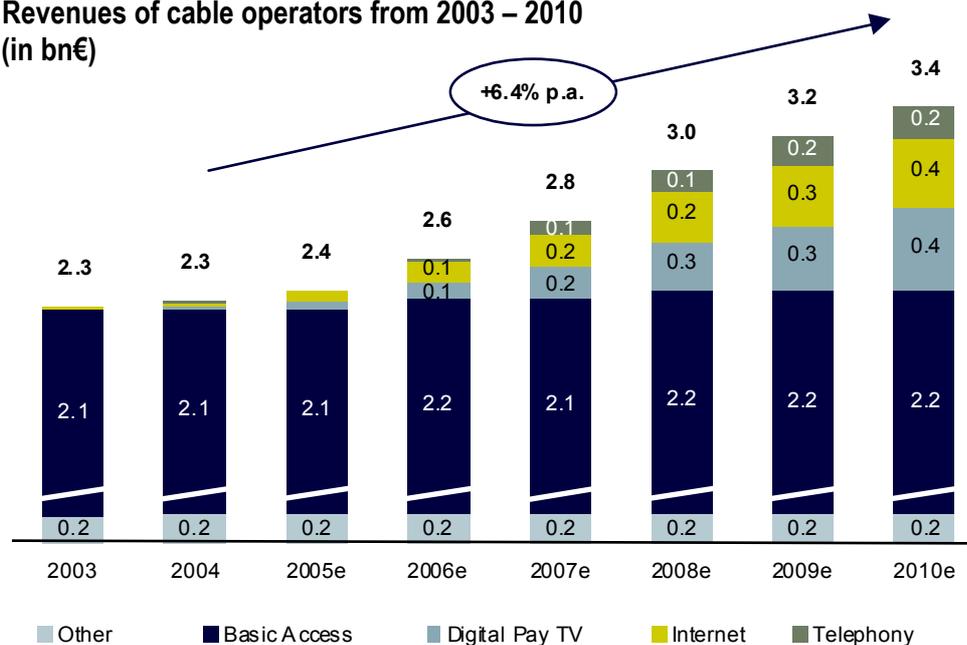


German Cable Market 2010

Executive Summary

- By 2010, revenues generated by German cable operators will increase from the current €2.3 billion to €3.4 billion. Growth triggers are digital Pay TV, the Internet and telephony.
- Prerequisite for this growth, as well as for competitive sustainability of cable operators, is the accelerated upgrading of cable networks. Up to €900 million will be invested in network upgrades by 2010.
- Important impulses for digital Pay TV include the wide-spread implementation of PVRs and HDTV. By 2010, the number of digital Pay TV subscribers will total 2.6 million, which is a tenfold increase in subscribers, with revenues of over €435 million being generated.
- With attractive bundling of cable Internet and telephony, cable operators in upgraded regions will provide serious competition to Deutsche Telekom. With a total of 1.6 million Internet subscribers (80% also having cable telephony), cable operators in upgraded regions will achieve a broadband market share of 18%.

Revenues of cable operators from 2003 – 2010
(in bn€)



Source: Solon

Total market outlook: New cable boom with digital Pay TV, the Internet and telephony

After years of stagnation, the German cable market is now regaining momentum. New product offerings will result in German cable operators increasing revenues from €2.3 billion to €3.4 billion by the end of the decade.

Growth triggers:
Digital Pay TV,
the Internet and
telephony

Having thus far been hardly available in Germany, the largest growth rates are expected in cable telephony, which will average 140% per year. Growth trigger number two is digital Pay TV with an average growth rate of 75% per year. Internet connections will experience a total revenue increase of 55% per year. Next to penetration, a significant lever for future growth is, above all, the rate at which upgrading occurs – this being determined by cable operators and their investors.

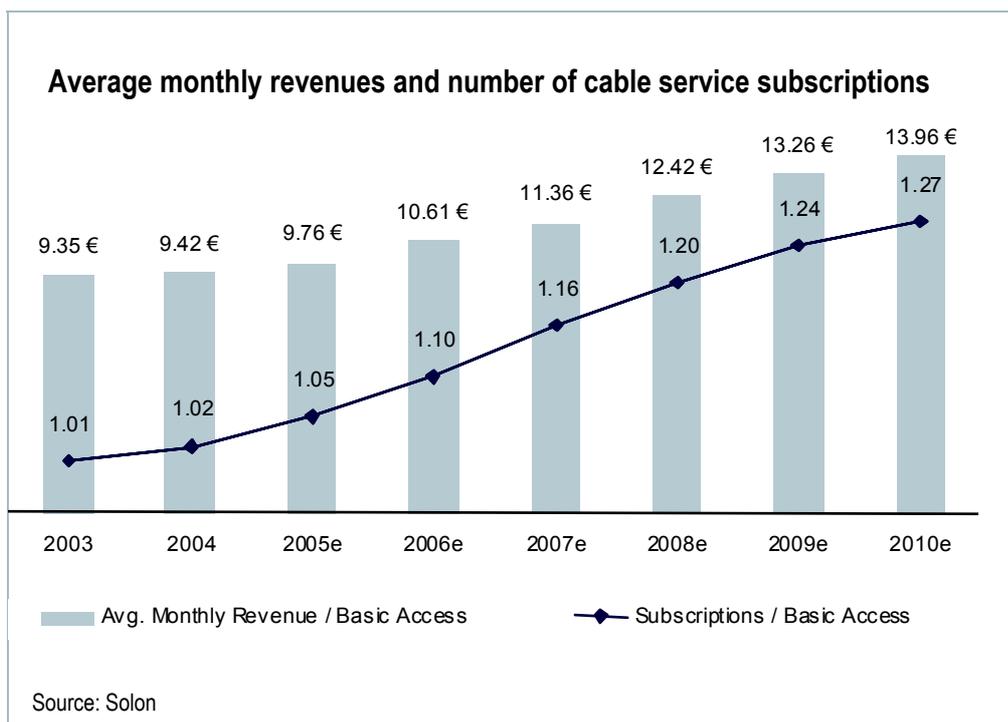
The predominant source of revenue will continue to be the standard cable access. However, additional growth in this sector is hardly to be expected (0.9% annually between 2004 and 2005). A mild decline in the number of connections will nevertheless be overcompensated for with moderate price increases.

Additional potential lies in mobile applications, Internet value-added services, and services catering to small and mid-size companies. Since they are not considered in the cable operators' forecasts so far, they were not incorporated in the forecast model.

By upselling new services to existing cable customers, the level of diversification among German cable operators will be significantly amplified in the future. In 2010, just about every third cable household will utilize at least one additional service.

Upselling:
Additional services
increase monthly
revenues by 50 %

Due to the fact that new services generate much higher revenues per user compared to basic cable services, the average revenue per cable household will increase disproportionately by 50% from the current €9.42 to €14.00.



A significant challenge to the forecasted revenue growth, and at the same time, an urgent prerequisite for competitive sustainability is upgrading cable networks to include more bandwidth and two-way capability.

Challenge Nr. 1:
Upgrading cable
networks

Network upgrade costs have experienced a sustained decline in past years. New technologies and upgrade concepts have reduced Level 3 investment needs by Factor 10-15 and Level 4 needs by Factor 4-6. Further strides in IP technologies, especially the long awaited Internet telephony, enable integrated service platforms to be established. Therefore, upgrades have already become financially worthwhile with limited increases in penetration rates and respective revenues.

The pressure to upgrade comes along with the digitalization of terrestrial distribution, increasingly less expensive satellite equipment on the market, and the rise in TV activity among DSL operators. Cable operators will only have long-term success in the cable market if they have access to upgraded networks and can offer a wide range of services.

- Internet and telephony, as well as their bundling with TV services, provide cable with a competitive edge over traditional satellite and terrestrial TV distribution structures.
- New TV services – above all HDTV – help to differentiate cable from the DSL operators attempting to enter the TV market with attractive broadband content offerings such as VOD or Streaming TV.

The forecast assumes intensified upgrade activities in the next three years, thus enabling the upgrade level to increase from the current 20% to 45%. In the future, the pace of investment will slow down. In 2010, approximately 54% of all Level 3 networks will be upgraded, partly right up to the socket (Level 4). Thereby, cities with over 20,000 residents would be upgraded.

This level of upgrading will result in a capital expenditure ranging between €500 and 900 million. This is based on an assumed Level 3 upgrade investment of up to €30 per connectable household and up to €300 for every upgraded household in network Level 4.

The other large challenge facing cable operators is repositioning themselves from low-profile B2B organizations to B2C organizations with a professional customer management. Upselling of new services will only be successful if cable operators manage to establish a direct customer relationship with the actual user.

Challenge Nr. 2:
Developing customer
relationships

Key issues critical to the success in the consumer segment include:

- Branding – Internet and above all telephony subscriptions are heavily based on trust – however, at the moment, many cable customers don't even know the name of their cable operator.
- Development of new sales channels: Key Account Management addressing housing associations still dominates the sales structure of cable operators. In order to acquire end users successfully, direct marketing and the development and implementation of telesales and distribution structures for trade channels are crucial.
- Call center operations: more complex networks and services result in a need for additional customer support services.
- Billing: Structuring a modular billing system that supports all new services flexibly.

The regionally and structurally fragmented German cable landscape continues to be a considerable obstacle standing in the way of network upgrades and the marketing of new services. Only some of the already upgraded networks are actually marketable. It is essential for the various cable operators to enter into marketing agreements and drive the integration

of Network Level 3 and 4 forward.

Conclusion: the prerequisite for further growth in the German cable market does not lie solely in the execution of technical project schedules, but rather in a massive cultural change that cable operators must undergo in order to maintain and further develop their business.

Service overview: Cable operators challenge Premiere and Deutsche Telekom with new range of products

Core drivers for the development of digital Pay TV are the individualization of television consumption as well as the desire for more quality:

- In the second half of 2005, the ongoing individualization of TV use will be strengthened by the rollout of digital PVRs (Personal Video Recorders). Along with increased network upgrades, interactive TV services will also increase in importance.
- The increased replacement of basic television sets with Home Cinema solutions that include large LCD and plasma displays or beamers will result in a rising demand for better picture quality. A significant milestone in implementing high definition television programming (HDTV) will be the FIFA World Cup 2006 broadcast.

Digital Pay TV:
Serious competition for
Premiere

The digital Pay TV revenue forecast has four drivers: German language Pay TV packages (e.g. Kabel Digital Home), international packages, additional premium packages, and HDTV channels. The last two product types will be available as of mid-2006 and, according to forecasts, will be offered as a supplement to the basic Pay TV package. The average monthly Pay TV revenue will thereby increase from the current €6.75 to €14.15 by the end of the decade.

By 2010, cable operators will experience a tenfold increase in digital Pay TV subscribers to a forecasted total of 2.6 million. Thereby, cable operators will have 60% more subscribers using their service than Premiere - for which 1.6 million long-term cable subscribers are forecasted. However, by offering international packages, as well as packages in the mid-price range cable operators have a broader customer potential than Premiere.

Due to higher average monthly revenues generated by Premiere customers, the total market volume for digital Pay TV via cable will reach €1.2 billion in 2010 (€435 million for cable operators).

In 2004, KabelBW demonstrated that cable Internet can succeed even in DSL-dominated markets. Large bandwidths, rather low flat rates, fast access times and the security provided by an independent Internet connection separated from a telephone network, position cable Internet as an attractive alternative. Today, already 30-40% of new cable Internet customers were former DSL users. In the future, increased acceptance of cable Internet will be driven mainly by bundled offerings including telephone services.

Cable Internet:
Up to 20 % market
share in upgraded
regions

It is estimated that the number of cable Internet connections will increase from the current 145,000 to 1.6 million by 2010. This totals a 18% market share of all broadband Internet connections in upgraded cable regions and a respective 9% of the total broadband market. The average monthly revenue per Internet user will drop from currently up to €28 to €21.

Cable telephony in Germany is still in its early stages, but in the coming years it will play an important role, as it already does in some other European countries. Bundled cable Internet and telephony services will be part of standard offerings made by German cable operators by 2006. For the first time, a true alternative to Deutsche Telekom networks even for the last mile will be established.

Cable telephony:
Bundling Internet and
telephone services will
become standard

Towards the end of the decade, 80% of cable Internet customers will also source their telephone connections from cable operators. The number of cable telephony connections will thereby increase from the current 21,000 to 1.2 million. The high number of telephony customers mainly will be the result of integrated Internet and telephony offerings.

Revenues generated from telephony consist of a basic charge plus per minute revenues. In the future, the costs for telephone access will, especially in combination with high-quality broadband, be part of the Internet access fee. An increasing percentage of revenues will therefore be generated from minutes used. Offering free domestic telephone calls would also be conceivable. Experience in the international realm has shown that free domestic telephone calls (e.g. in the evening and on weekends) often result in an increase in the total number of international and mobile network phone calls, thus leading to higher revenues.

In total, it is forecasted that the average monthly revenue will decline from the current rate of €19 to a solid €13. It is assumed that in the near future, basic charges will be completely dropped and per minute charges will continue to decline in price.

The main source of revenue, and above all, the profit source for cable operators is and remains basic cable access. The forecasted revenues in this sector reflect wide-spread stability.

TV access:
Revenues are stagnant,
but stable

All in all, the forecast assumes that the number of cable access lines will decline from the current 20.9 million to 20.4 million. This is equivalent to an average annual decline of -0.4% in connections, with a respective decline in the cable market share from the current 56.6% to 54.1% in the TV access market. The cable market share will be absorbed mostly by satellite, but also by the implementation of DVB-T, which revitalizes terrestrial TV.

On the revenue side, this decline will be overcompensated for by moderate price increases. Although growing competition limits price increases in the TV access market; price adjustments in terms of inflation rates and selective adaptations of pricing structures will remain possible without large losses in customer numbers. The monthly consumer ARPU will rise 1.2% annually, from the current €8.57 to €9.22 by the year 2010.

In order to provide a highly "realistic" forecast, the model is based solely on services that are already offered or will be implemented within the next 2 – 3 years: Basic cable access, digital Pay TV (Pay TV packages, international programs, HDTV), Internet, and telephone services. The "other" category is comprised of one-time connection fees, as well as feed-in fees to be paid by Must Carry content providers to cable operators.

Additional Potential:
From Triple to Quadruple
play

It is hardly to be expected that cable operators will rest after mastering this product portfolio. Therefore, the introduction of additional services should be strongly anticipated. Especially successful and innovative providers are already discussing how to pave the way from the current "Triple Play" (TV, Internet, telephony) to "Quadruple Play". Providers such as UPC, the Swiss' Cablecom, and Belgium's Telenet are planning their entry into the mobile market, a market that has ten times the volume of the cable market. Ideas include: the setting up of WLAN-Hotspots within cable networks and establishing themselves as virtual mobile phone operators via mobile IP telephony.

A new segment that will be increasingly addressed by cable operators is the market of Internet and telephony services for small and mid-size companies. Enhanced high-speed

connections, as well as value added services such as security packages and hosting, can generate additional revenue.

Once the cable networks have been upgraded and a successful diversification strategy has been implemented, cable operators will be in a position to raise revenues significantly above what has been forecasted in this study.



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Solon Management Consulting

Solon is the leading consultancy for the European cable TV industry. Services range from consulting on M&A projects to the development and implementation of corporate strategies. Clients include: cable operators, telecommunication and media companies, as well as banks and private equity funds.

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