

Context is king

Television in the multiscreen era



December 2011



goetzpartners



We wish to thank Simone Reitze, Manuela Nikui and Birgit Gelsdorf for their outstanding contributions.

Foreword

Changes over the course of time in TV entertainment and its technology

Television will celebrate a special anniversary in 2012, namely 60 years of regular operation in Germany. This suggests tradition and a tried-and-tested approach rather than evolution and progress. However, on the verge of this anniversary, TV is set for its most significant technological advancement ever; convergence with the internet. Thanks to the high bandwidths available today, it is already possible to receive digital television via internet protocol in addition to traditional cable, satellite or antenna TV. This advance has been driving developments for some years. The new level is called hybrid television, which is TV and internet from a single device.

Responsiveness to this relatively new offering is constantly growing. There is nevertheless still demand for information on the market about this new form of TV. This technology will establish itself as the fourth means of linear television reception over the coming years alongside the three established methods of TV transmission. IPTV will open up a new, unprecedented range of applications.

This meets the changing requirements of the public which is becoming increasingly accustomed to constant internet access. Consequently, a growing number of consumers in Germany also want to be able to access web content via their TV set. This is not just to surf the web or to read and write emails in comfort from the sofa as IPTV is also opening up response opportunities for what was one-way TV viewing in the past. This makes TV interactive without any media discontinuity. IPTV also offers new flexibility in terms of the selection and usage of content. Managed platforms provide a wide range of moving image content, such as via video-on-demand. Viewers can use this service without time restrictions and decide for themselves which content they want to view and when. In return, users are increasingly willing either to pay for these services or accept advertising.

Although hybrid TV is actually already a familiar term, it has yet to arrive in many German living rooms. Sales of internet-enabled TVs will continue to rise sharply over the coming years, opening up additional sources of revenue for the market. The number of people using online video libraries will also increase significantly owing to hybrid TVs. Non-professional content, such as user generated content, will become less relevant for the public who will favour content produced to high quality standards. The ProSiebenSat.1 group is responding strategically to this market development and is systematically expanding the maxdome video site. maxdome has been accessible via TV as well as PC for some time. Cooperation agreements have been concluded with almost all CE manufacturers.

ProSiebenSat.1 believes in the power and future of good entertainment, irrespective of transmission methods and modes of utilization. The past has shown that many factors are required to develop a feasible business model from a good idea. IPTV has already won over many users thanks to its interactive functions and will continue to do so provided there is clear added value for viewers and customers. The technology must be easy to use and understand. Implementation must also be worthwhile for equipment manufacturers with a clear cost structure. This study illustrates that the time is now ripe for IPTV.

Christoph Bellmer
Head of New TV at the ProSiebenSat.1 group
and CEO of SevenSenses GmbH

The authors



Dr. Alexander Henschel,
Managing Director



Marcus Worbs-Remann,
Senior Manager



Florian Kramer,
Senior Consultant



Thomas Oppe,
Senior Consultant



Elias Völker,
Consultant



Alexander Schumm,
Associate Consultant



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1. Television of the future – what do customers actually want and what will they use?

IPTV has established itself as the television of the future. Free now has 4.5 million subscribers to its IPTV service Freebox in France, 3.7 million customers use Verizon's Fios TV service in the USA and Deutsche Telekom, despite challenging economic conditions by international comparison, has 1.3 million subscribers to its Entertain offering in Germany. In addition, around 25 million subscribers use Netflix's video-on-demand service, YouTube broke through the three billion video views in a day barrier for the first time in May 2011 and, according to the latest rumours, Google is attempting to fill YouTube with content through a US\$ 500 million investment to position it as an alternative to cable television.

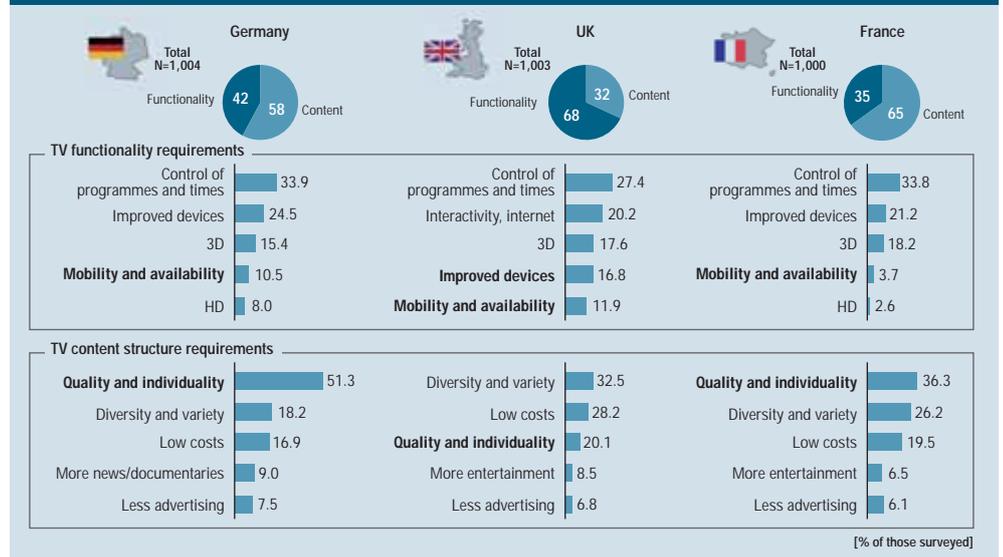
Whereas providers focused on the general refinancing potential of the various business models in the past, the following question has now become a key issue owing to the current diverse range of offerings on various devices and the increasing mobility of usage - what type of content do consumers actually want to use and which devices will play the key role?

To answer this question, the Centre for Evaluation and Methods, Surveys and Statistics at the University of Bonn conducted an empirical online survey in Germany, France and the UK on behalf of goetzpartners.¹

The survey shows that when asked to freely indicate which functions the television of the future should ideally have, improvement of devices, mobility and availability appeared high on the consumer wish list in addition to time and program control and 3D. In terms of content, the desire for improved quality and individuality were prominent with the most requests (fig. 1).

¹⁾ Around 1,000 consumers, who are representative of the populations of Germany, the UK and France between the ages of 14 and 69 in terms of age, gender and social background, were surveyed in all three countries between June and August 2011. The survey participants were selected using randomized last digit and last birthday codes.

Figure 1: Consumer expectations of the television of the future in Germany, the UK and France



(goetzpartners)

The aim of the study is to analyze the context in which consumers want to use which content and on which devices. It focuses on two key questions to determine which content and technical features are actually worthwhile and the extent to which mobile devices will change TV usage:

- What is the “killer content” in IPTV: which content and applications will customers actually use now and in the future?
- How and on which devices does the customer wish to use this content in future and what is the future for mobile TV devices from this perspective?

As a follow-up to this analysis, goetzpartners has provided recommendations on how infrastructure providers, media professionals, content providers, platform operators, device manufacturers and other relevant market players can evaluate their current or planned offerings with regard to content and applications and, if necessary, better align them to meet the requirements of their target groups and customers.

2. Current trends and developments in the IPTV market 2011

The IPTV market is developing very dynamically and is extremely diverse. This chapter looks at the development of the usage of IPTV services, highlights trends and developments in terms of German and international IPTV services and analyzes the development of devices and opportunities for interoperability with regard to content usage.

2.1 Development of the usage of IPTV services

Internet becomes the leading medium in Germany and France

The results of the goetzpartners survey show that consumers regularly use a wide range of different media. It is notable that the internet is now replacing traditional television as the leading medium in Germany and complements it on an equal footing in France (fig. 2).

There has been a 19.5 percentage-point rise in regular internet use in Germany compared to the previous year, whereas TV usage has virtually remained the same. The main reasons for the increase in internet usage in Germany are greater use of social networks and the consumption of video content online, as the ARD/ZDF 2011 online study also confirms. Furthermore, a rise in the parallel usage of the internet in combination with other media was also observed, primarily amongst the younger target groups.

Figure 2: Regular media usage in Germany, the UK and France



In contrast, the internet - behind the use of free TV - has to date only been used as an additional, supplementary medium in the UK. This is mainly explained by the traditionally strong pay-TV environment in the UK where there is a high level of pay TV usage and chargeable additional packages compared to Germany.

(goetzpartners)

Almost all consumers are aware of IPTV

The term IPTV covers all OTT model services to infrastructure-based offerings. goetzpartners understands IPTV as the transmission of moving images and interactive supplementary services via internet protocol as well as on-demand and live stream services. IPTV is available in various forms which converge to a large extent in some cases. IPTV comprises both closed, paid-for services transmitted via a proprietary network as well as paid-for and free services on the open internet whereby a distinction is made between web TV, video-on-demand (VoD), user generated video content (UGVC) and mobile TV. The content is consumed on various devices. Whereas TV sets are mainly used for closed services provided via set-top boxes, open services are primarily consumed on internet-enabled TV sets, PCs and mobile devices.

Almost all consumers in Germany, the UK and France are now aware of these IPTV services (fig. 3). Recently launched web TV offerings, which are being marketed nationwide, available on hybrid TV sets and mobile TV have now also achieved high levels of consumer awareness (fig. 3).

Awareness of the various IPTV offerings has risen significantly in Germany in some cases compared to 2010 (fig. 4). Awareness of VoD, in particular, has achieved sustained growth (increase of 70.8% compared to 2010) as a result of more intensive marketing activities and the increasing direct integration of VoD services on hybrid TV sets.

Usage of IPTV services increases significantly

The goetzpartners survey reveals similarly differentiated usage of the various IPTV services in all countries (fig. 5). The exception is IPTV via closed networks. There is significantly higher regular use in France than in Germany, for example, (40.3% vs. 5.6% of those surveyed) owing to the high level of French market penetration (41.9% of TV households). For example, the French company Free, the world's largest IPTV provider, now has around 4.5 million subscribers to its Freebox service. The upgraded, integrated "Perso TV" offering - which enables the evaluation of content, the use of a social community and the streaming of proprietary con-

Figure 3: Awareness of IPTV services in Germany, the UK and France

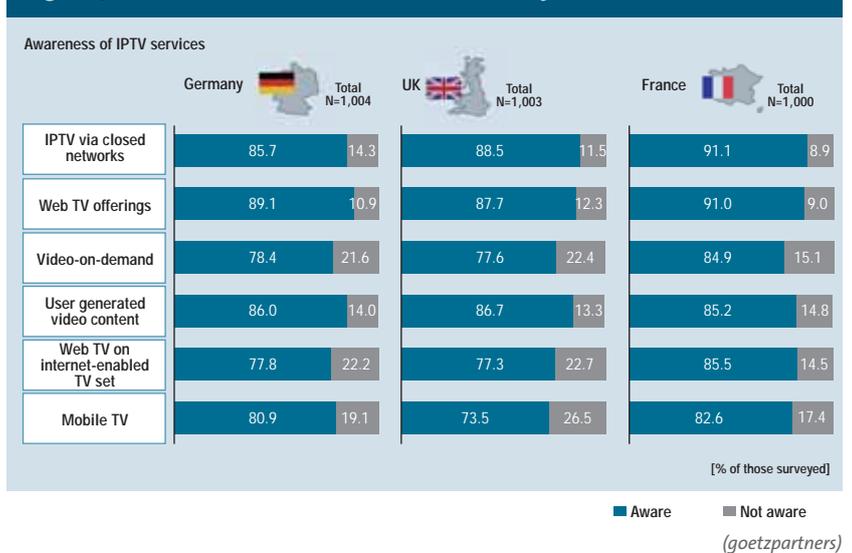
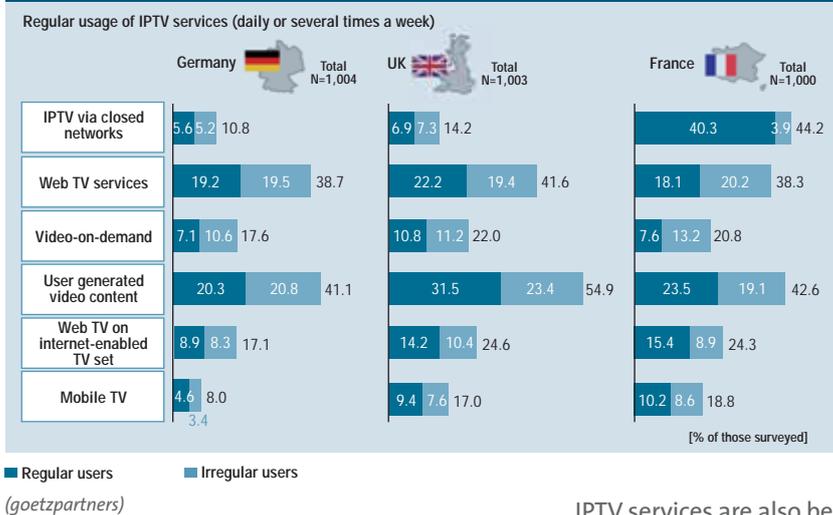


Figure 4: Awareness of IPTV services in Germany compared to 2010



2) Over-the-top

Figure 5: IPTV usage in Germany, the UK and France


tent in the community through the connection of a camera - is also contributing to this. Free is also systematically improving other supplementary services, such as the networking of several devices, including mobile ones, through “multi TV” or integrated game features.

UGVC offerings are most frequently used in all three countries included in the survey. This comes as no surprise considering that YouTube’s latest usage statistics indicate around 490 million unique users a month. In May 2011, YouTube recorded over three billion video views in one day for the first time ever.

IPTV services are also becoming increasingly professional as the high regular usage levels of web TV services in Germany, France and the UK show. For instance, almost all news websites now prominently feature videos on their homepage. Web TV services on hybrid TV sets were particularly appealing to those surveyed in the UK and France with frequent usage of 14.2% and 15.4% respectively. The increased penetration of these offerings is explained, on one hand, by higher penetration of hybrid devices in the UK than in Germany (5.8 million hybrid TV sets forecast by the end of 2011 compared to 3.6 million³⁾). However, on the other, the comparable number of hybrid TV sets in France (3.5 million forecast for the end of 2011⁴⁾) shows that the strong free TV environment in Germany is still restricting usage of these services.

The use of mobile TV is still relatively low in Germany, in particular, with just 4.6% of regular users, but also in the UK and France at 9.4% and 10.2% respectively. VoD services also still have significant growth potential compared to the other IPTV offerings. At present, there are only 5.8 million regular VoD users in Germany. The comparison with 7.4 million video library customers and 18.9 million customers on the DVD/Blu-ray market in 2010⁵⁾ clearly highlights the potential for VoD services in Germany.

In comparison to 2008, the regular usage of IPTV services in Germany has increased significantly across all IPTV categories at an average of 57.3% (fig. 6). On account of the low user rate in 2008, IPTV offerings via closed networks achieved enormous growth in users (67%) by 2011. goetzpartners believes the data in this category is significantly higher than the real subscriber numbers because many of those surveyed jointly use these products at the homes of friends or acquaintances, in particular for football matches which tend to be watched in groups rather than individually. There was

3) goetzpartners analysis

4) goetzpartners analysis

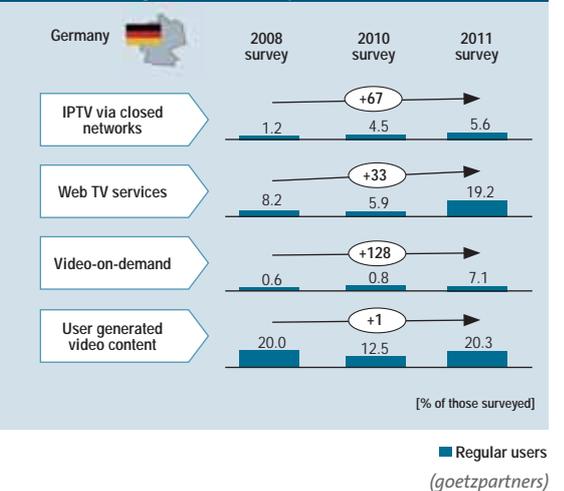
5) IVD – Interessenverband des Video- und Medienfachhandels in Deutschland e.V., Annual Report 2010

also a significant rise in the use of VoD with 7.1% of those surveyed now indicating regular usage. This represents a 128% increase compared to 2008, but absolute usage nevertheless remains at a low level compared to web TV and UGVC offerings. Web TV offerings have experienced a 33% increase in usage whilst UGVC services are stagnating at a high level of usage. It is notable that the decline in comparison to 2010 has been made up.

Key points

- The internet has now replaced traditional TV in Germany as the leading medium and complements it on an equal footing in France.
- In contrast, the internet is only used as an additional, supplementary medium in the UK behind free TV usage owing to the traditionally strong pay TV environment.
- The main reasons for increasing use of the internet in Germany are the greater usage of social networks and the consumption of video content online.
- Almost all consumers are now familiar with IPTV offerings - in Germany the level of awareness of the various IPTV offerings has increased by 28.6% on average compared to 2010.
- IPTV services are used to a similar extent in all three countries surveyed - only the use of IPTV via closed networks in France is significantly higher.
- UGVC offerings are the most frequently used on a regular basis in all three of the countries surveyed.
- The regular use of IPTV offerings has increased significantly in Germany compared to 2008 with an average of 57.3%.

Figure 6: A comparison of the development of IPTV usage in Germany

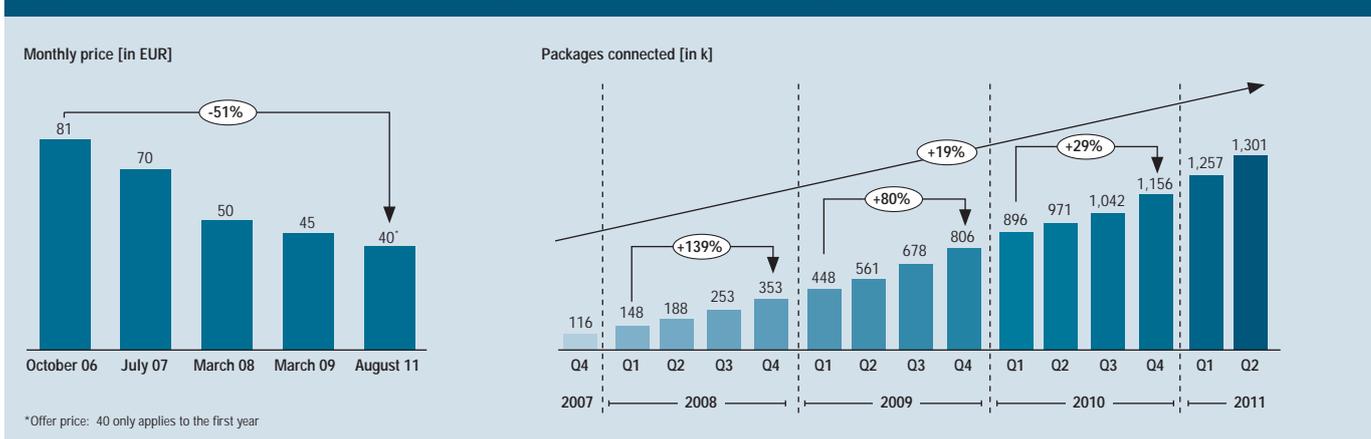


2.2 Current trends and developments in German IPTV offerings

The range of offerings on the market for closed IPTV services continues to grow

Deutsche Telekom has continued its previous growth on **closed IPTV platforms** with the marketing of its “Entertain” package. As the price has hardly dropped since March 2009, with the exception of temporary promotional offers, customers are clearly increasingly opting for Entertain because of content-related preferences (fig. 7). Contrastingly, new customer acquisition has recently stagnated for Telefónica’s “Alice TV” service after equally significant customer growth in 2010.

Figure 7: Price and user trend (online packages) of the T-Entertain offering



(company information, goetzpartners)

An additional player has been available on the market since the start of 2011 following Vodafone’s launch of a subscription-based, closed IPTV service. In addition to the comparatively affordable monthly charge of EUR 35 for the triple-play package and the widest range of HD programmes currently available, “Vodafone TV” is differentiated in particular through its hybrid set-top box. With the “TV Center”, Vodafone offers a set-top box which does not completely substitute the traditional methods of transmission of linear TV but instead enhances them with new IP-based content and services. On request, the set-top box combines the IPTV package with the reception of analogue, cable and digital satellite, making it attractive for customers with less powerful internet access with bandwidths from 6 Mbit/s. As a unique selling proposition, it can also be used via the new LTE mobile telecommunications standard.

Deutsche Telekom has gone a step further with its new “Entertain Sat” service launched in mid-2011. Users with internet connections with low bandwidths from 3 Mbit/s in particular can combine convenience features, such as video-on-demand or use of the timer programme via smartphone, with linear TV reception via satellite including the HD range of private TV

channels via HD+. However, the Bundesliga package “Liga total!” cannot be ordered for legal licensing reasons.

As well as through its established “Entertain” packages, “Comfort” and “Premium”, Deutsche Telekom is also present on the market through its “Entertain Pur” offering. As an attractively priced double-play package, it enables the combination of telephony and TV without an inclusive internet flat rate. A technical block on the DSL connection required prevents use for online surfing or VoIP.

In addition to the national telecommunications providers, regional operators have now also launched IPTV. For example, the Oldenburg-based telecommunications provider EWE TEL has been offering its broadband customers the opportunity to also receive linear TV programmes via the internet on their PCs or notebooks since the beginning of 2011 with the free “Online TV” service. As a unique selling proposition vis-à-vis comparable web TV services, “Online TV” offers its users local content through “heimatLIVE” in addition to the 35 public and private TV channels - linearly or on demand in the media library. An electronic programme guide (EPG) and a video-on-demand product round off the service.

The number of VoD offerings is constantly increasing

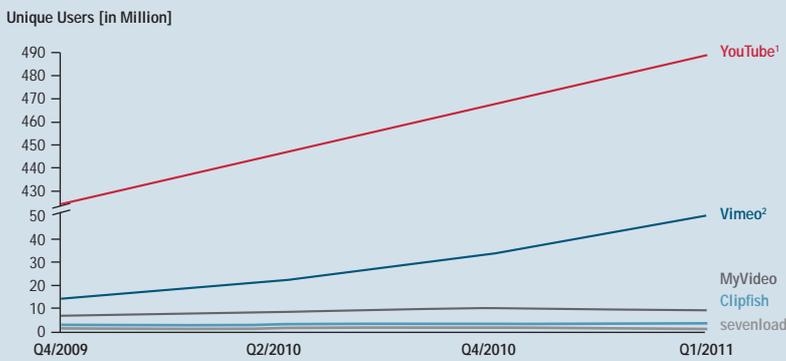
The market for independent **video-on-demand (VoD)** offerings has also shown very dynamic development recently. The first cable network operators have been offering their own services since the end of 2010 which conveniently provide their customers with the content requested via the digital cable network independently of the bandwidth available for the IP return channel. The trend towards online video libraries has also continued unabated. In addition to availability via PCs or notebooks and proprietary

Figure 8: Overview of selected German video-on-demand services

Provider	iTunes	maxdome	Videoload	Video Buster	Media Markt	Sony Criocity	Alice vodafone	Acetrax	LOVEFILM.de
Attributes									
Business model	Usage based	Usage based & subscription based	Usage based & subscription based	Usage based	Usage based	Usage based	Usage based & subscription based	Usage based	Postal rental and VoD (beta version)
Technology	OTT & hardware bound	OTT & hardware bound	OTT & hardware bound	OTT	OTT	OTT & hardware bound	OTT & hardware bound	OTT & hardware bound	OTT & hardware bound (VoD)
# programmes	N/A	> 35,000	> 10,000	> 5,000	> 5,000	> 2,700	> 2,000	> 2,000	> 400
Price (range) for rental	EUR 0.99 – 4.99	EUR 0.49 – 4.99 (subscriptions start from 4.99)	EUR 0.49 – 5.99	EUR 1.99 – 3.99	EUR 0.49- 4.99	EUR 5.09 – 6.09	EUR 0.90 – 4.90	EUR 1.99 – 4.99	EUR 4.99 (subscriptions start from EUR 7.29)
Content highlights	Biggest choice of content acc. to independent test reports	Universum Film deal plus German film offerings	Wednesdays: 3 films for EUR 1.99 each	Physical rental enables deals with major studios (all round)			Alice offers 150 free films a month		Large number of independent films via deals (Prokino/ Studiocanal)
News/special features	Available on Apple TV	Available through proprietary set-top box or on LG and Samsung devices	Entertain with integrated VoD offering; available through Entertain set-top box	Download-to-Rent (DTR) can be selected, which even makes VoD usable with slow connections		Available on Sony devices	Alice TV and Vodafone TV have integrated VoD offering; available through both providers' set-top boxes	Available on LG, Samsung and Panasonic devices	BRAVIA devices, Playstation 3 or Microsoft Xbox

(Company data, goetzpartners)

Figure 9: A comparison of the user trend on German and global UGVC sites



1) Interim figures for Q2/2010 and Q4/2010 calculated on the basis of CAGR of 4.9%
 2) Interim figures for Q2/2010 and Q4/2010 calculated on the basis of CAGR of 51.1%

(AGOF, goetzpartners)

solutions, such as “Apple TV”, these offerings are also increasingly enabling direct access on the TV screen via corresponding OTT applications on the portals of hybrid devices (fig. 8).

UGVC growth stagnates

The growth in the use of **user generated video content (UGVC)** also appears to have continued. However, a similar trend to that on the social network market seems to be emerging here with stagnating user numbers for German sites. Users are migrating from German-language sites to global providers (fig. 9).

Content of web-TV offerings becomes increasingly professional

The providers of non-linear content continue to dominate web TV. Internet sites such as MSN and MyVideo also feature movies for streaming on an advertising basis in addition to UGVC content. Besides music videos, series highlights from the ProSiebenSat.1 group are also available on MyVideo. Germany’s largest news site, “Bild.de”, offers advertising-based selected classic movies for streaming with “BILD Kino” as well as video content on the latest news and videos by its reader and web reporters. This web TV content is supplemented by paid-for live broadcasts of concerts and sporting events.

Providers of linear content, such as Zattoo, are also making their free, advertising-based services more professional by offering additional, subscription-based premium services and, for the first time, apps for smartphones and tablets. The reception of the channels of the private broadcasting groups ProSiebenSat.1 and RTL is still not possible owing to the failure to reach a licensing agreement on broadcasting in Germany. Linear pay-TV channels are also increasingly optimizing their subscriptions via micro-payment or subscription-based online payment systems (e.g. Auto Motor Sport Channel).

Key points

- New customer development with Deutsche Telekom’s “Entertain” package, the dominant closed IPTV service with stable prices enhanced by attractiveness in terms of content and features.
- New offerings from closed IPTV platforms bundle traditional transmission methods of linear TV reception and IP-based content and services.
- The online video libraries growth segment is increasingly directly accessible as over-the-top applications on hybrid devices.

- Growth in the use of user generated video content is increasingly migrating to international providers.
- Continued trend towards professionalism of web TV offerings.

2.3 Current trends and developments amongst international IPTV services

France is the market with the most users of closed IPTV services

In the comparison of user figures for closed offerings, the German and UK IPTV markets are clearly trailing the French market, which, in absolute terms, is the largest market in the world for closed IPTV services (fig. 10). However, there has been a significant increase in IPTV usage compared to the previous year with growth rates of just under 14% in Germany and 25% in the UK.

The penetration of open services is just as significant in the UK as in France while there is still significant potential in both countries by international comparison. Germany is lagging behind amongst the countries surveyed in terms of the penetration of open services. However, Germany comes out top in the growth of open IPTV offerings at 25%.

General economic conditions in Germany disadvantageous to IPTV development

The international comparison shows that IPTV providers in Germany are faced with challenging general economic conditions (fig. 11). Above all, the high number of free TV channels and low pay-TV penetration is restricting the penetration of IPTV offerings. In contrast, broadband penetration has moved into line with the international average. IPTV providers in France, however, have an ideal environment with high broadband penetration. Furthermore, consumers can only use a small number of free TV channels and generally have a high willingness to pay for TV content as the high pay-TV penetration shows.

A significant rise in IPTV user numbers has been in evidence compared to the previous year in almost all international IPTV markets included in the survey in both closed and open

Figure 10: A comparison of IPTV penetration

	Closed IPTV platforms ¹			Open IPTV platforms ³	
	Penetration [% of TV-HH]	Users Q1/11 [K]	Change compared to previous year [%]	2010/11 users* [%]	Change compared to previous year [%]
Hong Kong	51.9	1,192	+1.8		
France	41.9	11,400	+26.4		
Sweden	17.5	770	+31.6		
USA	6.7	7,743	+27.5		
Spain	5.2	866	+5.1	89 ⁴	-3 ⁶
Germany	3.6	1,361 ²	+13.9 ²	86 ⁴	+9 ⁶
UK	2.4	600	+25.0	80 ⁴	+24 ⁶
				79 ⁴	-4 ⁶
				65 ⁵	+4 ⁶
				65 ⁵	+5 ⁶
				42 ⁵	+25 ⁷

1) Source: company information, goetzpartners analysis

2) Based on Telekom Entertain package

3) Source: goetzpartners 2011 consumer survey, Accenture: The TV is dead, Long live the TV!! study 2011.

4) Accenture Global Broadcast Consumer Survey 2009

5) % of those surveyed in the Accenture The TV is dead, Long live the TV!! study 2011

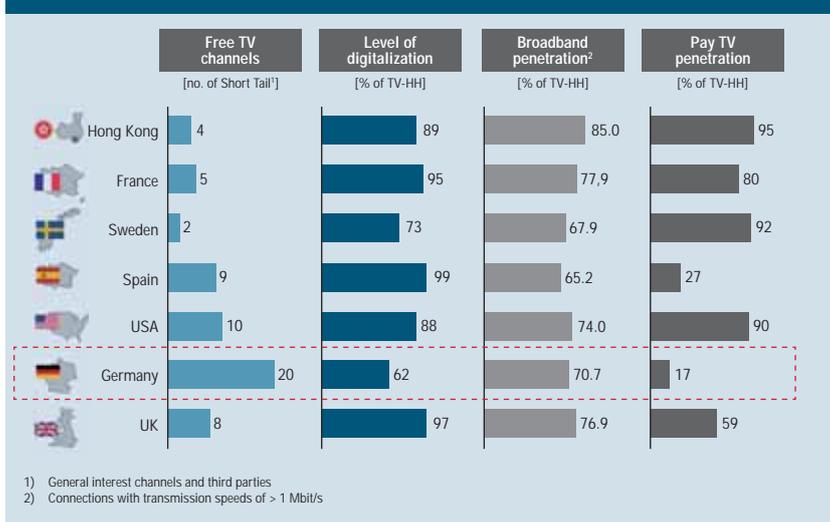
6) % of those surveyed in the goetzpartners 2011 consumer survey

7) In comparison to the Accenture Global Broadcast Consumer Survey 2009

8) In comparison to the goetzpartners 2010 consumer survey

(goetzpartners)

Figure 11: General market conditions for IPTV penetration



(goetzpartners, Kommission für Zulassung und Aufsicht der Landesmedienanstalten (2011), e-Media Institute (2011), company information (2010/2011), PWC: German Media and Entertainment Outlook 2011-2015, SES Astra (2010))

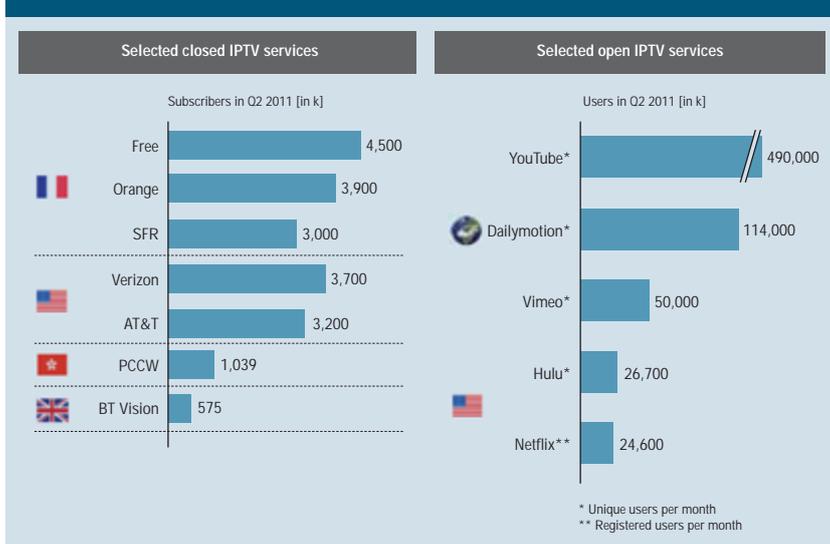
offerings. This is primarily the result of the development of a wide range of IPTV offerings. The most interesting trends and developments in terms of international offerings are described below and the user numbers are shown in fig. 12.

Closed IPTV offerings with extended interactivity and individuality

Orange, as the main competitor to Free in France, is doing well on the market with its “**La TV d’Orange**” service primarily on account of its wide range of add-on options which provide subscribers with various opportunities to put together an individual package. Orange has also integrated a “social TV app” into its offering. This app, which is available to all iPhone users, automatically recognizes almost all TV programmes which the subscriber consumes via “La TV d’Orange” and allows users to evaluate and discuss programmes together with their Facebook friends via multiscreen. Users log in via their Facebook account, ensuring the complete interconnection of social network and TV consumption. In cooperation, Orange and Free are also investing more in upgrading their FTTH infrastructure. Two billion euros are to be invested by 2014 in order to reach around 10 million additional French households in remote areas in future.

SFR, the third competitor in France, is systematically developing its provision of 3D content through its “**neufbox television**” product. The extraordinary design of the wireless Neufbox is being marketed equally actively. The clever combination of design and ergonomic features

Figure 12: International IPTV offerings



(Nielsen, ComScore, AGOF, company information, goetzpartners)

links hardware components and the remote control with the graphical user interface. The design of the remote control enables intuitive navigation which is reflected in the layout of the graphical user interface. SFR received the “red dot” award for the design and concept of its remote control in 2011.

As the leading provider in the USA, **Verizon** is attempting to win market share through high transmission speed with its **Fios TV** offering. Verizon is already completely based on FTTH infrastructure (100%). This is why it is able to offer all of its customers a wide range of HD content in the USA. Multi-Room DVR for the interconnection of several TV sets within the household is also being actively marketed.

AT&T, as the second largest provider in the USA, is progressively integrating a range of interactive apps into its **U-Verse TV** offering. New Android and Blackberry apps (iOS to be added shortly) allow chat with AT&T service personnel in addition to the standard programming features. As with Verizon, it also provides the option of recording up to four programmes simultaneously and consuming them on different devices, including mobile ones.

PCCW, the most innovative IPTV provider in Hong Kong's highly developed IPTV market, is focusing on the increasing individualization of its **NOW** product. The à la carte model provides subscribers with a high degree of flexibility as a range of different packages can be individually combined. PCCW is also systematically further developing integrated innovative supplementary services, such as 4-game split screens for sporting events, interactive services, such as a meal service via real red button functions, and direct shopping without media discontinuity via remote control.

In the UK, the **BT Group** is constantly expanding its range of supplementary services with its **BT Vision** product. This, for example, allows users to choose between variable payment options with invoicing based either on a fixed subscription or actual usage.

Greater variety, variable usage options and specification with open IPTV offerings

With 490 million unique users a month in June 2011, **YouTube** remains the largest player in the global UGVC market by some distance. The service is still benefitting from its first-mover advantage owing to the resulting network effects. The range of video is constantly increasing owing to the high user numbers which, in turn, is seeing user growth rise. According to the latest rumours, Google is set to invest over US\$ 500 million to fill YouTube with content and to establish an alternative to cable TV. Google is believed to already be engaged in negotiations with independent studios and programme providers for cable TV.

With around 114 million unique users in June 2011, **Dailymotion** in France is the biggest European player in the UGVC market and has around a quarter of the unique users that YouTube can claim. In cooperation with Orange, Dailymotion stands out in particular on account of target-group-specific categorization in UGVC and professional and premium content on the platform.

The US site **Vimeo**, which was originally designed as a general UGVC platform, is now pursuing a subscription and advertising-based business model (around EUR 8 per month). The offering is primarily aimed target group specifically at the artistically minded and is characterised by a unique user interface as well as a large range of UGVC content in HD quality. Thanks to this specialization, Vimeo reached around 50 million unique users in June 2011.

The US video site **Hulu** is a free VoD service run as a joint venture by NBC Universal, News Corp. and Walt Disney. Content accessed can be used on both mobile devices and the iPad. Hulu nevertheless recorded 26.7 million unique users in June 2011. Furthermore, a supplementary subscription model was launched in the USA with Hulu Plus where customers pay just under USD 10 a month for an extended TV series archive and the suppression of advertising. By the end of 2010, one million users had registered for this premium service. Hulu is also driving forward its international expansion. A cooperation initiative on the direct integration of Hulu on the Microsoft XBOX 360 and the Sony PlayStation PS3 is to go ahead shortly and a paid-for premium service is to be premiered in Japan in the course of the year, according to the provider. This should enable access in Japan via PCs, mobile devices and hybrid TV sets.

Netflix's VoD offering, to date only available in the USA as a paid-for service, recorded around 26.6 million registered users by the second quarter of 2011. Netflix users therefore account for 22% of the total bandwidth used in the USA on average. The streaming service is provided for a monthly fee of USD 7.99. Vudu, also only accessible in the USA to date, offers the world's largest VoD range of HD content. Vudu is now also directly integrated into over 300 devices of various manufacturers and can also be accessed directly via Walmart's site since its takeover of the provider. An expansion of both providers outside of the USA is highly likely in the near future. Netflix is already intensively recruiting staff for its launch in various countries in Europe, Asia and Latin America.

Apple TV will in future again focus on a purely purchase offering for its range of TV series. Apple has withdrawn its TV series rental service in the USA which was only launched around a year ago. In future, it is also to introduce a subscription service which provides access to as many streams as required for a fixed monthly charge. As of recently, Apple TV users have also been able to use TV content purchased via iTunes via access to the iTunes cloud at any time and on all Apple devices. Apple TV has therefore entered into fierce competition with countless video services, such as Netflix and Hulu. Its services will be directly integrated into the TV sets of many manufacturers, whereas the Apple TV Box, with its iTunes content, is excluded as a stand-alone device. Consequently, rumours persist of Apple developing its own TV set based on the iOS operating system equipped with a touchscreen which is to be launched by the end of 2012. An indicator, which should be taken seriously, is the recent development whereby content purchased by users will in future now be stored on the company's servers, making it easier to integrate into TV sets.

In France, the VoD provider **FilmoTV** is using a new rental model. Fifty films are made available to subscribers each month for EUR 9.99 and 50% of the content provided is changed each month. This means films remain

available to consumers for two months, allowing FilmoTV to reduce its expenditure on rights.

Google has stated that it will now also launch its TV service **Google TV** in the UK at the beginning of 2012. Google TV has not previously enjoyed consumer success, in particular owing to its awkward user interface. Even a reduction in price of the Google TV box Revue, which is required for reception, by Logitech, the manufacturer of peripheral IT equipment, from around EUR 174 to around EUR 70 has had no lasting positive effect. Google hopes to win customers for Google TV with a redesigned user interface and the option of installing Android apps on the TV set. The offering in the UK is to include the BBC iPlayer and iTV Player and therefore free web TV services. The iPlayer, in particular, provides extensive supplementary editorial information on films, such as short videos, interviews and reports.

Key points

- Almost all international IPTV markets evaluated are experiencing a significant increase in IPTV user numbers compared to the previous year, both in terms of closed and open offerings.
- France is the market with the most users of closed IPTV offerings, while penetration of these is lagging behind in Germany and the UK.
- International comparison shows that the penetration of closed IPTV services in Germany is being restricted by the high number of free TV channels and low pay TV penetration.
- International providers of closed IPTV offerings mainly stand out on account of extended interactivity and individuality.
- In the case of open offerings, increasing diversity, variable usage options and specification has been observed in the international environment.
- The penetration of open offerings is just as significant in the UK as in France. Germany is lagging behind in terms of the penetration of open offering amongst the countries surveyed.

2.4 Current development of IPTV-enabled devices

Increasingly dynamic growth of IPTV-enabled devices

The hype about the growth of mobile devices continues unabated. Hardly a day goes by without a leading daily newspaper or website producing a special feature on these devices. The growth figures and market penetration in fact speak for themselves. A total of 6.2 million smartphones and 0.4 million tablet PCs were sold on the German market in the first two quarters of 2011 alone.⁶ Internet access is now a standard feature of any TV device. Hybrid devices are also achieving significant growth figures and an average annual increase of 29% is forecasted until 2015 in Germany.

This trend is being driven by consumer desire to bundle linear TV, timeshifting, video-on-demand, free internet access and supplementary services in a multimedia system in the living room. As a result, there is competition for dominance in the living room, in particular between hybrid TV sets and set-top boxes, pure IPTV set-top boxes and next-generation gaming consoles, with the best prospects for hybrid TV sets.

Country-specific characteristics in the increasing penetration of hybrid devices

These smart TVs, also known as connected TVs, will become the dominant stationary hybrid devices over the medium term and will be found in almost all TV households in Germany and the UK by 2015.⁷ The TV manufacturers are increasingly meeting this demand from consumers. Sony, for example, no longer offers any TV sets in its current product range which cannot access internet content via an IP connection.

In a direct country comparison, hybrid set-top boxes will experience significantly stronger market growth in the UK and France than in Germany owing to the traditionally higher number of users of pay TV services. Pure IPTV set-top boxes will continue to play an important role in the historically large IPTV market of France on account of the already high penetration of closed IPTV platforms. Their growth will be less strong in Germany and the UK in relation to hybrid boxes in view of the trend to combine several methods of reception in one device.

Access to closed IPTV platforms via proprietary set-top boxes

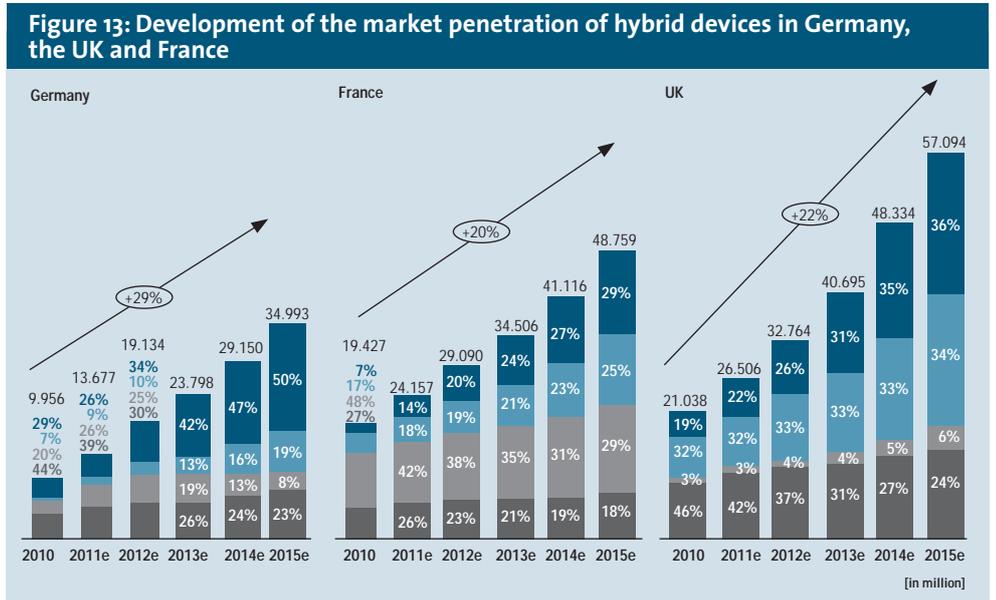
In terms of the individual services, IPTV set-top boxes continue to dominate the market on **closed IPTV platforms** as the proprietary devices of suppliers. In addition to the pure IPTV set-top boxes “Entertain” and the “Alice TV” service, which were previously available in the past, hybrid IPTV set-top boxes are now also available on the German market with the “TV Center” from Vodafone and Deutsche Telekom’s new service “Entertain Sat”. The range of closed IPTV services is therefore increasingly being combined with

6) gfu Consumer Electronics Market Index Germany (CEMIX)

7) goetzpartners analysis

traditional transmission methods of linear TV, such as cable and satellite reception.

The separation of closed IPTV services from proprietary hardware - and therefore availability in the form of downloadable OTT applications - is currently still faced with the challenge of deploying the digital rights management systems (DRM) used on different technical platforms of device manufacturers without dedicated hardware based on corresponding standards.



Open IPTV platforms increasingly accessible as apps on device sites

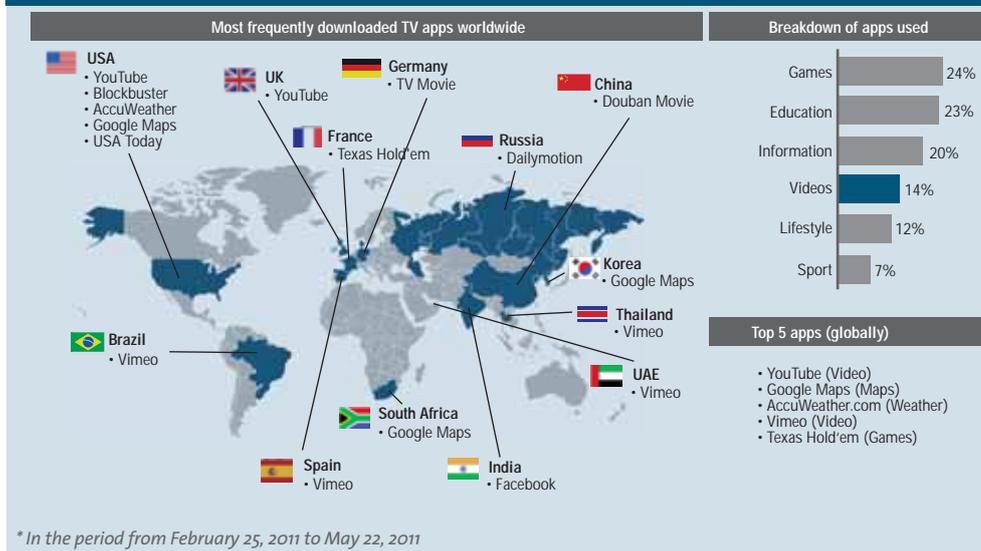
Dynamic development has also been observed on **open IPTV platforms**. While services such as Netflix, Hulu, Lovefilm, Sevenload, maxdome and the media libraries of TV broadcasters were only initially accessible via PCs online through browsers, these services are now also available online with their own devices (for example, Winbox maxdome MediaCenter) or as OTT applications on the sites of hybrid devices and therefore irrespective of whether these applications are preinstalled or have to firstly be downloaded from an app store. A study by Samsung on all applications worldwide on its “Smart Hub” TV platform in the period from February to May 2011 shows that these are video applications in 14% of cases and that, in addition to TV apps for Google Maps, the weather and poker, two video applications - YouTube and Vimeo - were amongst the top five applications.

In addition to internet-enabled Blu-ray players, gaming consoles and media players and web boxes, such as the Boxee Box HD from D-Link, the Roku Digital Video Player, LG’s Smart TV Upgrader and the Logitech Revue Box for Google TV, TV sets without internet connections also provide access to these supplementary services. Technically, these devices are ever frequently relying on smartphone operating systems (such as Android), a development which only the Scandinavian manufacturer “People of Lava” is pursuing in the field of TV sets. Google has also announced plans to make “Google TV” compatible with Android by means of an operating system update to enable its service to access the applications of the Android market.

The example of the Apple TV box illustrates that linear content can also clearly be accessed. This allows German users, for example, to access live streaming of matches in the US Major League Baseball. And the sports

■ Hybrid TVs
■ Hybrid set top boxes
■ IPTV set top boxes
■ Next generation play stations
 (goetzpartners)

Figure 14: The most frequently downloaded TV apps worldwide*



(Samsung)

channel ESPN provides US owners of an Xbox360 with various live broadcasts. Furthermore, Microsoft has also announced plans for a presence on the Xbox360 by the end of 2011 together with over 40 TV and entertainment providers worldwide. On top of the currently available services, it will also be possible to receive further UGVC sites (e.g. YouTube, Dailymotion, Hulu), on-demand services (e.g. LOVEFiLM, Net-flix, Hulu+), linear free TV (e.g. ZDF, BBC, ESPN) and pay-TV content (e.g. Canal+, HBO GP, SyFy, BSKyB, Comcast) via the IP connection.

Key points

- Penetration of stationary hybrid devices in households with significant average annual growth of 29% (Germany), 20% (France) and 26% (UK).
- Hybrid TV sets have the best prospects of becoming multimedia systems in the living room which bundle functions and content.
- Besides possible cannibalization effects, unresolved issues concerning DRM implementation are currently preventing the provision of closed IPTV platforms as OTT applications on hybrid devices.
- In future, compatibility between the software of stationary devices with the operating systems of the latest mobile devices will enable access to existing app stores.

2.5 Interoperability opportunities in content usage

“Any content, any device, any time, any place.”

Consumers will continue to primarily use video content on their TV sets. However, in addition to consumption on TV sets and other stationary hybrid devices, interest in usage via mobile devices, such as tablets and smartphones in particular, will increase. Consumers want to be able to easily access any content at any time and from any device irrespective of location, content provider and platform operator. Interoperability will therefore become a pre-requirement for an extensive consumer “multi-screen experience.”

Interoperability presents opportunities as well as challenges for providers

Content providers and platform operators share the desire for usage of content on any device. They can only provide digital content cost-effectively if this can both be made available to the largest possible device population – not just on proprietary hardware – and protected with DRM systems.

The main challenge is establishing standards and strict certification processes. Different file formats and an extremely fragmented market in established DRM systems currently present all market players with major challenges. The interoperability in content usage demanded by the industry is therefore a necessity if consumer requirements are to be met in future.

Device manufacturers also benefit from this standardization. They must currently equip their hardware to play various file formats and support different DRM systems at great expense. Uniform standards would make the development and production of their devices more cost-effective.

Apple Ecosystem as a pioneer in content usage across several devices

Apple is leading the way. The digital content rented or purchased via the iTunes platform is not only available to users on the hardware used for this but can also be played and switched between all of the manufacturer’s stationary (Apple TV, iMac, MacBook etc.) and mobile (iPad, iPhone, iPod touch) devices. However, despite being a proprietary solution, this was not always possible without restrictions. For example, content rented on the iPad or Apple TV could only be played on the corresponding device. iPad content could be streamed to Apple TV but Apple has yet to provide users with this option in the opposite direction. The company has only overcome this obstacle with the introduction of its cloud services, known as iCloud, even though this initially only applies to its customers in the USA. The announced upgrade of iTunes Replay will in future enable consumers to play any current content or content purchased in the past via iTunes on any of its Apple devices through the iCloud.

UltraViolet - a system with industry-wide support in the starting blocks

The DECE Group's UltraViolet initiative seems highly promising because it is an international, industry-wide and cross-platform solution.⁸ In order to play the content of various providers and platform operators on the entire range of consumer devices, UltraViolet uses a central account system to authenticate the request for content provided in a standard file format via the internet. It is irrelevant whether this content is purchased on a physical medium or digitally. Access is then provided as streaming or as a download for saving on the device or physical media. The content is not provided via central storage, but is made available by the various providers as a cloud-based solution. Besides the standardized file format, the second major component is the digital rights management (DRM) system. Various devices can only be supported by combining selected DRM systems. This enables the same content to be played on all UltraViolet-certified hybrid TV sets and set-top boxes, gaming consoles, PCs, tablets, smartphones and other mobile devices.

This new common standard from the DECE Group has gained support on a wide front from almost all major US film studios, the leading electronics manufacturers, retail chains and internet services with digital sales, infrastructure providers and DRM and software providers. Apple and Disney are currently not on the list. Disney stated in 2009 - a year after the announcement of UltraViolet - that it wanted to establish its own cross-manufacturer platform in KeyChest. However, KeyChest has since become part of the proprietary, cloud-based and device-independent digital-to-consumer platform Disney Studio All Access. After the licensing plan for UltraViolet began in the USA as planned in mid-2011, the availability of the first content for consumers is anticipated this year. Marketing will then initially be extended to the UK and Canada.

Solutions for the interoperable usage of digital content depends on consumer acceptance

The UltraViolet initiative is highly promising because it is the only solution to combine the three key success factors of "internationality", "industry-wide support" and "cross-platform technology". Besides straightforward technical implementation, acceptance by consumers will ultimately depend in particular on the user-friendly design of DRM restrictions. Content providers and platform operators must be provided with sufficient protection of their digital content without restricting consumers too much.

⁸) Digital Entertainment Content Ecosystem

New impetus in “multiscreen interaction” through synchronization of hybrid devices

As well as the use of content on various devices, the combination of the increasing market penetration of hybrid devices and the trend towards the parallel use of video content on the TV set and internet on an additional device is resulting in the possibility of achieving seamless “multiscreen interaction”. Previous attempts to provide interactivity via an additional screen, such as Bluecom, Betty TV or Joca, failed owing to media discontinuity between devices. However, highly promising current approaches, such as that of the US start-up Flingo, synchronize the content displayed in real time on the hybrid TV sets with additional consumer devices. “Sync apps” therefore enable automatic convergence of video and corresponding online content, such as film databases, internet shops and social network applications.

Figure 15: Current members of the UltraViolet Alliance

• Adobe Systems	• Fox Entertainment Group	• Paramount Pictures
• Akamai Technologies	• Fujitsu	• Royal Philips Electronics
• Alcatel Lucent	• Hewlett Packard	• QuickPlay Media
• AMD	• Huawei Technologies	• Red Bee Media
• ARRIS	• IBM	• RIAA
• Arxan Technologies	• Intel	• Roadshow Entertainment
• Best Buy	• Irdeto	• Rogers Communications
• Blockbuster	• LG Electronics	• Rovi Corporation
• CableLabs	• Liberty Global	• RoxioNow
• Catch Media	• Lionsgate	• Saffron Digital
• Cineplex Entertainment	• LodgeNet	• Samsung Electronics
• Cisco	• LOVEFiLM	• SeaChange International
• Comcast Corporation	• Microsoft Corporation	• Sky
• Cox Communications	• MobiTV	• Sony Corporation
• CSG Systems' Content Direct	• Motorola	• Sony Pictures
• CyberLink	• Nagravision	• Technicolor
• Dell	• NCR	• Tesco Entertainment
• Deluxe Digital	• NBC Universal	• Toshiba
• Deutsche Telekom	• NDS Group	• Verance
• DivX	• Netflix	• Verimatrix
• Dolby Laboratories	• Neustar	• VeriSign Inc.
• DTS	• Nokia	• Vudu
• Elemental Technologies	• NVIDIA	• Warner Bros. Entertainment
• Fanhattan	• PacketVideo	• Widevine Technologies
• FilmFlex	• Panasonic	• Zoran

(DECE, goetzpartners)

Key points

- Consumers want to be able to access their content at any time and on any device.
- The provision of digital content is only financially viable for the largest possible device population and as a DRM-protected solution.
- Standard file formats for digital content and support of various DRM systems are critical success factors for providers.
- UltraViolet is a highly promising approach as an international, industry-wide and cross-platform solution.

3. Key drivers in IPTV – which content and technical features are really worthwhile?

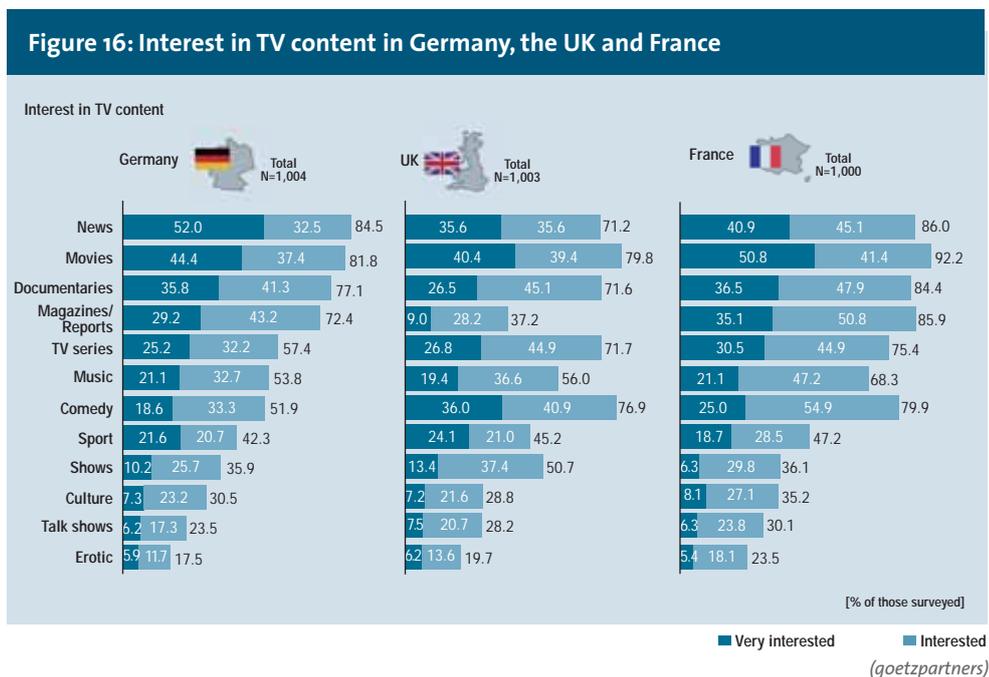
“Content is king” is often cited as the key driver in the success of IPTV services. But this observation does not go far enough. The relevant question is which content paired with which technical features do consumers really want to use, in which usage contexts and on which devices? This chapter reveals consumer content preferences (TV content and interactive features) as well as which content there is a genuine willingness to pay for. In chapter 4, these content preferences are combined with various usage contexts and analyzed based on the device used.

3.1 Which content do customers actually want?

News and movies are the most popular content types

The goetzpartners survey shows clear country-specific differences in consumer interests in TV content (fig. 16). While Germany has the highest interest in news, movies and documentaries (84.5%, 81.8% and 77.1% of those surveyed respectively), contrastingly those surveyed in the UK said that movies, comedy and TV series (79.8%, 76.9% and 71.7% of those surveyed respectively) was the most interesting content. Movies and news (92.2% and 86% of those surveyed respectively) also came high on the list of those surveyed in France, but along with magazines and reports (85.9% of those surveyed).

In addition to country-specific differences, the goetzpartners survey also shows regional and local differences in the interests of those surveyed in terms of TV content. These aspects should be taken into account by providers when aligning their services. An example of this is a clear north-south divide in interest in movies of those surveyed in Germany. There was

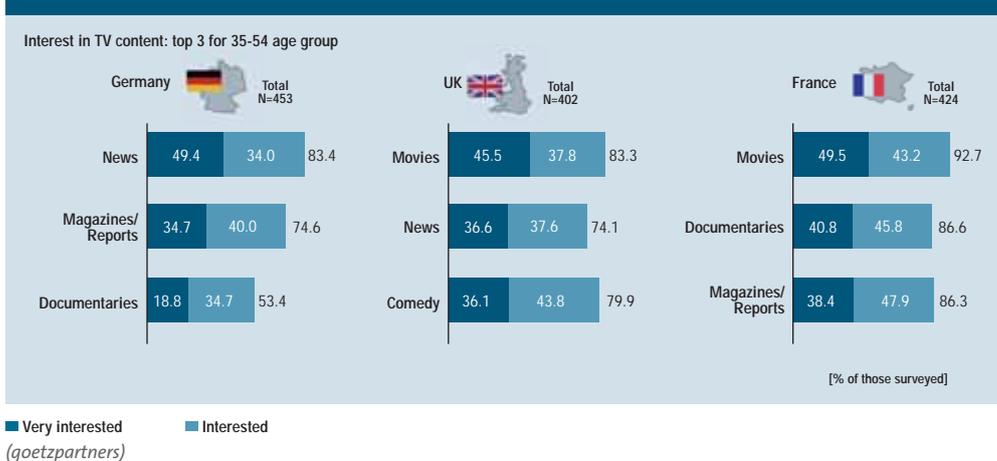


much stronger interest amongst those surveyed in the southern federal states than those in the northern ones (49.2% vs. 39.6% of those surveyed). This example underlines the fact that providers should take account of the content preferences of their respective target group when structuring and presenting the content of their IPTV offerings.

As well as taking account of location-specific factors when structuring the content of IPTV offerings, providers should also consider the relevant age structure of their target groups. Fig. 17 shows how the interests of the 35-54 age group differs significantly from the previously illustrated general results in terms of the top three TV content types. This age group in Germany is not interested in movies but in magazines and reports (74.7% of those surveyed). In the UK, this age group has a strong interest in news (74.2% of those surveyed) and not in TV series and in France there is a demand for documentaries instead of news (86.4% of those surveyed). Services specific to the respective target groups and a target-group-oriented approach will

therefore ensure differentiated market positioning and competitive advantages.

Figure 17: Interest in TV content of the 35-54 age group in Germany, the UK and France



Consumer interest in TV content is changing

Constant evaluation is required to ensure IPTV services are geared towards the relevant target group. While consumer interest in specific TV content has generally remained relatively constant over the course of time, the comparison with

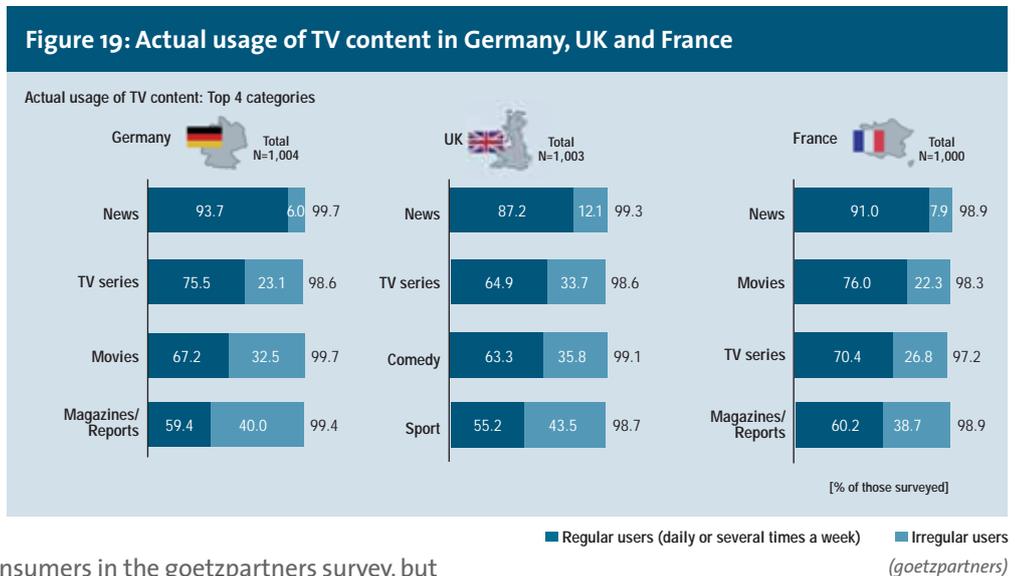
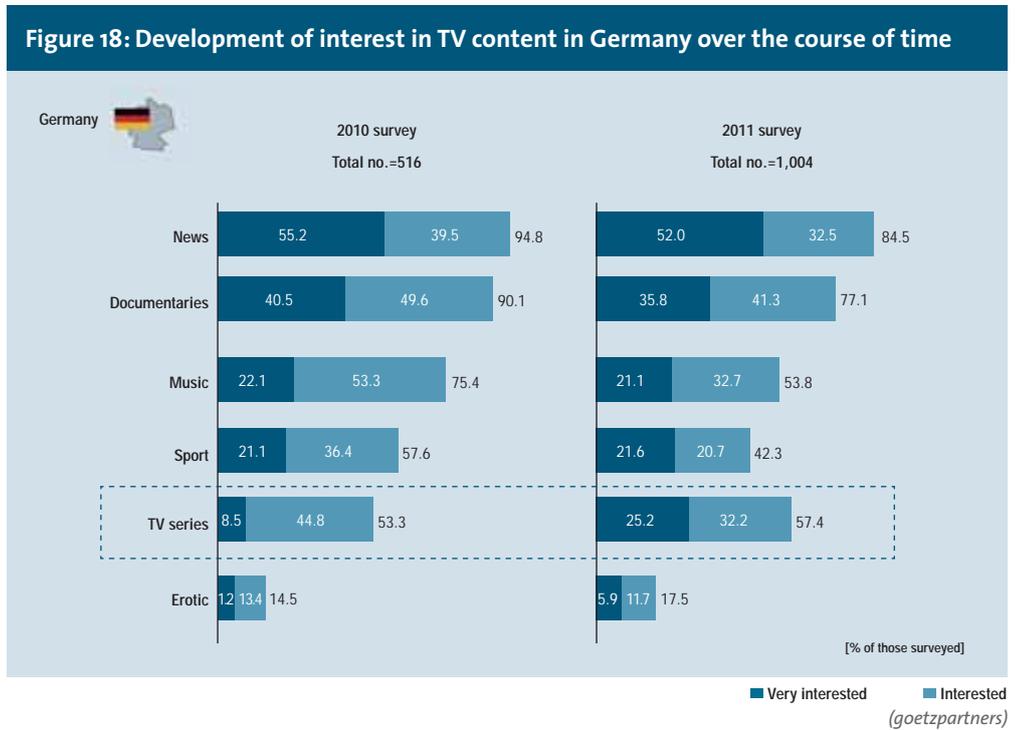
the goetzpartners survey from the previous year shows that there are also changes in consumer requirements (fig. 18). Only 8.5% of those surveyed said that TV series were very interesting in Germany in the previous year, whereas 25.2% of consumers now like this content type in 2011. The example of the rise in interest in TV series shows that consumers are increasingly focusing on this content type owing to greater broadcasting of American TV series on free TV last year and that it therefore now also plays an important role in structuring the selection of the IPTV service. This illustrates that providers must constantly align their IPTV offerings to the changing requirements of consumers and their target groups.

Actual usage - a key analysis criterion

In addition to taking account of consumer interest in content, actual usage is also a key criterion in selecting the right content for an IPTV offering. Comparing regular use with the interests of those surveyed provides key findings, as fig. 19 illustrates.

For example, TV series were not included in the top three most interesting content types in Germany as previously mentioned, but their high regular usage (75.5% of those surveyed) clearly shows their potential. In contrast, movies were named by those surveyed in the UK as the most interesting content type, but this is not reflected in their actual usage. This allows the conclusion to be drawn that the existing offerings have to be improved in order to increase usage. A content preference analysis of the target group should therefore always be carried out when structuring the offering. However, the matter of social desirability should also always be considered. An example of this is the interest and use of those surveyed of erotic content.

Interest was very low amongst consumers in the goetzpartners survey, but this is clearly contradicted by actual usages in relevant market analysis.



Key points

- Clear differences can be identified between the target groups in a target-group-specific analysis of content preferences.
- Various factors, such as regional and age-specific characteristics, can play a role in the definition of the target group.
- An offering specifically geared to the respective target groups and a target-group-oriented approach therefore ensures differentiated market positioning and competitive advantages.
- Consumer interest in specific TV content is subject to changes in consumer requirements which must be taken account of in the content portfolio.
- The actual use of content also has to be taken into account when structuring IPTV offerings with a comprehensive analysis of the relevance of various TV content types.

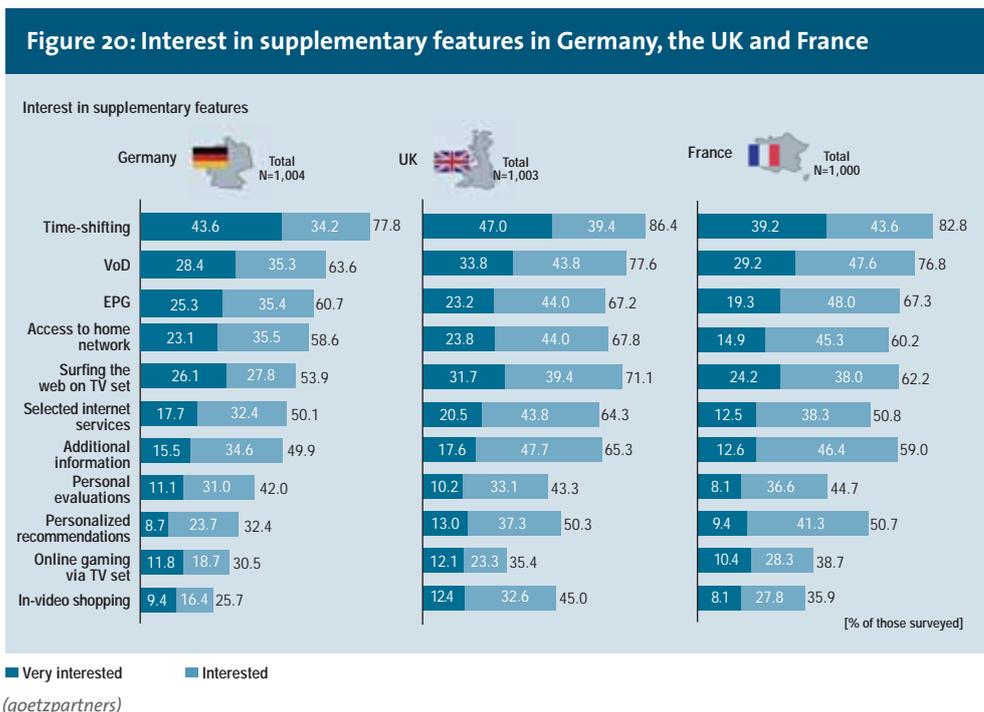
3.2 Which technical features are customers really interested in?

Interest in specific interactive supplementary features is increasing significantly

Not only consumer interest in content but also the demand for innovative supplementary features that IPTV services can offer is playing an important role in determining the content offering for IPTV providers. Fig. 20 shows that those surveyed have the greatest interest in traditional

features which are marketed intensively in all three countries surveyed, such as time-shift television (77.8% of those surveyed in Germany, 88.4% in the UK, 82.8% in France) and VoD (63.7%, 77.6% and 76.8% respectively).

However, other interactive applications, such as a modern EPG, access to a home network, surfing the internet via the TV set, access to pre-selected apps or additional information on the current programme, also each recorded interest of over 50% in the survey. This shows that these



supplementary services are now seen as part of a comprehensive IPTV service by consumers.

In contrast, personal evaluations, personalized recommendations, online gaming via the TV set and in-video shopping are not yet being requested by a majority of consumers. The main reasons for this are that hardly any providers have integrated these services into their offerings to make them easily and intuitively usable in the context of the existing TV experience. This will change in future if, for example, personalized recommendations are as easily accessible for consumers as online shopping on Amazon, for example. Technically advanced IPTV markets, such as Hong Kong, are leading the way. Here, in-video shopping apps, for instance, are already part of everyday life.

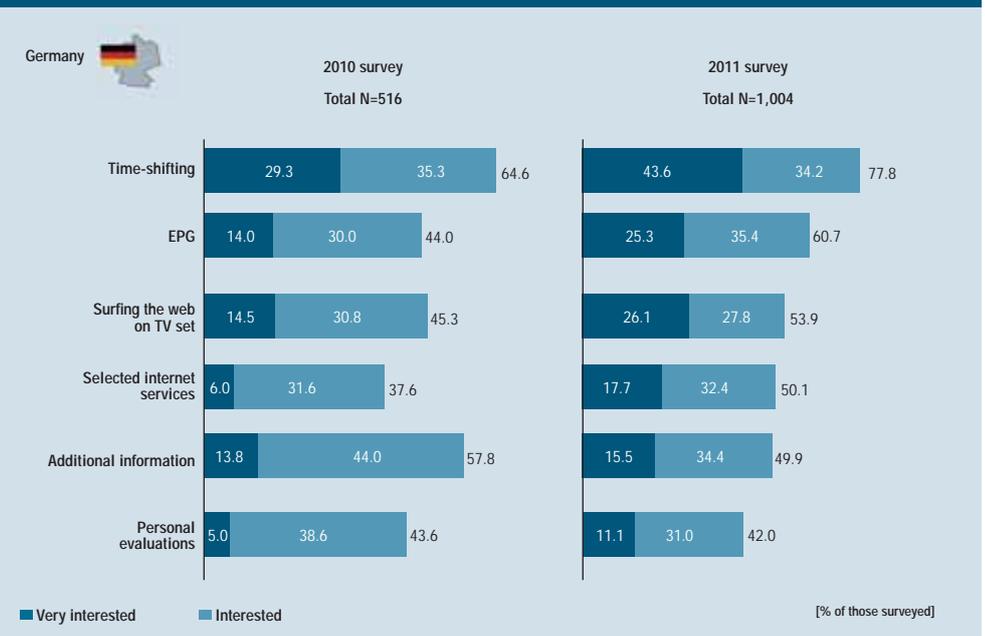
The increasing demand for interactive supplementary features is highlighted by the comparison with last year's survey in Germany (fig. 21). In particular, the number of those surveyed who indicated that innovative applications are very interesting has increased sharply (by 14.3 percentage points of those surveyed for time-shift TV, 11.3 percentage points for EPG, 11.6 percentage points for surfing the internet on the TV set and 11.7 percentage points for selected internet services). This underlines the fact that consumers now recognize and demand the added value that IPTV services can offer compared to traditional TV.

The all-in-one device for the home is the future

All interactive applications described can be used via various devices. However, around three-quarters of all consumers would already like an all-in-one device, a multimedia system which serves as a genuine all-rounder for the living room (fig. 22). The ideal all-in-one device combines all necessary devices and offers a straightforward TV experience, like 30 years ago, which users can then simply share, for example, with friends via social networks. This has already become technically feasible thanks to the increasing convergence of TV and internet.

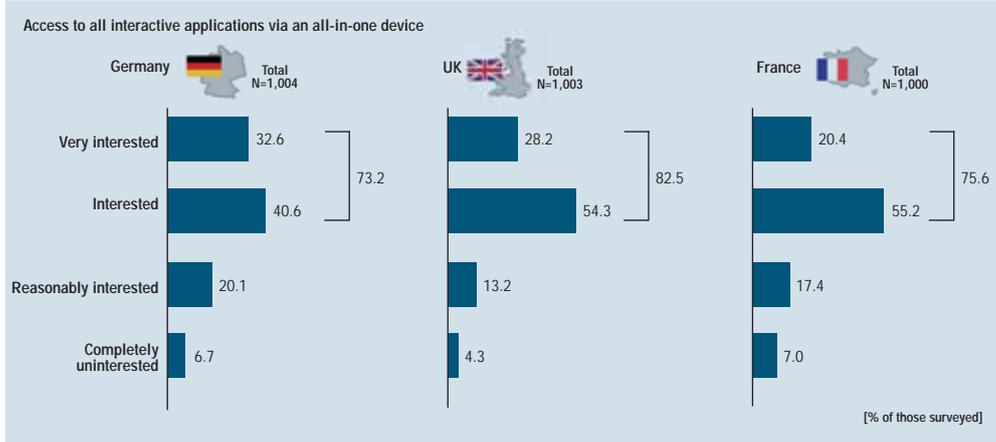
According to those surveyed, the all-in-one device must meet various requirements in order to find its way into the living room and enjoy

Figure 21: Development of interest in supplementary features in Germany over the course of time



(goetzpartners)

Figure 22: Interest in an all-in-one device in Germany, the UK and France



(goetzpartners)

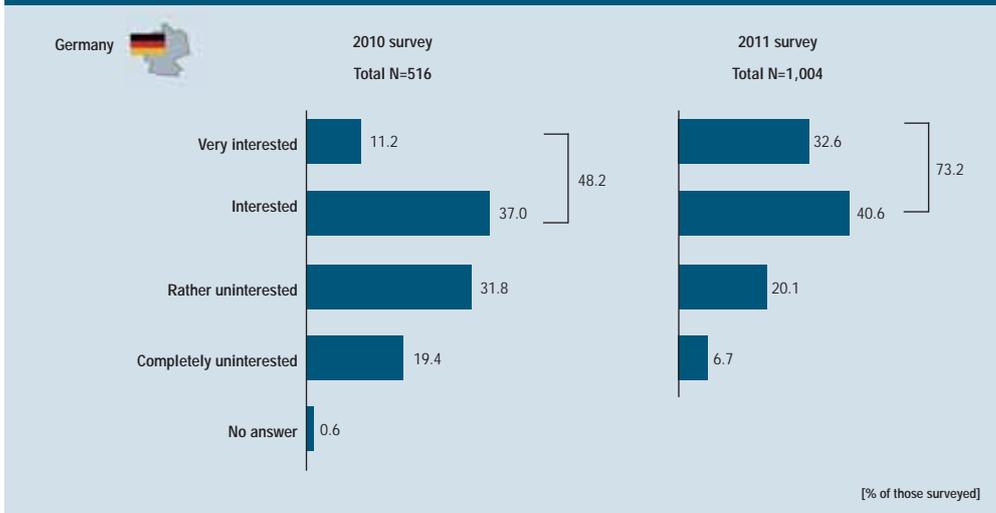
long-term success. As well as the user interface, which must be self-explanatory to users while ideally also achieving a wow effect, the remote control, the design of which should be as simple as possible, also plays a key role. For use as a multimedia system, it should be possible to connect the all-in-one device wirelessly and as simply as possible via the internet back-channel. Those surveyed also believe that the option of bringing the

device into line with the latest standards through regular synchronisation and equipping it with the latest applications is also a key factor.

The significant increase in interest in an all-in-one device is also underlined by the comparison with the previous year's consumer survey in Germany, as fig. 23 shows. While just under half of those surveyed indicated their interest in this kind of device in 2010, the figure had reached 73.2% by 2011. In particular, the proportion of consumers showing a very strong interest has increased significantly (by 21.4 percentage points).

Various devices have the potential to become domestic control centres. As described in chapter 2.4, three product categories offer the best starting positions to conquer the all-in-one device market - hybrid TV sets, set-top boxes and back-channel-equipped gaming consoles. The hybrid TV set has the best prospects. According to goetzpartners projections, they will be found in almost every other household in Germany by 2015. In contrast, hybrid set-top boxes will continue to play a significant role in the UK and France as a result of the traditionally higher user numbers of pay TV services. Pure IPTV set-top boxes will continue to be present on

Figure 23: Development of interest in an all-in-one device in Germany



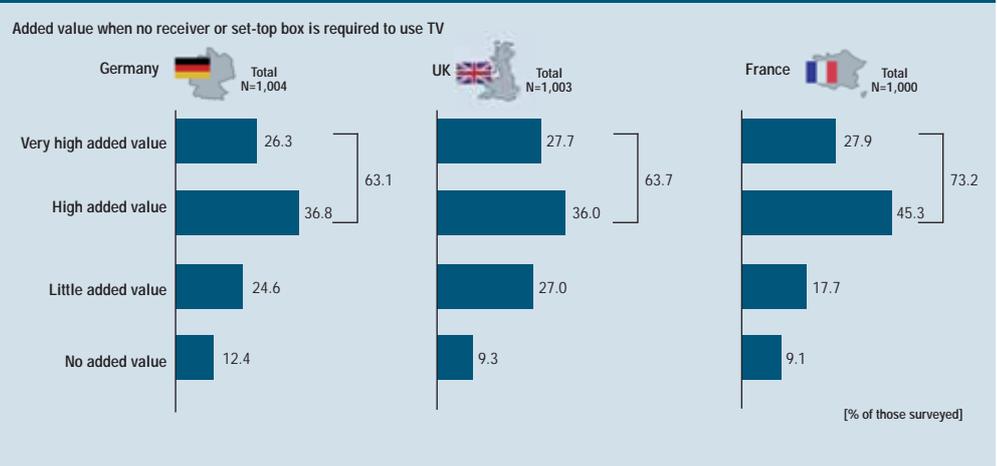
(goetzpartners)

the market in France due to the high penetration of closed IPTV platforms.

However, the goetzpartners survey also shows that consumers clearly perceive no receiver or set-top box being required for TV consumption as added value (fig. 24). This applies not only to those surveyed in Germany (63.1%),

but also in the UK (63.7%) and particularly in France (73.2%). This in turn shows the advantage that hybrid TV sets have in the competition to conquer the living room.

Figure 24: Additional benefits of TV usage without a receiver or set-top box in Germany, the UK and France



(goetzpartners)

Key points

- Those surveyed were mainly interested in traditional interactive features, such as time-shift TV and VoD.
- However, other interactive applications, such as a modern EPG, access to a home network, surfing the internet via the TV set, access to pre-selected apps and supplementary information on the current programme, also recorded interest of over 50% amongst those surveyed.
- The interest of those surveyed in interactive supplementary features increased sharply in Germany compared to the previous year.
- Around three-quarters of all consumers want an all-in-one device, a multimedia system which serves as a genuine all-rounder for the living room.
- Interest in this kind of all-in-one device increased by 21.4 percentage points in Germany in comparison to 2010.
- A large majority of consumers perceive requiring no receiver or set-top box for TV consumption as clearly representing added value.

3.3 Which content is there a genuine willingness to pay for?

The key question that providers of various IPTV services must ask themselves is: Will it make money? The willingness of consumers to pay for individual IPTV services must be identified. To examine this question, goetzpartners surveyed willingness to pay for various IPTV products in the 2011 consumer survey. The Van-Westendorp method was selected for this (see notes on methodical procedure in the annex to the study).

As part of the survey, participants were presented with several product bundles with different attributes. These product bundles consist of four of the following six elements:

- Traditional TV on the TV set via DSL internet
- Pay TV on the TV set
- Video-on-demand on the TV set (subscriptions/individual orders)
- Mobile usage (e.g. on the move on the smartphone)
- Access to web TV content on the TV set
- Access to new interactive TV applications

The Van Westendorp method allows the willingness of consumers to pay to be identified based on the impact of adding or taking away individual elements in these product bundles. Product bundles, each consisting of four of the six possible components, were used for all of the following comparisons.

Maximum consumer willingness to pay for IPTV products varies significantly

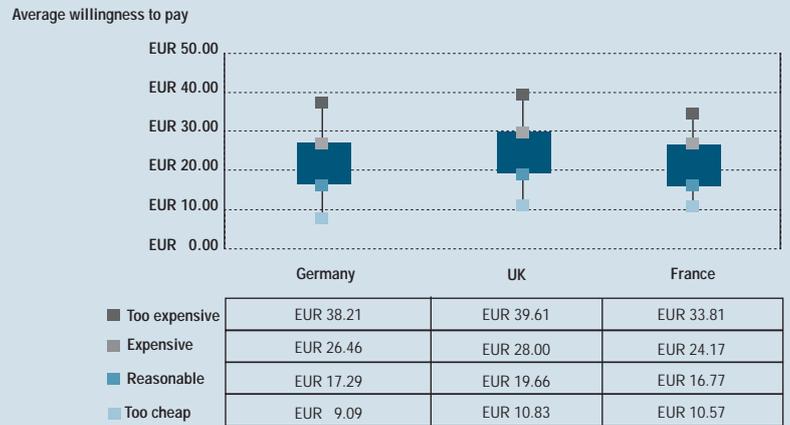
A diverse picture emerged between Germany, the UK and France on average in response to all of the bundles presented to those surveyed as fig. 25 shows. The willingness to pay is highest overall in the UK. On average, consumers here consider a product bundle priced at EUR 19.66⁹ as reasonable and at EUR 28.00 as expensive but fair. By comparison, consumers in Germany are more restrained. On average, they consider a product bundle priced at EUR 17.29 as reasonable and at EUR 26.46 as expensive. Consumers in France are much less willing to pay. The comparable range here goes from EUR 16.77 to EUR 24.17. It is also interesting that there is a much narrower range between both “reasonable” and “expensive” and between “too cheap” and “too expensive” for consumers in France. A possible explanation for this phenomenon is the greater penetration of IPTV products in France, which means there are more “established” price points that consumers use as a guideline. Another reason may be that the French generally spend a much lower proportion of their household income on telecommunications and media.¹⁰

9) An exchange rate of 1.15 EUR/GBP was used for the calculation

10) Source: Eurostat. Expenditure in Germany and the UK is 35-40% above that in France.

The more detailed comparison of the willingness to pay for individual product bundles enables identification of the product bundles for which there is the highest and lowest willingness to pay in Germany (shown as “high” and “low” respectively in the fig.).

Figure 25: Range of willingness to pay across all product bundles

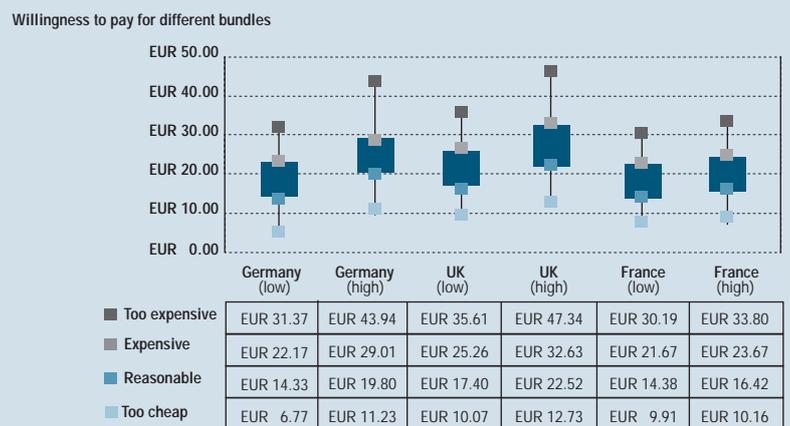


(goetzpartners)

	Product bundle for which there is the highest willingness to pay	Product bundle for which there is the lowest willingness to pay
Traditional TV via DSL	Not included	Included
Pay TV	Included	Not included
VoD	Included	Not included
Mobile usage	Included	Included
Web TV	Not included	Included
New interactive features	Included	Included

The respective levels of willingness to pay are depicted in fig. 26. Similarly to Germany, there is a higher willingness to pay for the “high” bundle in all countries. However, the difference is much less significant in France compared to Germany and the UK.

Figure 26: Levels of willingness to pay for different product bundles



(goetzpartners)

The observations on these two bundles are found in fig. 27. There is an “optimal” price point of EUR 10-12 for the bundle with the lowest level of willingness to pay¹¹. This can be interpreted as follows: a minimum number of consumers reject the product as being “too expensive” or “too cheap” at this point. Conversely, the potential in terms of addressable customers is greatest at this point¹². The optimal price point for the product bundle with the highest level of willingness to pay is between EUR 16 and EUR 17 in the three countries, therefore significantly above the level of the other bundle.

11) It is important that this concerns the same two bundles in all countries. In the UK and France, these are not necessarily the bundles with the highest or lowest level of willingness to pay.
 12) However, the optimal price point should not be understood to be the point where sales or revenues are maximized.

Figure 27: Comparison of product bundles with the lowest and highest levels of willingness to pay

	Willingness to pay for bundle	Competitive price range	Indifference price point	Optimal price point
Germany	Lowest	EUR 10.00 - EUR 18.00	EUR 15.00	EUR 10.00
	Highest	EUR 11.00 - EUR 20.00	EUR 18.00	EUR 16.00
UK	Lowest	EUR 9.50 - EUR 16.30	EUR 15.00	EUR 10.00
	Highest	EUR 12.50 - EUR 22.00	EUR 18.00	EUR 17.00
France	Lowest	EUR 9.50 - EUR 15.80	EUR 14.00	EUR 12.00
	Highest	EUR 13.50 - EUR 20.50	EUR 18.00	EUR 16.00

(goetzpartners)

The range of competitive prices is not only higher overall - as anticipated - for the “higher quality” bundle than for the bundle with the lower level of willingness to pay, but the range is also EUR 1 to EUR 3 higher in all countries. This indicates that there is a greater spread of opinion on the willingness to pay for the higher quality package than for the bundles with a lower willingness to pay.

VoD and new interactive features have a positive impact on willingness to pay

Isolating the price effect of individual components in the bundle shows how much more (or less) consumers are willing to pay if component XY is included in a bundle with three additional IPTV components. The evaluation of this data for all product bundles produced the effects shown on the left in fig. 28 for the German participants in the survey.

Figure 28: International comparison of levels of willingness to pay



(goetzpartners)

In Germany, pay TV has a positive effect on willingness to pay, but so too do VoD, mobile usage options and interactive applications. The obvious interpretation here is that consumers are used to paying for elements which improve their content in terms of quality and quantity.

The negative effects of traditional TV and access to web TV content are perplexing at first glance. However, a plausible explanation is that traditional TV is the feature with the lowest “value”. There is less willingness to pay as traditional TV and web TV are free services. The cost of such bundles is seen as “expensive” because the components are available elsewhere free-of-charge. In summary, it can therefore be concluded that consumers have a particular willingness to pay for components which they cannot use with their “traditional” TV connection.

The country comparison does not show a very uniform picture. VoD and new interactive features have a positive effect on the average willingness to pay in all three countries. However, the main difference is in the observation of the data from the UK. Pay TV clearly has a negative effect here. The reason for this may be the high level of pay TV’s market penetration in the UK (see chapter 2.1). Consumers may see an IPTV-based pay TV offering as a redundant service which they reject on account of the existing pay TV package (i.e. they are not willing to pay twice).

Football as a content package acts as a driver for willingness to pay

In the previous chapters, the product bundles were presented to consumers based on technical features. In a second step, consumers were presented with combinations of various content packages. The individual packages were

- Movies package
- TV series package
- Sports package (excluding football)
- Football package (Bundesliga, Premier League, Ligue 1)
- Erotic package
- Documentaries
- Family package.

The method applied is the same as with the technical features. Consumers were presented with bundles consisting of four of seven possible packages.

A comparison of the top three content packages between the countries shows that the football offering is found in each of them (fig. 29). The top three in Germany included the erotic package¹³ and movies in addition to football. A sports package (excluding football) replaced movies in the UK. A possible explanation is that the British have other similar popular types of sport with high viewing figures besides football, such as rugby, cricket and golf. The top three in the UK was completed by the TV series package. The erotic package was in top position in France followed by movies and football.

Consumers are willing to pay extra for HDTV, 3D content and better sound quality

goetzpartners has surveyed consumer willingness to pay for certain features, such as better sound or picture quality, in previous IPTV studies. Consumers were also asked in this study whether they would be willing to pay for certain features and, if so, how much more in percentage terms.

The willingness of German consumers to pay for HDTV has increased significantly compared to the 2010 survey. In 2010, just over 40.4% of those surveyed were willing to pay more for HDTV than their standard TV package. In 2011, this figure rose to 45.4% of those surveyed.

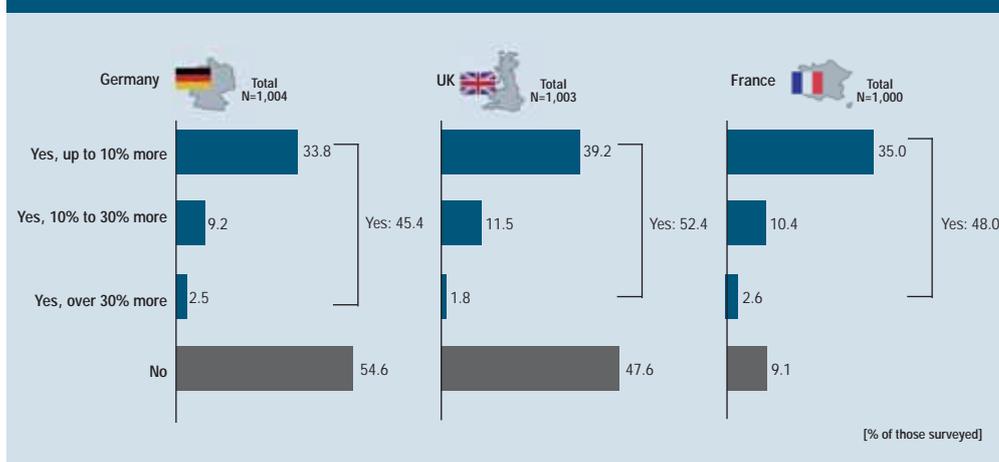
Figure 29: Comparison of the top three content packages



(goetzpartners)

¹³) This survey has succeeded in addressing the issue of social desirability thanks to the design of the study. This issue often arises in questions about erotic content – consumers do not express their true preferences here. It is clear that there is a demand and willingness to pay for erotic content.

Figure 30: Willingness to pay for HDTV

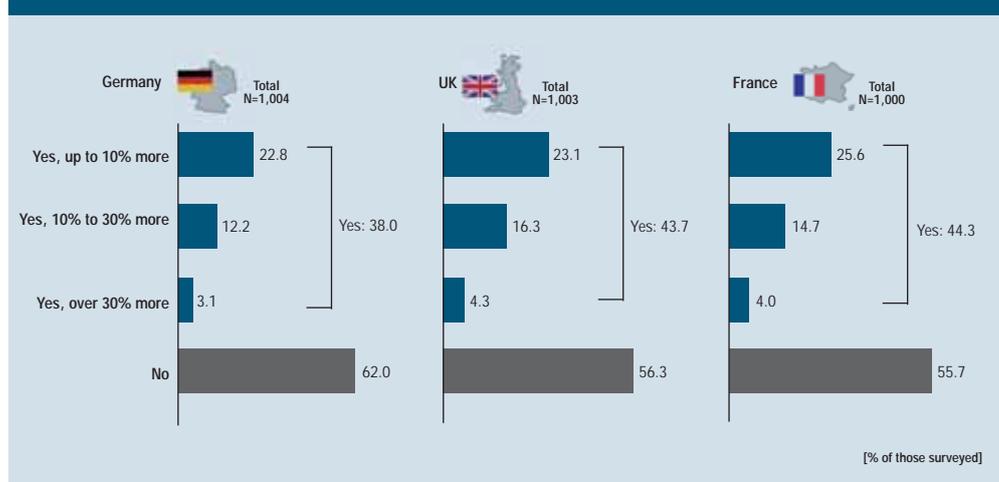


(goetzpartners)

When consumers were asked about their willingness to pay more for 3D content, it emerged there was a greater willingness to pay (fig. 31) amongst 38% of those surveyed in Germany. It is interesting that the number of consumers willing to pay over 10% or even over 30% extra is significantly higher in comparison to HDTV.

The willingness to pay for better sound quality provides results which are similar to the willingness to pay for HDTV. Just under 40% of those surveyed were willing to pay extra for better sound quality. Just over 10% were also willing to pay over 10% extra.

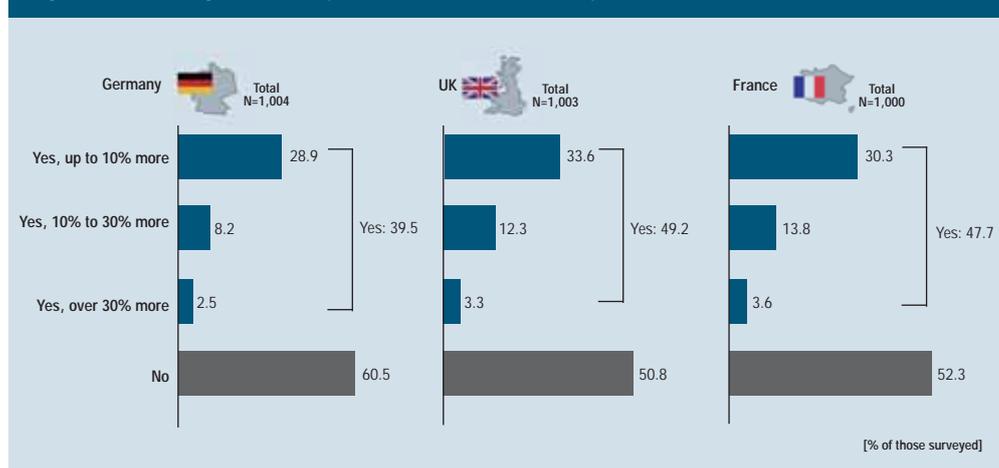
Figure 31: Willingness to pay for 3D TV



(goetzpartners)

These results are confirmed by the international comparison. The willingness to pay for better picture and sound quality or 3D content is much higher in both France and the UK than in Germany. Over 52% of those surveyed indicated a higher willingness to pay for HDTV in the UK, compared to 48% in France (fig. 30). More people were also enthusiastic about 3D TV in France and the UK. Just under 44% of British and French participants surveyed are prepared to pay for or pay significantly more for 3D TV. Similarly to Germany, the proportion of those willing to pay over 10% or even over 30% extra is significantly higher here than for the two other features asked about, as fig. 31 shows. The question on the willingness to pay for better audio quality

Figure 32: Willingness to pay for better audio quality



(goetzpartners)

produces a comparable picture - almost half of those surveyed in France and the UK are willing to pay more for improved sound quality (fig. 32).

Key points

- Consumers are more willing to pay for IPTV products, content and better quality.
- People are most willing to pay - in terms of both features and content - for elements which are not available free-of-charge elsewhere.
- With regard to IPTV features, VoD services clearly have the greatest positive impact on the willingness to pay followed by interactive features.
- Most consumers do not consider the option of being able to use content on the move as being worth much more money.
- Football is a common denominator in terms of content between the countries surveyed. Otherwise, erotic and movie packages both rate highly in two of the three countries.
- Around 40 to 50% of those surveyed are willing to pay more for HDTV, 3D content and better audio quality in all three countries.

4. What impact do mobile devices have on TV usage?

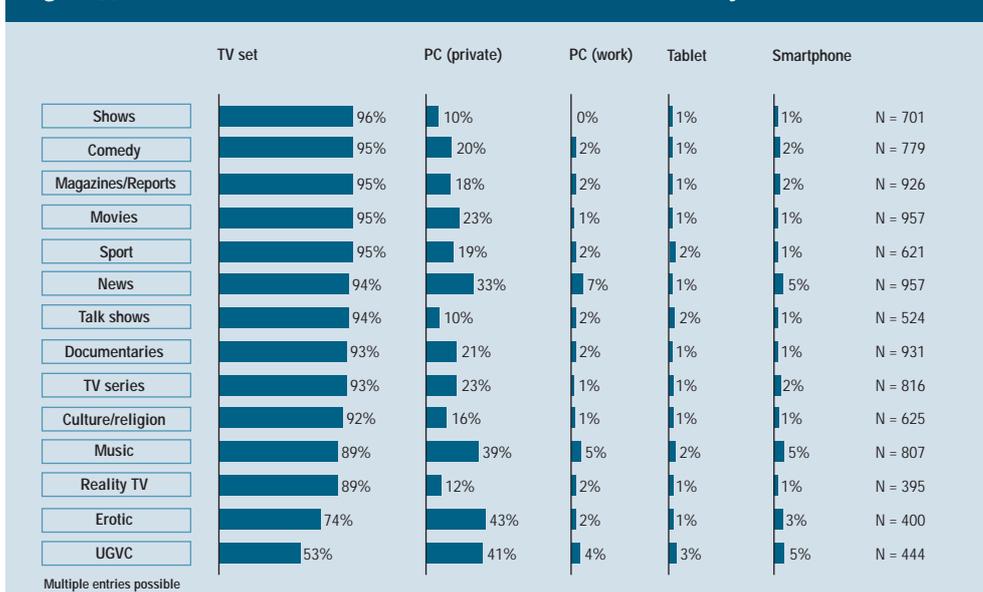
Mobile devices are playing an increasingly important role in media consumption for many customers. Most consumers actually still primarily use mobile devices for communication, in other words to make telephone calls and send and receive messages and emails. However, a rising number of consumers are using the mobile telephone for media applications, such as games, taking photographs, listening to music and watching videos¹⁴.

The goetzpartners consumer survey illustrates how smartphones and tablets are today being used by consumers and how they are actually changing TV usage. In a first step, the use of a range of TV content on various devices and in different usage contexts was examined. Awareness and actual usage of mobile TV on smartphones and tablets was analyzed in a second step to subsequently determine in detail which content is most frequently accessed by consumers on smartphones and tablets.

4.1 Which content do consumers want to use and on which devices?

When asked on which devices German consumers want to use the respective content, on average 89% of those surveyed¹⁵ indicated the TV set. As fig. 34 shows, the TV set is the preferred device in almost all content categories.

Figure 33: Preferred devices for the use of IPTV services in Germany



The only exceptions here are user generated video content (UGVC) and erotic videos. According to the survey results, this content is only accessed by 74% and 53% of consumers respectively via the TV which is much less frequently than other content types. The usage behaviour of consumers from the UK and France produces a very similar picture in this respect. On average, 85% and 84% of those surveyed in the UK and France respectively use the TV set to access the individual content categories. Erotic content, at 58% and 69%

¹⁴) TNS Infratest: TNS Convergence Monitor 2011

¹⁵) % figures in this evaluation do not refer to all participants but only to those surveyed who indicated at least a moderate interest in the respective content category.

respectively, and UGVC, at 47% and 57% respectively, is also much less frequently used via the traditional TV set than other content types.

Computers are preferred for some content irrespective of the usage context

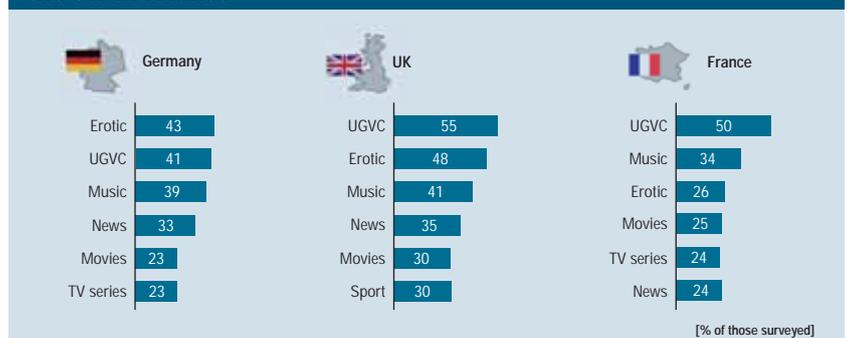
Video usage on personal computers is much lower than the intensive media usage on TV sets. On average, only 23% of Germans surveyed said they used their computer for viewing across all content categories, see fig. 34. The content types German consumers prefer to access via computer are the categories of erotic (43%), user generated video content (41%), music (39%) and news (33%).

Two observations can be made in comparison with the UK and France. Firstly, there is a significant difference in overall media usage via computer between the different countries. On average, 29% of those surveyed in the UK indicated that they also accessed the various types of content on the computer, whereas in France the figure stood at just 21%. Secondly, the same content types make up the top usage statistics in all countries in spite of the overall differences in usage intensity. Consumers from Germany, the UK and France indicated that UGVC, erotic content and music were the three types of video most frequently accessed via the PC. It is clear that the usage of some content, such as UGVC, erotic content and music, is not primarily determined by regional characteristics but rather by the usage medium.

The comparison of usage distribution between private and work computers across the individual content categories also shows a correlation in usage intensity, i.e. content which is accessed intensively on private computers is also accessed intensively on work computers. This supports the hypothesis that the consumption of UGVC, erotic videos, music and news does not primarily depend on the consumption location (at work or at home) but more on the medium used.

These two findings illustrate that traditional TV sets and computers are used differently and to a large extent complementarily by consumers in relation to displaying video content irrespective of country-specific practices. This presents the medium of television with both the challenge and opportunity to make content traditionally frequently used on the computer available on television sets via IPTV and thus further bridge the gap between PC and TV.

Figure 34: Top content in IPTV usage on (private) computers in Germany, the UK and France



(goetzpartners)

Content usage on mobile devices is comparable with usage on computers

Two fundamental observations can be made when examining content usage on mobile devices, such as smartphones and tablets. On one hand, the penetration of video consumption on mobile devices is still very low compared to television sets and computers. On average, only 2.2% and 1.3% of German consumers surveyed indicated that they accessed the individual content types on smartphones and tablets respectively. Despite the low penetration of mobile TV, evaluation of content accessed shows that the same content is mainly consumed on mobile devices as on computers. As

fig. 35 illustrates, news, music¹⁶ and UGVC are the top three content types accessed via smartphones by German, UK and French consumers.

Video content is most frequently consumed at home

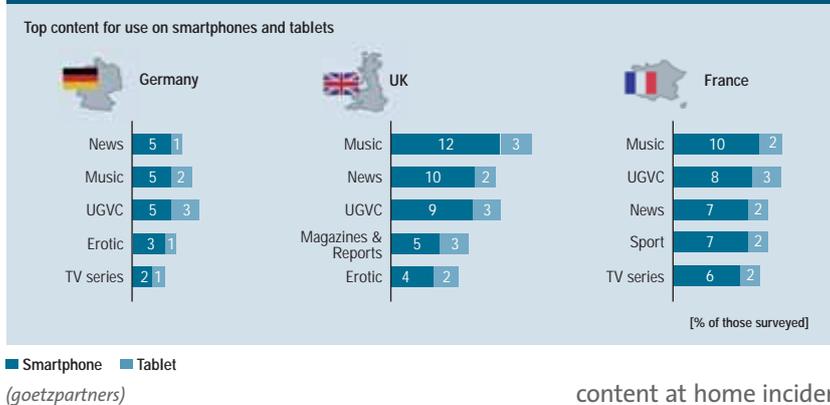
An analysis of the individual content categories in terms of usage context clearly shows that most video usage takes place at home by some margin. On average, 86% of Germans surveyed said that they consumed the listed content at home in their free time, 31% on average use the

content at home incidentally. The high use “at home” is in line with the results of the device evaluation according to which most content is accessed on a TV set or home computer. A comparison of the individual content types shows that traditional TV content, such as movies, TV series, documentaries and news, is usually consumed during free time and that usage is at a high level across the individual content categories, see fig. 37. In contrast, content most frequently “consumed incidentally” includes music (49%), news (36%), talk and reality TV shows (35% each) and comedy shows (33%).¹⁷ This content can be consumed in a lean-back position via the TV set and - with the exception of news - is primarily entertainment.

News, music and UGVC are the content types most frequently accessed while on the move

Further usage situations where consumers are not at home are primarily at the workplace or on short or long journeys. As media consumption takes place less via traditional TV sets and more via laptops or mobile devices in such situations, the results of the survey on content not consumed at home largely correspond to the results of the device evaluation. It is primarily news, music and UGVC that is accessed on the move or at the workplace. This content is supplemented by the additional consumption of movies and TV series on longer journeys which feature significantly above average in these usage contexts amongst German (4%) as well as British (6%) and French consumers (4%).

Figure 35: Top content for IPTV usage on smartphones/tablets in Germany, the UK and France

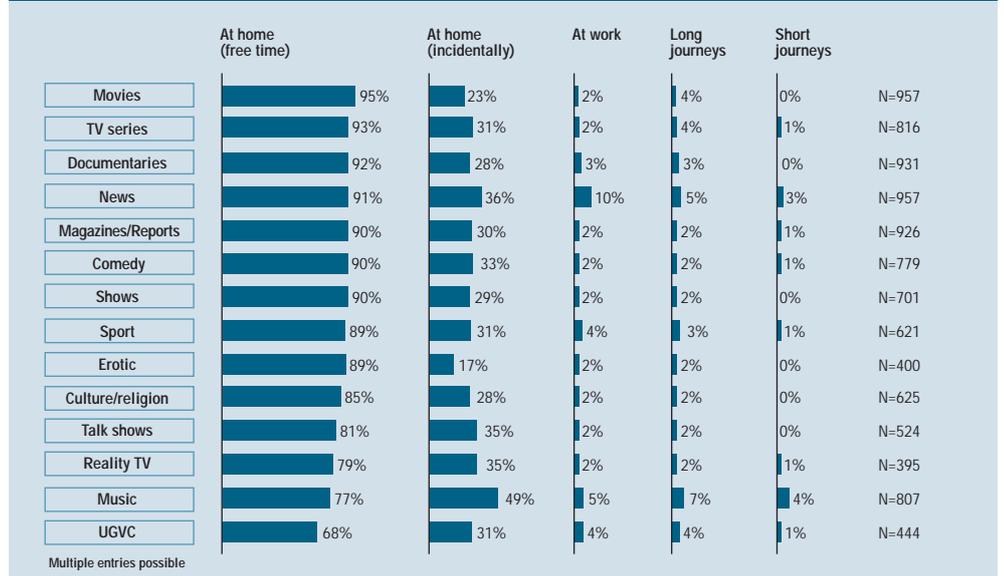


¹⁶) Although consumers were expressly asked about the use of IPTV content, the very high proportion of music usage via smartphones seems questionable. The particularly high percentage figures, primarily in the UK and France, are presumably explained by consumers also indicating listening to audio music content as well as viewing music videos.

¹⁷) The percentage figures concern the survey of German consumers.

The currently rather restrained usage of TV content while on the move in Germany will increase in future for two reasons. On one hand, the increasing penetration of new technologies, such as LTE, will result in improved availability of higher bandwidths and therefore better access to mobile TV content. On the other, it is evident that greater consumer demand exists in reference markets, such as the UK and France. It is anticipated that this trend will also occur in Germany with a time delay of 1 to 2 years.

Figure 36: Usage context of IPTV services in Germany



(goetzpartners)

Key points

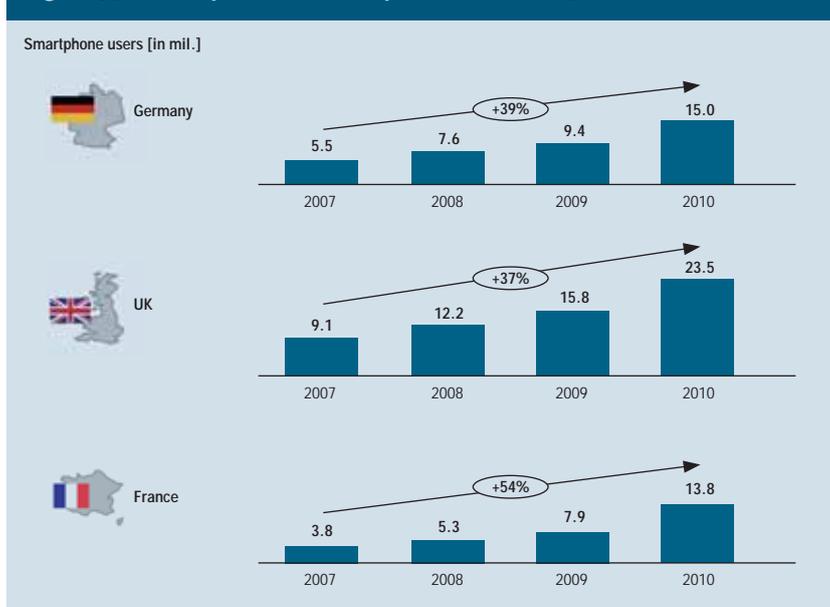
- The TV set is still the main medium for the consumption of video content.
- The top three content types most frequently accessed on the PC in Germany, France and the UK are UGVC, erotic content and music. Usage figures stand at between 26% and 55%.
- The use of computers and TV sets for accessing video complement one another.
- Mobile devices, such as smartphones and tablets, are only used by 2.2% and 1.3% of those surveyed in Germany for the consumption of video.
- The content types most frequently accessed via smartphones across Germany, the UK and France are news, music and UGVC. Germany, with average usage of these three categories of 5%, is still lagging far behind consumers in the UK (10%) and France (8%).

4.2 What use is already being made of mobile devices today?

Rapid increase in penetration of smartphones and tablets

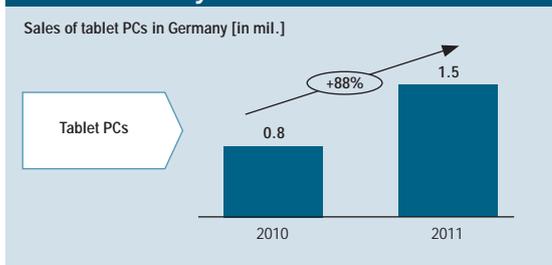
The penetration of mobile phones with large screens and easy internet access has fundamentally changed the usage experience for consumers. The pioneer in this development was Apple, which started the boom with its iPhone. Other manufacturers quickly followed suit with the development of their own smartphones. There were around 15 million smartphone users in Germany in 2010¹⁸. As fig. 37 shows, sales of smartphones rose by an average of 39% between 2007 and 2010. This figure is expected to continue to rise, in particular due to the market entry of further manufacturers and the launch of less expensive models.

Figure 37: Development of smartphone users 2007-2010



(Strategy Analytics, Global Smartphone Sales Forecast: EMEA, 2/2011)

Figure 38: Sales of tablet PCs in Germany in the first half-year 2010 and 2011



(BITKOM, 2011)

The next generation of devices, which has revolutionized the use of mobile data services, are tablet PCs. Thanks to their larger screens, these devices are better suited to the consumption of video. As the market for tablets was practically only created with the launch of the iPad in spring 2010, no historical growth figures can be used as a basis here. It is nevertheless clear that tablets have experienced rapid growth since their launch and around 1.5 million devices have been sold to date in 2011 (fig. 38).¹⁹

The app revolution

The increasing penetration of the required technical devices is just one of the factors which have contributed to the growing popularity of mobile media content. An additional key driver was the opening up of the smartphone operating

systems to the software of third parties, so-called apps. This paradigm shift by the manufacturers of smartphone operating systems in opening up their platforms to third-party providers has resulted in rapid growth in the number of possibilities available on smartphones. The app stores of Apple, Android and Research in Motion contain hundreds of thousands of programmes for almost all conceivable applications. These also include video applications, such as special video players like WDHVLC, but also access to the video libraries of sites such as YouTube and Zattoo. Numerous providers from the traditional television environment now also have a presence on mobile devices. For example, the media libraries of various broadcasters are now available on smartphones or tablets. According to a

¹⁸) Strategy Analytics, Global Smartphone Sales Forecast: EMEA, Feb. 2011

¹⁹) GfU: Consumer Electronics Market Index Germany (CEMIX), Bitkom

recent BITKOM survey, TV apps are now the most popular applications for playing media content on smartphones and tablets after daily newspapers and magazines.²⁰

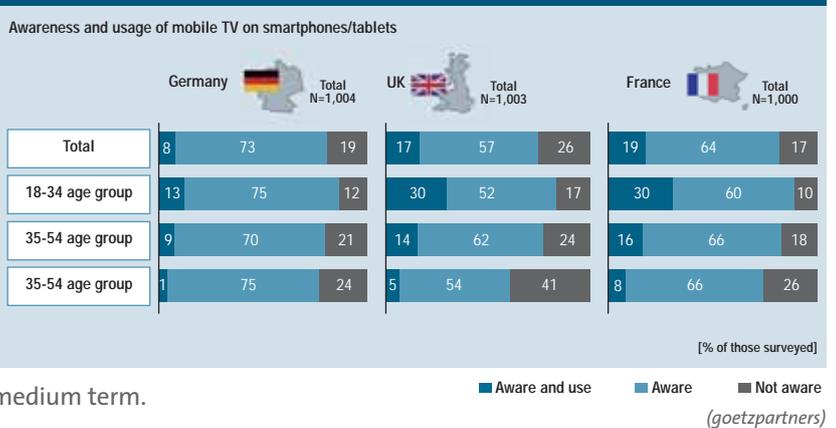
Mobile TV still in its infancy in Germany

The goetzpartners study nevertheless shows a significant discrepancy between awareness and usage of mobile TV (fig. 39). While around 81% of German consumers are aware of mobile TV, only a tenth actually use it (8% in total). The penetration of mobile TV in Germany is therefore still in its early stages and it is currently only used by technology-savvy early adopters. The mobile use of video has not yet reached the consumer masses in Germany. By comparison there is already much more intensive use of mobile TV by consumers in the UK and France. While in contrast to Germany, only 74% are aware of mobile TV in the UK, 17% of all consumers there are already using it. The share of mobile TV users in France is as high as 19%.

Mobile TV is most frequently used by the young target group

The distribution of mobile TV users across the individual age groups shows the same trend in all three countries surveyed. Mobile TV is increasingly being used by a younger target group, while older and less technology-savvy consumers are more restrained. The 18 to 34 age group is therefore the one with the highest awareness and usage of mobile TV in all three countries. 30% of 18 to 34 year-olds already use mobile TV on smartphones or tablets in the UK and France. If this is taken as a benchmark for the German market, there is still significant growth potential in the 18 to 34 age group with usage currently only standing at 13%. Stable and fast data transmission and intensive marketing of mobile usage are two key criteria for sustainable market penetration and are set to be focused on to a greater extent in Germany over the medium term.

Figure 39: Awareness and usage of mobile TV in Germany, the UK and France



Mobile TV is generally watched regularly several times a week

When asked about their consumer behaviour, 23% of actual mobile TV users said they use it daily, 35% use it several times a week and 18% use it at least once a week (fig. 40). Three-quarters of German mobile TV users therefore use this service at least once a week - only a quarter use it less frequently. The surveys of consumers from the UK and France show very similar results with 22% and 20% respectively using it daily, 34% and 35% several times a week and 24% and 23% once a week. This indicates that the acceptance of mobile TV in Germany, the UK and France is still very different. However, there is an equally high level of usage intensity in all countries amongst mobile TV users. This trend is explained by quick and easy access to mobile TV which provides consumers with the option of

20) BITKOM - Die Zukunft der Consumer Electronics – 2011

“interim” usage and therefore makes mobile TV a constantly available source of entertainment and information. The following analysis of content accessed via mobile provides further confirmation of this explanation.

The market for mobile TV content in Germany has not yet been opened up Music, news and UGVC, each with around 5%, are the video content types most frequently accessed via smartphones in Germany. Two interesting usage behaviour patterns can be observed in the UK and France in this respect. As fig. 41 shows, music, news and UGVC are also amongst the three most frequently accessed types of content via smartphones in those countries with significantly higher usage than in Germany. On the other,

there is additional content in the UK and France that is consumed relatively frequently in comparison to the other categories. In the UK, for example, current affairs and live news coverage is accessed by 5% of mobile TV users on smartphones, while in France sports programmes and TV series are also amongst the five most frequently consumed content types at 7% and 6% respectively. It can therefore be concluded that there is essentially also a market for the usage of these content categories via mobile devices, particularly on smartphones. The fact

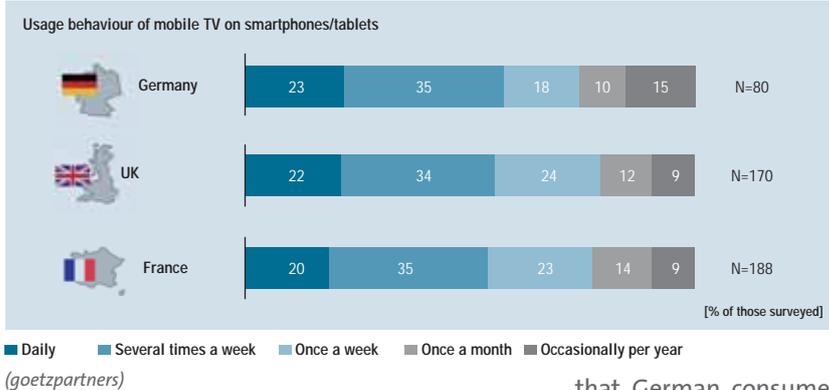
that German consumers only use such services hesitantly today is an indication of delayed market development. Infrastructure providers, device manufacturers and content providers have to increase the attractiveness of their mobile TV offerings and improve their marketing in order to sustainably increase demand for mobile TV.

Tablets have not yet reached the masses and are following their own rules

The analysis of mobile video usage via tablets shows that the overall usage of tablets is significantly less than the use of smartphones owing to their lower penetration. Although tablets, like smartphones, are mobile devices and enable video consumption while on the move, they differ from smartphones in the use of individual content categories. In addition to the external mobile usage of smartphones, tablets are also often used to complement other media, such as TV at home.

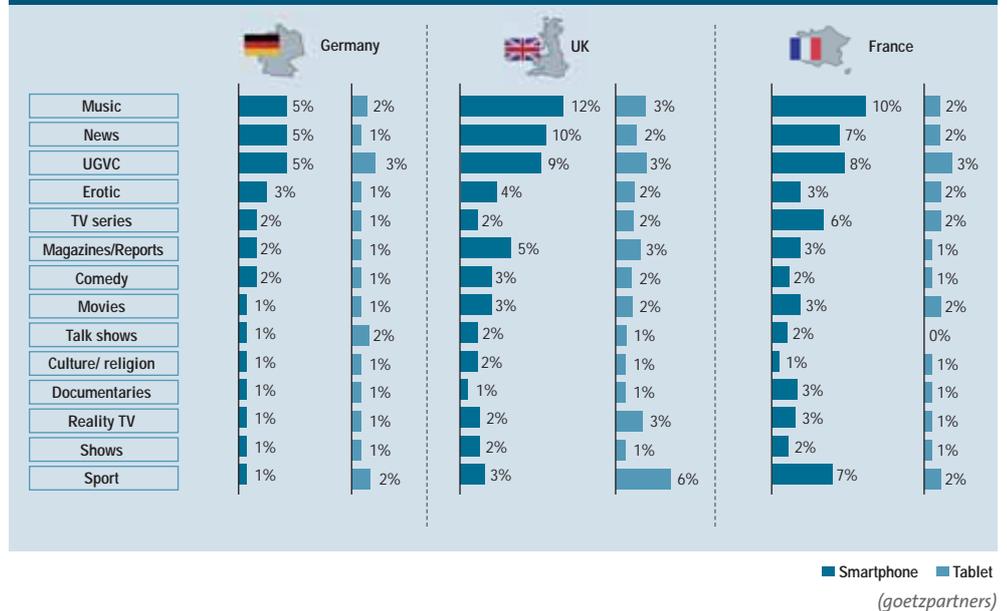
User generated video content (UGVC) is the most frequently accessed content via tablets in Germany and France whereas it ranks in second position in the UK. However, the consumption of sports programmes by tablet users in the UK stands out in particular. With 6% of users, sports programmes attract twice as many users as the next highest content categories (UGVC and music). This illustrates that it is basically possible to achieve relatively

Figure 40: Mobile TV usage behaviour on smartphones/tablets in Germany, the UK and France



high usage, even with generally low device usage, through attractive content specially tailored to consumer requirements and the particular characteristics of the medium.

Figure 41: Content usage on smartphones/tablets in Germany, the UK and France



Key points

- There were 15 million smartphone users in Germany in 2010.
- Although tablet PCs only started to penetrate after the launch of the iPad in spring 2010, sales of 2.2 million devices are expected for 2012.
- Usage of mobile TV (8% of all those surveyed in Germany) is a long way behind awareness (81%).
- There is greater penetration of mobile TV in the UK and France where it is used by 17% and 19% of all those surveyed respectively.
- Mobile TV is mainly used by young, technology-savvy consumers.
- 75% of actual mobile TV users use it at least once a week - around 55% use it as much as several times a week. This usage distribution is identical across all countries surveyed and can be regarded as characteristic of mobile TV.

4.3 Future potential of mobile devices

The three main drivers which will determine the framework conditions for strong growth of mobile video content over the coming years are:

- Growing penetration of smartphones and tablets
- Higher penetration of mobile broadband data services
- Increasing penetration and additional providers of video apps

Growing penetration of smartphones and tablets

All known forecasts on smartphone penetration anticipate sustained strong growth. By 2015, user numbers are expected to reach over 36 million in Germany, 43 million in the UK and just under 35 million in France.

A high two-digit growth rate is also forecast for tablet PCs over the coming years. According to Morgan Stanley, over 150 million tablets will be sold worldwide by 2013. goetzpartners anticipates global sales of around 273 million tablets by 2015. The increasing penetration of smartphones as well as tablets will act as a driver for the further penetration of mobile video content, mobile broadband services and video apps.

In combination with the technical requirements for devices and mobile communications networks, the growing penetration of smartphones and tablets has established the foundations for the explosion of data traffic on the mobile communications networks. While the pioneering categories for these new opportunities were primarily mobile web usage and the download of music and games, mobile video content is becoming increasingly important. In 2011, average worldwide data traffic stood at 546 petabytes per month, over 52.4% of which is the result of mobile video usage²¹.

Higher penetration of mobile broadband data services

In tandem with the market penetration of smartphones, the simultaneous increasing penetration of mobile broadband technologies (UMTS) has also helped the breakthrough of the mobile internet. The mobile network operators in Germany have now equipped their networks to HSPA (High Speed Packet Access) standard. This now enables consumers to reach average download speeds of 7.2 Mbit/s (3G) on mobile devices. The maximum achievable download speeds already stand at 100 Mbit/s (LTE) and are comparable with those of stationary internet connections.

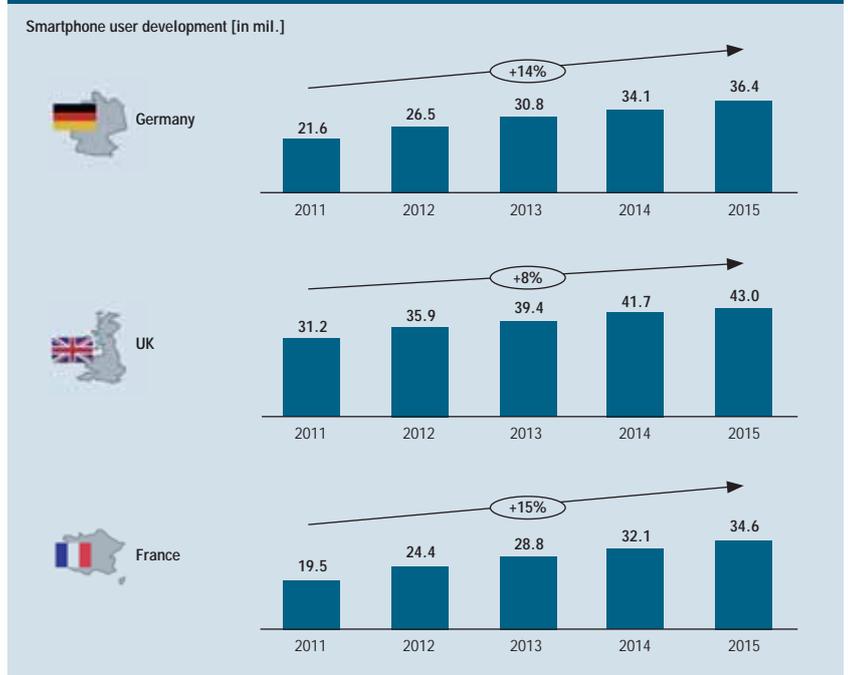
The expansion of LTE (Long Term Evolution) will also provide further impetus for the penetration of mobile broadband services. After the auction of frequencies in Germany in May 2010, all network operators are now rolling out the new technology. The LTE standard should enable transmission rates of up to 100 MBit/s on mobile devices. Such speeds will allow problem-free streaming of high-quality video content.

²¹ Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2010–2015

Increasing penetration and additional providers of video apps

The previous chapter looked at the fundamental importance of apps in mobile media consumption. The future potential of mobile devices will primarily be driven by additional video apps. There is already a vast range of apps available, in particular for Apple devices. Besides the well-established, leading video players, such as YouTube, Netflix and Hulu, there are countless other innovative offerings. A new trend in the USA is the apps of cable network operators, such as Cablevision Optimum and Time Warner Cable. The apps allow not only live streaming of the content of Cablevision and Time Warner but also access to VoD services and the programming of digital video recorders. The first of these apps also already use Apple's new AirPlay technology which enables content to be transferred between different devices.

Figure 42: Development of smartphone users 2011-2015



(Strategy Analytics, Global Smartphone Sales Forecast: EMEA, Feb. 2011)

Sky Deutschland provides a very advanced offering for the German market. With the "Sky Go" application, the pay-TV operator provides its subscribers with the opportunity of also receiving pay-TV contents on a mobile device. This overcoming of the barrier between mobile and stationary usage is new in Germany and evidence of the blurring of the boundaries between video content consumption options. In the UK, "Sky Go" has generated a million downloads since July 2011 and 40 million views in August alone and is primarily used for sports broadcasts on mobile devices.²²

The increasing integration of videos in digital print media provides further impetus for video usage via mobile devices. What is already standard on news sites is also becoming increasingly common in e-magazines and e-books.

Desire for use of mobile TV now already higher than actual usage

Both the provision and usage of mobile video content has increased sharply in recent years. There is nevertheless still strong growth potential in the field of mobile video. According to the results of a survey conducted by TNS Emnid, there is still a large gap between actual usage and the desire for more intensive usage of mobile video content in Germany. These results tally with the results previously set out in chapter 4.2.

Mobile data networks must be equipped

The increasing penetration of smartphones and tablet PCs is resulting in an explosion in data traffic. Cisco forecasts that the mobile data traffic gener-

Figure 43: Development of tablet sales 2011-2015

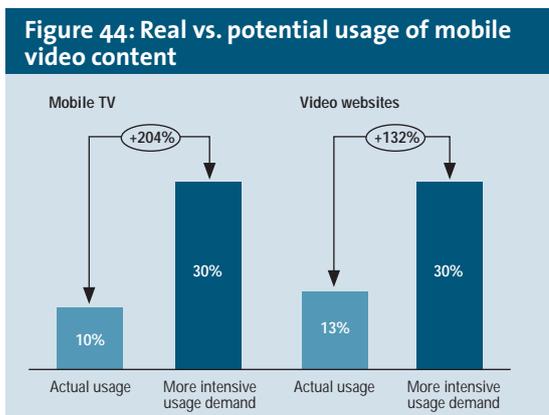


(Morgan Stanley, Gartner, goetzpartners)

22) BskyB

ated by smartphones will increase by 104% per year on average by 2015 and the traffic of tablet PCs by as much as 190% per annum. Video content will account for much of this growth. This is set to constitute two-thirds (66.4%) of the total mobile data volume by 2015.

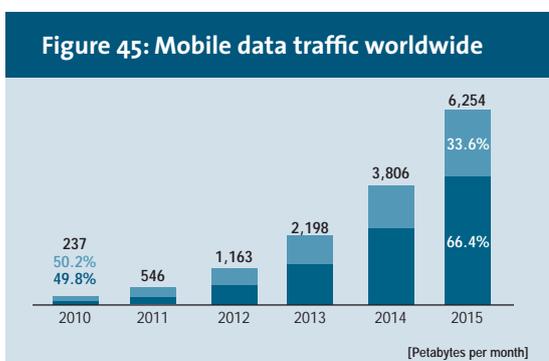
Mobile network operators are currently not only trying to respond to this trend by expanding network capacities, they are also attempting to benefit from it. As the download/buffering times are a key factor in the mobile consumption of videos, mobile network operators are currently attempting to implement so-called traffic prioritisation on their networks. This enables them to route certain data packages across their networks as a priority using a form of preferential pathway. A clear objective of this feature is to form partnerships with the providers of mobile video content. In such scenarios, content providers (such as YouTube) would pay the mobile network operator to route its traffic across the network as a higher priority. This would give the content providers a competitive advantage as consumers would be able to download their videos more quickly, increasing the attractiveness of the content.



(TNS Emnid study in cooperation with Radiozentrale "Medien to go – was unterwegs ankommt", 2010)

Key points

- The drivers of the further penetration of mobile video content are the increasing penetration of smartphones and tablets, the greater penetration of mobile broadband services and the increasing penetration of video apps.
- Both consumers and industry experts believe that the demand for mobile video content will explode over the coming years.
- Network operators are responding to this trend by providing higher bandwidths, better compression methods and traffic prioritization.



■ Mobile video ■ Other

(Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2010–2015, Feb. 2011)

4.4 Show Case iPad – how the iPad will revolutionize mobile TV usage

Since its launch, the iPad has significantly changed the media usage of many consumers. The tablet PC enables users to carry out many tasks for which a laptop or PC were previously required. This also concerns the consumption of video in high quality. It has resulted in 20% of total wireless video views being made from iPads in the USA, although they only make up a small proportion of all mobile devices²³. This share is likely to increase with the rising penetration of tablets.

Tablets combine various features that are important for the consumption of video content outside of traditional TV sets. The devices have adequately large screens to view videos comfortably. They are sufficiently small, light and flat to be taken anywhere. They are easy to use and quickly made ready for operation. A wide range of content can also be integrated via apps. All of these points make tablets ideal devices for playing video.

An analysis of usage behaviour by the media aggregator MeFeedia revealed, shortly after the launch of the iPad in 2010, that users were already watching much more video content via the iPad than on traditional PCs/laptops but also than on the iPhone. This applies to both the number of videos consumed and the duration of usage. A recent study by Nielsen produces very similar results.²⁴

As already described in chapter 2.5, the Apple Ecosystem of hardware and software provides extensive opportunities in terms of content interoperability. The iPad has filled a gap in this Ecosystem. The iPad allows Apple to provide a tailored device for all usage contexts (e.g. in the office, on the move, at home), starting with the well known MacBooks and including the iPhone, iPod and iPad. Furthermore, AppleTV is also available for usage at home. In addition to the iOS operating system, the software iTunes and the cloud storage system iCloud serve as overarching features. Apple is working intensively on the progressive integration of these individual components. There is significant potential in the field of video which is also being evaluated by the app producers²⁵. It is vital that the app developers achieve integration of all Apple devices at relatively low cost. This would open up completely new opportunities for consumers to use videos flexibly on various devices. This is already possible to an extent with Apple's proprietary iTunes software but the use of a large number of apps via different devices is not so advanced.

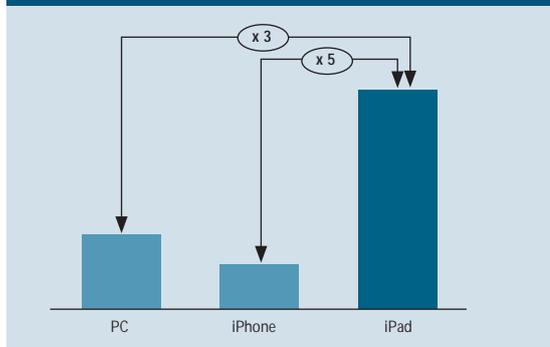
Obviously, it is not just Apple that has seen the potential of the development outlined. Other manufacturers, such as Samsung for instance, are also working intensively on the further integration of mobile and stationary devices. For example, Smart TV from Samsung can be used via both the

23) FreeWheel Video Monetization Report Q1 2011

24) Nielsen: The Increasingly Connected Consumer: Connected Devices, October 2010

25) Business Insider

Figure 46: Video consumption on PC, iPhone and iPad



(MeFeedia, goetzpartners analysis 2010)

manufacturer's smartphones and tablets. Amazon launched the "Kindle Fire" at the end of September 2011. This is a tablet PC which incorporates the lessons learned by other manufacturers to launch a high-performance and attractively priced product on the market. However, Apple currently seems to be the provider that already has the most building blocks in place for a comprehensive and fully integrated entertainment offering.

It is not just device manufacturers that can benefit from the tablet boom as various new opportunities are also opening up for content providers. Many apps of traditional print publishing houses are enriched on tablets through video content. Amazon's online shopping world is deeply integrated into the previously mentioned Amazon device in order to direct additional revenue streams to Amazon via this terminal.

All of these developments are currently still experiments - some work, others do not. Less than two years after the launch of the iPad, we can nevertheless say that the boom of the tablet PC has actually arrived and that tablets will play a big part in the future potential of mobile video services.

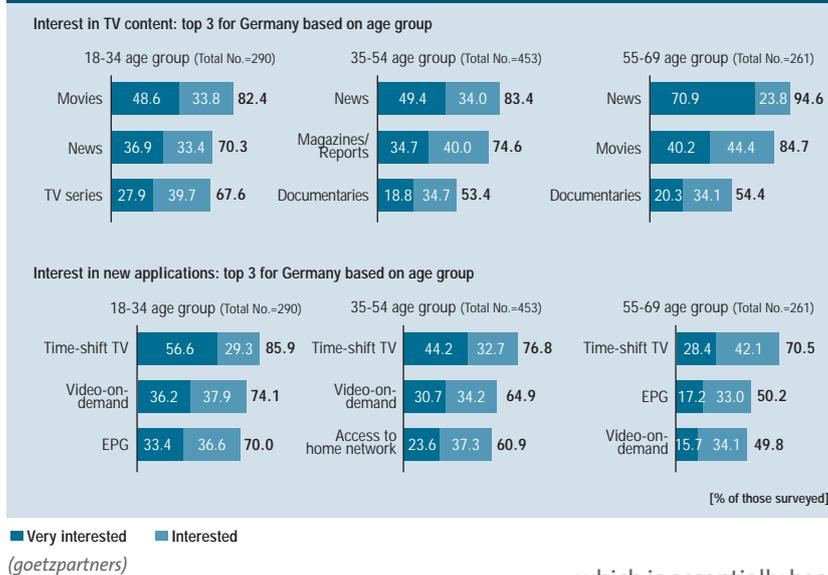
Key points

- Tablet PCs constitute a completely new category of device - large and powerful enough to replace TVs, PCs and laptops for many applications, while at the same time being ultra-portable and usable on the move.
- Tablet PCs represent a breakthrough for mobile video usage - iPad users consume much more mobile video content in comparison to PCs or smartphones.
- Together with Apple's other products, the iPad has the potential to offer consumers a fully integrated entertainment world. Other manufacturers, such as Samsung, are now also pursuing a similar approach.

5. Demand-oriented service strategies in IPTV

5.1 Strategic bundling of content offerings

Figure 47: Different target-group-specific interests in IPTV content and supplementary services in Germany



Analysis of target-group requirements and competitor offerings is critical to success

In order to bring financially sustainable offerings to market in future via subscription, transaction and advertising-based business models, the usage of IPTV content and supplementary features by consumers must continue to increase. However, more intensive usage can only be expected if offerings are accepted by users because they meet their specific requirements in a targeted way or create these requirements in the first place through perceived added value.

As a result, providers should always begin with identification of the target-group-specific requirements when optimizing offerings. A process-oriented approach is recommended

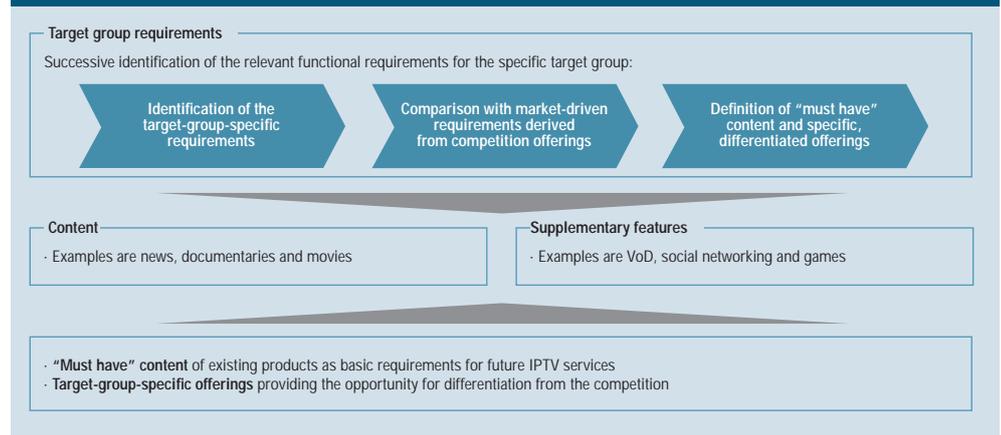
which is essentially based on four steps:

1. A preliminary evaluation of the basic characteristics of the target group initially produces the first findings concerning preferred media usage, online skills and determination of user types.
2. A detailed analysis of media usage behaviour is subsequently carried out, in particular providing information on online activities, online shopping behaviour, the use of video-on-demand and the willingness to pay for these services.
3. The survey of consumer preferences for content and supplementary services then provides an overview of content required, the attractiveness of various interactive features and further TV innovations required. The fact that interest in IPTV content and supplementary services is not just characterized by country-specific differences - as we have already seen in chapter 3.1 - but that the various age groups can differ from one another in terms of detail is shown in fig. 47 through the example of the German market.
4. The knowledge acquired in the analysis of target-group-specific requirements must be critically compared against the competition offer-

ings already available on the market in a further step. A comparison of the specific requirements of the target group identified and the offerings available on the market will reveal, through a gap analysis, the content and supplementary services for which consumer requirements are not currently being met and where exclusive offerings are possible (fig. 48).

The combination of the knowledge from the analyses of target-group requirements derived and existing competition offerings enables providers to define an optimized mix of IPTV content and supplementary services. Providers of linear and non-linear services must set different priorities in the structuring of their offerings.

Figure 48: Successful development of content and supplementary services for IPTV services



(goetzpartners)

Successful non-linear services bundle market-differentiated and “must have” content

The selection of the right channels and programme elements is the key to the definition of the portfolio of linear TV services. High target-group orientation through systematic alignment of the offering to their specific requirements is vital to ensure a service completely tailored to the consumption and usage habits of customers. In particular, providers must take account of current trends in the requirements of their target groups in terms of particular content and transmission formats and meet these through their offerings.

The integration of high-quality content, such as HDTV or 3D, is also a key factor. Interactive supplementary services that offer genuine added value, such as VoD services or access to an app site via the receiver, should also be part of the provider's range of offerings. The integration of such supplementary features allows IPTV providers to sustainably differentiate themselves from traditional linear TV offerings on the market and to achieve unique selling propositions.

Successful non-linear services bundle market-differentiated and “must have” content

Successful non-linear services will have to bundle market-differentiated and “must have” content and supplementary features, in particular, in future. Exclusive and market-differentiated content enables providers to achieve target-group-specific unique selling propositions on the market. As an example, fig. 49 shows the differentiation options for hybrid TV offerings through content on the German IPTV market. In contrast, basic and

Figure 49: Differentiation options for hybrid TV services through content on the German IPTV market

Specific content with differentiation potential		
· BBC	· iTunes	· The Guardian
· Blockbuster	· IMDb	· Vimeo
· Cartoon Network	· LinkedIn	· Wer-kennt-wen.de
· CinemaNow	· Netflix	· Wolfgang's Vault
· CNN	· Pandora	· Xing
· FlightTrack	· PreviewNetworks	· Yelp
· Flixster	· Texas Hold'em Poker	· ...
· Google Maps	· The New York Times	

"Must have" content		
· Acetrax	· Flickr	· Spiegel Online
· Amazon	· maxdome	· Tagesschau.de
· ARD Mediathek	· Napster	· Twitter
· ARTE +7 Mediathek	· Pro7 Videos	· vTuner
· BILD.de	· QTom	· Wikipedia
· Ebay	· RTL Now	· YouTube
· EuroSport	· Sat.1 Videocenter	· ZDF Mediathek
· Facebook	· Skype	· ...

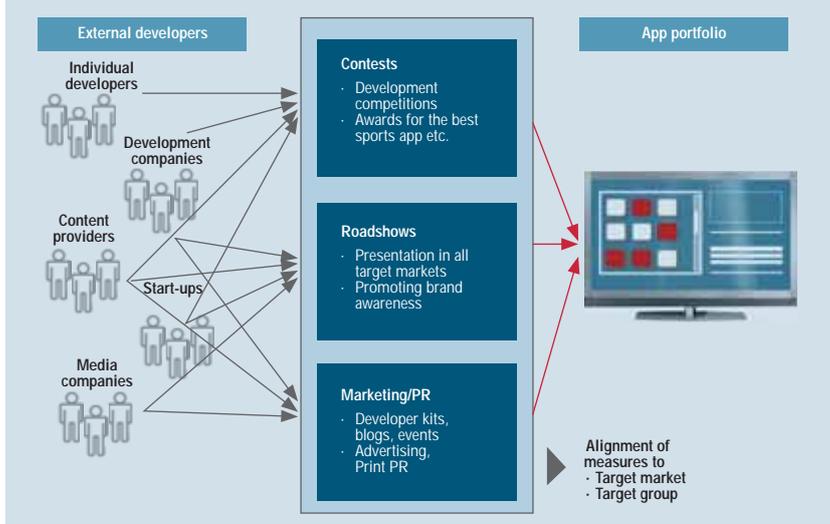
(goetzpartners)

"must have" content already established on the market (e.g. YouTube, Facebook and Twitter) should be evaluated as hygiene factors. Provision of this content is necessary in order to avoid being disadvantaged vis-à-vis the competition in the selection of offerings by consumers.

In addition to the definition of offerings, cooperation on actual content is also a key success factor for the providers of non-linear services to achieve additional revenue streams via agreed revenue/advertising shares. Provided no exclusivity agreements exist beforehand, the aim of providers of non-linear services must be to achieve a presence on as many platforms as possible. Technical standards, such as CE-HTML, will in future support simplified migration of IPTV content and supplementary services to the platforms and sites of other providers.

At the same time, platform operators are aiming to produce a target-group-specific content portfolio that is as extensive as possible. Depending on the target group and target market, the respective shares of content partnerships specifically entered into and IPTV content and supplementary services provided by third parties at their own initiative on their own platform should be optimized. However, sustainable integration of third-party content can ultimately only be successful if the external developer communities and content providers in the individual markets can be attracted and incentivized through contests, roadshows and marketing campaigns.

Figure 50: Promoting the creation of IPTV content for hybrid TV by external developers



(goetzpartners)

Platform providers must firstly put in place an adequate architecture in order to actually monetize the meeting of specific consumer requirements. Future platforms must enable transaction-based business models with corresponding billing and payment functions via subscriber management systems. Furthermore, the integration of systems already established online to deliver and measure the success of display and video advertising will allow advertising shares to be achieved. The independent bundling and marketing of the coverage of smaller content providers can also prove an additional success factor for platform providers.

Key points

- The selection of target-group-specific channels and programme elements is a key factor in the definition of portfolios of linear TV services.
- The integration of supplementary features gives IPTV providers the opportunity to sustainably differentiate themselves from traditional linear TV offerings on the market.
- Exclusive and market-differentiated content enables the providers of non-linear offerings to achieve target-group-specific unique selling propositions on the market.
- Cooperation on content is becoming a key challenge for non-linear providers.
- Frameworks for the integration of display and video advertising and subscriber management systems are a key requirement for successful monetization on various platforms.

5.2 Provision of desired mobility of content usage

Increase in the user-friendliness of mobile TV usage as a success factor

Mobility can mean two things for consumers. On one hand, there is traditional out-of-the-home usage where consumers go online and access data while on the move. On the other, there is also the opportunity to increasingly utilize tablet PCs on a mobile basis at home and to access multimedia content via the home network. While mobile out-of-the-home usage primarily competes with alternatives, such as newspapers, radio and DVDs at work, while travelling or during waiting times, smartphones and tablets also have the potential to substitute the use of traditional computers, laptops and TVs in terms of mobile use at home, particularly through the increasing usage of video content.

To perform better against these alternative media and content types inside and outside of the home in future, the user-friendliness of smartphones and tablets must be made even more attractive to consumers. Content must be systematically adapted for display on a mobile device. A simple one-to-one transfer of the content display from a stationary to a mobile usage environment is not sufficient. For example, navigation by consumers on an iPad follows a different operating logic through the use of the touchscreen to usage on a TV via remote control. Mobile TV can only achieve sustainable market penetration if all providers contribute to an improvement of the offering in their area of value creation.

Availability of pay-for broadband tariffs as the basis for the breakthrough of mobile TV

To drive forward the market growth of mobile TV and to participate in this, users of mobile devices must be provided with faster, more comprehensive and pay-for access to data streams. Fast data connections are the key to intensive usage of mobile devices as long content download times and restricted availability of individual content will limit consumption and see consumers lose interest over the medium term. High bandwidths are vital for mobile internet access particularly in view of the increasing usage of cloud services, where services and programmes are not provided “offline” on the individual device but “online”, and the growing penetration of online video content.

A second factor that also plays a key role is the pricing of mobile data tariffs. Upgrading to new technological standards, such as LTE, results in high initial investment costs for infrastructure providers. These must be financially viable in order to be implemented. However, their amortisation should not just be passed onto consumers as high usage rates in the form of mobile data tariffs will act as an entry barrier and prevent widespread usage of mobile services. Joint ways of making mobile internet usage more attractively priced for consumers must be found across the boundaries of individual value-creation levels.

A highly promising approach here is traffic prioritisation - described in chapter 4.3 - where content providers pay infrastructure operators for having their content routed preferentially across the data network. The compensation payments which cross value-creation levels allow distribution of the high infrastructure costs within the value creation chain, thus ensuring mobile services are attractively priced for consumers. Revenue streams can therefore be generated from consumers as well as other providers within the mobile value-creation chain, whether content or equipment providers who are willing to pay a premium for the prioritized data supply of their applications or devices.

Aligning mobile TV offerings to specific usage situations

As well as infrastructure operators, content providers can also contribute to the breakthrough of mobile TV and thus directly participate in it. It is vital that traditional TV content is also made available to consumers for mobile usage and that mobile offerings also include non-linear content, such as VoD. The structuring of the content offering should be based on a differentiated evaluation of the respective target group, their requirements and habits and the intended usage situation. Companies offering the specific target groups added value in the specific usage situation through their content will be able to secure consumer loyalty over the medium term and guarantee regular usage.

Content providers must focus on the analysis of which consumers want to use which content intensively “out-of-the-home”, “incidentally while on the move”, or “in parallel with other media and activities at home“. Only a specifically targeted content offering will be able to ensure intensive usage by consumers and therefore a feasible business model for content providers.

New opportunities through the interoperability of mobile devices

The main ways in which an increase in the acceptance and usage of mobile devices can be achieved are specifically selected content offerings, as well as ensuring devices have supplementary features that offer benefits and easy and intuitive usability. This results in a greater need to develop integrated and coordinated solutions with various partners, such as device manufacturers. A highly promising example in this respect is the interlinking of various contents, services and applications combined with usage without media discontinuity on a wide range of devices.

A good example of highly innovative and trendsetting cooperation in this field is the cable network operator UPC, which, together with the middleware and user interface specialist NDS, device manufacturers, such as Samsung, and various content providers, is developing a highly innovative and networked TV experience to be made available to its consumers in several European countries at the start of 2012 (fig. 51). The Horizon user interface based on NDS's Snowflake concept enables completely intuitive usage of an extensive range of high-quality content, such as VoD and personalized TV recommendations, thanks to an innovative control concept. Consumers will also have the option of switching and using the content requested between stationary TV sets and mobile devices, such as a tablet, without media discontinuity, which revolutionizes content usage at home and drives forward mobile usage of TV content at home.

Content providers must seize these new opportunities and effectively incorporate them into the design of their content. This provides countless new opportunities to move away from the traditional outlook of “first a device, then the contents and finally the users” towards a new perception of “firstly the requirements/usage context which provides added value for users generated by a combination of content, appropriate functions and device.” This kind of paradigm shift is required to generate additional benefits for consumers, thus ensuring the penetration and acceptance of mobile devices and the financially viable operation of platforms long-term and the sales of content and devices.

Figure 51: HORIZON – Multiple TV devices



(NDS Snowflake, UPC Liberty Global)

Key points

- An increase in user-friendliness for consumers in the use of smartphones and tablets is a key factor in the breakthrough of mobile TV.
- Mobile TV can only achieve sustainable market penetration if all providers contribute to the improvement of the offering in their area of value creation.
- Infrastructure providers are faced with the challenge of ensuring widespread availability of broadband connections at attractive prices.
- To avoid amortizing the high investment cost solely by passing on charges to end users, new business models, such as traffic prioritisation, have to be developed.
- Content providers which offer added value for the specific target group in the specific usage context through their content offering will be able to participate in the growth of mobile TV.
- In future, device manufacturers and content providers will drive forward the improvement of the interoperability of various devices and multi-screen media usage to a greater extent.

6. Summary

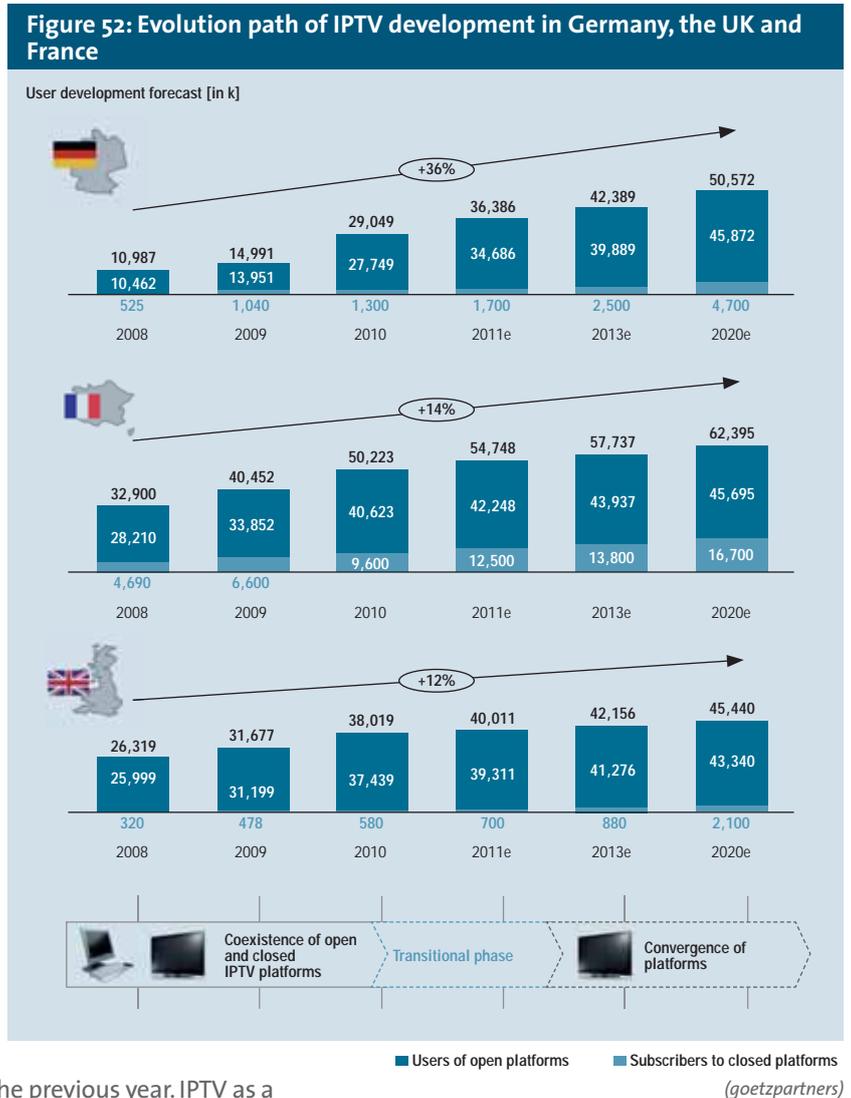
6.1 IPTV evolution path

Based on the survey results on the usage of open offerings and the current user figures for closed offerings, goetzpartners forecasts an increase in IPTV users in Germany to over 50 million by 2015 (fig. 52).

Around 36 million users will regularly use open IPTV services, such as web TV, VoD and UGVC sites, and closed IPTV platforms will have around 1.7 million subscribers by the end of 2011 in Germany. There will be an increase of around 25% in the usage of open services in comparison to the previous year. The convergence of open and closed platforms in the form of various hybrid set-top boxes and TV sets in the living room has become a reality. Around half of all consumers in Germany will regularly use this kind of service by 2013. In 2010, goetzpartners forecast usage by around a third of all consumers by 2013 based on last year's survey. This confirms the rapid development of regular IPTV usage.

France will continue to extend its position as the world's leading IPTV market. Providers of closed services will have over 12 million subscribers by the end of the year. Around 42 million people are already regularly using open IPTV services, an increase of around 4% compared to the previous year. IPTV as a mass phenomenon is already a reality in France. Almost all consumers will regularly use an IPTV service in France by 2020.

Closed services in the UK will not break through the million-consumer barrier until 2013. However, the use of open services is already high with around 39 million consumers and has increased by 5% in comparison to 2010. The goetzpartners survey mainly shows high regular usage of UGVC and web TV. Around three-quarters of all consumers in the UK will become regular IPTV users by 2020.



6.2 Key findings and recommendations for action

In the context of the study, goetzpartners addressed the question of which content do consumers want to use, in which usage contexts and on which devices. Based on the goetzpartners 2011 consumer survey and the provider-side trends examined in the IPTV markets and in IPTV-enabled devices, various findings and recommendations for action have been set out for the individual players concerned. Following these recommendations will enable current or planned services to be better aligned to the respective target groups and customers in terms of content and applications.

TV sets - both on account of historically high penetration in households and simply because of the screen size - basically dominate in video usage and IPTV content. However, the penetration of mobile devices will also continue to increase sharply in parallel. By 2012, smartphone penetration should reach 25% in Germany, 27% in France and 23% in the UK²⁶. High two-digit growth rates are also forecast for tablet PCs over the coming years. Mobile devices will therefore increasingly become part of the “multiscreen experience” for consumers and the display of IPTV content and the use of interactive supplementary services will increasingly be complemented by mobile usage.

A key challenge for **infrastructure operators** (such as telecommunications providers and cable network operators) will continue to satisfy increasing demand for bandwidth in view of growing consumption of IPTV content. The high level of investment in stationary fibre-optic infrastructure, which is considered optimal owing to its properties, will result in interesting financing cooperation ventures. In France, the competitors Orange and Free are jointly driving forward the expansion of FttH. A combination of traditional transmission methods of linear TV reception with IP content and services increases the scope of some closed IPTV platforms and enables direct participation of infrastructure providers.

In the same way as for stationary services, comprehensive expansion of mobile broadband connections, such as via LTE, is necessary for the mobile usage of IPTV content. However, providers are faced with the difficulty here of not previously having been able to participate in an expansion of capacity to achieve greater data usage. Infrastructure providers must therefore ensure that partnerships are formed with the providers of mobile video content through the implementation of so-called traffic prioritisation on their networks. As a solution to these technical and financial challenges, a business model can be achieved that provides competitive advantages for both infrastructure operators and content providers in the value-creation chain.

²⁶) Cisco Visual Networking Index – Global Mobile Data Traffic Forecast, 2010

In order to be financially successful on the market, the services of **content providers** (such as producers, content aggregators and IPTV commerce providers) must be available on as many terminals and sites as possible in order to maximize their user numbers. Consumers increasingly want to use traditional TV content on a mobile device as well as being able to access non-linear content, such as VoD and UGVC. The use of content must be provided without media discontinuity through interoperability on various devices in order to provide consumers with a multiscreen experience. In particular, this requires adaptation of the display of content for the mobile usage environment. The differing navigation logic found in the mobile environment must also be taken into account. Content is used differently with a touchpad, for example on an iPad, to a stationary TV set with a remote control. A simple one-to-one transfer of display and content navigation logic from a stationary to a mobile usage environment will not work. Instead, a specific design and adaptation of content for mobile usage are required. Consumer scepticism, particularly on the German market after the unsuccessful launch of DVB-H as a standard for mobile TV usage, has to be countered by providing the content required supported by sustainable marketing campaigns. This is the only way success stories like “Sky Go” can be repeated.

A key factor in the success of content providers is taking account of current developments in terms of consumer requirements. The goetzpartners survey, for example, shows the current high level of consumer demand for TV series in the field of IPTV content, a trend that should be taken into account. The goetzpartners survey also indicates that consumers are most willing to pay for IPTV content that is not available free-of-charge elsewhere and is of high quality. This should be taken into account by companies in order to maximize their own content financially. Content providers should also systematically extend their portfolios by offering supplementary features and services that are in demand. The goetzpartners survey also reveals here that consumers are willing to pay more, in particular for VoD services, interactive features, such as access to an app site or content in 3D, and HD.

Platform operators and device manufacturers (such as marketing platform operators, UGVC site operators, VoD providers and IPTV programme platform operators) achieve high user figures, in particular by gearing their portfolio of IPTV content and supplementary services offered to the specific consumer requirements of the target group. In addition to provision of established “must have” content required as hygiene factors - irrespective of its impact on the willingness of consumers to pay - differentiation on the market should also be ensured through the provision of target-group-specific content largely overlooked by the competition to date and niche content. This strategy is a key “lesson learned” from smartphones that is

also transferrable to IPTV content. While the first taxi apps are perceived as exciting and beneficial, the 20th offering on the same topic no longer offers any differentiation and therefore usually only achieves low user numbers. Cooperation on content is the key to success here. However, monetization of the usage of IPTV offerings via revenue and ad shares is only possible, in particular for device manufacturers, if they establish the pre-requirements through the provision of frameworks for the integration of display and video advertising and subscriber management systems.

Platform operators and device manufacturers must also urgently take account of a further development. The usability of devices will become increasingly relevant as consumers demand and use integrated, interactive supplementary services, but do not want to do without the traditional TV experience. New, intuitive navigation concepts for user interfaces and the remote control must meet high standards of user-friendliness.

IPTV has finally arrived in our living rooms as the television of the future. IPTV is primarily establishing itself as a supplementary medium to traditional stationary TV, is offering consumers genuine added value through interactive supplementary services and is also increasingly being used as a substitute to existing mobile television. Thanks to the increasing market penetration of both hybrid and mobile devices, IPTV penetration will continue and will enjoy similar success to that achieved by the app market in the field of smartphones in recent years.

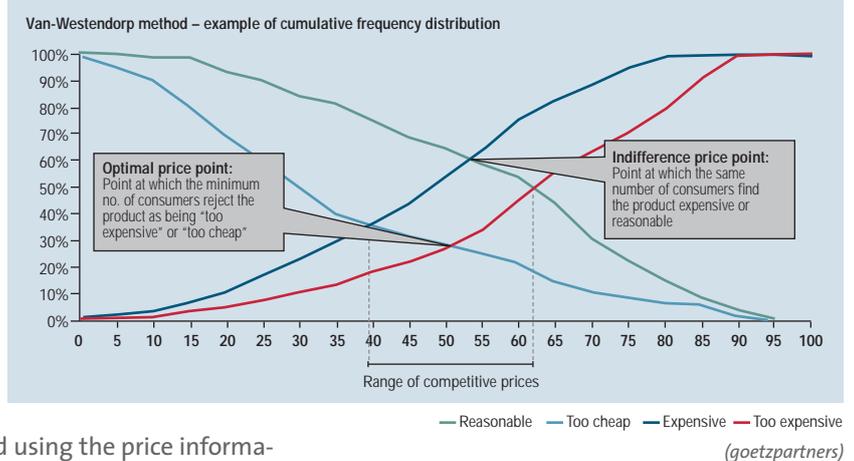
7. Annex

Notes: Van-Westendorp method

The Van-Westendorp method was used to analyze willingness to pay in this goetzpartners study. This method involves presenting those surveyed with the respective product and then determining willingness to pay with the help of four questions:

- At what price would you consider the product to be reasonable (very good price-performance ratio)?
- At what price would the product be so cheap that you would no longer have confidence in its quality?
- At what price would you consider the product expensive but still consider purchasing it?
- At what price would you consider the product too expensive, in other words, you would no longer buy the product?

Figure 53: Example graphic of the Van Westendorp method



The frequency distribution can now be calculated using the price information provided by those surveyed. Specific price points can be calculated for the product through the combination of these distributions. These price points are shown in the example graphic.

The Van Westendorp method was combined with a simplified conjoint analysis. The survey participants were presented with several product bundles with various attributes. These product bundles are differentiated as follows:

- Traditional television on a TV set via DSL internet
- Pay TV on a TV set
- Video-on-demand on the TV set (subscriptions/individual orders)
- Mobile usage (e.g. on the move on the smartphone) - access to web TV content on the TV set
- Access to new interactive TV applications

The combination of the Van Westendorp method and the conjoint approach allows the impact on consumer willingness to pay to be identified by taking away and adding individual elements to these product bundles.

The evaluation of this data across all product bundles produces the effects shown in fig. 53.

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Glossary

Abbreviation	Explanation
CE-HTML	Consumer Electronics HyperText Markup Language
DRM	Digital Rights Management
DSL	Digital Subscriber Line
DtR	Download to Rent
DVB-H	Digital Video Broadcasting-Handhelds
DVD	Digital Versatile Disk
DVR	Digital Video Recorder
EPG	Electronic Program Guide
Ftth	Fibre to the Home
HD	High Definition
HDTV	High Definition Television
HSPA	High Speed Packet Access
IP	Internet Protocol
IPTV	Internet Protocol Television
LTE	Long Term Evolution
OTT	Over the Top
PC	Personal Computer
PCCW	Pacific Century Cyberworks
UGVC	User Generated Video Content
UMTS	Universal Mobile Telecommunications System
VoD	Video on Demand
VoIP	Voice over Internet Protocol

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By its very nature, this study does not take account of the circumstances of individual cases. It can therefore not replace individual specialist consulting or in-depth third-party research.

27) "Hidden Champions of the consulting market" study, Wissenschaftliche Gesellschaft für Management und Beratung (WGMB), Prof. Dr. Dietmar Fink, 2009

Contact

goetzpartners

Contact

Tel.: +49 - 89 - 29 07 25 - 503

Dr. Alexander Henschel
Managing Director
MANAGEMENT CONSULTANTS
henschel@goetzpartners.com

Marcus Worbs-Remann
Senior Manager
MANAGEMENT CONSULTANTS
worbs-remann@goetzpartners.com

Prinzregentenstr. 56
80538 Munich, Germany
Tel.: +49 - 89 - 29 07 25 - 503

Königsallee 60 B
40212 Düsseldorf, Germany
Tel.: +49 - 211 - 600 42 - 570

Bockenheimer Landstr. 24
60323 Frankfurt, Germany
Tel.: +49 - 69 - 2 47 50 48 - 0

32 Brook Street
London W1K 5DL, UK
Tel.: +44 - 20 - 7647 7702

Calle Marqués de Urquijo n°30, piso 1°
28008 Madrid, Spain
Tel.: +34 - 91 - 745 13 13

Prechistensky per. 14/1
119034 Moscow, Russia
Tel.: +49 - 89 - 29 07 25 - 257

19, Avenue George V
75008 Paris, France
Tel.: +33 - 1 - 70 72 55 13

Melantrichova 17
110 00 Prague 1, Czech Republic
Tel.: +420 - 221 632 451

Schwerzistrasse 6
8807 Freienbach/Zurich, Switzerland
Tel.: +41 - 55 - 410 22 94

Unit 1610
No. 336 Middle Xizang Road
200001 Shanghai, P. R. China

www.goetzpartners.com



goetzpartners