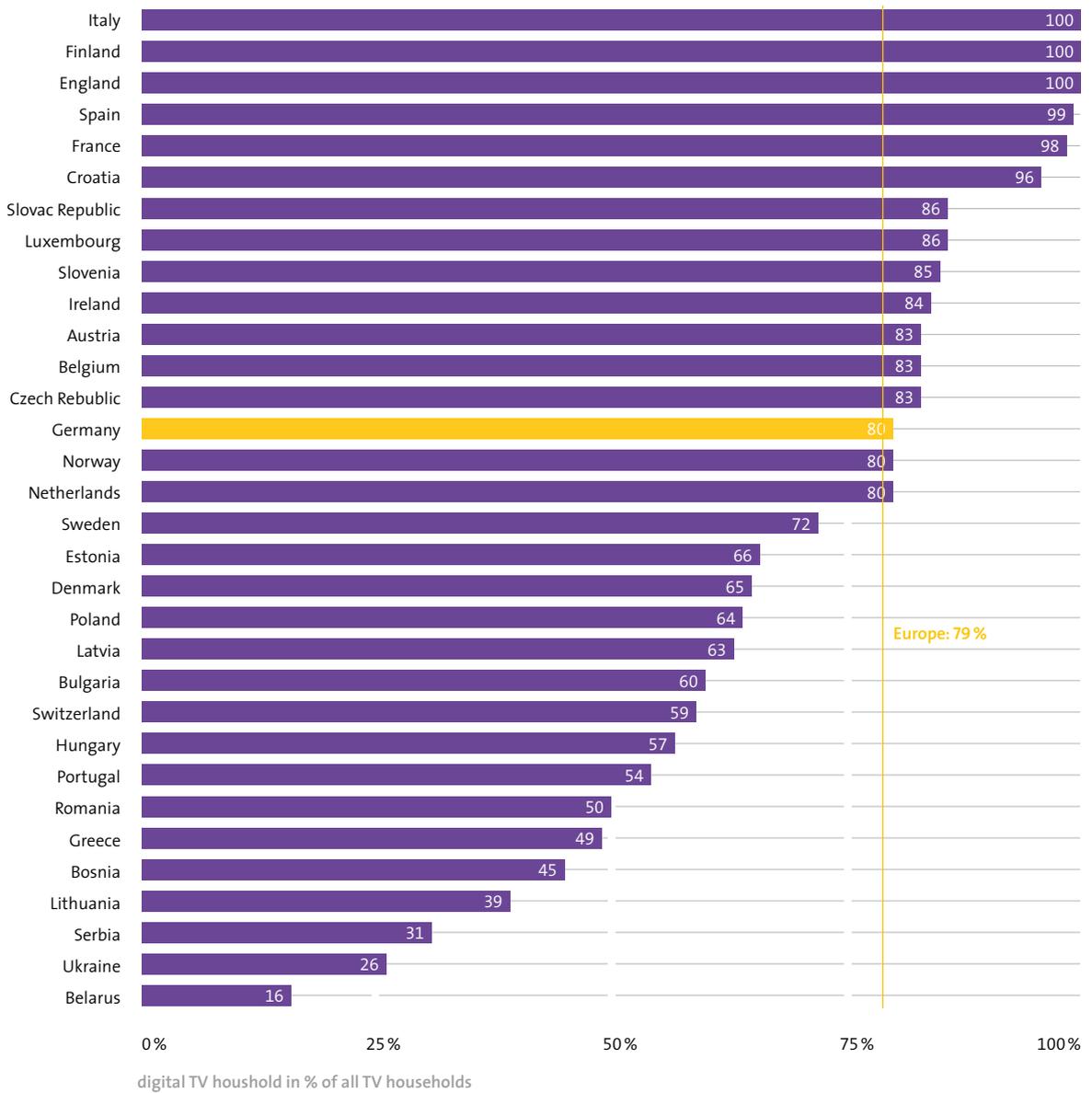
Over the course of last year, Italy and the UK joined Finland in the league of countries boasting full digitisation, with Spain, France and Croatia non lagging far behind; they could also show almost full digitisation by the end of 2012. In all three countries, only a very small remainder of cable households still continue to watch analogue TV.

An analysis of the various levels of reception, however, highlights the significant differences in the market structures of these countries: While DTT holds a sizeable market share in all countries, the other infrastructures vary considerably. The Italian market is shared out more or less equally between DTT and satellite as there is basically no cable market and IP-TV is not successful. In Finland, on the other hand, only cable holds a major position alongside DTT. The mix in the other countries is somewhat more balanced as regards the modes of reception with satellite in the UK in

¹ To allow for a comparison with the data available for the other countries in Europe, this figure is based on the data of the Satellite Monitor (March 2013); this explains the difference to the data given in the Facts and Figures section of this report. Further information on this is given in the Methodology section.

Fig. 2

Rates of digitisation in Europe



* 18 of 35 countries updated by the end of 2012 | Source: Satellite Monitor, Year End 2012

top place for popularity, not least thanks to the success of Sky.

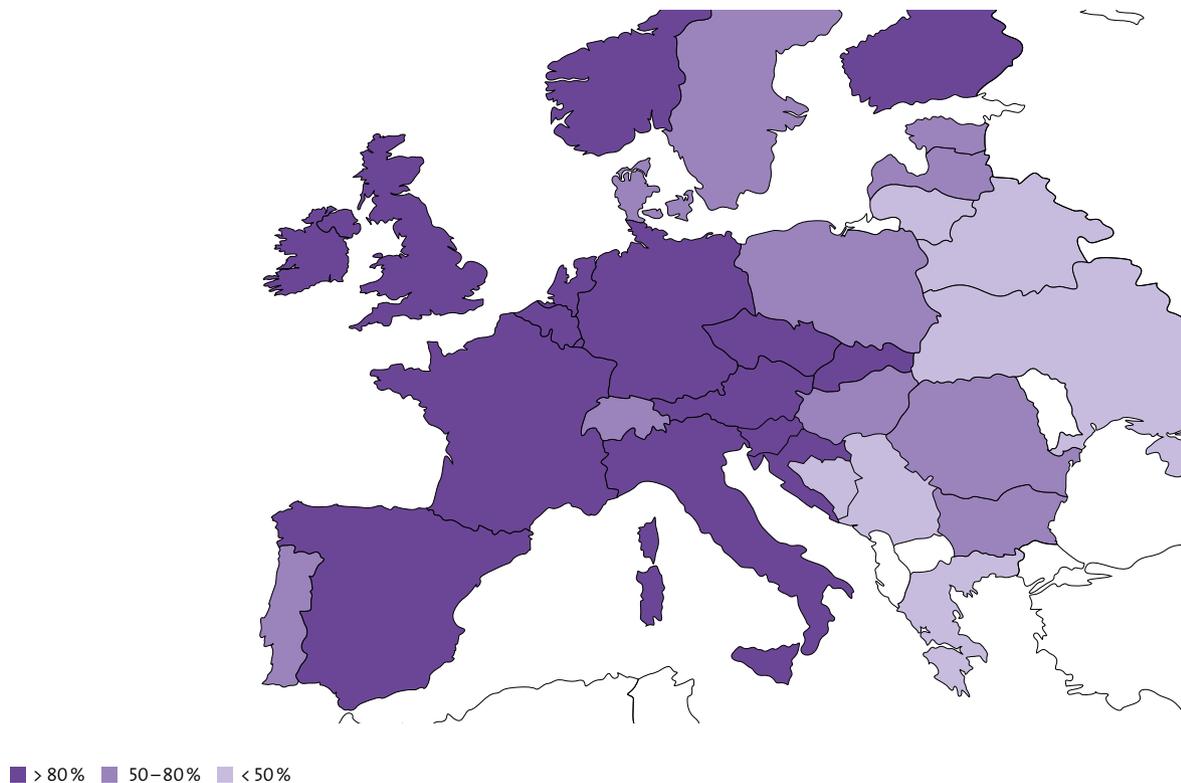
While a large number of other countries including Germany rank slightly above the European average of 79 per cent and are thus well and truly en route to full digitisation, nearly half of the countries covered in the present survey are still positioned below the average rate. This mostly relates to markets located in Eastern Europe in which both cable and terrestrial reception still await further expansion.

Conclusion

The television markets in Europe have taken a major step towards full digitisation during the last year; some countries have already fully or almost fully completed this process. Especially in Eastern Europe – looking at cable, DTT and also IP-TV – but also in Germany – in relation to cable – the challenges continue to be the same as in the past, should the benefits of digital television reception be brought home to all television households factually and practically.

Fig. 3

Digitalisation of TV households – Year End 2012



Source: Satellite Monitor

Methodology

The survey was conducted on behalf of the media authorities by TNS Infratest MediaResearch. As in the previous years, it employed computer-assisted telephone interviews (CATI). For better providing for the increased percentage of persons exclusively or mostly available via mobile phones the survey was conducted in the form of so-called dual frame telephone interviews, i.e. as a combination of landline telephones and mobile phones (83 versus 17 per cent). Both sampling frames were thereafter merged by use of design weighting to provide a representative picture of the overall population basis. The interviews were conducted during the period 13 May – 29 June 2013.

The overall population basis for the survey was presented by the population aged 14 years or older in German-language households. This corresponds to the definition used by ma (media analysis consortium) for German-language households (= German households with an EU 26 head of household plus households with a non-EU head of household with completed school education).

In 2013, the overall population basis was 39.676 million households. Of these, 96.2 per cent own at least one TV set. These 38.157 million TV households present the basis for the findings on TV reception.

The 2013 survey is based on a net number of 8.600 interviews. Until 2012, the person in a household with whom the interview was conducted, was the person stating that they knew best about TV consumption. For this year's survey, the person to be interviewed was selected at random for the first time in order to also obtain information on personal consumption. The overall basis relating to persons interviewed was 70.214 million aged 14 years or older.

As during the preceding years, the interviews were conducted disproportionately (at least 500

interviews per German state) to warrant a sufficiently solid basis for each state. The disproportionality was later balanced during weighting for obtaining representative results on a "total" basis.

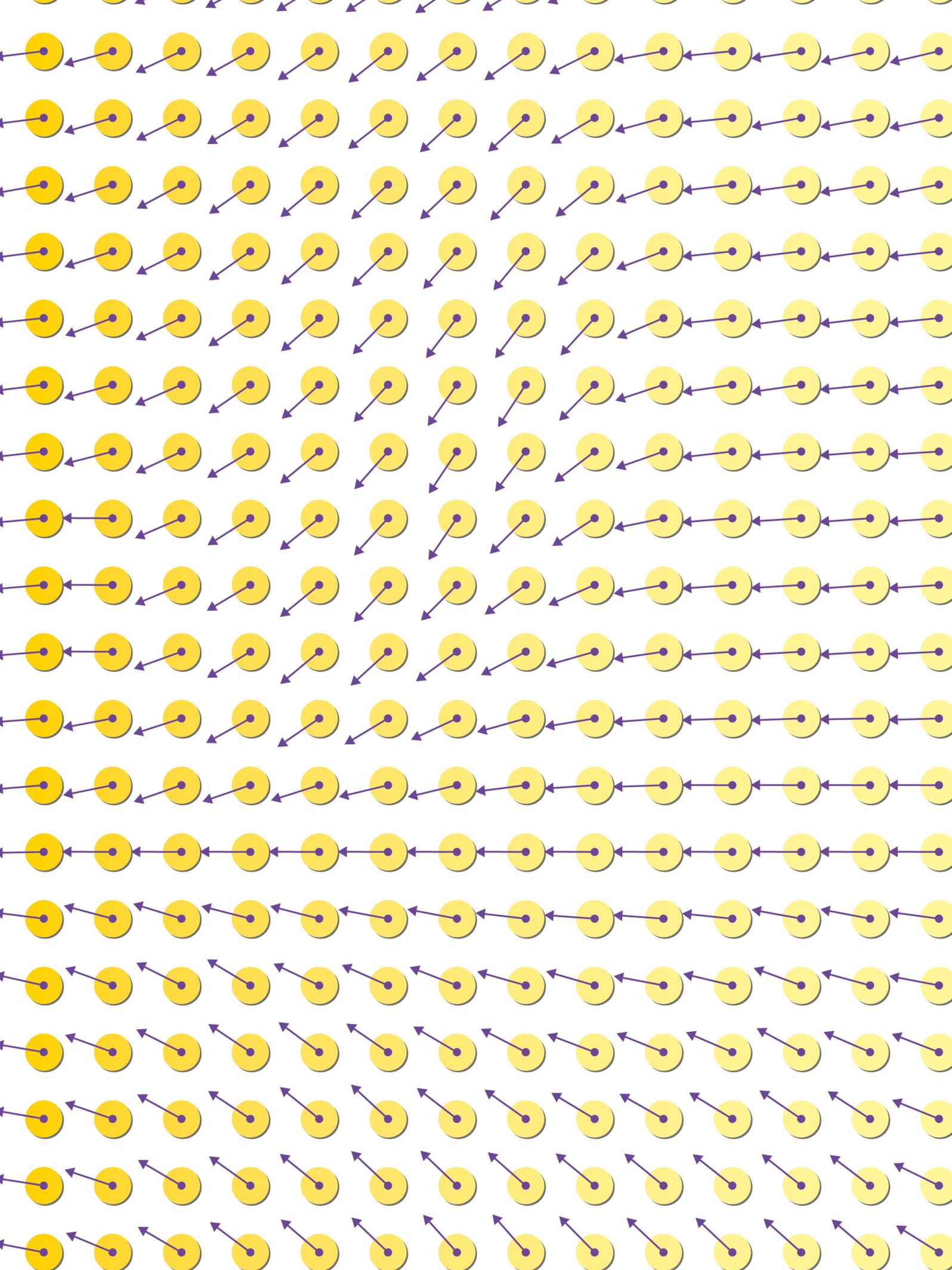
Definition of cable and satellite reception

Television sets connected to a satellite master antenna system (SMATV) which do not require a separate receiver for TV reception are counted as cable reception. Satellite reception therefore only comprises television sets using a satellite receiver.

Establishing transmission platforms and transmission technologies

For each of the television sets in the households investigated (with up to nine sets being counted), all available transmission platforms were analysed. As some households can receive both analogue and digital television, this can result in a sum total exceeding 100 per cent (e.g. Fig. 3).

In the analysis of the transmission technologies (analogue or digital) cable reception forms an exception: Television households with cable reception using a television set which is connected to a digital cable receiver can continue watching analogue services. For uniform presentation of all transmission infrastructures, all cable television sets with a digital receiver are counted as digital units.



The remit of the regulatory authorities

Regulating platforms and securing digital access

Digitisation means radical change: It widens the range of content available and thus generates a need for a new basis of funding; it overcomes the barrier that traditionally separated media and thus puts their traded financing models into question. Digital transmission infrastructures and digital receivers bring new challenges for users facing navigation and orientation. Even if television still retains its leading position for the formation of public opinion and broadband cable holds on to first place among infrastructures in Germany, the traditional positions of power are waning. In their place, new key players battle it out for top place, especially as regards platforms.

Digitisation means new major tasks for media legislation and media politics: The issue at stake is no longer the allocation of scarce and correspondingly valuable transmission capacities to foster the variety of services on offer. The classical objective of securing and supporting a varied range of media content now has to be achieved by resorting to new means which are determined by the digital era, independently of transmission infrastructures, receivers and technologies. The convergence of the media is matched by the broadcasting order evolving into a media order.

Regulating platforms

The former clear separation between the content and the distribution of media is giving way to vertical integration: Network operators are no longer mere transporters of content, but put together and market content to their customers. They gain influence on receivers and the way in which they

are used. The principle of receiving all broadcast content on one set which was a truism in the old days can today be realised under complex technical and economic conditions only.

On the other hand, the convergence of transmission infrastructures generates new choice for the consumer: he can now watch TV via the fixed telephony line, make telephone calls or surf the internet using the cable network. Television becomes portable and mobile, as does the internet. Regulation has to face the challenging task of securing variety of choice for consumers and warranting identical conditions for the competition of platforms while at the same time taking into consideration the specificities of each use with regard to its relevance regarding the formation of public opinion.

The Interstate Broadcasting Treaty has adopted a technology-neutral approach concerning platform regulation for which the German state media authorities developed concrete provisions. The statute on access and platform regulation merges platform regulation and the rules for securing digital access.

Digital access

Access to media is a core element of any media order. Securing access has to take various forms: For one thing, access to networks and technical platforms must be ensured for content and service providers. For another, concentration of the power of opinion must be prevented as has been the case for a long time. Access is much more important for the formation of public opinion especially

for new and innovative enterprises than in the economy in general. The negotiating clout which the major television groups hold in the digital world must also be taken into account. And lastly, access to a varied range of media content must be safeguarded for consumers and citizens. They have to be protected in their sovereign choice and navigation through content, irrespective of the extension of technical options impacting their behaviour as users of media.

Analogue-digital switchover

The transition from analogue to digital transmission holds great opportunities both for the media industry and for consumers. Organising it to the benefit of all involved presents a great challenge for media regulation. In the case of terrestrial TV transmission, the media authorities successfully moderated an extension of the range of content which paid attention to the interests of consumers. Switchover of satellite to digital transmission has been also completed in April 2021. For cable as the most important transmission platform, this challenge has yet to be mastered.

Tools of regulation and convergence of the media

Moderating and balancing the differing interests constitutes a major element of platform regulation, taking its position between content providers and platform operators, consumers and media providers.

When it comes to the digital world, managing scarce resources is no longer the key concern. The issues at stake are specifications for digital receivers, provisions for channel listings and electronic navigation, rules for the packaging of content, and fine-tuning the framework applying to individual providers.

Digitisation has led to increased overlaps between media and telecommunications law; as a consequence, cooperation with the Federal Network Agency is an important element. The changes of the economic framework which characterise the process of digitisation also raise competition issues. However, media politics still has to take on the challenge of deciding on the structures of the industry and ensuring openness, not only with a view to economic considerations.

The media authorities can work towards realising the objectives defined by the legislator and safeguard the interests of consumers and citizens in their neutral position. They want to master the challenge of ensuring transparency for digital developments and offering advice to politics.

The Commission on Licensing and Supervision (ZAK) coordinates these tasks through its representative for platform regulation and digital access who prepares the decisions of the ZAK with the support of the expert staff of all media authorities.

The authors



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is the director of the Berlin-Brandenburg Media Authority (mabb) and Representative for platform regulation and digital access of the Commission on licensing and supervision (ZAK).

He studied law in Tuebingen and Berlin. After completing his studies in 1983 he worked at the Department for Cultural Affairs in Berlin. From 1985 to 1992, Dr. Hans Hege was director of the Berlin Cable Authority; he took over the same function at the Berlin-Brandenburg Media Authority (mabb) in 1992. Until August 2008 he chaired the joint body of the regulators dealing with digital access issues. Since September 2008 Dr. Hans Hege has been seeing to platform regulation and digital access as representative of the Commission on licensing and supervision (ZAK) of the German media authorities, and acted as a member of the Commission on Concentration in the Media (KEK).



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Since 2007, Mario Hubert has been with SES, a world leader in satellite operation and operator of ASTRA, the leading DTH platform in Europe. In the marketing department he leads the market research group which produces Satellite Monitor, an annual survey analysing 35 TV markets covered by the footprint of the ASTRA satellite system.



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From 1974–1975 he studied printing at Munich Technical College and thereafter took up economic sciences at Paderborn University which he completed as Diplom-Kaufmann. From the end of 1980 until mid-1985 Johannes Kors worked as scientific assistant for electronic media with the Federation of German Newspaper Publishers (BDZV). From mid-1985 until the end of 1986 he edited the industry trade publication Kabel & Satellit in Hamburg before joining the Bavarian regulatory authority for commercial media (BLM) where he heads the department for press and publicity and media economics (recently renamed communication and media economics department). Since 1991 Johannes Kors has also held the position of deputy managing director and in 1999 took over the position of managing director of Medientage München GmbH. From 2004–2007 he was assistant professor at Munich University.



Dr. Kristian Kunow

Is responsible for platform regulation and digital access in the joint management office of the German media authorities.

He studied media, communications and economic sciences in Siegen, Brunswick and Seville. Following university, Dr. Kristian Kunow worked for a business consultancy in the change management sector and as scientific assistant for Siegener Medienforschung. He was awarded a scholarship by the German Research Foundation (DFG) and participated in a graduate college for economic sciences at the Freie Universität in Berlin. After concluding his dissertation he started work for the association of the German media authorities at the beginning of this year, handling issues such as the digitisation of broadcasting, convergence of the media and network politics.

Glossary

App (Application)

Apps are small software programmes handling specific tasks. They are activated by selecting specific sections, signs or symbols (icons). This process can be effected via the mouse and the keyboard; in the case of touch-sensitive screens (touch screen) it is done directly by pressure exerted on the relevant section with the finger.

Basic encryption

Encryption of all content transmitted via one transmission platform to allow access for entitled users only.

DAB+ (Digital Audio Broadcasting)

DAB symbolises the digital transmission of audio signals through the air. The “+” symbol signals the extension of the standard for improved sound quality which also allows the transmission of programme-related additional information.

DVB (Digital Video Broadcasting)

DVB sums up the transmission of television content by means of digital signals in accordance with the specifications laid down in dedicated standards.

DSL (Digital Subscriber Line)

Telephone line used for high bit rate transmission. ADSL: asymmetrical digital subscriber line. Data

rates in the downlink are up to 6 MBit/s; ADSL2+ up to 20 MBit/s. VDSL: very high bitrate digital subscriber line (up to 40 Mbit/s) in the downlink.

DSL-TV

Transmission of content and telemedia services via wired DSL networks. The transmission is based on the internet protocol (IP); the term “IP via DSL” is therefore equivalent to DSL-TV ↔ IP-TV

DSL networks are comparable to traditional cable networks in that they are accessible only for closed user groups against pay and the content provider offers only a pre-defined, limited range of TV offers or telemedia services.

As a feature inherent to the system, each customer point is individually connected to the point of delivery for the TV and telemedia services of the network and provides a return channel. This allows for definite addressability of the user. In addition, interactive applications can also be realised at acceptable cost.

EPG (Electronic Programm Guide)

Electronic programme guide: application providing ease of use for searching and selecting digital TV offers in the form of an “electronic TV programme magazine” and in many versions also offering other functions such as programming recordings or accessing recorded broadcasts, media libraries or similar features.

HbbTV (Hybrid broadcast broadband TV)

Standard published by the European Telecommunications Standards Institute (ETSI) allowing the simultaneous presentation of television and internet content on the TV screen. HbbTV was devised by an industrial consortium and the Broadcast Technology Institute (IRT); it is based on a programming language version which was developed for the entertainment industry.

HDTV (High Definition Television)

High-definition television using a 16 : 9 aspect ratio and a minimum rate of 1280 x 720 = 921.600 pixels (full HD: 1920 x 1080 pixels).

IP-TV (Internet Protocol Television)

Television delivery using the internet protocol. The term does not, however, specify the network used for transmission. This requires additional details, i.e. IP-TV via DSL. In general terms, IP-TV is often equated with DSL-TV so that it can be distinguished from Web-TV which means the transmission of digital television services via the open internet.

LTE (Long Term Evolution)

LTE presents the latest generation of the mobile radio technology. Compared to GSM and 3G, it offers considerably better performance, permitting broadband internet access to be effected specifically effectively.

Multiplex

A multiplex bundles several digital signals (e.g. TV programmes) to obtain a single signal. The bite rate corresponds to the sum of the bit rates of the individual signals.

Navigator

System indicating and starting digital programmes based on service information (SI) transmitted in the DVB transport stream. The navigator or base navigator provides only basic technical functions; by contrast, the EPG also offers editorial content and extended services.

Net neutrality

Net neutrality is the key requirement for digital communication networks (e.g. the internet) to handle the signals of all users in equal fashion. For users, transparent information on the distribution of the transmission capacity available in a network is required should the number of consumers being simultaneously active in the network produce data rates due to which the transmission capacity which an individual user has contracted from a network operator is no longer available.

Set-Top-Box (STB)

Receiver device for digital television. For the various transmission platforms (satellite, cable, terrestrial, DSL) different types of set-top box are required.

SmartTV

Marketing term describing “intelligent” TV sets which alongside the standard aerial terminal is also fitted with a terminal permitting connection to the internet for TV reception and access to the internet. For accessing the internet, only the remote control is required. As a rule, access is possible to selected portals (e.g. media libraries) or programme-related information. The internet access can be required via wired connection (ethernet) or via WLAN (wireless local area network), i.e. a radio-supported local data network.

SMATV

satellite master antenna television, using multiple satellite and broadcast cable signals to create a single integrated cable signal for distribution to a cable network supplying several flats or houses (see Methodology section on page 40).

The ninth report of the German media authorities on the digitisation of the media again offers facts and figures as well as analyses concerning the reception of television in German homes in the current year. The focus is primarily directed at cable. More than half of the cable households by now receive their TV services in digital quality. Digitisation during the last year, however, experienced only moderate growth.

In addition, the 2013 report for the first time also covers the situation of radio reception in Germany. It can be noted that the digitisation of radio or the reception of digital services via DAB+ and the internet are gaining ground.

The effects of the continued digitisation can, however, not only be observed as regards reception devices, but also be clearly noted as regards the consumption of broadcasting offers. On the basis of an extended survey, the use of electronic programme guides, video streams consumed via the internet and television watched on mobile end devices are highlighted.

As was the case in the surveys conducted during the last few years, the facts and figures section is complemented with contributions covering current issues debated in the world of broadcasting. In this context, Hans Hege shows that there is a need for a new balance between neutrality and priority so that content that has a relevance for the formation of opinion continues to have access to transmission capacities and can still be found by consumers. Gerd Bauer deals with the potential of digital radio and offers a hopeful outlook on the future. Guido Schneider in his paper describes the cumbersome route towards a common standard for measuring moving images on television and the internet.



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