

Q&A

General Information

Webinar Name

Market potential for high-speed broadband connections in Germany in the year 2025

Session Details

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Question	Answer
Has the modelling taken into account compression technologies that reduce the bandwidth required for optimal user experience?	The model takes into account compression technologies, especially when it comes to the required bandwidth for TV-streaming (HD-TV, Ultra-HD TV).
Is the full report available?	Concerning the full report, please contact BREKO directly, as they will provide further details on whether the report is accessible or not.
Have you looked at the gap between supply and demand and tried to quantify why the gap exists?	The gap between supply and demand has not been quantified, as the scope of the project was to focus on the demand-side of the broadband potential. However, the gap exists due to a series of factors. One of the most important factors in our view is pricing and tariff strategy and the value-to-customer that products and services in the broadband world do offer. From a product marketing perspective, people do show willingness-to-pay for products and services, but these products need to be more targeted and customer-oriented, and need accessible pricing as well as clear upselling schemes and tariffs. Of course, dedicated pricing and marketing strategies for access products will further diminish the gap between supply and demand.
What percentage of the access demand can be served by xDSL (e.g. VDSL) and what percentage can only be served by FTTH/FTTB?	At this point, we are not able to quantify exactly what share of the demand can be accessed by xDSL and what share by FTTH/FTTB. If our presented scenario in 2025 will actually turn out to be true, then there will be more need for FTTH/FTTB, as of today we don't see a potential of up to 350 Mbit/s via xDSL (even taking into account new technological improvements like Vectoring).

<p>How does the company landscape (usage intensity) look today in comparison to 2025</p> <p>Where does the number of households in Germany of 44.8 million come from? Mostly I hear of 39.4 million.</p>	<p>The usage intensity in the company landscape today is still not so video-intensive as we expect it to be in 2025. Videocommunication and Videoconferencing e.g. is not so widespread today, as it is generally limited to bigger corporations which have the right hardware and software equipment. We expect this to change in the future. Regarding VPN and home-office-connections, this trend is starting to take off as of now, and we see a massive improvement in usage in this field for the future.</p> <p>The 44.8 mn is the combined potential of private households AND companies and corporations. It is right to count more or less 40 mn households currently in Germany, but we decided to include into the market potential for broadband also the SME corporations. Take also into account that we are forecasting future household and company development for 2025, so there is also a growth factor (although a minor one) for households.</p>
<p>I totally appreciated for these presentation and effort but as far as DT(Deutsche Telekom) doesn't decide to take a serious action, we can not hope German Market for broadband has an important improvement. I hope we will discuss/work on how to encourage DT guys to do it.</p>	<p>In fact, a lot will depend on how the incumbent will act in the medium to long term. The main aspect is, as we stressed before, an interesting product offering for the market, both regarding access and services. DT has already identified the need to focus its efforts on growth sectors like Energy, Health and Cloud. Their infrastructure clearly needs to reflect this path towards growth markets.</p>
<p>I understand the technology-neutral point of view, but there are also data-intensive location-based services (e.g. maps, advertising videos) that just work on a mobile device. But I can't see those location-based services as usage patterns in the study?</p>	<p>We included in our application categories the sector of "Mobile Services", which includes the data-intensive location-based services mentioned (e.g. maps). These services will work on a mobile device, a smartphone and a tab, and with these products Wi-Fi-Offloading is especially important (downloading a map via your home Wi-Fi instead via your mobile data plan).</p>
<p>Did you consider using scenario's? 12 years is a long time ahead to predict these things</p> <p>Is there one 'killer application'?</p>	<p>We indeed did consider using scenarios and have adopted quite a few of possible outcomes for our internal discussions. The results presented are a consensus among internal and external experts both of WIK Consult and of the BREKO association. We agree that there is the rather long time frame up to 2025, so all of our results have to take into account this "caveat".</p> <p>We do not see a single "killer application" that will fundamentally change or transform the rules of the game. Instead, we do see a very solid trend in Video, which will more than ever before dominate broadband usage, e.g. with widespread Videoconferencing, ELearning, etc..</p>
<p>For the UHD bandwidth requirements, what assumptions were used regarding number of screens and pvr?</p>	<p>For Ultra HD-TV (4K) but also for HD TV, we assumed that on average in a household, there are a maximum of 2 parallel streams, regardless of whether they are streamed via a second TV or a PVR.</p>
<p>Forecasts show very symmetrical applications. does that mean that broadcast/multicast and video streaming is no longer significant or that it is delivered through different media?</p>	<p>The symmetry in bandwidth requirements does not mean that broadcast/multicast or video streaming will be no longer significant. Instead, we expect the way of communicating in the future to be more "multilateral", i.e. that both up- and download will have more or less equal importance.</p>

<p>Regarding cloud computing - why make any difference between a local (in-the-company) connection with the server and a resource in the cloud? If this view is correct then 1 Gb/s would be adequate ...</p> <p>Do you have a breakdown of customer needs per year to come? E.g. are the 2020-EU-Goals realistic or already outdated?</p> <p>You only speak of bandwidth - what with latency and other quality parameters?</p>	<p>Regarding Cloud Computing, we focused on applications that are entirely SaaS and are not stored anywhere on the customers' hardware. In order to be able to use Cloud Computing via the "optimal user experience", i.e. uploading documents, downloading software, synchronizing large amount of data, we calculated that the typical "LAN-feeling" of about 100 Mbit/s would satisfy those needs.</p> <p>We do not have a breakdown of customer needs per year to come.</p> <p>Other quality parameters are important as well in our view. We included a slide where we highlight the importance of Packet loss and latency for each of the application categories.</p>
<p>Is there a difference in internet usage between east en west Germany?</p>	<p>We did not differentiate between geographical regions in our model, instead we differentiated between different population segments. Usually, the more internet savvy segments do live in urban centers, whereas the less internet savvy segments tend to live in rural areas.</p>
<p>You speak about your modelling, you rassumptions etc. - but what are the bandwith for WHAT applications that you envisage?</p>	<p>We have included a chart with a detailed overview of expected downstream and upstream bandwidth for each of the application categories we present.</p>
<p>What will invest (funds&support) the German government for the high-speed broadband ?project?</p> <p>which telecom provider/owner want to focus the high-speed broadband connections in Germany?</p>	<p>Regarding exact numbers and figures for funding and support for broadband infrastructure, I would suggest to refer to official German government sources.</p> <p>Pretty much all relevant competitors are positioning themselves for future broadband connections. We do see in the German market a distinct competition between xDSL, Cable and to some extent also FTTH/FTTB. Especially cable operators have been quite successful in their network upgrade and have been able to sell a significant amount of broadband access products, in some cases in the range of 50 Mbit/s. DT as the incumbent is currently relying on upgrading its existing network (Vectoring) with selected investments in FTTH/FTTB in certain areas/regions.</p>
<p>Can you please explain why 2025 was chosen? Is it not too far for accurate predictions?</p> <p>What services did you include in the "Top Level" users, those with bandwidth requirements from 170 to 350 Mbps?</p>	<p>The "Top Level" demand category is mainly composed of the internet savvy segments. If you look at the slide with the usage patterns for the segments, these segments are Trend User, Digital Professionals and Digital Avantgarde. Every service/product that has at least a half full circle in its usage intensity, has been included.</p>
<p>would you expect the results to be similar in other european countries ?</p>	<p>We did similar forecasts for the Austrian market, although focusing on the medium term up to 2015/2016, and were able to identify similar demand categories and similar population segments.</p>
<p>What will the user have to pay for the top level service in 2025?</p>	<p>At this point in time, any pricing point for the "Top Level" demand category is pure speculation.</p>

<p>On slide 12: is there a GEOGRAPHICAL predictability in this? I.e. can anyone choose "low-level" tech (cheaper assumed) in one place and "high-level" (Higher capex) in another?</p> <p>If you apply the model and evolution of requirements of speed and "look a year or two backwards" - does this give realistic explanations? Can the model be validated in such a way?</p> <p>in what way does this give any guidance as to how to choose where to build any specific technology? Priority? Can a Low-level access point be next to a top level plus one?</p> <p>a lot of bandwidth demand has been driven by new services/applications rather than known such.</p>	<p>We did not include a geographical distinction in our model, mainly in order to keep the modelling simple. The geographical aspect is somewhat included via the population segments: The internet savvy segments tend to live in urban areas, whereas the less internet savvy segments tend to live in rural areas. Of course, anyone who requires "Low Level" demand capabilities, might live both in urban or rural areas.</p> <p>The model is not built on a "yearly" basis, instead it has a starting point/date and an ending point/date. Thus, looking "a year or two backwards" is not possible. This is mainly due to the fact that we did not have enough sources/data for each of the single years until 2025, and thus did refrain from such a yearly focus.</p> <p>The model gives a guidance on how people might use internet in the future. It gives an indication on the future market potential concerning demand categories on an overall basis in Germany. As mentioned above, it gives no indication on geographical location, but it gives an indication on what capabilities and bandwidth future infrastructure might require when satisfying customers' needs.</p>
<p>What about evolution and optimisation of compression techniques which will reduce the need for bandwidth ? Has this been considered ?</p> <p>Cloud & homeoffice needing 100 Mbps ? It is already working today very smoothly at less than 30 Mbps ? Where is the increase of bandwidth coming from ?</p>	<p>The evolution and optimisation of compression technologies has been considered, especially when we calculated bandwidth demands for Ultra HD (4K).</p> <p>The bandwidth for Cloud Computing stems out of the fact that we wanted to secure the so-called "LAN feeling" in the future for customers. That is the instant and smooth user experience without any delays. Considering the fact that data volume is expected to rise (especially Video will increase traffic), we had internal consensus for that requirements.</p>
<p>How have you taken in account that especially the young people move strong to mobile only networks?</p>	<p>As stated in our presentation, we have a neutral view on technology. Younger people of course will move even stronger towards mobile networks. But when it comes to their usage pattern, not everything can be done via mobile technologies. Especially IPTV and HD/Ultra HD products will not be used significantly via mobile networks, just because the necessary equipment is installed at home and people usually use their stationary network. In our view, this reflects the multi-faceted approach of our model: Customers will have certain broadband needs and requirements, and telcos will have to satisfy those needs, no matter what infrastructure/technology they will employ.</p>
<p>What would have been the previsions established in 2000 for use in 2013 ?</p>	<p>This is very difficult to answer. A first idea might be that it would have been very hard to forecast the growth of social networks and the mentality of sharing information and data via social networks. This phenomenon was not present in 2000 and there was no indication, that the rather simple Web 2.0. would evolve itself into global social networking</p>
<p>On what basis are the UL/DL speeds for cloud estimated?</p>	<p>The speeds for Cloud Computing are estimated based on our assumption of an "optimal user experience", i.e. a smooth and reliable connection with no delays in everyday usage. We thought about what we internally called the "LAN feeling" of Cloud Computing: all possible data and information formats are easily up- and downloaded to the Cloud, just as it happens in corporate networks within a fraction of a second. That's why we decided to use this "LAN feeling" of 100 Mbit/s as a reference.</p>

In very near future, user will not be considered about the bandwidth or speed, user will be much more declined towards the service quality... Not all users using the full bandwidth all the time, is this possible that each user will be configured on CIR basis... get bandwidth when needed, and when unused will be made useful for someone who need this?	It is right to include service quality into the broadband discussion, which should not be limited on speed and bandwidth only. It is correct that not all users will need the bandwidth all the time, but at certain peak times the infrastructure should be able to satisfy the needs of the customers. How each user/household might be configured technically will be subject to further discussion in the future, although we think that such a CIR basis might be a possible solution to tackle infrastructure not yet ready to supply the desired bandwidth on a constant basis all the time.
What about the geographic location of your investigated categories of demand	As stated above, we did not differentiate between geographical locations. Our focus was the complete market potential of B2C and B2B customers in Germany.
Looking at the today's Vodafone product portfolio, I can foresee, that mobile is one of the drivers for broadband access products, because most of the VF LTE offers relay on dedicated broadband access (Today most on dsl). So it is not necessarily a contradiction.	This is exactly our point: We have a neutral look at technology. Whatever technology will be able to satisfy the needs of e.g. "Top Level" demand categories, will be in the pole position to take up a significant share of the market potential - this can be LTE, FTTH/FTTB, xDSL, cable or a combination of any of these technologies.
Have you looked to the change from 2013 (current situation) to 2025. Do you think the networks will be defined at once right (more expensive) or will investors follow a continues updating of the network to save costs in 2013?	On a short to medium term, we expect networks to be gradually updated. At least, this is somehow a trend in Germany, with incumbent DT focusing on VDSL/50 Mbit/s upgrade via Vectoring technologies and cable operators covering the very last "white" spots of their network with DOCSIS 3.0. On a longer perspective, we presume that there is hardly an alternative way to invest in new technologies (just as the mobile operators have done with LTE in the last months in Germany), that will further increase bandwidth potential.

Disclaimer: all statements are made by WIK and do not necessary reflect the position or opinion of the FTTH Council Europe.