

DEUTSCHE TELEKOM

Comments on the ERG Document on NGA (ERG (07) 16)

Deutsche Telekom welcomes the ERG's invitation to comment on its consultation document on Next Generation Access Networks. Deutsche Telekom is currently the only European Network Operator who is engaged in full scale FTTx investments. Currently an overlay next generation network is being built throughout Germany with FTTC networks in 50 cities (by the end of 2008) and a Gigabit Ethernet Platform covering 750 Cities (already by the end of 2007). For the future development of such networks the regulatory regime is of crucial importance.

Not only for operators who are about to invest billions of Euro but for the entire future of the European economy the regulatory regime for NGNs and NGAs will be decisive. The EU will only reach its Lisbon goals if there is a regulatory regime which incentivises investment in new networks. Without the development of modern broadband networks Europe will fall behind other regions in the World. While Investments in ICT in EU-15 accounted for 2.4% of GDP, in the US the number is 4.2% in the years 2001 to 2004. Since full deregulation of access networks in the US in 2003 this spread is further increasing. US operators have already invested more than US \$20 billion in NGNs. At the same time, growth of Europe's telecommunications industry is further slowing down. After the liberalisation in the late 90ties revenue growth showed double digit rates within the EU. Growth is now less than 3% for 2006. And in comparison to the US and Japan growth of broadband networks in Europe falls significantly behind: Other market indicators such as R+D expenditure, investment levels and contribution to labour productivity are falling as well.

One of the main reasons for underinvestment in telecommunications in the EU is the regulatory regime. Without abstaining from applying the traditional access and price regulation to NGNs there will be limited investment into such networks compared to the rest of the world.

The ERG document comprises an in depth description of different technical ways to enhance the bandwidth of fixed-line access networks. It also gives an overview of currently pursued FTTx roll-out plans by different operators in some EU Member States and Switzerland. The ERG does not qualify those plans as separate new businesses but merely as a variant of established businesses. Thus, the ERG easily arrives at an alleged need to adjust the existing regulation for copper to FTTx access networks. The ERG does not acknowledge the completely different outset and risk profile due to uncertain demand for NGNs as compared to legacy networks currently being regulated. In fact, the approach taken by ERG means a heavy extension of regulation to newly emerging infrastructures and contrasts with the aim of the EU Framework and the Lisbon goals to reduce regulation over time.

The ERG should reflect the distinctive nature of next generation networks, namely that NGNs and NGAs refer to new networks and new investments – in contrast to the incumbent, formerly state-owned networks which were in the focus of the regulatory framework as developed in the 1990s. Regulators bear ample responsibility as their decisions strongly influence if and when investments into the next generation happen.

Thus, the ERG should rather advise its members on how to avoid a premature regulation of incumbents' FTTx access networks as a premature regulation would contrast with the EU guidance for defining markets under the NRF and might deter the large-scale deployment of NGA networks in Europe.



The ERG consultation document focuses on the question of how to carry over the regulation of established copper access networks to emerging fibre access infrastructures. In so doing, the ERG fails to ask whether regulation is adequate at all in such a new scenario. Though this might be natural for NRAs from an institutional economics view,¹ Deutsche Telekom strongly appeals to see the broader perspective of the debate:

- Regulation of NGA is not covered by the current recommended markets. The expansion
 of regulation to next generation networks without a proper separate market analysis contradicts the current EU regulatory regime. A thorough analysis on enduring bottlenecks in
 the world of next generation networks is imperative.
- Such thorough analysis will show that an expansion of regulation to new access networks cannot be justified. The case of Germany demonstrates that there is no need for further regulation.
- Ex-ante regulation of FTTx would harm investments and thus consumers.
- The economic concept of the ERG is guided by a static theory of markets rather than the appropriate dynamic notion of the telecommunications sector. Therefore, the dynamic perspective of the EU framework, which is illustrated among others by the concept of new markets, is disregarded.

1. ERG approach to expand regulation contradicts current EU law

Before the ERG can raise the question of expanding regulation to next generation access networks, it should ask whether those networks are within the scope of the current regulatory regime at all. This issue cannot simply be answered by e.g. referring to the concept of technological neutrality (cf. ERG, p. 25). This concept essentially means that no technology with similar functionality must be favoured by regulators in relation to others and does not mean that a new technology with broader functionality should be regulated the same as a former one that it might partly replace. Considering fibre we talk about investments which deliver (in the case of Deutsche Telekom's VDSL offer) maximum bandwidth of at least 25 Mbit/s downstream and 5 Mbit/s upstream compared to the maximum bandwidth of at most 16 Mbit/s downstream and 1 Mbit/s upstream. This way fibre enables new services like HD-TV and comfortable Web2.0-features, which depend on a large upstream. How decisive these features will be for customers choice will have to be seen. But these features are promising enough to associate the fibre rollout with an emerging new market which needs freedom to develop through market forces and shall not be strangled by applying the same regulation as for established and widespread services.

The currently discussed proposal to delete the word "metallic" in the definition of market 11 and the claim that market 12 already includes fibre technology would in fact add new whole-sale markets to the list of the (regulated) relevant markets. The different nature of fibre access rollout cannot arbitrarily be overturned by just renaming the recommended market. It rather seems likely that NRAs would have to add further sub-markets and thus in fact sub-stantially expand the list of regulated markets.

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Cf. Crandall/Sidak, The Unregulated Infobahn, Jobs & Capital, 1995, p. 30, available at http://papers.srn.com/sol3/papers.cfm?abstract_id=972408



It is also difficult to understand why ERG plans to expand the existing access obligations for the copper sub-loop to components of the hybrid technologies of FTTC and FTTB. The ERG declares the incumbents' new fibre components and its ducts as an "ancillary service" of the sub-loop access. In so doing, it extends access obligations to new fibre networks through the back-door and on top even considers an obligation for the incumbent to provide for extra resources to ease access of competitors.

The ERG's approach is even less comprehensible in the case that fibre is deployed as an overlay, parallel to existing copper wires. In this predominant case, the already established ULL access portfolio is not affected and ULL-based competitors can continue to offer ADSL connections in the same manner as before.² Thus, there is an even clearer separation between the "traditional" DSL and the risky new market for fibre-based services and there are no new obstacles to the continuation of ULL competition which is - especially in Germany - very successful from a regulatory perspective.

In light of this, it is not comprehensible that the ERG now recommends to extend the market recommendation in order to include fibre networks (page 27). The market recommendation was obviously not meant to regulate those infrastructures which are not based on former monopolies, since every operator can (and many do) roll out own infrastructure. It is not the purpose of the Regulatory Framework to address all possible market power problems which may arise over time (see ERG, page 13). Possible issues of market dominance can be dealt with by general competition law. Before applying the specific instruments of electronic communications law, NRAs have to prove the need for sector-specific regulation via an adequate delineation of markets followed by a serious application of the 3-criteria test.

Instead of simply transferring today's regulation to emerging new network and market structures, the ERG should focus on assisting its members in properly assessing the competitiveness of next generation access networks.

2. Expansion of access regulation cannot be justified by the 3-criteria test or the ladder of investment

The proper application of the 3-criteria test³ on fibre investments reveals that these investments are in fact not eligible for sector-specific regulation.

The first criterion asks whether there are high and non-transitory market-entry barriers. If at least one network operator is able to challenge an existing network, such market entry barriers are proven not to be high.⁴

It has also to be noticed that incumbents do not start from a significantly privileged position. Competitors are already investing in new access networks based on the existing sub-loop unbundling offers. Access to the sub-loop is already an established obligation which has significantly lowered market entry barriers for VDSL implementation and does not show the need for additional ancillary services like ducts or dark-fibre to reach the street cabinet.

An analysis of the market situation of ducts will reveal that there are many alternatives available. There are multiple parallel duct infrastructures of other telecommunications operators,

 ² In other cases, a restriction to ADSL speed could be a solution, cf. Cave, Valetti, Stumpf, A Review of certain markets included in the Commission's Recommendation, Report for the European Commission, 2006, p. 31.

³ Cf. Commission Recommendation on relevant markets, OJ [2003] L-114/45, para. 9.

⁴ Ibid, para. 13.



electricity companies, municipalities, public utilities, etc. (as ERG acknowledges, page 36). Moreover, alternative infrastructures like water pipes, sewers, or underground railway systems are exploitable. This is demonstrated by several operators laying FTTH in Paris, Vienna and Milan.⁵

And in the case that a market analysis demonstrated that in a certain region ducts of one company constitute a bottleneck, it would seem appropriate to limit access obligations to this bottleneck in this area. At this point, ERG arrives at the fundamental question regarding the future scope of ex-ante regulation. If the ERG is right, and ducts are (in some areas) "the enduring economic bottleneck" (page 20), then regulation should concentrate on this aspect only. It is also clear that not only the incumbents' ducts would be part of such a regulation. Rather, first and foremost, ducts owned by municipalities should then be subject to access obligations due to fundamental property rights of privately owned companies. In any case, to regard ducts as an "ancillary service" is completely unfounded and not compatible with the EU Regulatory Framework.

The case of Germany shows that there is no need for further regulation in the access network. Deutsche Telekom's fixed access network is already subject to comprehensive regulation. Unbundled access to the local loop is regulated since 1998. The number of more than 5 million fully unbundled lines cannot be matched by any other EU member state. Sub-loop unbundling is available since 2002, and there is even the possibility of alternative network operators to get unbundled access at the customer's premises. Competition is fierce, as also the German regulator acknowledges⁶.

There are no further bottlenecks in the German access network. Fibre is already being rolled out by alternative operators, as the example of Netcologne (see page 63 of the ERG consultation), but also examples of municipal utilities such as Stadtwerke Norderstedt (Wilhelm.tel) or Stadtwerke Schwerte show.

A recent study concluded that ducts are generally no bottlenecks in Germany⁷. The research focused on major sites in Berlin and Düsseldorf. The result was that, (1) own infrastructure of alternative operators is already available in the main target locations; (2) there is a variety of alternative ducts in main residential areas (city centres and outer areas). In particular the sewer system and also the underground ducts are feasible alternatives at the examined locations, and the owners of these ducts are willing to sell access. Thus, additional civil and underground engineering would be required for only 4%-8% of the total distance.

Alternative network operators can also realise backhaul via Deutsche Telekom's commercial backhaul offers, e.g. Ethernet Cabinet Access (ECAs). ECA enables alternative operators to get cost-efficient backhaul to their street cabinet via Ethernet. Maximum flexibility is provided

⁵ Cf. IDATE, The market's evolution to very high-speed, 2006, p. 9.

BNetzA Vice President, Dr. Iris Henseler-Unger stated: "The German market comprises 15 million broadband lines and 4.6 million unbundled lines at the end of 2006. The competitor broadband market share is nearly 50 %, and DSL is the main technology (96%). We have the strongest growth of DSL lines in Europe and the growth rate at 40% is higher than the European average of 30 %." "We have Net-Cologne which is now investing in fibre-to-the-building, but I think that is a special case because Net-Cologne is also a cable operator. The competitors are heavily engaged in ADSL2+ and they started before DT. In my view, the investment plans of Deutsche Telekom are a reaction to this competitor investment. Competition in triple play is starting now. It is not only Deutsche Telekom, but also NetCologne, Arcor, Hansenet, among others, which now offer triple play. In comparison to the Netherlands, we have a high number (53) of local loop unbundled competitors, and in some cities they enjoy a very good broadband market share of up to 50%. In terms of regulation, we have already regulated sub-loop unbundling, i.e., access to the local loop at the street cabinet. Up to now this was a niche product because most of the competitors unbundle at the MDF level, but there are already competitors in the market—smaller ones—which have access at the street cabinet." European Equity Research, 09 February 2007, JPMorgan Minutes, The fibre battle: What do the regulators say? P.13/14.

⁷ Detecon: Anschlussmöglichkeiten ausgewählter MFGs in Düsseldorf und Berlin, April 2007. The study is available from BNetzA or Deutsche Telekom.



to the alternative operator, e.g. for the design of own services with differentiated quality. Bandwidth can be increased upon demand.

To summarize, the first criterion is not met. The established operator and new entrants compete on a level playing field regarding new access investments. Entry barriers are not insurmountable which is clearly being demonstrated by current or planned investments of various market players.

The second criterion of the 3-criteria test asks whether the market does not tend over time towards effective competition in case the first criterion is met. Although we are certain that a thorough analysis of the first criterion will already make the application of the second criterion obsolete, it anyway cannot be tested at the current emerging state of market development. Rather, the market needs time to evolve and to develop stable market structures for the second criterion to be applied. Thus, any conclusion that the second criterion has already been fulfilled is premature and unfounded.

The ERG uses two economically debatable arguments when claiming that these 2 criteria of the 3-criteria test are fulfilled. First, it refers to historical developments. Instead of analysing the current, actual developments in the sector, it looks retrospectively at the market and argues that "wireline access networks have historically been an enduring economic bottleneck" (pages 2, 26; see also page 30). This historical view is taken as justification to regulate tomorrow's networks.

The second part of the ERG's argumentation consists of a result-oriented application of the "ladder of investment". In the ERG's view, the ladder of investment means that all rungs of the ladder, i.e. all technically feasible wholesale products in the value chain must be available and regulated at all times. This concept would of course lead to a perpetuation of sector-specific regulation. The current market structure and future consolidations are not relevant in such a concept because the ERG seeks to preserve all possible business models. On the occasion of the recently notified ULL market analysis of the German regulatory authority (BNetzA), the German competition authority commented on exactly this issue, pointing out that this approach would *not* survive under competition law.⁸

The original idea of the ladder of investment refers to the most capable ("leading") competitor:⁹ whenever a competitor starts investing in own infrastructure, the regulation of the lower rungs should be removed. The ERG itself refers to this idea at some point in the consultation document, when it demands to promote competition "at the deepest level in the network" (page 22) and to avoid overregulation (page 26). On the other hand, the ERG would like to maintain "a sequence of regulated access products" (pages 23, 41). It remains unclear how these contradictory statements are compatible. Maybe, the ERG intends to regulate on different levels depending on the market structure of different regions (cf. page 26). The ERG should clarify its concept of the investment ladder and ensure that it is in line with consistent economic reasoning.

All in all, the ERG's findings on the market structures seem to be based on mere assumptions. For example, when the ERG discusses the inclusion of fibre into market 11, it does not present any factual evidence that fibre access networks will constitute an "enduring economic bottleneck" or, in other words, a natural monopoly. On the contrary, the ERG seems to

⁸ Notified market analysis of BNetzA. On page 23 BNetzA cites the comments of the German competition authority as follows: "Eine solche Betrachtungsweise mache regulatorisch Sinn, wenn – wie es bei der Kommission der Fall zu sein scheine – Ziel der Regulierung sei, alle denkbaren, von Wettbewerbern gewünschten Geschäftsmodelle unterschiedslos zu unterstützen. Die Frage der Austauschbarkeit von Geschäftsmodellen, die im allgemeinen Wettbewerbsrecht nicht vernachlässigt werden könne, verbiete sich damit im Rahmen der Marktabgrenzung."

⁹ Cave, Encouraging infrastructure competition via the ladder of investment, p. 20.



be very cautious in its factual conclusions and remains very vague (e.g. "the presence of assets ... *may* result in the emergence of an enduring economic bottleneck", p. 13; "It *may* be the case ... that there is a natural monopoly in *certain* areas of the electronic communications value chain", p. 20; "... existing ducts owned by the incumbent *are likely* to constitute an enduring economic bottleneck", p. 20; "we *may* witness a shift of the enduring economic bottleneck", p. 22). To avoid an inappropriate extension of regulation, the ERG should advise its members on how to properly conduct an analysis in the first place, to find out if and where enduring economic bottlenecks exist.

3. Ex-ante regulation of NGA networks would harm investments and thus consumers

Regulation of NGA networks would not only violate the EU regulatory framework – as shown above –, but would also harm the European economy and consumers. The ERG already addresses this issue when it warns not to distort incentives for efficient investments (pages 24, 26). However, the ERG does not draw the conclusions and fails to present a guideline with clear priority for investments and innovations. FTTx regulation would impact the investment decisions not only of incumbent operators but also of other companies. Thus, FTTx regulation limits intermodal competition. A regulatory framework which tries to promote efficient investment should limit access regulation in order to send the right signals for investments into new networks – for all market participants

The negative impact of sector-specific regulation can clearly be seen when the level of investment into fibre networks is compared globally. When the Australian regulator was not willing to support fibre investments through deregulation in August 2006, Telstra immediately announced to stop its fibre roll-out plans. In the UK, regulatory pressure led to a functionally separated wholesale unit of BT which ruled out major investments into fibre access networks. Most other European operators are still reluctant to start large-scale investments in fibre networks since such investments might entail immediate regulation of the new networks.

On the other hand, deregulation led to successful market developments. In the USA, after complete deregulation of broadband networks has become effective,¹⁰ network operators such as Verizon and AT&T announced large-scale investments into fibre access networks throughout the country. In Japan, sector-specific regulation is limited to an any-to-any-obligation comparable to Art. 5 Access Directive, and a non-discrimination principle concerning ducts (of all sectors). Japan is one of the leading countries regarding FTTx roll-out. In the Netherlands, there is no price regulation of bitstream access in place, and the country is among the world leaders regarding broadband roll-outs. In Germany, infrastructure investments are explicitly encouraged by the recently introduced new market rule. Deutsche Telekom is engaging in the most extensive fibre roll-out in Europe while competitors like Net-Cologne and Wilhelm.Tel are building up their own FTTH networks. In Switzerland, a FTTC roll-out is underway, while regulation of fibre is not intended. Similarly, in Canada, recent discussions clearly tend towards deregulation for the benefit of innovation and investments.

This short overview demonstrates that deregulation has a very positive effect on fibre investments in Europe.¹¹ Therefore, the ERG should review its recommendations and require national regulators to systematically conduct empirical impact assessments before considering any further steps.¹²

See FCC, 2005, <u>http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-260433A1.doc;</u> and regarding wireless, FCC, 2007, <u>http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-271695A1.doc</u>.
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Cf. IDATE, The market's evolution to very high-speed, 2006, p. 9.

¹² Cf. ESMT, Analysing the Relationship between Regulation and Investment, 2007, available at http://www.esmt.org/fm/312/Regulation_Investment%20Friederiszick_Roeller_May_2007_f.pdf



4. The concept of new markets offers guidelines for a dynamic approach to distinguishing real "enduring bottlenecks" from competitive infrastructure deployments.

In our view, the simple and only rightful solution to the problem addressed by the ERG is non-regulation: In the long run, the focus on pro-competitive infrastructure investments will help the European economy to catch up with others, like Japan. The ERG perceives a conflict between the goals of investment, infrastructure and service competition. The ERG suggests to solve this conflict through regulation. Though the goals are pertinent, the regulatory concept is not. Service competition is best achieved by infrastructure competition which in turn is achieved by investment in new infrastructure. Thus, there are no conflicting goals. Since deregulation fosters the roll-out of new infrastructures by incumbents and alternative operators alike, the ERG should focus on the reduction of regulation. Such a dynamic approach is urgently needed for Europe's electronic communications industry.

The misconception of the ERG's approach can clearly be seen in its approach to investment incentives: Regulators "should endeavour to ensure that the incentives for efficient investment are not distorted" (page 24). According to the ERG, regulators have to assess which investments are efficient (page 32), and to what extent, rather than leaving this decision to the market. It is pretentious to believe that a regulator can ensure efficient investment. Efficient investments are ensured by the market itself. Any regulatory measure will inevitably distort incentives for investment.¹³ Regulation tends to annihilate the entrepreneurial willingness to take risk, which, on the other hand, is essential for innovators. Pre-emptive regulation of new markets basically socialises the rewards of innovation in case of success but leaves the risk of failure with the innovator. It is simply not possible to "adequately reflect the degree of risk" (page 24) within access charges or other terms of regulated access products.

As authors of the ITU point out, Europe has to rethink its telecommunications policy: "The European Commission's current practice of directing Member State national regulatory authorities to conduct Significant Market Power investigations in 18 arbitrarily defined retail and wholesale markets is based on weak conceptual foundations already, and the difficulties with market definition will only increase under convergence and intermodal competition".¹⁴ They further conclude: "We believe that some of these pillars of traditional telecommunications regulation must yield to a more ,light-handed' policy paradigm to create a more enabling environment for communication."¹⁵

The EU Member States have to find a dynamic approach to distinguish real "enduring bottlenecks" from competitive infrastructure deployments. The German legislator has recognised this and hence introduced a new market rule which builds on the new market concept of the Regulatory Framework. In line with this concept, investments in new infrastructures shall not be hampered by regulation.

¹³ Flacher, Jennequin, Lorenzi, Innovation, Investments and Regulation, Communications & Strategies, 2006, p. 120.

ITU, Regulatory Trends: New Enabling Environment (FoV/03), 2007, p. 20, available at http://www.itu.int/osg/spu/ni/voice/papers/FoV-Madden-Banerjee-Tan-Draft.pdf.

¹⁵ Ibid., p. 17.



5. Conclusion

The European electronic communications sector urgently needs deregulation. This is evident when actual performance figures are compared with other economies like those of the USA and Asia. A strong industrial policy favouring private investments in new and innovative infrastructures is required to eventually reach the goals of the Lisbon Agenda and i2010.

The ERG's approach to regulation is similar to the approach applied by most NRA's: it starts with the remedies and tries to justify the ones it favours. The original concept of the Regulatory Framework, however, is based on competition law: identify an actual market problem first, and then look for the smallest possible intervention.

In order to resolve the shortcomings of the consultation document, we recommend the ERG to

- clearly decide first on the overall objective: investments or regulation,
- foster economically and empirically sound market analyses throughout Europe,
- conduct empirical impact assessments of recommended policies,
- caution its members not to discuss remedies before market failures are analysed, and the 3-criteria test is performed objectively and without bias,
- describe clear measures to avoid the regulatory trap of a planned economy,
- early announce regulatory forbearance concerning fibre rollout to encourage investments of all market participants.

To summarize, we would like to stress once more that the approach of the ERG is fundamentally flawed and requires a comprehensive revision on the basis of stakeholders' contributions to this consultation.

In addition, we propose that the ERG publishes a summary of the main findings of the public consultation.

Finally, the ERG should also refer to other relevant studies and academic papers on NGN in order to complete the picture and give a full and objective view on regulatory issues around access networks. Especially, we recommend the ERG to reflect on the following papers:

- ITU, Regulatory Trends: New Enabling Environment (FoV/03), 2007, available at http://www.itu.int/osg/spu/ni/voice/papers/FoV-Madden-Banerjee-Tan-Draft.pdf.
- IDATE, The market's evolution to very high-speed, 2006, available at <u>http://www.europeftthcouncil.com/extra/Press_Release/Idate/IDATE_FTTH_Content_200_7.pdf</u>
- Cave, The Regulation of access in telecommunications: a European perspective, 2007, available at <u>http://www.econ.upf.edu/docs/seminars/cave.pdf</u>
- Flacher, Jennequin, Lorenzi, Innovation, Investments and Regulation, Communications & Strategies, 4 (2006) 64, p. 105, with further references.