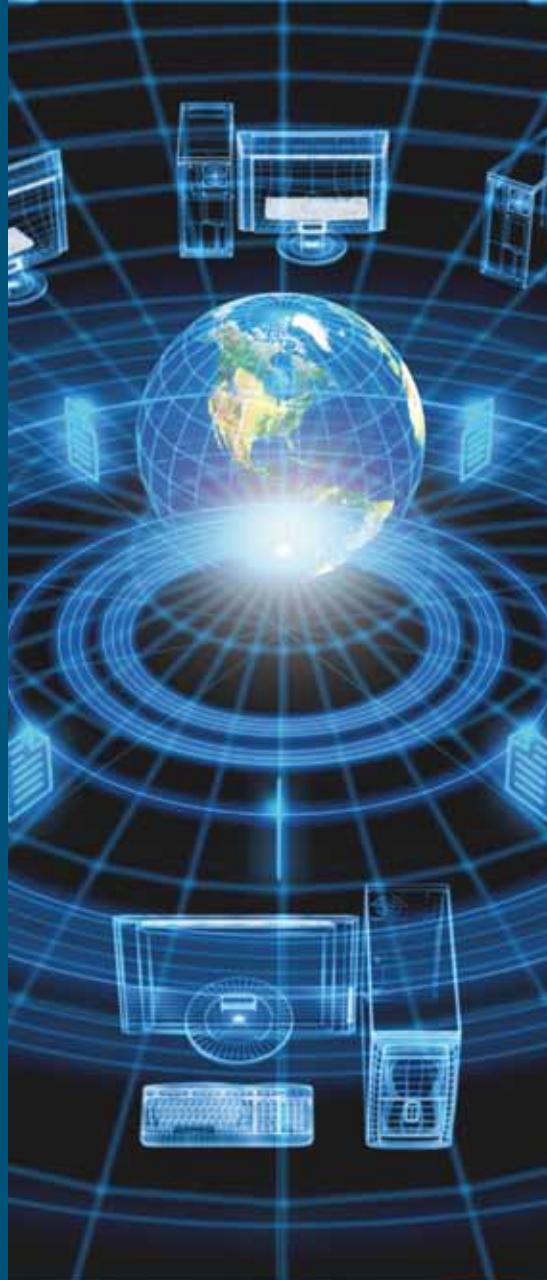
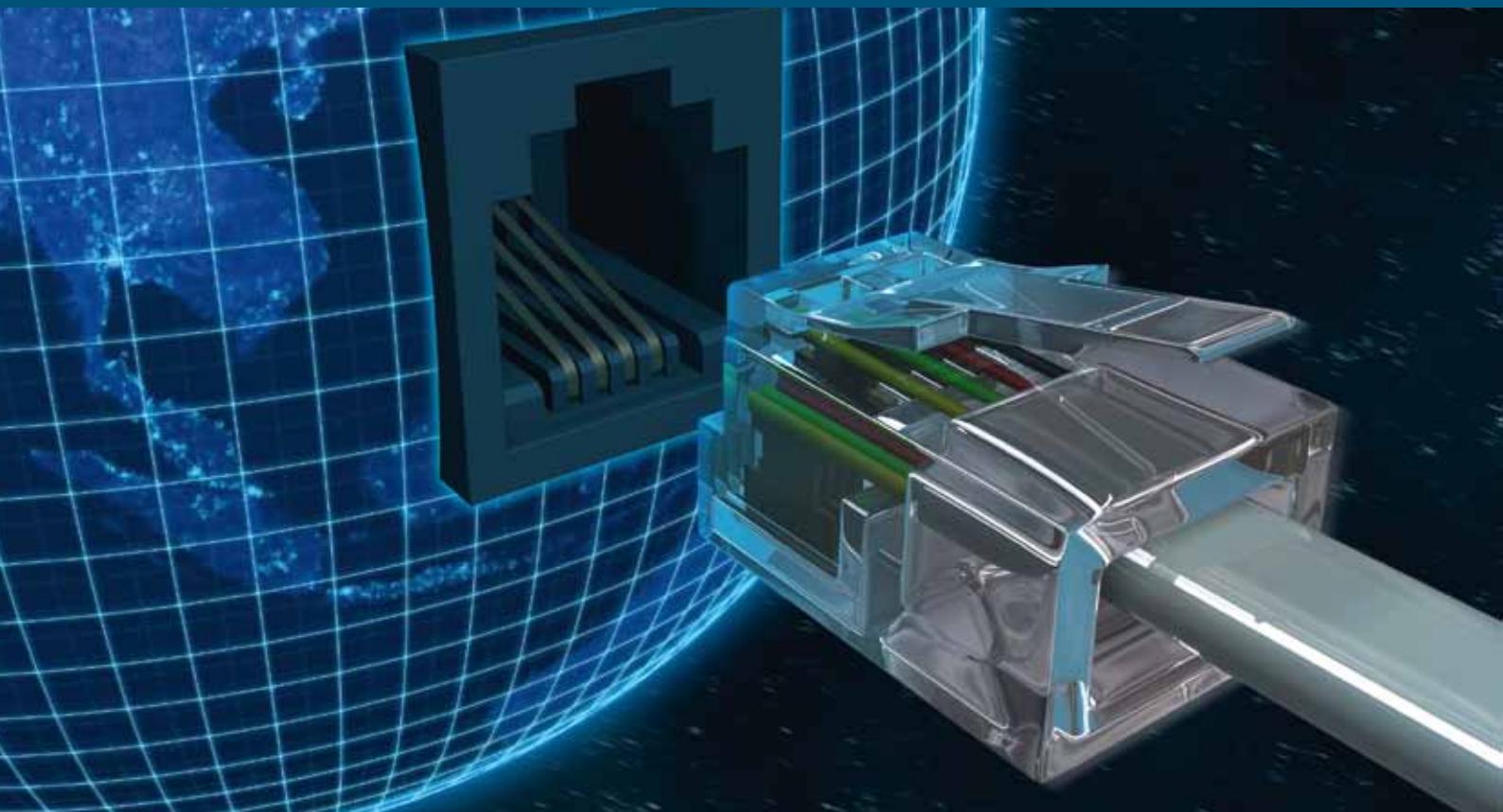


Convergence in the media market – a renaissance for broadband cable

Cost-efficient growth strategies for cable network
operators in a new media age



April 2010



We would like to thank Dr. Henning Bandte, Felix Dohna, Ralf Hetzer, Armin Naraghi, Kathrin Koch, Tobias Sedlmayr and Philipp von Stietencron for their analyses and valuable contributions as well as Christina Kraus, Armin Raffalski, Georg Rainer, Jochen Schmidt, Manuela Nikui and Birgit Gelsdorf for their dedicated support regarding the contents and creation of the study.

Introduction

When the cable networks made their way into Western Europe, they certainly represented an enormous improvement with regard to quality and variety of TV stations compared to the terrestrial analogue reception which had prevailed until then. However, for a long time, cable networks were “merely” an infrastructure for distributing analogue television which surely brought in good margins, but was relatively unspectacular in itself.

Since the second half of the 1990s, technical development has made possible the additional transmission of digital television as well as broadband internet and voice telephony by cable. Driven by the prospect of additional sales through this already existing infrastructure, cable has experienced a renaissance in recent years:

- The network upgrade with regard to digitalisation and back-channel capability is being expedited with great urgency and considerable investment.
- At the same time, the additional possibilities are being applied in new products and product logics (Keyword: Triple Play).
- A wave of consolidation between the cable network providers in Europe has begun.

Today, the cable network providers in Europe are among the central players in supplying multimedia applications to the population.

And the development is not at all complete. In addition to an expansion of the customer base, the emphasis is above all on increasing the sales per customer by means of new products, services and contents that result from the convergence of television and internet.

The following study deals with cost-efficient growth strategies for cable network operators on their continuing route into the converging media market. In Chapter 2, the strategic starting positions of various EU countries will be briefly analysed with regard to the conditions in the national cable markets, and basic options for growth will be identified. Chapter 3 will then introduce a toolbox of measures and instruments with which, in our experience, an EBITDA increase of approximately 14-25% over two years can ideally be realised.

The analyses and results in this study are based on the project and market experience of goetzpartners. Since 1998, goetzpartners has helped to shape the deregulation of the German cable market significantly with M&A and consultancy services, and it accompanied numerous companies in their alignment and transformation to the new market conditions.

We hope you enjoy reading our report!



The authors



Dr. Alexander Henschel,
Managing Director



Ulf Rieckhoff,
Senior Manager



Sonja Lippert,
Manager

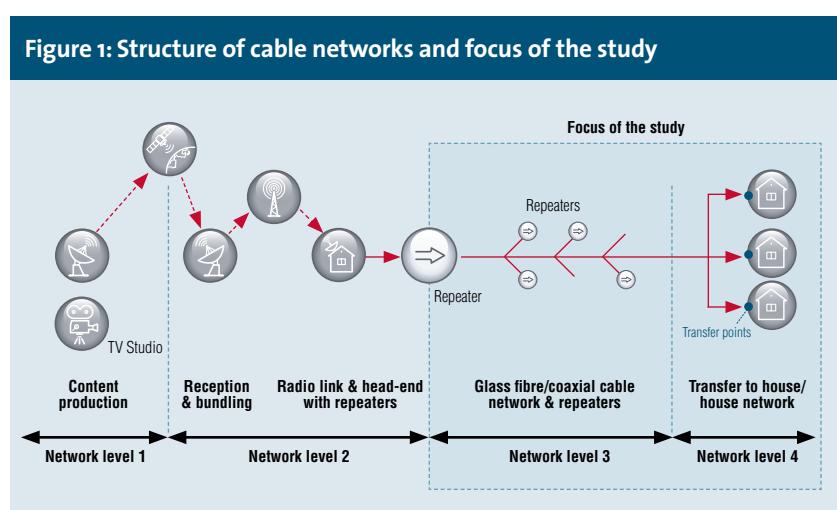
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1. Subject of the study

Here, the term “cable network operator” represents the operators of network levels 3 and 4, as these levels are usually handled together. For historical reasons, only in Germany the ownership and operation of level 3 and level 4 are separate, and at present this is being overcome in some places. It is obvious, that both the strategies for technical supply of households as well as the, therefore limited, commercialisation are very strongly determined by the physical cabling network.

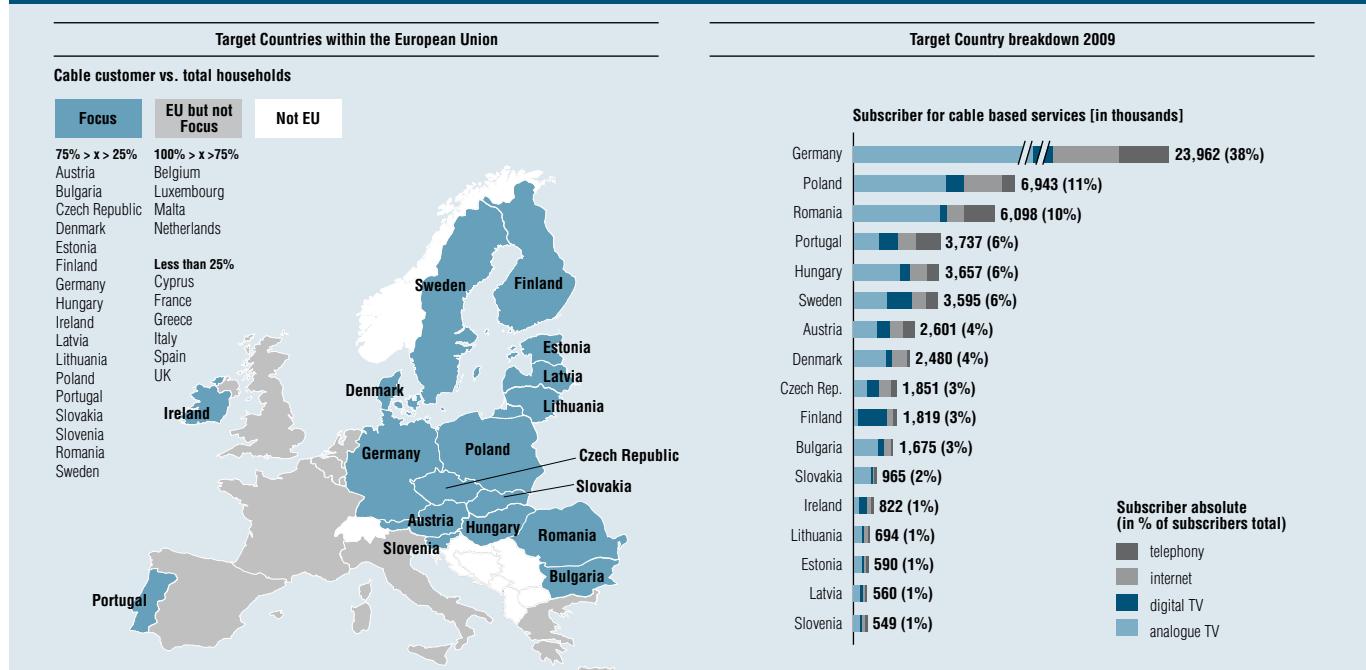
Figure 1: Structure of cable networks and focus of the study



(cf. Kaufmanns/ Siegenheim/Sjurts: *Obsolescent model of television?*, Wiesbaden 2008)

In regard to content, developments and opportunities for the cable market in the EU countries are analysed in the study. The focus here is on the 17 countries of EU27 which have a cable share in the TV sector between 25% and 75%. Markets with lower or higher penetration are not considered as the relevance of cable there is too low or cable has already taken up a very dominant position, so that it is not always possible to compare. Within the countries under consideration, Germany clearly stands out from a sales perspective, as around 38% of subscriber contracts for cable-based services of the entire subject of the study are to be found here alone. Poland and Romania follow with approximately 11% and 10% respectively.

Figure 2: Market size in the focus countries 2009



(Analysis by goetzpartners (data extrapolated to 2009), Cable Europe/Screen Digest)

2. Analysis of the relevant markets

The media landscape is in a state of change and it is exhibiting an unsuspected vitality. The digitalisation is the driving force for the current changes in all stages of the value creation chain – from production via distribution to reception. The conversion of analogue signals into bits and bytes has resulted in lasting and irreversible changes to the processes surrounding the use of media.

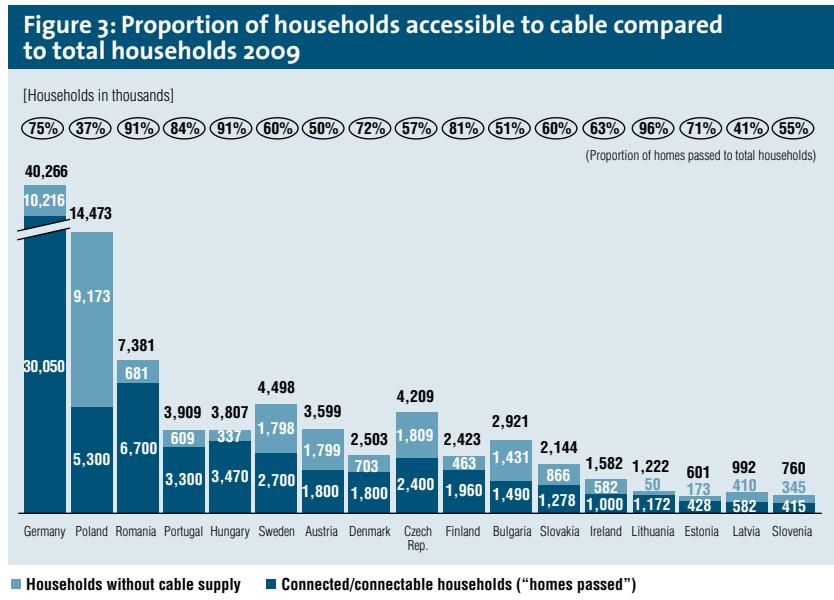
The various media distribution channels are growing ever closer together on the basis of internet technologies - the multimedia world is converging more and more strongly. As a result of upgrading the classic broadband cable to back-channel capability and a bandwidth of up to 862 MHz, cable is technically in a position to transmit not only analogue television but also digital programmes and IP signals at the same time. Due to standardisation (e.g. DOCSIS), it has been possible to roll it out and operate it economically on a large scale since the end of the 1990s. By the time the most up-to-date DOCSIS 3.0 standard, which allows IP transmission rates of 100 MBit/s or more, is applied, cable will be superior to the twisted pair technologies such as DSL, ADSL or VDSL. Against this background, cable is currently experiencing a renaissance as a multimedia infrastructure platform.

In recent years, the development of so-called new digital services has been the focus of business endeavours Europe-wide among the cable network operators. These include pay TV packages as well as broadband internet access and telephony by Voice over Internet Protocol (VoIP). Accordingly, on the one hand the required network expansion represents an urgent prerequisite for the distribution of digital TV, internet and telephony by broadband cable. On the other hand, it will require a significant change in the marketing of these products to stimulate the acceptance and demand by customers.

Following that, both the technical coverage and the contractual penetration for cable-based services will be considered. The results are used as a starting point for further groupings and considerations.

2.1 Technically addressed market volumes (technical coverage)

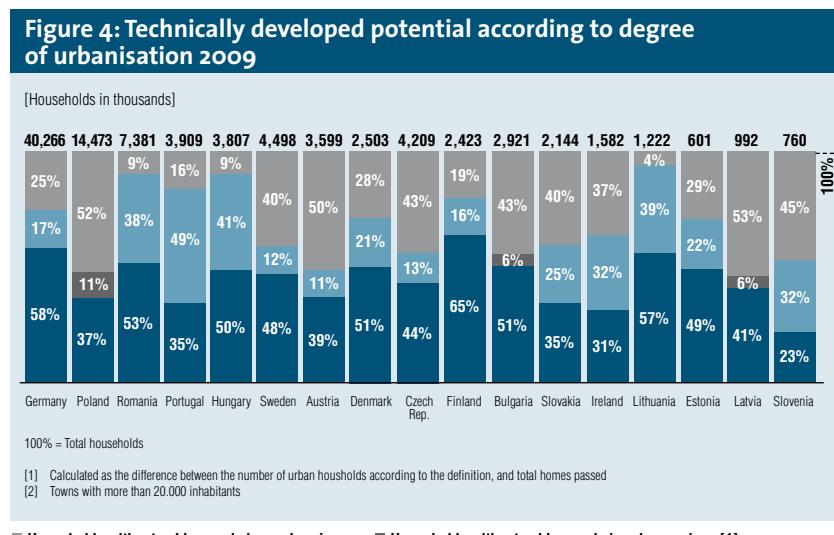
In general, the network is the limiting factor for market volume when distributing cable-connected media. A network expansion only makes sense if it is market driven, i.e., the investments can only be made if a return on investment is made possible as a result of corresponding sales volumes, i.e. customer contracts. Therefore, cable networks are preferably installed and expanded in urban areas where a correspondingly high customer potential exists for each section of cable laid.



To specify the level of cable network penetration, the so-called “homes passed” is normally used. These are all households that are already accessible by main and backbone cables, even if the actual house connection to network level 4 (the so-called “last mile”) is not yet present.

To achieve more transparency of the penetration of cable networks, the degree of urbanisation of the countries under consideration was also analysed, in which an urban region is defined as one with more than 20,000 inhabitants. If one assumes that the urban regions are developed for cable first, it appears that with a combined consideration of penetration and degree of urbanisation the development of the non-urban or rural areas has taken place to a very different degree.

While today the number of “homes passed” in some of the target countries is just below the number of urban households (in Poland, Bulgaria and Latvia), it clearly exceeds the number of urban households in other countries. Thus in some places more than a third of all households (in Romania, Portugal, Hungary and Lithuania) in rural areas according to the definition are connected.



From a purely economical point of view, a network expansion in towns with less than 20,000 inhabitants must be questioned critically. In order to determine the potential here, one would have to consider more closely the building density in rural regions on the one hand, but also on the other hand include the competitive situation with regard to alternative platforms. However, a further reason for a high level of cable penetration outside of urban regions can also be a politically desired development of the infrastructure in rural regions.

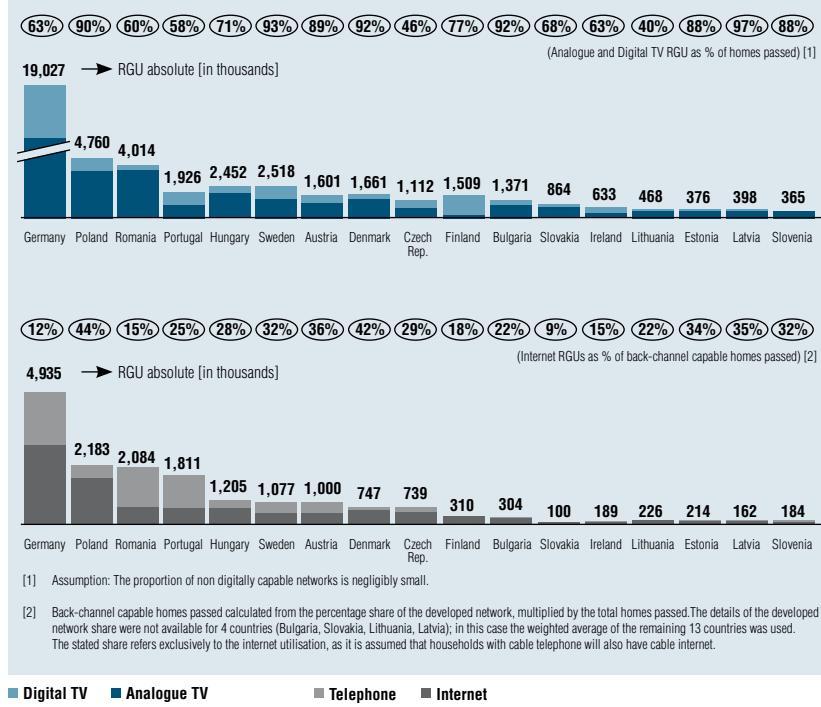
- The countries analysed in the framework of the study show widely differing degrees of cable penetration, caused by different historical developments of these countries.
- Particularly in those countries in which the expansion of cable took place when monopolies existed, political considerations have often resulted in cable-households being developed even outside areas of high population density, which today would probably no longer be developed, for economic reasons.
- This applies in particular to towns and districts with less than 20,000 inhabitants.

2.2 Utilised market volume (contract penetration)

The utilised market volume is determined on the basis of subscriber households, in other words, on the proportion of technically developed households for which at least one contract already exists.

The product revolution from normal cable connection via digital TV to internet and telephony means that a customer can now receive more than one product and thus more than one contract can exist for one household. A distinction is thus made between customers and the so-called RGUs (Revenue Generating Unit), as the individual products are usually called from the cable network operator's point of view.

The current technical requirements in the cable networks are forcing a differentiation when considering the utilised market volume compared to the technically available potential. In the meantime almost all networks are being expanded to > 400 MHz, making possible the transmission of digital TV channels. While analogue and digital TV products can thus be received in virtually the whole network, for internet and telephony products the network must be expanded with back-channel capability. For the following analysis it means: The utilised market volume in the TV segment results from the ratio of cable TV RGUs – analogue and digital – to the total number of households that can be supplied (homes passed). For the utilisation degree of internet and telephony, only the number of internet RGUs is referenced to the homes passed that have been upgraded to back-channel capability. This is based on the assumption that the households with cable telephone also have a cable internet connection, but not vice versa. Thus any inaccuracy due to double counting should be minimised.

Figure 5: Volume utilised in terms of technical potential 2009

(Analysis by goetzpartners (data extrapolated to 2009), Cable Europe / Screen Digest, OECD Communications Outlook 2009)

The analysis shows that the technical potential in the TV segment in at least 8 of the 17 target countries is already utilised by more than 85%. Only 4 countries show a utilisation of less than 60% here. Significantly, the countries with high penetration rates in the non-urban area (particularly Romania, Portugal and Lithuania) also show the lowest TV utilisation rates. However, the countries in which not even all of the urban regions are developed for cable yet (Poland, Bulgaria and Latvia) all show with over 90% the highest utilisation rates.

In the internet and telephony sector the situation is clearly different. Here, the maximum utilisation rates per internet or telephone customer are just over 40%. It is not only the very strong competition with the DSL platform of the telecommunications companies that is responsible for the generally lower rates, but also, in particular, the short product history.

- Regarding the utilisation of technical coverage, attractive opportunities are still appearing, especially in the internet and telephony sector.
- In particular, the networks in countries with very high technical coverage tend to show a rather low utilisation and, correspondingly, appear less efficient. Accordingly, companies with a low utilisation should first and foremost work towards an increase of utilisation for their growth before they focus on further expansion of their network. Here, a relatively efficient growth can be realised without making further investments in infrastructure.

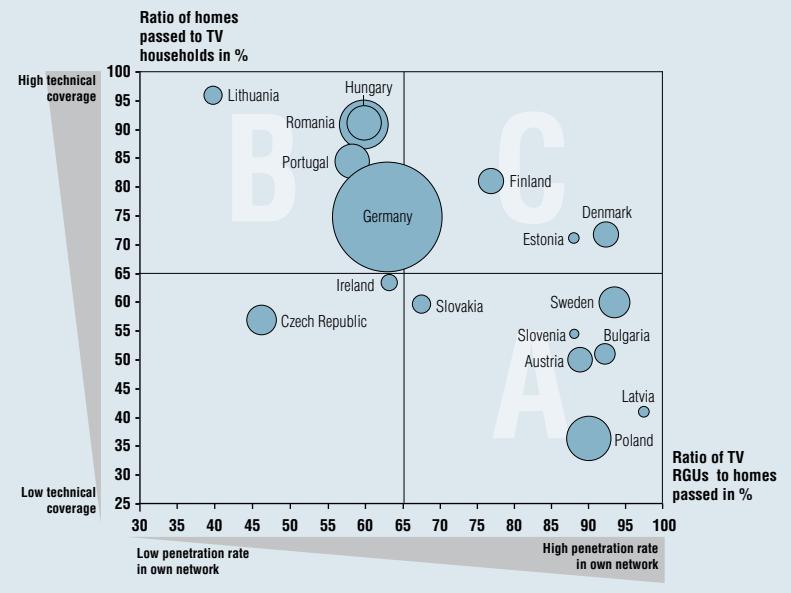
2.3 Strategic starting positions and basic lines of action

The insights gained regarding the technical potential and the utilised market volume in the individual countries led to a classification of strategic starting positions. For this the economic potential of the networks and the utilised customer potential are considered.

The countries can be subdivided into three groups, based on their general market penetration:

- A) Countries where the penetration of the existing network is already high but where the technical coverage of the network seems to be expandable economically.
- B) Countries where the penetration of the existing network is low and the technical coverage could thus be economically overstrained.
- C) Countries where the penetration of the existing network is already high and it appears barely possible to extend the technical coverage of the network economically (however, a network upgrade can make sense here, provided it is carried out in a focused manner in small steps, and with parallel safeguarding of sales volume).

Figure 6: Positioning of the national cable markets with respect to network expansion and utilisation 2009



(Analysis by goetzpartners (data extrapolated to 2009), Cable Europe/ Screen Digest, OECD Communications Outlook 2009)

Depending on the particular situation in which a cable market exists, there are some general guiding principles for growth that can be deduced. It can be assumed that the situation for a specific country as derived above can also be applied to an individual cable network operator or a specific region.

The following three lines of growth can principally be derived:

- for A) Further network expansion (“Expand”)
- for B) Increase of cable penetration of the existing network (“Penetrate”)
- for C) Optimise the sales per customer (“Leverage”) in a highly developed market.

In the “Expand” segment, the focus should basically be on the economically reasonable expansion of the network area, as there still appear to be some areas which could possibly be developed. This can also apply to the further upgrading of already existing cable networks, to give them digital or back-channel capability. The utilisation within the old and new network areas should not be neglected, however.

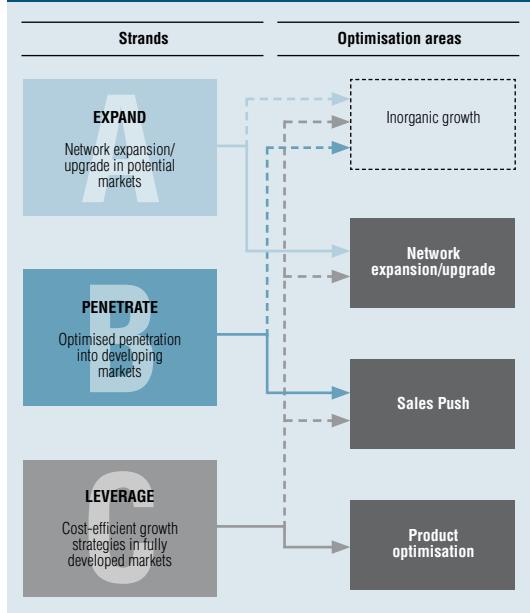
In the “Penetrate” segment, on the other hand, the conclusion can be drawn that the network area already extends over the major part of the households that can be developed economically, but the customer penetration and thus the refinancing of the network expansion investments still offers much potential. Accordingly, with the existing network extension the focus must be on increasing the marketing performance for classic TV products and new services respectively.

In the “Leverage” segment, both the network expansion and the network utilisation with respect to customer numbers are very well developed. Here, the prospect of growth is primarily an increase in sales with the existing customer base. Above all, this means developing additional services, offering content that is attractive and capable of producing earnings, optimising contract duration and pursuing a consistent pricing policy. And furthermore, this certainly also includes means of a further, focused and controlled expansion of the network area and customer numbers, which must be expected to take place in small steps.

In addition to the organic options for growth shown, inorganic growth of course is always an option. This not only leads to growth but also to an increase in efficiency as well as a mutual supplementing of existing competencies. Examples are synergies in the operation area or the extension of the value chain (carriers for backbone cables) and/or the product range (mobile operators for Quadruple Play), and also the use of potential economies of scale, for example in hardware purchasing or service.

The basic lines of action shown represent generally derived approaches which must, of course, still be checked against a multitude of other aspects in the individual case for each country or each company. When defining the growth strategy and the goals behind it, the fields and measures of action must therefore additionally be considered and approached on a product- and country-specific basis.

Figure 7: Basic lines of action



Depending on the technical coverage and the level of contract penetration, the following three basic guiding principles can be deduced and applied by companies to achieve cost-efficient organic growth:

1. Low coverage and high penetration: “Expand”
 - > Focus on the expansion of the network area
2. High coverage and low penetration: “Penetrate”
 - > Focus on increasing the penetration of the existing network
3. Coverage and penetration equally high: “Leverage”
 - > Focus on increasing sales and/ or profit per existing customer

2.4 Product-specific development in the cable business

As shown below, organic growth can be achieved both by an increase in customer numbers and by a rise in the ARPU, e.g. via the number of services (RGUs) purchased per customer. The following illustration shows that the

(goetzpartners)

number of cable RGUs in the subject of the study has grown steadily in recent years, by nearly 7.8 % for all services since 2005. A differentiated view shows, however, that for TV products it is basically not a question of growth but of an increasing replacement of traditional analogue TV in favour of digital TV. The comparatively small increase of 1.8 % is in part also due to the fact that in some product models a digital product is booked in addition to an existing analogue product. In the internet/ telephony sector, on the other hand, a genuine growth of approximately 41.4% has been recorded since 2005. These exorbitant growth rates are due to a strongly growing demand, particularly in the broadband sector as well as gains made by cable in the platform competition with the telecommunications companies.

When one considers the ARPU development for TV, internet and telephony in the target countries, it can be observed that the ARPUs for internet and telephony fell in the period from 2005 – 2009, due to entry into the mass market as well as the strong competition with the telecommunications companies. In contrast, the ARPU for TV at 6.9% CAGR has risen sharply since 2005, caused by, among other things, the increased proportion of digital TV, which tends to be more expensive.

According to the previous descriptions in Section 2, it becomes clear that there is only one direction for cable-based services at present: upwards. However it is not possible to draw across-the-board conclusions about the previous and future development of cable network operators and their products for this broad ranging and hence heterogeneous subject of study. The following will therefore present the significant market and competitive factors that have an additional influence on the development of cable products in the target countries and must be included in business decisions.

Figure 8: Transnational product-specific market development

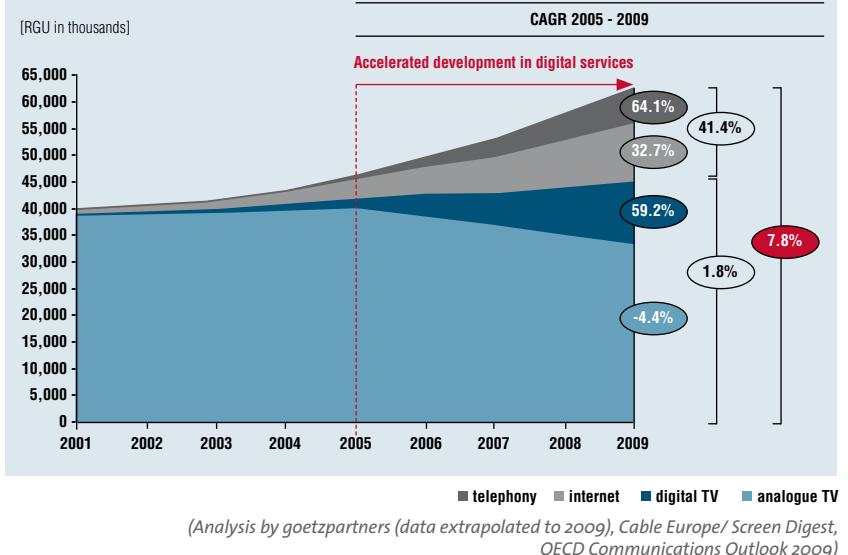
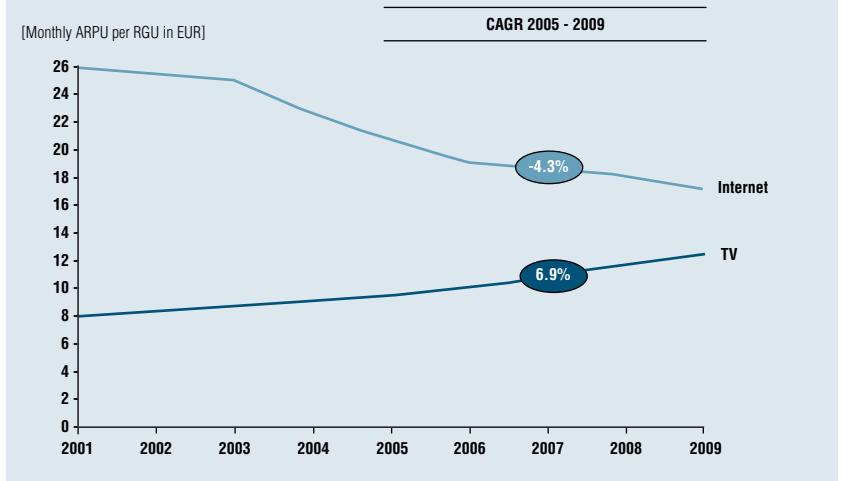


Figure 9: Transnational ARPU development cable TV and internet



- In the TV sector, the cable platform was able to continue the extension of its market share slightly. Despite a fall in the analogue sector, the total number of TV-RGUs has increased slightly due to a clear rise in digital TV (CAGR 59%). Furthermore, this shift is reflected in a rise of TV ARPUs as digital TV connections tend to be more expensive and are enhanced to some extent with additional products in the basic pay area.
- In the internet/ telephony sectors, the cable platform shows a very clear net growth in customers of more than 41% CAGR. In addition to the growing demand for broadband connections, this is also due to the fact that this relatively young product was able to wrest significant market shares from the telecommunications companies. However, the intense competition in this sector resulted in falling prices.

2.4.1 Television

To assess the development of TV products, both the competition between cable and other TV platforms, and also the question of the signal transmission, analogue vs. digital, must be considered. Both aspects must be seen in context against the background of the current conversion of cable to digital.

The cable connection itself is basically in competition with other, also digital or digital-capable, platforms. These are primarily reception by satellite and terrestrial reception as DVB-T (Digital Video Broadcasting - Terrestrial) or as an analogue signal. However, classic analogue terrestrial television is increasingly losing importance, and sooner or later will be replaced completely by DVB-T in the countries under consideration. The switch-off of analogue terrestrial television in Europe has already taken place, e.g. in Germany, Finland, Luxembourg, Sweden or The Netherlands.

By transmitting a digital television signal over the internet (IPTV), VDSL and FTTH emerge as a competing platform. However, with a market share in single percentage figures in the countries under consideration it is very much in its infancy.

The following graphics show the distribution of the national TV markets by platform as well as the growth rates of cable and satellite TV by households. They make it clear that cable is experiencing growth as a TV platform in virtually all countries under consideration. The extremely high growth rates for the satellite sector in the Eastern European countries tend to be explained by the fact that these countries had a backlog with regard to modern TV infrastructure. Accordingly, the faster and more cost-effective conversion from analogue terrestrial television to satellite has taken place particularly in the ru-

ral regions, resulting in higher growth rates than for the spread of cable TV in the existing or newly developed urban districts. In mature markets such as Denmark or Sweden, a migration of customers from satellite to cable can be seen, which can be explained, e.g., by the better range of services of cable.

The aspects described below represent the customer's primary decision-making parameters for or against cable as a TV platform.

2.4.1.1 Availability

As already described, the provision of cable to a region only makes sense economically if the density of potential customers is sufficient to justify the investment for developing this region. Consequently, urban regions rather tend to be supplied by cable, whereas in rural regions, satellite reception dominates. Of course, the satellite signal is also available in towns. However, mounting the satellite receiving equipment („dishes“) is not perceived to be particularly decorative, and in some places it is forbidden by the housing associations. Furthermore, cable is available directly in the living room, which is also seen to be simpler and more convenient. The still relatively young option, DVB-T, is usually available both in urban and rural areas.

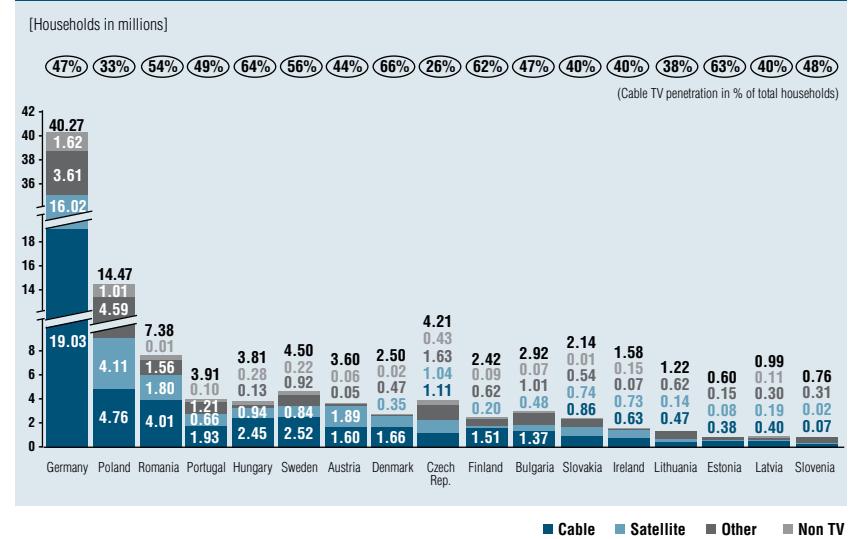
2.4.1.2 Range of services

The range of services of a TV platform is considered with regard to the criteria of programme variety/ content and also picture quality.

Programme variety/ content

A decisive factor for programme variety is the question of whether the transmission is analogue or digital. Digitally transmitted programmes basically require less transmission capacity, which explains why the number of programmes that can be transmitted rises sharply. Only due to the introduction of digital television through cable the transmission of a multitude of even smaller special-interest or foreign language programmes has become possible. Currently, in addition to approximately 30 analogue channels, more than 200 digital radio and television programmes can also be transmitted on a cable upgraded to 862 MHz, whereas before the

Figure 10: Market share of the cable platform in TV 2009



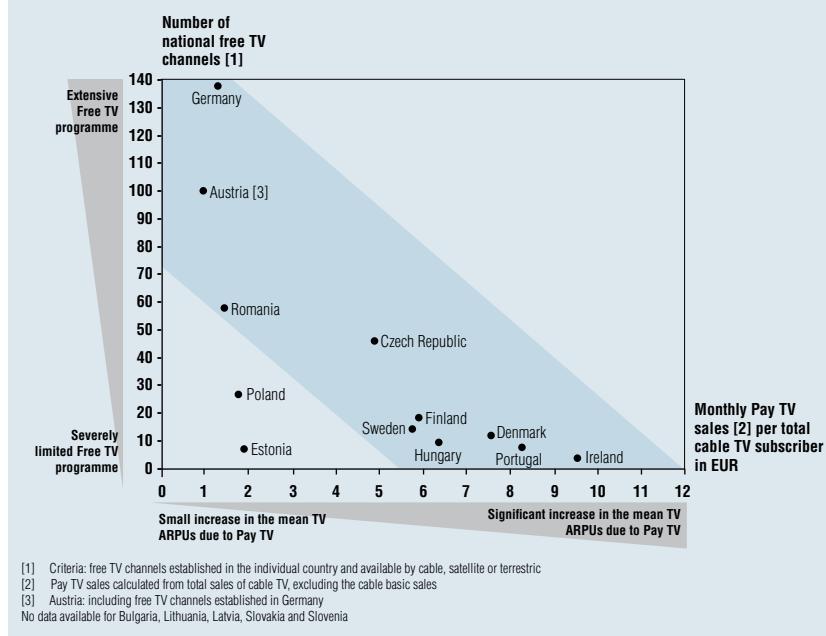
(Analysis by goetzpartners (data extrapolated to 2009), Cable Europe/ Screen Digest, Eurostat, OECD Communications Outlook 2009)

Figure 11: CAGR of cable TV vs. satellite 2004 - 2009



(Analysis by goetzpartners (data extrapolated to 2009), Cable Europe/ Screen Digest, OECD Communications Outlook 2009)

Figure 12: Connection between free-to-air TV offering and Ø monthly pay TV ARPU 2009



(Analysis by goetzpartners (data extrapolated to 2009). Screen Digest, MAVISE)

digitalisation only approximately 30 analogue TV stations and a few VHF radio stations were available. Thus the channel limit of a digitally upgraded cable is rather a theoretical one and does not represent any real competitive disadvantage for the customer compared to digital satellite reception with up to approximately 1,000 programmes in some places. DVB-T on the other hand has a lower transmission capacity than cable and is presently implemented in Europe with a number of TV channels in the lower to middle double digit range.

A further aspect when assessing the range of services is the availability of paid-for premium content, in other words, classic pay TV. One can assume that the greater the additional benefit and the customer's willingness to pay for pay TV, which is usually broadcast digitally, is, the smaller is the range of free-to-air television programmes in the particular country. This is reflected both in the number of pay TV customers and in a higher realisable ARPU, as the illustration shows.

In addition to the number and variety of free-to-air TV programmes, the type of paid-for content in particular can also be crucial to the demand for pay TV products. Classic pay TV content includes feature films as well as live sport events (football, Formula 1). Owing to the continuing trend towards special interest channels and special interest offerings, documentaries are also capturing a large share of the total pay TV offer.

Depending on which role pay TV basically plays in a market and to what extent the cable providers manage to place such offers on cable, the aspect of pay TV is an argument for or against cable.

Picture quality

While DVB-T tends to be rather more susceptible to interference and provides a poorer picture quality, the picture qualities via cable and satellite are comparable. However, against the background of the increasing spread of broadcasting in HD quality, cable is faced with the challenge of "creating" space to feed in HD channels. Owing to its existing or easily expandable capacity, the satellite platform has a clear advantage here. At present, HDTV via DVB-T does not play any role in Europe; currently developments and pilot projects are running here on the new standard

DVB-T2, which is based on MPEG-4 coding instead of the MPEG-2 coding used until now for the DVB-T format.

As a result, in the TV sector the range of services of digital cable is superior compared to the DVB-T platform, but compared to the satellite platform it is at best equivalent. With respect to both programme variety/content and degree of digitalisation, the satellite platform is superior to cable. On the other hand, cable enjoys a clear advantage when one looks beyond the purely TV segment to other services. In contrast to DVB-T and satellite, cable is in a position to offer not only TV but also internet and telephony services with a high bandwidth at reasonable cost from a single source. (see 2.4.2 for this). And taking into account the back-channel capability, this opens many opportunities for cable in terms of interactivity (e.g. VoD), which can't be provided by satellite or the DVB-T platform.

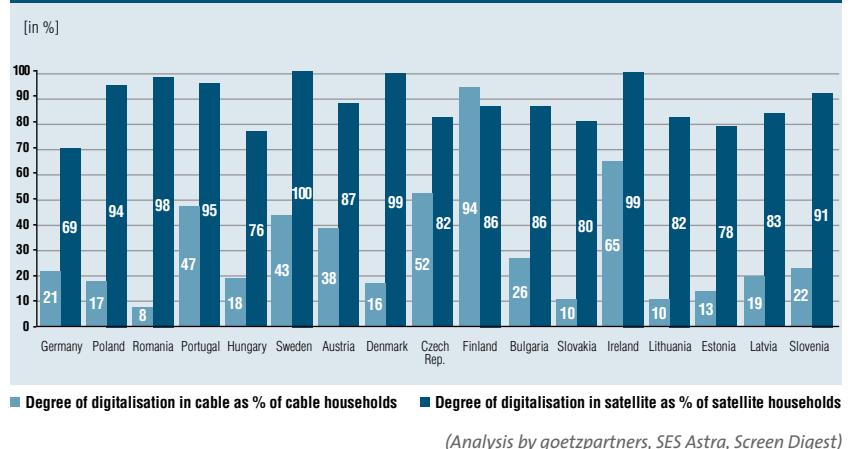
Digression: Digitalisation

As already mentioned in the introduction to this study, an upheaval in the media world was announced in the middle of the 1990s. After its debut in the USA, digital television also appeared in Europe, but initially found no viewer acceptance here. Today, 15 years later, it can be observed that the rate of digitalisation in cable, while still clearly behind that in the satellite sector, has nevertheless progressed considerably in some countries.

The development status of the digitalisation is on the one hand dependent on the technical possibilities, but on the other hand also on the demand for this service, which usually bears a charge in cable.

From a technical point of view, digitalisation means modifying the old analogue transmission routes to digital technology. As digital signals require less transmission capacity, this means more programmes or room for additional digital services. Since the digital cable connection carries additional cost, it will not yet be possible to switch off the analogue signal via cable completely in some countries. A so-called "simulcasting" must take place, in order to broadcast digital television in addition to analogue television. This means a higher transmission capacity will be required, but it also means that conversely a significant additional potential for further programmes or faster internet will be freed up when the obligatory analogue broadcasts on cable are switched off. In contrast to analogue reception, digital reception requires the use of a receiver which is usually connected ahead of the television set as a separate unit (set-top box).

Figure 13: Degree of digitalisation in cable and satellite 2008



(Analysis by goetzpartners, SES Astra, Screen Digest)

However, the purely infrastructural/technical aspect as a requirement for a digitalisation is actually insignificant, as the cable networks Europe-wide nowadays mostly operate with bandwidths greater than 400 MHz and are thus in a position to transmit digital programmes. The decisive point for the development of digital conversion is the acceptance by customers. With digital transmission, a far greater number of programmes can be supplied, as described above. Furthermore, in addition to better picture quality, digital programmes also offer greater operating convenience such as, for example, an Electronic Programme Guide (EPG) or a Personal Video Recorder (PVR). Despite the existence of unique advantages, digital cable television is penetrating only slowly, clearly slower than satellite television. In addition to the greater variety of programmes, the increasing number of flat screen televisions is particularly seen as one of the drivers that is required to allow the qualitative advantage of digital television to become apparent. A clear advance in the acceptance of digital cable television is expected from the increasing changeover of programmes to HD quality, which represents yet another leap in quality from the television picture which is familiar up to now. The main obstacles to the digitalisation of cable television are on the one hand the need to pay for it in conjunction with an analogue offer which is considered adequate in some countries, and on the other hand, while the television set in the living room of many households is a modern flat-screen unit, the second and third sets are often still classic CRT sets, on which the better picture quality is not noticeable. Furthermore, supplementing all the sets in the household with a receiver is felt to be bothersome. With satellite television, in contrast, the customers are accustomed to using the receiver which is required anyway, so that there is no noticeable difference here.

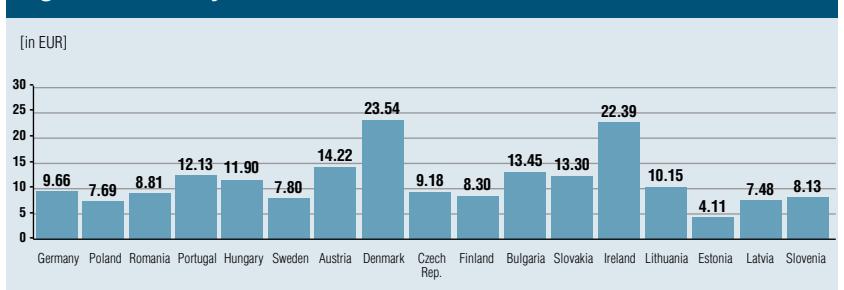
The various framework conditions in the individual European countries result in different rates and speeds of digitalisation. While countries such as the UK, Luxembourg, Spain and Norway (not part of this study due to differing selection criteria) and also Finland and Ireland show digitalisation rates of considerably more than 50%, there are, for example, in Germany only 21% in 2008 or even just 16% in Denmark. However one can assume that digital TV will continue to penetrate, even with cable, but due to market conditions and political pressure at different speeds in the individual countries.

2.4.1.3 Costs

In contrast to a cable connection, which always bears a charge, current DVB-T and satellite reception are often cost-free. In this case the customer simply has to pay for an initial investment in a receiver and a satellite reception system or a DVB-T antenna, available together from approximately

100-150 euros upwards. Whereas for example in Germany, the largest market considered, DVB-T and satellite even digitally based are unencrypted and cost-free, cable customers must pay for their connection even if analogue based, with extra payment for digital offers. However, in the course of further digitalisation and in particular the conversion of digital television to HD quality, there is even in Germany the tendency to charge a type of flat-rate fee on the DVB-T and satellite platforms for the significantly more expensive HD technology. In countries such as Sweden, Norway, Italy, France, Holland or England on the other hand, it is completely normal to require payment for the provision of digital television via DVB-T and satellite.

Figure 14: Monthly ARPU for basic TV via cable 2009

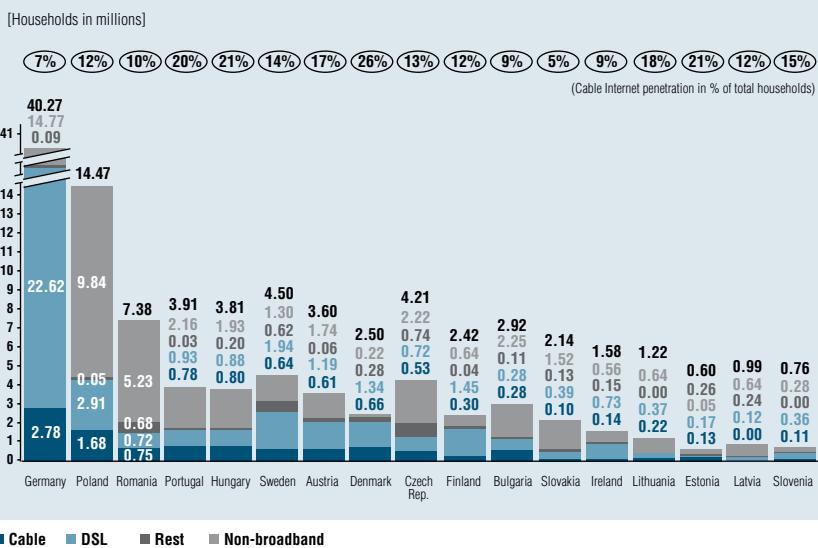


(Analysis by goetzpartners (data extrapolated to 2009), Screen Digest)

- The satellite platform was superior to the cable platform in its early days – both with regard to the degree of digitalisation (and thus the programme variety and picture quality) and also the costs in some places (in countries without basic encryption).
- With the digitalisation and the back-channel capability of modern cable networks, however, they can now offer additional features in the field of television (VoD) and also in communication services such as telephony and broadband internet access (see below).
- At the same time, the classic landline telephone network has been developed into a competing platform in the TV and media sector (IPTV). In particular, former state-owned enterprises are pushing their way into the TV market with substantial investments in infrastructure and the marketing of media services.

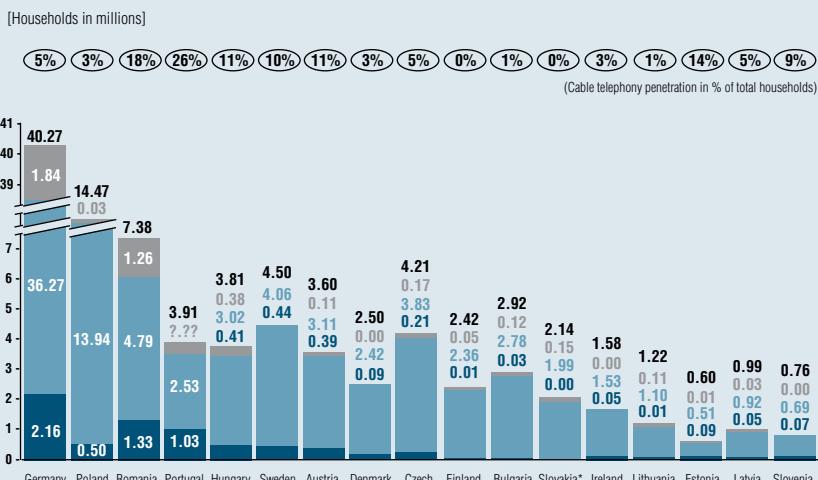
2.4.2 Internet and telephony

As with TV products, the opportunities for further development of the IP services like internet and telephony are very strongly dependent on how cable can assert itself in competition with other technical platforms. Here, in contrast to TV products, it is not a satellite or DVB-T platform, but it is the platform of the classic telecommunications providers, that is DSL or optical fibre based internet (FTTH) and landline telephony. Mobile broadband access, which in terms of stability and connection speed can scarcely be compared with cable or DSL at present, is mainly used in rural areas where there is no cable or DSL provision and represents a fairly small share. Due to the considerably lower bandwidth and the costs, internet/ telephony by satellite currently has no role to play in this context.

Figure 15: Market share for cable internet 2009

(Analysis by goetzpartners (data extrapolated to 2009), Cable Europe/ Screen Digest, OECD Communications Outlook 2009, PWC Global Entertainment and Media Outlook 2009-2013)

The dominating market share of DSL-based broadband connections is primarily due to historical reasons. The telecommunications companies and internet providers, at one time the sole providers of internet access, were earlier in a position to make higher bandwidths available to the bulk of customers. Accordingly, sales and marketing were in full swing to disseminate the products in the marketplace. Thus the majority of potential customers more or less equated broadband internet with DSL. Only in recent years, after the cable network operators invested heavily in network expansion, were they able, at a high cost for sales and marketing, to bring the existence and the advantages of cable home to the broad masses, which now shows up in the sky-high growth rates. In any case it was advantageous for broadband internet and telephony to be commodity products, which are simply judged on bandwidth and price, and which are attractive to virtually all existing customers.

Figure 16: Market share for cable telephony 2009

* For Slovakia, no figures for telephony customers are available for the period under consideration

■ Cable telephony ■ Landline telephony ■ No fixed line

(Analysis by goetzpartners (data extrapolated to 2009), Cable Europe/ Screen Digest, OECD Communications Outlook 2009)

The following graphics show the distribution of national markets for fixed network telephony by platform as well as their development in recent years. It is noticeable that in the target countries examined, a reduction of general fixed line network telephony is observed universally due to the drop in prices of mobile telephony. Despite this reduction, the number of customers making calls via cable is growing significantly in all the countries considered. The extremely high percentage values are attributed to the low base volume.

The aspects described below represent the customer's primary decision-making parameters when deciding on an internet/telephony platform.

2.4.2.1 Availability

As already reported, by no means all households are developed for cable, particularly outside the towns. Classic landline network telephony on the other hand has blanket coverage, particularly in the Western European countries. However, offering broadband internet requires that the telecommunications providers also upgrade the telephone networks to DSL – or even the ultra fast VDSL standard – or to FTTH. This upgrading is carried out for much the same reasons as for cable network operators, with a focus on the urban regions, so that genuine competition between the platforms can be observed in these metropolitan regions.

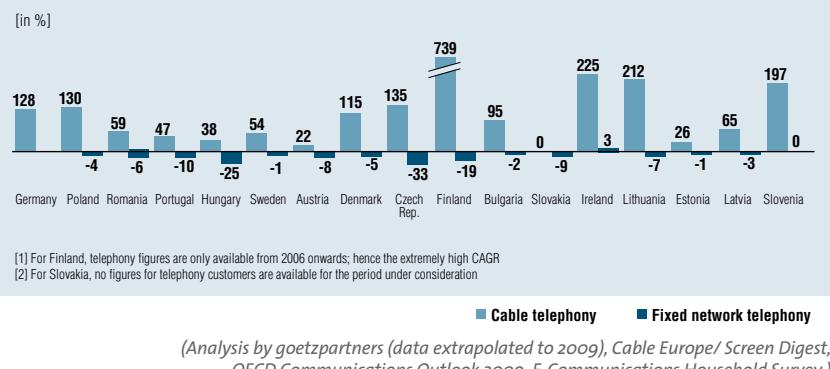
In rural areas, however, there is often no possibility of broadband access, either by DSL or by cable. On the one hand, in several European countries further mobile radio frequencies will be auctioned off in the near future. After the appropriate conversion/upgrading of all the networks it will be possible to operate broadband services based on the LTE standard, running at speeds up to 100 MBit/s. However, commercial use is not expected before the next 1-4 years. On the other hand, in Germany for example the three largest cable network operators have recently run projects to develop rural areas, as there is virtually no competition from the telecommunications companies at present.

To speed up the access to broadband internet for the rural population, both the EU and some individual countries such as Germany or France have established broadband initiatives. The goal of the German broadband initiative is to have at least 1 MBit/s internet access in all households by 2010. By 2014, 75% of all households should be connected at 50 MBit/s. In France, at the beginning of 2010, every citizen is to be given access to broadband with at least 512 kBit/s at a price of not more than 35 euros per month (including the cost of access equipment). In Switzerland (non-EU), a broadband connection at more than 600 kBit/s has even been part of the basic services since 1st January, 2008.

2.4.2.2 Range of services

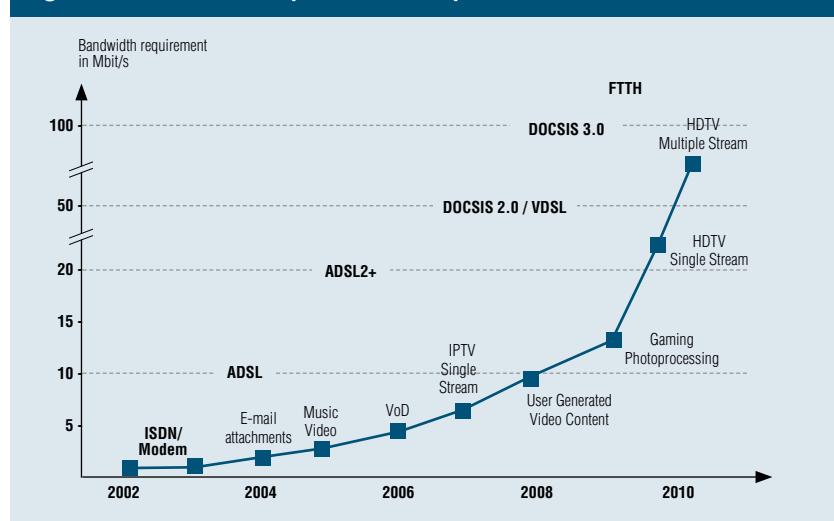
Provided that it is available, cable is superior to DSL-based technology in terms of bandwidth. This means that internet and telephony services can be provided with better quality and performance, and the types of usable applications are more varied. Looking to the future, cable is the best prepared, particularly with the introduction of the DOCSIS 3.0 standard and a realisable bandwidth of 100 MBit/s and above. The German cable provider

Figure 17: CAGR for cable telephony 2005 - 2009, development of fixed network connections



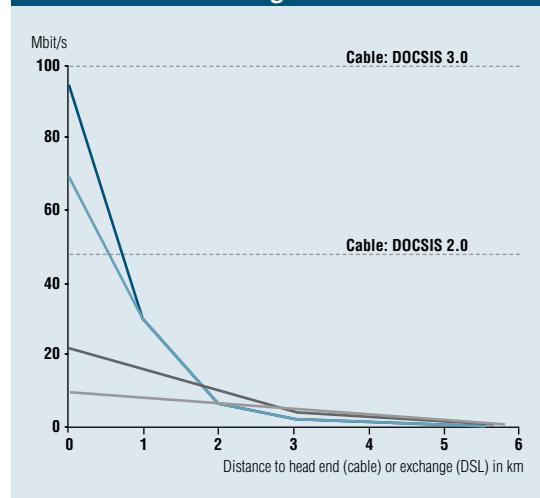
(Analysis by goetzpartners (data extrapolated to 2009), Cable Europe/ Screen Digest, OECD Communications Outlook 2009, E-Communications Household Survey)

■ Cable telephony ■ Fixed network telephony

Figure 18: Bandwidth requirement and provision

(Anga Cable 2009)

Unitymedia has even been offering bandwidths of 120 MBit/s using DOCSIS 3.0 in the cities of Köln and Aachen since November 2009. As of February 2010 Kabel Deutschland is also offering 100 MBit/s in Hamburg. Furthermore, the compared to DSL technologies, slight reduction in performance with increasing distance from the nodes results in a high degree of flexibility when expanding the network. By current standards, only using optical fibres as far as into the home (FTTH) provides a greater bandwidth but this is extremely expensive, with costs of approximately 1,500 EUR/household (10th Broadband Forum KÖLNRW) and accordingly is used only very prudently and targeted in metropolitan areas. At the moment, FTTH plays only a subordinate role in the countries under consideration. It is universally agreed that this is where the future lies. The question is, in which period of time and with which investment this can be realized..

Figure 19: Stability with distance of various transmission technologies

(Anga Cable 2009)

2.4.2.3 Costs

In contrast to TV services, both internet and telephony incur costs on all platforms, with the exception of VoIP services such as Skype. However, an aggressive price war has developed, in which services and prices are changing in short cycles in the struggle for market share to the benefit of the consumers. Up to now, however, cable network operators have better been able to limit the reduction in prices by offering higher bandwidth compared to the telecommunications companies.

2.4.2.4 Products

In the course of shortening product life cycles, so-called bundled products, through which internet and telephony are sold as a single package ("Double Play"), have also found their way in. Cable network operators have the advantage of integrating also TV elements into such bundled packages. These so-called "Triple Play" packages appeal to customers mainly for two reasons: On the one hand it normally represents a price advantage over purchasing individual components. On the other hand there is only one provider, which brings administrative benefits. For the cable network operators, bundled products also offer the advantage of greater customer loyalty. The barrier for withdrawal is clearly greater for two or even three products than for only one.

Only telecommunications providers who have an appropriate IPTV offer can also provide this service and thus represent the only competition with a comparable range of services in the platform contest. IPTV was originally developed by the telecommunications companies as an instrument to commit customers to a broadband contract by means of attractive content. Due to the currently still very low proliferation in the countries under consideration, IPTV plays only a subordinate role here.

- In contrast to the pure TV platforms of satellite and DVB-T, the cable platform is also in a position to provide broadband internet and telephony. On the one hand this enables extremely attractive additional sales by means of up-selling commodity products within a broad existing customer base. A further crucial advantage, however, also exists in the ability to provide bundled products – often at flat rates – which is appreciated by customers due to the simpler administration as well as the cost benefits, and which is rewarded with greater loyalty.
- In the internet and telephony sector, cable is competing primarily with the broadband products of the classic telecommunications companies and for the moment appears to be equivalent, if not actually superior, to their DSL technology due to greater bandwidths. As a result of massive network expansion and targeted marketing, cable network operators are positioned as successful access providers and will attract more and more customers to the cable platform in the coming years.
- The response of the telecommunications companies to the encroachment of the cable network providers into their territory is to offer IPTV through fast internet connections via VDSL or FTTH. Telecommunications providers with offers of this sort are likewise in a position to offer “Triple Play” packages with comparable performance features and thus represent the single comprehensive competitive platform for the cable network. However, IPTV offers are still comparatively young and not very widespread.

3. Reorientation of the cable network operators – optimisation areas and measures

As shown above in Chapter 2.3, there are various basic strategic options for cost-efficient growth of cable network operators depending on the particular situation. In addition to inorganic growth, these are on the one hand network expansion and an increase in sales performance in order to multiply the number of paying customers. On the other hand it is an increase in ARPU, which is the average revenue per existing customer.

In the following, some approaches for effective and efficient implementation of these options are shown. The explanation is not based on claims to be complete, but it rather uses some experiences that goetzpartners has collected in the course of project work in this field.

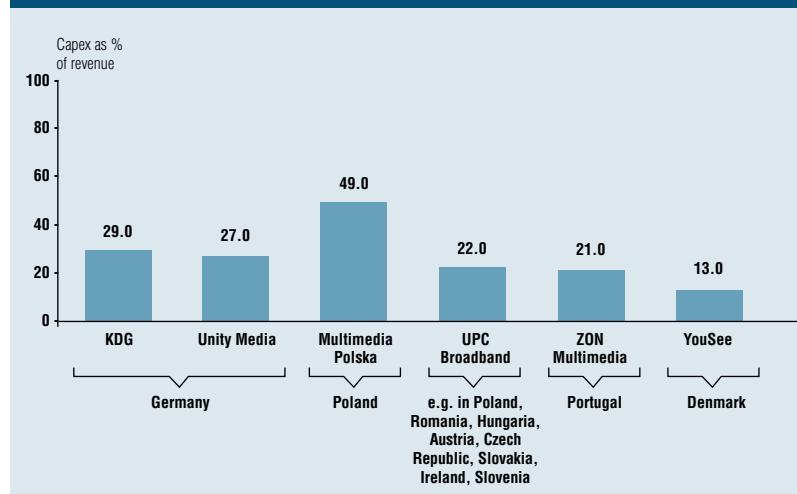
3.1 Network expansion

The convergence of the services offered by the telecommunications companies and the cable network operators described in the previous chapter results in ever closer competition between two sectors which originally had their roots in different business areas. This development harbours both opportunities and risks for the cable network operator. On the one hand, they can design their networks to be future-proof and prepare them for new services and interactivity in the course of the necessary upgrade or modification. On

the other hand, a huge investment is necessary for these measures, which against the background of further falling prices is increasingly difficult to refinance. The problem here is less the technical feasibility than rather the requirement for a huge investment arising from an appropriate expansion. This applies both to the expansion and modification of the existing infrastructure for back-channel capability, and to the construction of new in-house systems (level 4) and the associated signal feed via level 3.

As an infrastructure business, the cable business has a further characteristic which must be noted when winning over new customers: the long-term nature of the decisions. No company in a capital-intensive business of this kind can allow

Figure 20: CAPEX for selected cable network operators in Europe 2008



(Analysis by goetzpartners, company statements)

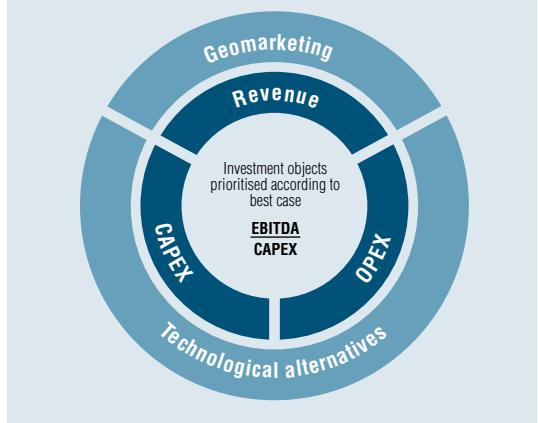
oneself to develop or upgrade new areas without first having checked in detail which opportunities can be expected there, and which CAPEX and OPEX they will be faced with.

Attention should be particularly focused on the fact that infrastructure built in at one point can hardly be directed towards a second use, should the business not turn out to be viable. Fibre nodes or line amplifiers can certainly be removed and reused in case of doubt, and the pipes laid can be rented out as cable routes, but this is merely damage limitation. The reason is the high proportion of underground work in the construction costs of the infrastructure, which as sunk costs prohibits a quick withdrawal from unviable areas. Consequently, the challenge lies in organising the network expansion in a market and product driven manner, and determining the profitability of the investment as precisely as possible in advance.

Target-oriented expansion by means of market-driven network expansion
 To achieve this goal, the investment planning in network construction by a cable network operator must be transferred from a methodology based on collected experiences to an integrated and dynamic model. The requirement by investors and owners to employ CAPEX, so that it increases value as much as possible, demands a quantitative foundation for all underlying assumptions, and the alignment of the parameters to be considered for increasing the value of the company. In doing this, previously trodden paths of focusing on homes connected or sales should be abandoned and the attention deliberately directed at EBITDA or EBIT. In the following, for the sake of simplicity we shall take the maximisation of EBITDA as representative of the goal.

This more comprehensive examination places high demands on the underlying model, which must cover both the sales side and the cost side transparently and, above all, flexibly. Furthermore, it is no longer advisable to consider the CAPEX as a given factor, but to construct the entire investment strategy flexibly. The planning of infrastructure investments is no longer dependent on the current investment budget. The objective is a model which describes the investment planning for the coming years for a clearly defined geographical area (city, region or country) in prioritised individual projects. This enables those responsible, depending on budgets and cash-flow planning, to approve the expansion and new construction of the infrastructure in a phased and transparent manner. At the same

Figure 21: NPV model for prioritising investment projects



(goetzpartners)

time, an integrated model demonstrates the owners which future effects can be expected from the CAPEX used, and puts them in a position to better understand and be able to track the allocation of resources.

Structure of an integrated model

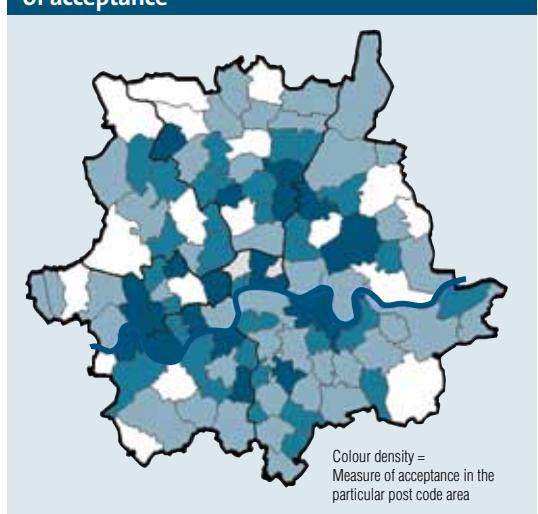
The logic of an integrated infrastructure model is based on the pre-/post-consideration of the net present values of a project. To do this, a comparison is made of the net present value for the object under consideration (e.g. a CATV cluster) with and without the planned investment. This approach can be further extended as required, to the effect that different expansion options for a project (e.g. HFC vs. edge-PAL/ QAM/ FM) are considered and compared. This is very helpful, for example, when a comparison is being made between different technical variants which differ in CAPEX and OPEX.

Based on the logic of an integrated treatment based on EBITDA, the model consists of three basic elements:

- (1) Revenue
- (2) OPEX
- (3) CAPEX.

The change in EBITDA in proportion to the CAPEX employed has been proven as a decisive performance figure. This is shown in the centre of the diagram. It guarantees that every CAPEX euro is used in such a way that it produces the maximum possible increase in the target figure. However, turning unviable network clusters into merely “less unviable” ones should be avoided; the goal is always to have a positive EBITDA figure after the network expansion.

Figure 22: Example showing regions of acceptance



(goetzpartners)

(1) Modelling revenue by means of socio-demographic data

Revenue does not track the forward projection of historical sales figures with the aid of incremental factors, but instead utilises the by now very mature geo- and socio-demographic data which are available at the market. If these data are linked using statistical procedures (e.g. regression analysis) with historical customer or sales data, the sales or acceptance potential of individual clusters can be calculated from the results. These are then transferred to the model and highlight the potential sales or acceptances for different stages of the expansion. As a by-product, the information gained can be used to identify additional up-selling potentials for sales, and at the same time to specify realistic sales or penetration targets for a sales push (see Chapter 3.2).

When developing new areas for which no customer data are available yet, socio-demographic data (application of factor and discrimi-

nant analysis) can be used to identify the properties that promise the best prospect of winning customers.

(2) Integration of different OPEX scenarios

If alternative technologies, which are possibilities for the expansion or new construction of a cluster, are being compared within the model, the costs linked to the particular technologies must be modelled flexibly (see Figure 21, outer ring). To do this, the cost drivers are worked out separately and integrated into a quantity and cost structure. The OPEX for each alternative can be calculated using the corresponding variables (e.g. number of households to be supplied) and can also be broken down according to the cost drivers if necessary.

(3) Dynamic calculation of CAPEX

Similar to the calculation of the OPEX, the calculation of the CAPEX should also be carried out dynamically within the model. The challenge lies in enabling as precise a calculation of the investments as possible using few parameters (e.g. line length and number of households to be connected).

The key part here is the automated calculation of the underground cable runs between the exit points of the existing network and the clusters to be connected. To enable this within a Graphic Information System (GIS), all the locations to be linked must be geo-coded. The GIS programs available nowadays then calculate the shortest link to the existing trunk for each cluster to be connected. The routing of the cable runs along the roads closely matches reality, due to the use of digitised mapping materials, and provides very reliable figures for subsequent calculation. The cable runs thus generated are imported from the GIS into the computational model, where they are converted into underground engineering and material costs for cable, sleeves, repeaters, etc. with the aid of the topology framework described above. Parallel to this, the resulting quantity structure can be used within the planning department for requirements and order planning.

Using the net present value method a ranking list for the projects or developments, which can be sorted according to the goal being pursued, is calculated from the sales, cost and CAPEX information. Depending on the available CAPEX or the maximum size of the infrastructure measures that can be developed parallel, the list of the projects to be constructed can be produced from the model and expanded with detailed data such as material lists or underground cable runs, if necessary. The depth of the data retained in the model enables a broad spectrum of recipients to be supplied with information from a consistent data base. Thus aggregated CAPEX volumes can be contrasted with EBITDA effects as a basis for

decision-making for the company management, while site managers are provided with parts lists from the same source.

Options for further integration

The comprehensive approach of the NPV model and the cooperation between engineering, sales and marketing necessary for preparation and plausibility checking form an ideal basis for further embedding the knowledge gained in the company. The geo- and socio-demographic data applied can be used within marketing, for example, for better control of campaigns, and sales can control the deployment of representatives better. For engineering, the model offers the option of evaluating all projects objectively within a standardised procedure and thus pursuing a transparent and traceable investment policy. The next step is the integration or linking of the model with the ERP system used in the company, thus taking the continuous work with the NPV model a step further and enabling the dynamic performance review of the projects selected by the model.

- The expansion of networks is naturally carried out on a fundamentally potential-oriented basis.
- The project implemented by goetzpartners on which the present deliberations are based has shown, however, that with the correct methodology the return on investment can be increased noticeably.
- It is thus apparent on the one hand that the use of geo-marketing data results in a clear improvement in sales potential, which has a significant influence on the returns from individual projects. As a result, almost 10% less CAPEX was required for the same target sales as with conventional planning.
- Furthermore, the evaluation and ranking of all the construction projects under consideration according to their profitability has proven to be advantageous when performing the investment and construction planning for the coming years.

3.2 Sales Push

The change in positioning and self-image of the cable network operators, away from infrastructure operators to content-driven multimedia providers, is resulting in significant changes in their sales orientation. To win more end customers on a large scale – and this must be the goal when expanding the cost-intensive new services – requires an efficient multi-channel sales func-

tion which is based on business intelligence results and is tightly controlled by appropriate organisational and technical means. Furthermore, the intensification and reorientation of sales requires a corresponding adjustment of customer management including customer service, which represents a major part of the outward image.

3.2.1 Multi-channel sales

The goals of multi-channel sales are on the one hand to address different customer groups via various sales channels, on the other hand, positive interactions should be produced between them via the various channels. For the cable network operator this means using several channels and thus generating a multitude of points of sale (PoS) primarily in order to bring the digital services to the customer. A distinction must be made here between the reactive channels, where the customer goes to the PoS with an interest in advice or purchasing, and the active ones, where the customer is proactively spoken to by a sales agent. The customary sales channels are listed in the following figure.

The choice of sales channels is strongly dependent on the particular circumstances and also especially on the sales targets being aimed at. The strongly marketing-supported reactive channels, which operate on a “pull” effect, rather tend to be suited for winning longer term and resilient customer loyalty. Advertising and marketing build up a positive image which the customer remembers in case the need arises. The active outbound and door-to-door channels, in contrast, operate on the “push” principle and focus on selling large volumes in a short time. Furthermore, promotional activities can be used to increase the degree of brand awareness massively in a short time during product introductions.

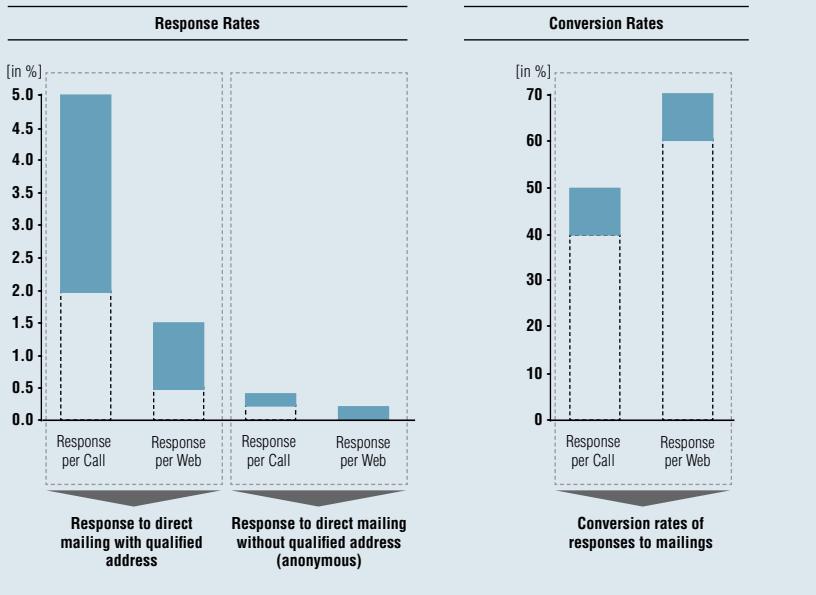
Figure 23: Customary sales channels for cable network operators

	Sales channel	Features
reactive	Customer centre or shops/pop-up stores	<ul style="list-style-type: none"> ■ Sales in service centres or small shops ■ Pop-up stores: set up cheaply and temporarily in areas with potential, possibly closing after the potential has been utilised ■ Commission-based, when operated externally
	Retail/Specialist shop	<ul style="list-style-type: none"> ■ Sales in product-related specialist shops, e.g. electrical markets ■ Commission-based
	Online	<ul style="list-style-type: none"> ■ Generation of demand by direct marketing/advertising ■ Interested party concludes contract on specifically communicated internet site
	Inbound	<ul style="list-style-type: none"> ■ Generation of demand by direct marketing/advertising ■ Interested party concludes contract over specifically communicated hotline
active	Door-to-Door	<ul style="list-style-type: none"> ■ Sales carried out “on the doorstep” ■ Commission-based, when operated externally
	Outbound	<ul style="list-style-type: none"> ■ Sales carried out by telephone marketing, as is conclusion of the contract ■ Commission-based, when operated externally
	Promotion	<ul style="list-style-type: none"> ■ Sales carried out by mobile agents who approach passers-by in busy locations (airports, shopping centres, ...) ■ Commission-based, when operated externally

Performance and costs

(goetzpartners)

In addition to sales targets, the available sales budget is a strongly decisive factor for the choice of channels. The individual channels are distinguished by, among other things, their costs, and also their success and cancellation rates. The relevant statistics here are the subscriber acquisition costs (SAC), which state how high the costs for winning a customer or a contract are. The SACs include mainly sales commissions as well as other direct marketing and sales costs, in later stages internal process and personnel costs are also considered.

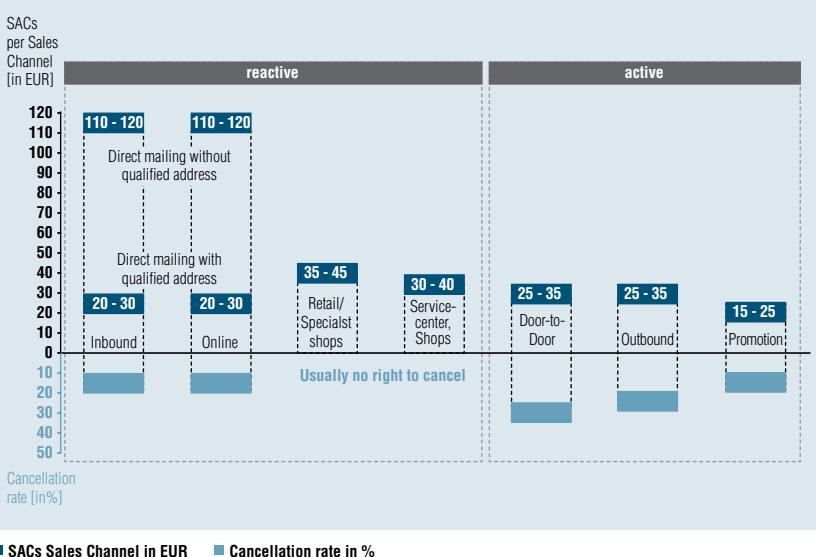
Figure 24: Response and conversion rates for direct marketing

(Analysis by goetzpartners)

Depending on the sales targets or the aspirations for growth, a company must decide which sales channels it wants to use: While relatively moderate sales targets permit focusing on cost-efficient channels with lower SACs, for ambitious growth the use of cost-intensive channels for aggressive market cultivation is also required. The magnitude of the sales targets being aimed at also results in large fluctuations in sales costs within the inbound and online marketing channels. Thus, for example, mailing campaigns to qualified addresses lead to higher response rates and hence to lower SACs. If the sales targets also require the use of anonymous mailshots or bulk mail, the lower response rates (a factor of approx. 3-5) result in correspondingly higher SACs. In the online sector, the coverage can be further increased by measures such as affiliate marketing or keyword advertising, however the SACs also rise at the same time.

Reactively sold contracts tend to prove to be more advantageous with regard to cancellation rates, as the customer addressed by advertising and marketing seeks the sales pitch on his own initiative and acts more deliberately. With the rather sudden addressing of the customer in active sales, however, the cancellation rates tend to turn out higher.

When putting the individual channels into operation, the involvement of service providers should be taken into account. Firstly, to keep the fixed costs as low as possible, and secondly to be able to organise the sales intensity flexibly as a whole and also in the individual channels. Furthermore, service providers are specialised in sales, particularly in the active channels, and achieve a better performance.

Figure 25: Direct sales costs/commissions and cancellation rates (Germany)

(Analysis by goetzpartners)

Monitoring/ Reporting

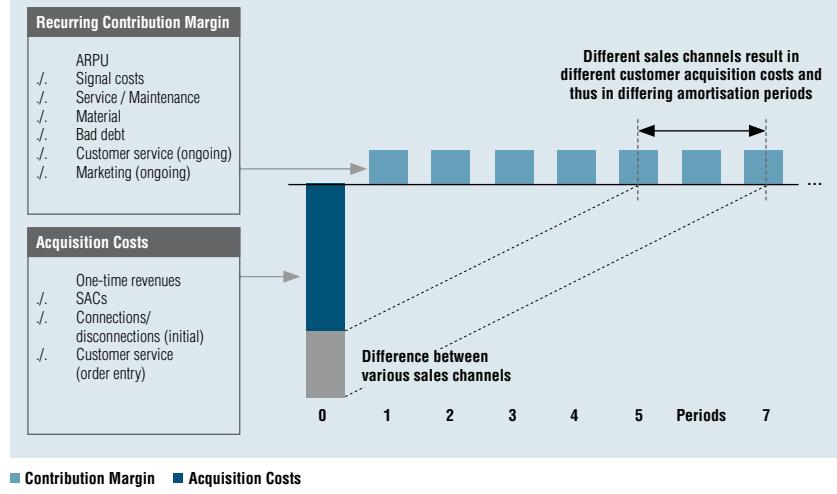
The various internally and externally operated channels in multi-channel sales are usually at the centre of organic growth and are provided with a correspondingly high budget. Against this background, detailed and very prompt monitoring and reporting must be set up. This must be meaningful to the extent that at least the following information is available and can be analysed for each product, channel and campaign, and also for each service provider/partner and if necessary for each region:

- Sales performance (to be reported daily/weekly)
- Cancellations/counter-orders (to be reported daily/weekly)
- SACs I-II (to be reported monthly)
- Response and conversion rates (to be reported monthly).

Furthermore, for special promotions and campaigns an attribution to the particular promotion is required.

The implementation of such sales reporting should not take place via the channel's own reporting system but by use of so-called sales IDs. Sales IDs are keys which contain data such as channel, region, product or partner, and are recorded in the CRM system during processing of contracts. Reporting based on sales IDs is therefore to be preferred, as among other things it is based on the transactions actually recorded in the system and not on the "self-disclosure" of the channels or even of the service providers. Reporting based on sales IDs requires, however, that completions and cancellations of contracts are also processed promptly in the system. In addition to controlling the sales performance, reporting for channels with service provider involvement is used as a basis for their remuneration. Accordingly, service provision contracts in the sales sector should always be linked to KPIs such as sales performance and cancellation rates and contain appropriate bonus and penalty rules.

Also, the assessment of sales costs should always be carried out from the point of view of amortisation, i.e. to what extent will the costs of winning a contract be borne by the gross margins of the sold product over the underlying term. For considerations of this sort, the one-time sales costs should be separated from the recurring gross margins of the product. While the recurring gross margin provides information about the profitability of the product itself, it is possible to assess on the basis of the one-time sales costs what sales expenditure one wants and can afford, which in turn has an influence on the choice and intensity of the channels. The requirement for these considerations is transparency concerning SACs and terms as well as, in particular, the individual gross margins of the respective products.

Figure 26: Amortisation of sales costs

(goetzpartners)

Against the background of the hard fought-for market in the additional digital services sector, the transparency concerning to what extent sales costs are justified by the achievable margins is of great importance. The telecommunications companies and the internet providers in particular are carrying on a hard pricing struggle. This leads on the one hand to high change rates (=short terms) and to low gross margins for the products. On the other hand the marketing and sales costs will consequently rise further or be kept at a high level. Telecommunications companies in Europe are currently investing approximately 10% - 20% of their turnover in marketing and sales (goetzpartners).

- In particular selling new products often represents a challenge for cable network operators.
- This applies especially in highly competitive markets with strong competition on the part of the telecommunications companies.
- To ensure the highest level of efficiency in multi-channel sales for cable network operators, goetzpartners has designed and implemented an efficient and effective sales control system.
- The newly gained transparency, with respect to sales performance, cancellations and in particular to direct, channel-specific sales costs, has been used for optimisation as well as for a noticeably more stringent control of sales and service providers. As a result it was possible to increase the efficiency of sales by almost 10%.

3.2.2 Optimisation of Customer Service

The increasing importance of the new digital services is resulting in a fundamental change in the tasks, the organisation and the self-image of the customer service function. Customer service increasingly represents a differentiating feature and consequently a strategic success factor in competition.

The growing challenges for customer service are based on a higher volume of contacts and an increasing complexity of contact, and can be attributed to three significant drivers:

■ **Increasing complexity of the products:**

Due to the higher complexity of the product structures in the new services, there is an increased requirement for consultation on the part of the customers. Consequently, the level of support and contact frequency increase and thus the service costs rise continuously.

■ **Increasing sales and marketing activities:**

With the goal of winning new customers in a market with intense competition, the use of innovative and effective marketing promotions is required. As a result of such marketing promotions, which refer the potential buyer explicitly to customer service for the purpose of consultation or concluding the contract, a distinctly greater volume of contacts is generated, possibly only temporarily. Shorter contract terms and up- and downgrade possibilities additionally lead to a rise in contact rates due to cancellations or contract extensions, as well as to a rise in interactions even between the contract periods.

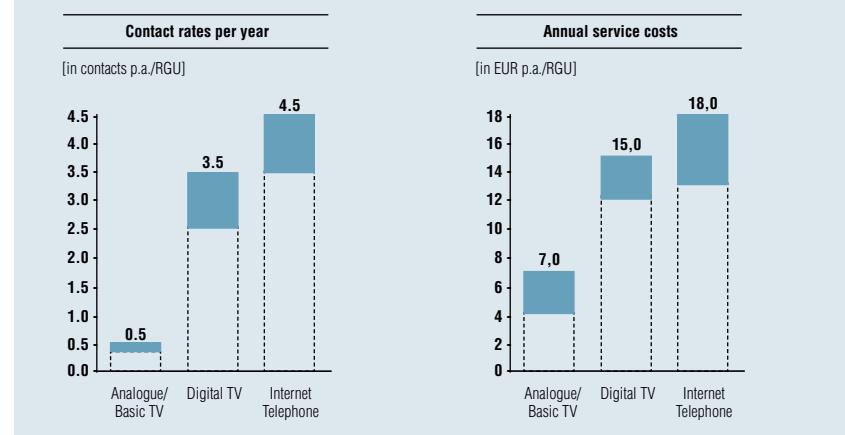
■ **Increasing number of end customer relationships:** The constant expansion of the cable networks is leading to a rise in the addressable customer base for classic TV and new digital services. Thanks to the responses to the sales offensives and ambitious sales targets, a constant rise in customer numbers and hence contacts can be recorded.

In order to be able to handle the rising numbers of customer contacts and growing demands on customer service in the best possible way, it is essential for cable network operators to adapt the previous service structures and establish an efficient customer service function which pursues the following goals:

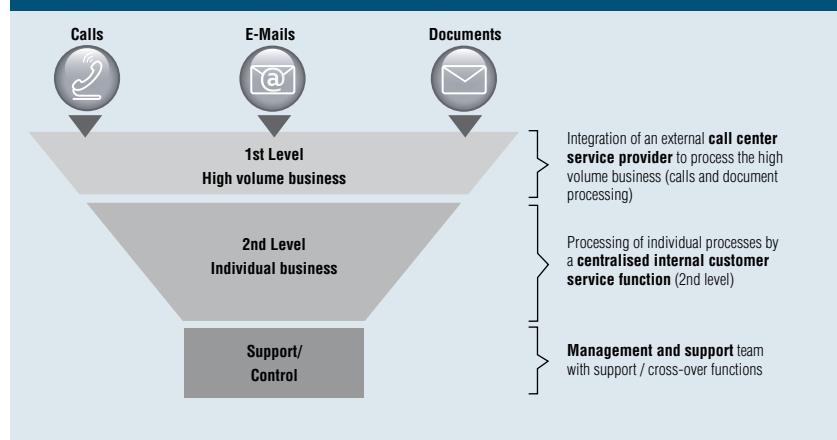
- Ensuring a high quality of service to increase customer satisfaction and customer loyalty
- Reducing costs by creating efficient cost structures and processes
- Ensuring flexibility and scalability, in order to be able both to adjust capacities at peak times, and to handle customer growth at optimum cost
- Sales and customer loyalty orientation for the targeted use of the customer interface for sales activities (up and cross-selling) and customer loyalty measures.

Static or rigid customer service organisations are unable to respond adequately to the requirements for high flexibility with equally high quality of service and cost efficiency. To ensure the availability and the service

Figure 27: Contact rates and costs for analogue TV and new services p.a.



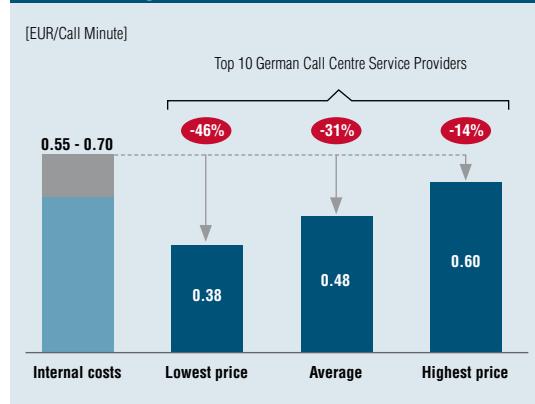
(Analysis by goetzpartners)

Figure 28: Customer service level concept

(goetzpartners)

level, however, the development of an integrated level concept is recommended. This means that the processing of standardised, regularly occurring customer cases will take place in the 1st level by so-called multi-skilled persons. The individual and more complex requests and enquiries that require greater technical knowledge are processed by specialists in the 2nd level, who possess a wide detailed knowledge in their own particular areas of expertise. For very specific debit-related and, in particular, technical questions a further 3rd level entity should be implemented. However, for reasons of workload as well as to ensure know-how, this should be a specialist department and not a unit in customer service.

To increase the flexibility with regard to volume handling and service times, it proves to be appropriate to involve one or more external service providers for the 1st level. As a result of higher productivity, a lower wage level, if possible, as well as greater flexibility due to economies of scale and diversified personnel deployment options, an external service provider can normally handle the bulk business more efficiently. Furthermore, due to the changeover to contact cost remuneration, significant cost savings or a reduction in costs for idle time can be realised.

Figure 29: Cost advantages of 1st level outsourcing

(Analysis by goetzpartners)

However, outsourcing customer service activities also means giving up direct contact with the end customer. In addition, there is the loss of direct influence on customer support and service processes. The formation of an integrated quality and control management is required to compensate for this risk. Therefore, the creation of a central, integrated customer service control is vital. Quality and process management, as well as reporting, training coordination and the control of service providers is carried out centrally via this internal control entity.

The implementation of an efficient and transparent system for controlling service providers with the objective of ensuring a high, consistent quality level and cost efficiency represents a central success factor when outsourcing the 1st level. For operational control, clear target value specifications for costs, productivity etc. based on industry benchmarks are vital. The embedding of enforceable control mechanisms based on KPIs on the one hand, as well as the corresponding enforcement options such as bonus or penalty rules or a special cancellation right on the other hand are therefore essential in the service provision contract.

Other technical features such as IVR, CTI or customer self-service portals enable additional automation and thus result in a relief of customer service and an increase in efficiency in the form of reduced contact costs. However, the profitability of these practices in specific cases must always be verified by means of a business case analysis.

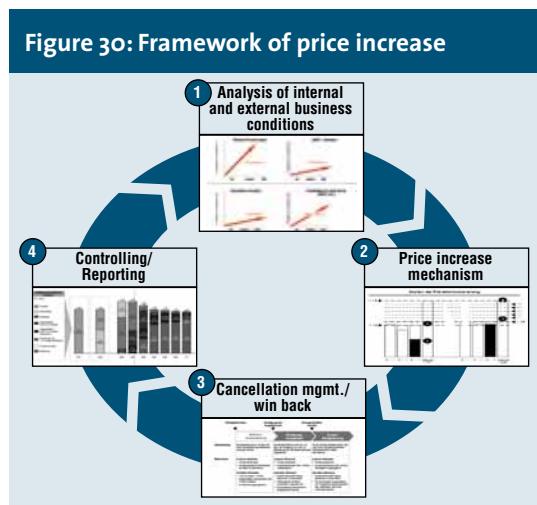
- Even market consolidation and the necessary integration of operational units linked to it presents cable network operators with challenges.
- Following the merger of several decentralized cable network operators, goetzpartners has integrated their customer service units and realigned them according to the changed market requirements.
- The introduction of a level concept and the outsourcing of large-volume and standardised activities have proven to be a central success factor for cost-efficiency and flexibility in this personnel-intensive sector.
- Regional centralisation as well as the creation of an efficient internal control and a quality assurance capacity has proven essential in ensuring a high processing quality.
- As a result it was possible to realise an increase in efficiency of approximately 25% by applying all these measures.

3.3 Product optimisation

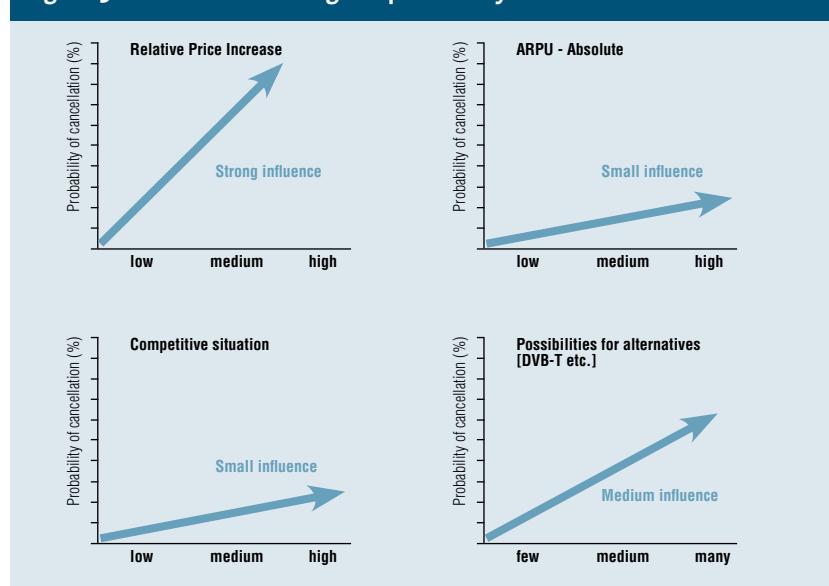
Cable network operators can achieve further growth in developed and highly penetrated network areas by optimising the price and product landscape.

A corresponding increase in the revenues per customer can be realised by two approaches:

- The ARPU for conventional products can be increased by means of a price increase. With this course of action, however, the questions of enforceability and acceptance in the market must be taken into account.
- Additional revenues per cable household can be generated by offering and selling new paid-for services, so-called value-added and additional services.



(goetzpartners)

Figure 31: Factors influencing the probability of cancellation

(goetzpartners)

3.3.1 Price increase

The implementation of price increases in the field of classic TV products is usually in pursuit of two goals: On the one hand, of course, the increase of the ARPU, among other things to adapt to general price rises or to refinance the large investments in network expansion. On the other hand, to achieve, if necessary, an equalisation of the often historically caused heterogeneous price structure for the various districts and properties. By means of structured planning and a holistic consideration of the increase process, both the pricing leeway can be used up and an (incremental) harmonisation of the prices can be achieved. In doing so, neither the complexity nor the expenditure, particularly in the downstream processes such as customer service, must be underestimated.

A sustainable price increase is based on four successive phases, which can also be carried out in repeating waves:

- (1) Environment and internal analysis
- (2) Development/adaptation of price increase mechanism
- (3) Cancellation management/customer recovery
- (4) Controlling and Reporting

(1) Environment and internal analysis

The starting point for a price increase is a structured analysis of the current customer base. All sales items of the customers must be analysed and collated here. Important details such as for example the differentiation into one-time costs in contrast to monthly or recurring income play a major role in this. Although it has transpired that price increases also offer significant potential for increasing turnover in the area of "hidden" one-time costs, regular payments represent the greatest sales leverage and accordingly the focus is also on these items.

After the sales figures have been collected they are supplemented by further data. Meaningful information is demographic data such as spending capacity or price sensitivities, to enable calculation of the probabilities of churn and objections for each customer segment, or important regional aspects such as the possibility of access to and the use of alternatives such as DVB-T or IPTV. In addition to internal knowledge, various commercial databases and benchmarks from previous price increases can be used as sources. The goal is the creation of a detailed risk assessment for each individual contract using standardised algorithms.

(2) Development/adaptation of the price increase mechanism

Based on the risk analysis, various price increase scenarios are modelled. Basically it should be decided at this point whether a standard price system or a systematic price structure should be implemented. The “One-Price-Solution” is particularly suitable, above all for reasons of communication politics, however, it can be difficult to implement due to heterogeneous price structures as well as drastic increases in some places. A compromise is a price level system with as few price levels as possible. Target prices and price levels are specified in an initial step. Then the optimum prices can be calculated, taking the risk factors (alternatives, etc.) into account. The required algorithm should take account of the price harmonisation being aimed at. Minimum and maximum prices and increases are specified for this purpose. The customer base is then divided into several time phases. Even if an increase for all customers at a single point in time seems attractive at first, this solution harbours too many disadvantages such as a temporary overload of customer service or negative reporting in the media.

It is also important for all customer communication to be clearly structured beforehand. The customer expects added value from a price increase. If this is not obvious immediately, benefits, e.g. in the form of digital package solutions, can provide this added value and thus boost additional sales potential.

Despite optimum preparations and consideration of risks, price increases will result in objections and cancellations. This leads on to the third part of systematic price increases: customer win-back.

(3) Cancellation management/customer win-back

As a price increase always results in cancellations and objections, the complaints management and especially the issue of cancellation management/ customer win-back have a decisive role to play. These processes can decide the success or failure of a price increase, as each cancellation means not just the loss of the increase in turnover but also the loss of the entire sale. If the cancellations become too numerous, the positive effects of the price increases can be outweighed by the cancellations.

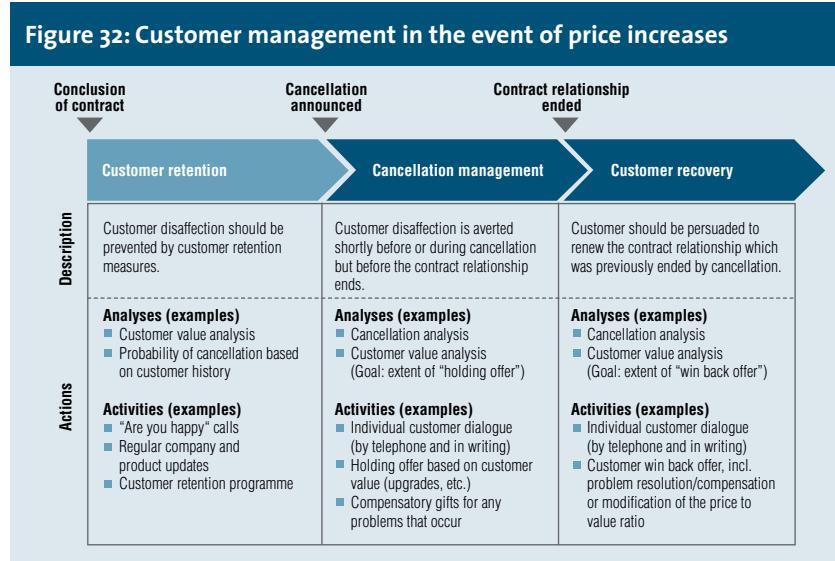
In customer management a distinction is generally made between three stages:

- Customer retention: Measures which are permanently taken during the contract relationship (thus independent of price increase measures and hence of secondary interest here)
- Churn prevention: Measures which are taken shortly before or directly at arrival of the cancellation
- Win-back: Measures which are taken after the customer relationship has ended.

It is important that all three stages are coordinated, with each other and with the customer communication. The legal aspects and their observance in customer service are also of great importance here. Depending on the attractiveness of the win-back offers, win-back rates of up to 30% in the churn prevention phase and up to 15% in the win-back phase can be achieved. As only

the costs for the offers or a loss of revenue due to credit notes are incurred in addition to the processing costs, won-back customers are generally more beneficial than new ones.

Figure 32: Customer management in the event of price increases



(goetzpartners)

(4) Controlling and Reporting

Only detailed and prompt reporting of the operational and financial figures for the price increase will enable speedy countermeasures in the event of undesirable developments. Controlling fulfills two important tasks here. On the one hand it must possibly be able to show real time data in order to remain responsive. The results can be used primarily to deduce the need for change in the subsequent phases. On the other hand, the calculation of the effects of the increase on revenue planning is of great importance.

The central success factors for setting-up a reporting for this measure are:

- Clear responsibilities for data
- Transparent definition of the central figures
- Central reporting
- Prompt compilation of reports

After ending of the price increase, the structures created frequently offer the possibility of repeating further increases in a timed sequence. A "rolling price increase" like this, however, is crucially dependent on the average level of the initial increase and the communication that has already taken place. Only if the possibility of repeated increases has been systematically considered from the outset, they can be implemented optimally.

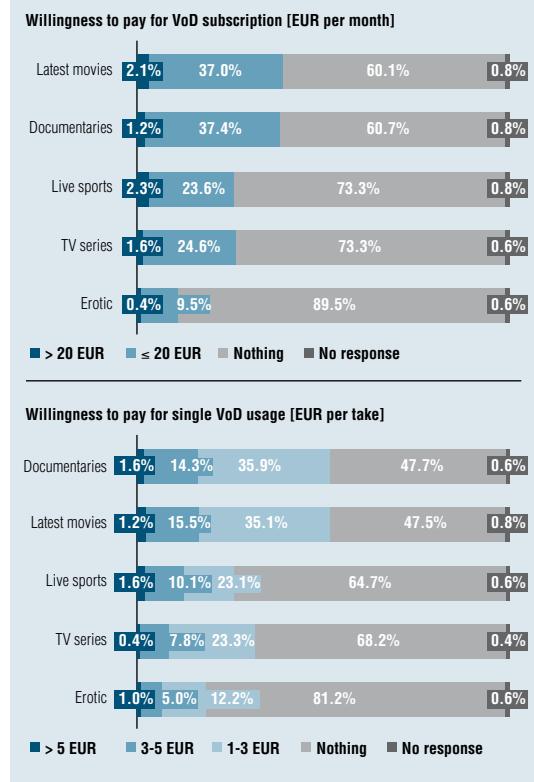
- An “intelligent” increase in prices offers the possibility of increasing the profitability of cable network operators and creating room for further business development.
- As price increases are not accompanied by cost increases, they have a direct effect on the operating profit and thus represent a particularly effective means of increasing profitability.
- Within the framework of a project, goetzpartners has conceived a comprehensive price increasing procedure following the principle described above, and accompanied it through implementation.
- In doing so, it has been shown that the success factors lie particularly in consistent and convincing communication and also in effective anti-churn management.
- As a result, despite a price increase of approximately 15% in the individual customer segment, it was possible in the specific case to keep the churn rate below 4%.

3.3.2 Value-added and additional services

Value-added or additional services are understood to be services which go beyond the provision of the cable connection and the transmission of linear analogue or digital television. These can be additional contracts for internet and telephony or even pay TV packages. In order to be perceived and accepted as genuine and, above all, paid-for value-added services by the end customer, the new services must offer an additional benefit, e.g. in the form of attractive content, time sovereignty or interactivity. The requirement for the provision of value-added services from cable network operators is the digitalisation and back-channel capability of the network. The spectrum of value-added services includes both already established services as well as services which will become established on the mass market in the future.

The currently established value-added services include the services which, among other things, are offered bundled into Triple-Play products, i.e. a broadband internet connection, a fixed line telephony and also where appropriate, paid content within the context of a paid-for digital TV package. The broadcasting of paid content (pay TV) basically represents a significant element of value-added services. In Central and Eastern Europe and also in Russia, pay TV is showing a high growth potential. The number of pay TV subscribers in this region has risen by approximately 18 % in 2007 alone, which suggests a high acceptance and a willingness to pay for this value-added service (Eastern European Pay Television, 2008). However, in a classic free TV country such as Germany, users tend to show a very low willingness to pay for TV content. A certain proportion of viewers is willing to pay small amounts of less than 20 euros per month for various content, however the broad acceptance of higher

Figure 33: Willingness to pay for TV content in Germany (VoD)



(goetzpartners customer survey 2009)

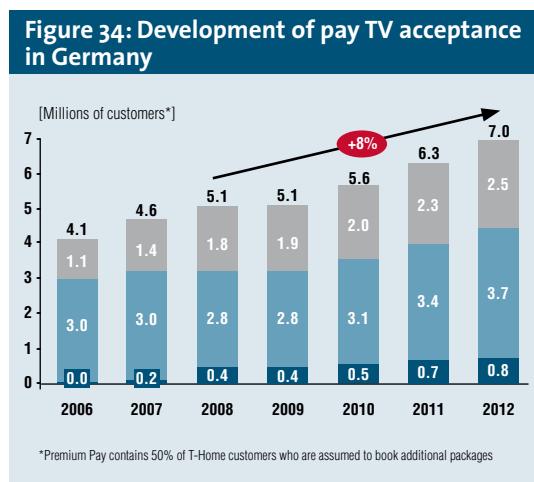
amounts as are currently required for premium content is extremely low, and primarily driven by the exclusiveness of the German soccer league.

The clearly higher acceptance of small amounts for TV consumption in Germany has two effects: The first, amongst other things, is that for so-called basic content, which primarily contains special interest or foreign language programmes for approximately 5 - 15 euros per month, a clearly more positive development can be observed than for premium content for approximately 20 - 30 euros. Cable network operators can sell this form of content to their already existing TV customers and realise an easy up-selling effect. Secondly, the acceptance of small amounts pushes the usage of on-demand services like pay-per-view (PPV) or video-on-demand (VoD).

The other components of a Triple Play bundled product, that is IP telephony and internet via cable, are widely accepted by customers as paid-for services and exhibit high growth rates as shown in the previous chapters. Furthermore, in the last month the offer of mobile telephony and mobile broadband products, partly integrated into bundles, have more and more established. Examples are Kabel Deutschland (Germany), Telecab (Spain), Virgin Media (UK) or Telenet (Belgium).

With the increasing bandwidth and back-channel capability of the networks, an expansion of the offers from cable network providers and the further establishment of additional features are expected in the short to medium term. These will provide customers with greater operating convenience, more flexibility and time sovereignty. The services and features worthy of naming here are:

- Electronic programme guide (EPG)
- On-demand services (VoD, NVoD)
- Personal video recorder (PVR)
- Time-shifted television (Time-Shift)
- Media centres (Catch-up TV)



(Analysis by goetzpartners)

In addition to the previously mentioned services, a closer fusion of TV and internet, which provides space for further interactive applications, can be seen. The list of potential services is long: whether access to social media platforms, simple information or transaction-based activities such as teleshopping, voting, chatting or gaming, the most important thing is the possibility of avoiding media disruptions. The still low-key interest in this functionality is, in the opinion of goetzpartners, due to the continuing lack of provision and the low level of information for potential users associated with it. Furthermore, coupling of TV and internet in the cable sector

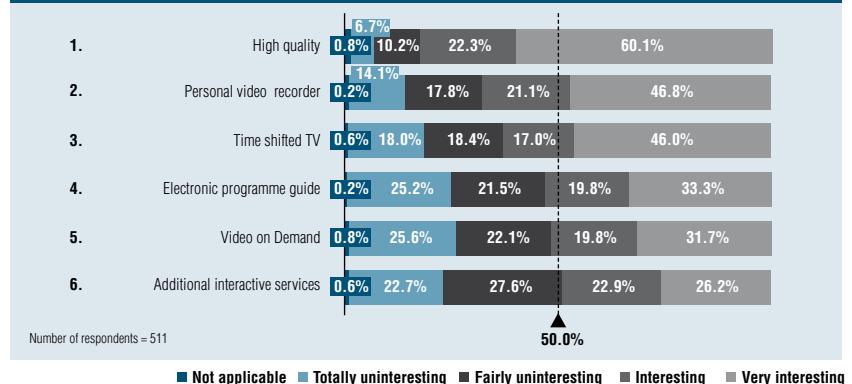
without media disruption requires the use of hybrid boxes or terminals which currently are not widely available. Certainly the acceptance of these features does not only depend on the technical options but also on the acceptance by consumers. Against the background that among younger consumers the internet is taking over from television entertainment, good prognoses can be given for acceptance of the fusion of the two media. The requirement for this, however, is that the TV providers pay more attention to the understanding of the product, and in particular to simplicity of operation, rather than to technical gimmicks that only a few know how to use and appreciate.

Against the background of the ARPU increase, which is linked to these value-added services, it is also important here to emphasise the particular added value to the customers by means of an appropriate communication, in order to generate the desired willingness to pay. It can possibly make sense also to offer some services as cost-free add-ons, in order to raise the customer's awareness and the acceptance of interactive additional services. However, the main focus is then mostly on the customer retention aspect, as it is usually difficult to levy a fee in future for formerly cost-free services.

The sales forecasts for cable network operators show that the potential for additional sales lies primarily in value-added services. While the ARPUs from the classic analogue cable connection are declining and are being compensated or overcompensated by digital TV, the ARPU contribution from the VoD, internet and telephony services is rising significantly.

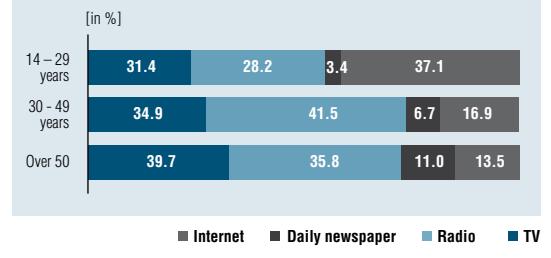
However, before the potential increases in revenue due to offering value-added services can be realised, substantial investments in upgrading the networks are required, as described in chapter 3.1. Hence, it is necessary for the value-added services to generate the corresponding sales in turn, in order to refinance the high expenditure. In Western Europe, investments of 50 EUR up to 180 EUR per household, depending on the network level, are assumed for implementing the required back-channel capability (goetzpartners). In addition, there are one-time costs in the supply network and costs for hardware provision such as the required set-top boxes. With investments of this level the cable network operators should be certain of realising an even higher ARPU with the new products.

Figure 35: Interest in additional TV functionality



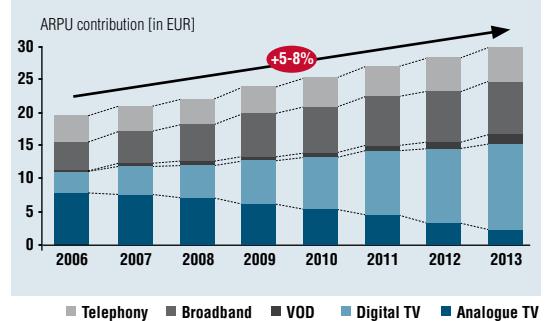
(goetzpartners customer survey 2008)

Figure 36: Proportion of media use according to demographic criteria 2008



(ARD/ ZDF On-line study 2008)

Figure 37: Development of the ARPU contributions for each service in EU27



(Anga Cable 2009, Screen Digest)

- A network expansion only makes sense if the technical features of the modernised network are used consistently.
- Therefore a central importance must be attached to the development and introduction of new services.
- goetzpartners has, for example, designed a VoD platform for a cable network provider.
- By outsourcing very specific and investment-intensive value creation stages such as content purchasing or platform provision to external service providers, the high risk of developing this new business could be taken into account.
- With regard to the acceptance by viewers, an operation free of media disruption and a subscription or pricing model similar to flat-rate have proven to be the central factors for success.
- Meanwhile approximately 10% of customers use this platform regularly.

3.4 Inorganic growth

In addition to the options described for organic growth, the option of inorganic growth by acquisition or merger in principle always presents itself as well. In the last decade, the sector of cable network operators went through a far-reaching consolidation phase in the whole of Europe, which had three fundamental forces:

- (1) The strong attractiveness of the sector for private equity investors,
- (2) The possibility of exploiting synergies on a national basis and expanding geographically and
- (3) lastly – especially in recent years – the increasing convergence of telecommunications providers and cable network operators, who are now emerging more and more as competitors and are beginning likewise to consolidate their own particular infrastructure.

(1) The role of private equity

The cable network operators in continental Europe were one of the first industries to be examined closely by private equity investors, mainly from the USA and Great Britain. The reasons for this are above all the high margins, the clearly predictable and secure cash-flows and the possibility of reducing investments noticeably, temporarily at least, without sustaining a direct negative influence on the operating business.

The phase of buying by private equity players in the cable sector began to gather speed in 2003, but especially in the years 2005 until the first half of 2007 a major part of the large transactions in the European cable market was characterised by financial investors. This was due not least to the financing options by means of acquisition credits from major banks. Financing by more than seven times the EBITDA of the purchased company was not unusual, so that the enterprise values, especially in the years 2005 and 2006 could assume values of 11x up to 14x EBITDA with acquisitions of this sort. Here, strategic buyers at the larger transactions were only rarely in a position or prepared to offer these prices in a sale. Companies were often resold by private equity companies to other financial investors in so-called secondaries, which often intensified the debt position of the company even further.

The entry of financial investors had a positive effect on the cable sector generally. On the one hand, inefficiency was reduced by means of operational improvements and cost reduction. On the other hand, companies whose shareholders believed in appreciation by means of the new services received capital grants for the necessary expansion of their networks.

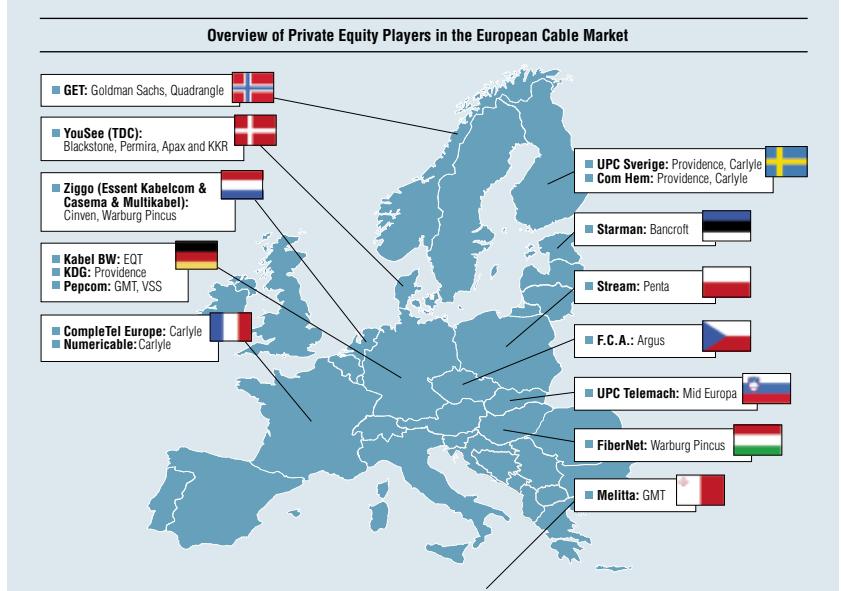
While some investors achieved high returns by reselling, many cable companies today are still in the financial investors' possession. However, as the EBITDA multiples of cable network operators in today's market environment have fallen to an average of about 6x up to 8x EBITDA, for the moment it makes sense for the least of these shareholders to sell their shares. Compulsory situations arise, however, when the fund from which the investment was made runs out and the money lodged must be paid back to the institutional investors of the fund. In these cases, interesting investment opportunities in the cable market can arise for strategic buyers.

Figure 38: Most important acquisitions of cable network operators in Europe from 2003 - 2009



(Analysis by goetzpartners, company information, Mergermarket, Thomson, broker reports)

Figure 39: Examples of the private equity players in the European cable market



(Analysis by goetzpartners, company information)

However, a possible solution arises for the private equity companies by passing the company from the old fund to a reissued one, in order to profit from a better market position in a few years and higher selling prices. In recent times, private equity investors in the German cable market appeared above all through exits. Apollo and BC Partners, the former owners of Unitymedia, found in Liberty Global a strategic buyer for the second largest German cable network operator. In addition to a direct sale, the possibility of an IPO was also checked in this transaction. Ultimately the old owners decided on the sale to Liberty Global, however, for which in particular a more attractive valuation level in comparison to the alternative IPO as well as the security of a 100% exit would have had spoken in favour. As acquisition financing at an adequate level for this transaction was not available from any banking consortium, a high yield bond negotiated by Unitymedia itself helped with the financing. In February/March 2010, Providence, the largest shareholder of Kabel Deutschland, was checking to carry out an exit with a comparable strategy. Finally, they decided for an IPO of approximately 1/3 of shares.

Investments in the cable market have mainly been financed in the long term, so that the debts of the cable network operators generally do not turn out to be too dramatic. In individual cases, however, tranches of acquisition financing run out and because in today's market environment they cannot even to some extent be refinanced with comparable terms, these companies with expiring credit lines are threatened with insolvency or a takeover of control by the financing banks (see the Orion Cable case in Germany regarding this). Besides, it could be observed that the debts of these companies are partly being bought up at substantial discounts and largely by hedge funds that want to gain control of the company by means of debt-equity swaps in order to then break them up if necessary, if the situation worsens or before insolvency occurs, and resell them at a profit.

(2) Synergies and geographic expansions

The second major driver for consolidation in the cable sector is the possibility of exploiting synergies by means of mergers and the fact that supra-regional growth for cable network operators is frequently only possible at all by means of acquisitions.

In Germany, which has earned a special position due to the original strict separation of the owner structures on the various network levels (level 3 and level 4), this consolidation took place to a large extent at network level 4, whereby the formerly extreme fragmentation of the market was substantially reduced.

The realisation of synergies can take on very different proportions depending on the character of the two companies being merged. The most

important criterion is obviously the mapping of the respective networks. Large savings can be achieved by combining network clusters, particularly with the costs of signal delivery. In the field of the new services these savings can be achieved, depending on the depth of the network, from the costs of the IP backbone.

The second item, which provides room for significant savings, are the costs of operating the networks. Particularly with geographically extensive, nearby or overlapping networks, the expenditure for logistics and access when servicing the network is reduced. Some transactions are explicitly carried out with the intention of reducing the fragmentation of the network districts and creating more homogeneous networks. How directly and quickly these savings can be realised depends not least on whether the maintenance of the networks is operated within the company or largely carried out by third parties. In the latter case this results in downsizing of their own technical personnel.

Personnel costs in general are a further possibility for achieving synergies by merging cable network operators. In addition to the savings in technical personnel for maintenance and operation of the networks, these can primarily be achieved in central administration and also in customer service.

As a result of merging cable network operators synergies can lastly also be exploited by the savings in investments, especially in the IT area. Mergers of cable network operators are frequently associated with high integration costs, which are readily underestimated when drawing up a cumulative business plan as a basis for a transaction.

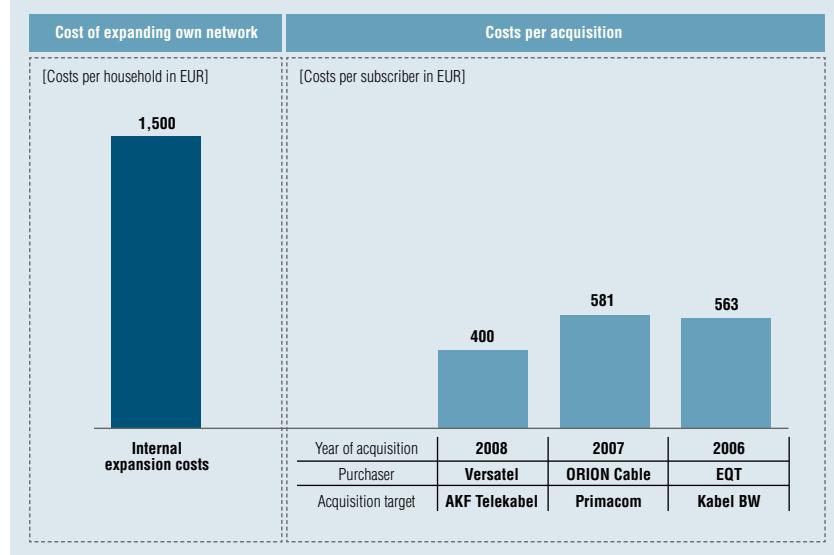
(3) Convergence between cable and telecommunications

The third reason for acquisitions and mergers of cable network operators is the well advanced convergence between the cable and the telecommunications sectors. As already shown, the competitive situation between the two sectors has intensified in the first few years of the new millennium, as cable network operators increasingly offer telephony products and internet access over upgraded new networks, and telecommunications companies have also incorporated television products over their IP platform into their product range.

As the product range now largely overlaps, in recent years there was a clear rise in mergers of classic cable network operators and telecommunications companies. Here the players can profit from the strength of their counterparts.

In many countries, telecommunications companies are still dependent on the local “incumbent” for direct access to the customer and they can

Figure 40: Comparison of expanding own network vs. purchase of new customers



(goetzpartners; Versatel AG)

free themselves of him by acquiring cable network operators with customer relations on the last network level. Even in case of a geographic expansion it is frequently more convenient to win customers by buying companies than by setting up one's own infrastructure and internal customer acquisition with high SACs. Thus, for example, the German broadband provider Versatel estimated the costs of its own expansion of a FTTB network at approximately 3 times as high as for the cost of a cable network provider with his own end customer access.

Other attractive features of the cable companies are their often greater experience with TV content for pay TV offers, a relatively stronger customer loyalty and lower pressure on prices and margins.

Figure 41: Strategic positioning of telecommunications companies vs. level 4 operators

Strategic Fit		
Topics	Positioning Telcos	Positioning Level 4 Operators
Market Saturation	X	✓
ARPU-Development / Pressure on Margins	X	✓
Content Know-how	X	✓
Direct Customer Access	X	✓
Customer Loyalty	X	✓
Dependence to Upstream Suppliers	✓	X
Customer Orientation	✓	X
Marketing Power	✓	X
Compatibility of Services / Products	✓	
Technical Compatibility	✓	

✓ superior position X inferior position

(goetzpartners)

The high customer retention of the cable network operators is caused by various factors. Thus the cable charges in some countries are partly deducted from the utility charges, so that the individual households do not develop any active cost awareness. The possibility of an alternative reception path may also be absent (prohibition of external satellite dishes, missing DVB-T, etc.) resulting in a genuine local or regional monopoly of the television provision for the cable network operator. Furthermore, the cable network operators maintain in part long-time contracts with the apartment owners or housing associations, which also imply 100% customer retention.

On the other side, however, there are also many points in which telecommunications companies are considerably better positioned in comparison to cable network operators. In view of the relatively low customer fluctuations, the cable network operators have failed to introduce a professional customer service or to establish a lasting brand in the majority of European countries. Cable network operators are also more dependent on IP providers in the classic sense than classic telecommunications companies, because they only set up broadband internet access and VoIP a relatively short time ago and do not always supply from their own networks.

Since a symbiosis of cable network operators and telecommunications companies can, as explained, improve the position with respect to the customers, reduce the competitive situation and enable higher margins and ARPUs, acquisitions and mergers between companies from the two sectors have increased in recent years.

Looking to the future, it is possible to summarise that although the fragmentation of the cable providers has already reduced greatly in some European countries the consolidation in the cable sector will proceed for some time yet:

- Firstly there are still sufficient companies with financial investors, who sooner or later will have to take the leave of their shares.
- Secondly, against a background of high investments, increasing market saturation, falling margins and the growing convergence between classic telecommunications companies and cable network operators, further combinations to realise economies of scale make sense.
- Thirdly, due to the intensifying competition between classic telecommunications companies and cable network operators, cartel offices and regulatory bodies, which in recent years appeared rather as blockers of an ever stronger consolidation (in Germany primarily between network level 3 and network level 4), meanwhile appear more open-minded with respect to mergers, as they rightly begin to take a wider view of the market definition.

- With its high margins and calculable cash flows, the scope to achieve economies of scale as well as the potential for growth in the area of additional services, the cable market has attracted numerous financial investors.
- They have invested extensively in cable network operators and promoted their consolidation.
- However, high entry prices based on optimistic business plans on the one hand as well as diminished financing options on the other, have led to it, that the euphoria of many cable network operators and their companies has given way to a more realistic view of the still attractive market potentials.
- The transaction market has cooled off in the meantime, with mainly private equity investors looking for exits at present. Nevertheless, goetzpartners is assuming that the consolidation of the European cable market will continue to progress.

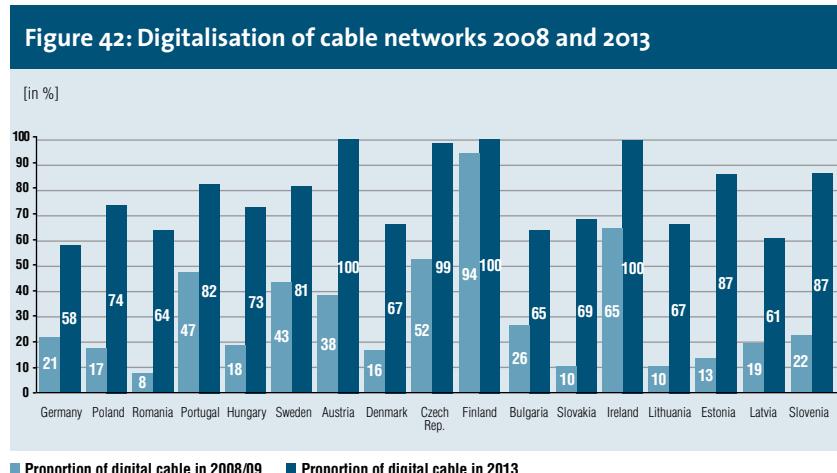
4. Outlook and conclusion

As shown, the national cable markets in the countries examined differ sometimes markedly with regard to their size and their degree of maturity. However, cable as an infrastructure platform is constantly very well positioned, both with regard to the platform competition and with regard to the multimedia requirements of the future, to realise further growth in the coming years.

This assessment is supported by the following three expected developments:

(1) Cable will continue the digitalisation and the increase of bandwidth

The interplay between rising market acceptance of digital cable products, technical development and the political efforts to overcome analogue transmission will lead to a clear, short-term rise in the digitalisation of the European cable networks.



With the introduction of DOCSIS 3.0 cable will be able to transmit bandwidths of 100 MBit/s and above stably over greater distances. A further increase to approximately 300 MBit/s using this technology seems to be realistic at the moment; further developments remain to be seen. Due to a high degree of digitalisation and a bandwidth of 100 MBit/s and above, cable is the mass-market platform that best meets the future requirements of the customer for TV, broadband internet, telephony and other value-added services or the convergence of TV and internet. Only FTTH in conjunction with IPTV represents a platform with equivalent performance which today, however, is

only established in a fraction of households, and whose full-coverage introduction, even in densely populated areas, represents an exorbitant financial challenge for telecommunications companies.

(2) A multitude of new products and services will gain acceptance

New products and services, for which revenue models will also be established, will gain acceptance around the technical development, the demand of the customer for better picture quality (HDTV), time autonomy (PVR, time shift, VoD), variety of content (special interest channels, pay TV) and interactivity (fusion, internet and TV). Besides telecommunications companies with their VDSL or FTTH based IPTV offers, cable network operators will be in a position to provide the full range of products in intelligent product logic. Accordingly it is expected that this differentiation over performance and one-stop shopping will also be reflected in the willingness to change and a willingness to pay on the part of the customer.

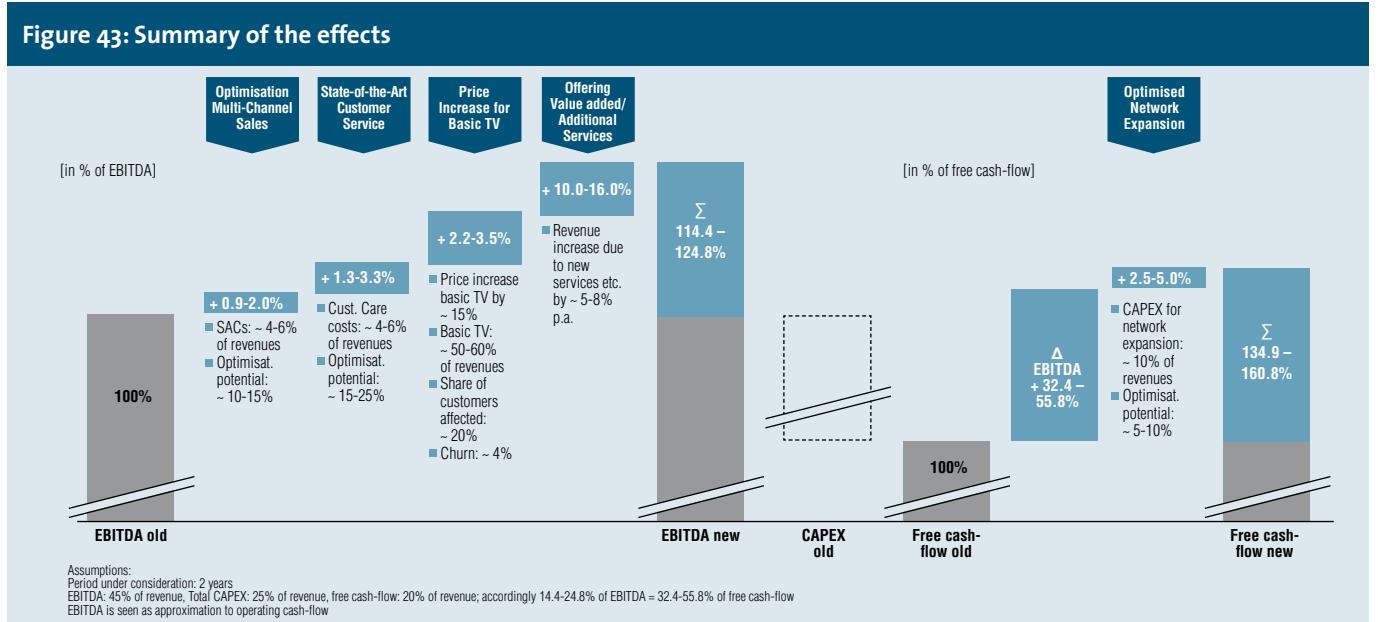
(3) The consolidation is set to continue

The still very strong engagement of financial investors in this segment and the economic conditions such as continuing high requirement for investment, falling margins or the convergence between cable and telecommunications companies, are leading to a continuation of the wave of consolidation in the European cable markets. In this context, positive effects with respect to growth, investment and innovation, and above all an increase in cost-efficiency are expected, which will further improve the competitiveness and the earnings situation of the cable network providers.

The challenge for the cable network providers now exists primarily in using the opportunities for growth that are arising in this positive market environment in an intelligent and cost-efficient manner. To this end, some measures and instruments from the project experience of goetzpartners, which are especially aimed at the efficiency aspect, have been presented in this study.

As a result, using all the sales and cost-relevant measures shown, according to the experiences of goetzpartners, and depending on the efficiency and the initial situation of a company, a total EBITDA increase of up to 25% over two years can be achieved. Furthermore, if one takes into account the CAPEX effect of an optimised network expansion strategy, a free cash-flow effect of up to 61% over two years can result. The offering of new services is apparently the main driver for sustainable growth. Major cable network providers have recently shown that these revenue increases can be realised.

Figure 43: Summary of the effects



(goetzpartners analysis)

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List of abbreviations

Abbreviation	Explanation
ARPU	Average Revenue per User
CAGR	Compound Annual Growth Rate
CATV	Analogue Cable TV
CAPEX	Capital Expenditure
CLV	Customer Lifetime Value
CMTS	Cable Modem Termination System
CTI	Computer Telephony Integration
DOCSIS	Data Over Cable Service Interface Specification
DSL	Digital Subscriber Line
DVB-T	Digital Video Broadcasting Terrestrial
EBIT	Earnings before Interest and Taxes
EBITDA	Earnings before Interest, Taxes, Depreciation and Amortisation
EPG	Electronic Programme Guide
FM	Frequency Modulation
FTTH	Fiber to the Home
GIS	Geographic Information System
HD	High-definition
HFC	Hybrid Fibre Coax
HH	Households
IP	Internet Protocol
IPTV	Internet Protocol Television
IVR	Interactive Voice Response
KPI	Key Performance Indicator
LTE	Long Term Evaluation
MBit/s	Megabits per Second
M&A	Merger and Acquisition
NPV	Net Present Value
NVoD	Near Video on Demand
OPEX	Operational Expenditure
PAL	Phase Alternating Line
Pos	Point of Sale
PVoD	Push Video on Demand
PVR	Personal Video Recorder
QAM	Quadrature Amplitude Modulation
RGU	Revenue Generating Unit
SAC	Subscriber Acquisition Cost
TMT	Telecommunication, Media and Technology
VDSL	Very High Speed Digital Subscriber Line
(N)VoD	(Near) Video on Demand
VoIP	Voice over Internet Protocol

About goetzpartners

goetzpartners is one of the leading independent advisory firms in Europe, offering M&A (Mergers & Acquisitions) and Management Consulting services under one roof. The group stands for an innovative consulting approach and tailor-made solutions that are successfully implemented in cooperation with its clients. goetzpartners has offices in Munich, Düsseldorf, Frankfurt, Zurich, London, Paris, Madrid, Moscow and Prague as well as cooperations in New York, San Francisco, Los Angeles, Bangalore, Mumbai and Budapest.

goetzpartners Corporate Finance is focused on M&A. goetzpartners Management Consultants specialises in the fields of strategy, organisation, operational excellence, sales and marketing, restructuring and strategic due diligence. goetzpartners is „Hidden Champion“ 2009 in the fields of strategic due diligence, financial and merger strategies as well as post-merger integration (Corporate Finance Advisory).

goetzpartners focus industries are TMT, consumer goods and retail, energy, automotive and financial sponsors. With its TMT practice goetzpartners has actively supported the deregulation of the telecommunication and cable infrastructure in the 1990s and has accompanied numerous players to adapt their strategies to the new market situation. With its expertise, goetzpartners is able to help its clients regarding the ongoing convergence of these markets and develop the most suitable strategies that ensure their competitiveness as well as their measurable and sustainable success.

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Contact

goetzpartners

Contact

T: +49 - 69 - 2 47 50 48 - 0

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

Ulf Rieckhoff
Senior Manager
MANAGEMENT CONSULTANTS
rieckhoff@goetzpartners.com

Prinzregentenstr. 56
80538 Munich, Germany
T: +49 - 89 - 29 07 25 - 0

Königsallee 60 B
40212 Dusseldorf, Germany
T: +49 - 211 - 600 42 - 570

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

32 Brook Street
London W1K 5DL, UK
T: +44 - 20 - 7647 7700

Cta. Rubén Dario 3, 3º
28010 Madrid, Spain
T: +34 - 91 - 745 13 13

Prechistensky per. 14/1
119034 Moscow, Russia
T: +7 - 495 - 981 07 91

19, Avenue George V
75008 Paris, France
T: +33 - 1 - 70 72 55 00

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

Schwerzistrasse 6
8807 Freienbach/Zurich, Switzerland
T: +41 - 055 - 4154 199

www.goetzpartners.com



goetzpartners