Deutsche Telekom AG comments on Draft Commission Recommendation on regulated access to Next Generation Access Networks (NGA)

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Executive Summary

Deutsche Telekom welcomes the Commission's intention to publish a Recommendation on the regulatory treatment to Next Generation Access Networks (NGA). The initiative is very timely in view of the challenges facing Europe's network operators in rolling out new high speed next generation access networks. For Europe's migration towards high-speed NGAN it is essential that a broad range of issues, especially those regarding regulation, are successfully solved in an appropriate and timely manner and thus the right signals are sent to the market. Getting the Recommendation right is key for fostering timely roll-out of NGAN.

The costs of rolling out Europe-wide NGA networks are huge, and have been estimated to be at around € 250-300 billions. The sheer size of these numbers makes it obvious that the bulk of the investment will have to be made by private capital, with public funds playing in some geographic areas a fundamental, but supplementary, role.

The prime objective of the NGA Recommendation should therefore be to provide for the regulatory environment needed to **foster private investments** by all market participants, including those who are best placed to shoulder the largest part of the investment, while at the same time ensuring effective and sustainable competition.

To achieve these objectives, the regulatory approach designed for opening up former monopolistic markets and fostering competition on an already existing (copper) network is no longer appropriate. This does not mean that regulatory safeguards become obsolete. But it requires a significant modification of the existing regulatory approach, providing for the conditions for long term investment decisions.

To this end, regulation should resist the temptation to assess its effectiveness primarily on the basis of a desired market structure. In particular, regulation must **not protect specific business models** when the underlying technologies and economics are changing.

Unfortunately, **the Draft Recommendation will not provide for the necessary regulatory incentives** for a timely and large scale NGAN roll-out in Europe. The Draft Recommendation simply continues to apply asymmetric price- and access regulation designed for the copper access networks built mainly under monopolistic conditions in the past to the NGANs without taking into account the different underlying economics and changed market conditions.

To foster private investments in NGAN, the NGA Recommendation should in particular give guidance on the following aspects:

1. The Recommendation should provide for the necessary **legal certainty** for investors in NGAN. In order to achieve this, the Recommendation should request that NRAs take a binding commitment to define investment friendly terms and conditions of possible (access) regulation over the full lifecycle of the investment before the investment is undertaken.

2. The Recommendation should take into account the important role of cable networks and alternative operators which are currently the biggest investors in NGAN in Europe. The enormous investment needs of NGA will most likely lead to different players rolling out NGA networks in different regions, thus significantly altering current market structures and leading to more differentiated and more competitive market outcomes. This highlights the need for a careful **regional definition of markets** and for **a symmetric regulatory approach** with regard to access to basic infrastructures.

3. The Recommendation should pursue a **strict technology neutral approach** regarding NGAN regulation and should not design regulation to favor specific technologies or network architectures.

4. The Recommendation should limit access regulation - if at all appropriate and necessary - strictly **to one well defined access obligation** in a relevant geographic area which should be proportionate to the identified market failure and where infrastructure competition is possible is limited to symmetric access to the available civil works infrastructure.

5. The Recommendation should refrain from mandating wholesale prices primarily based on costs but should encourage **differentiated wholesale prices** based on customers´ willingness to pay ("value based pricing") to allow for differentiated products and services in order to quickly grow the market. In this respect Recommendation should acknowledge that commercial agreements are better suited than ex-ante regulation to set prices. Therefore **commercial agreements should be seen as the norm**, not an exception, and should not be hampered by unnecessary or detailed regulation. As a consequence, regulation should primarily rely on **ex post enforcement of non-discrimination provisions.**

6. The Recommendation should be coherent with the Conclusions of the March 2009 European Council and with the guidance given by the Council and the European Parliament in the legislative process on the telecoms review. In particular a new regulatory approach for NGAN should take into account the NGA investment risks and therefore **permit cooperative arrangements** between investors and access seeking parties, in order to **diversify the investment risk**. To allow new pricing models for risk diversification to be effective, the application of **margin squeeze tests** has to be based on long-term prices, reflecting entry based on risk sharing conditions.

7. The Recommendation should foster an efficient migration to NGA by placing **emphasis on commercial migration agreements** and by allowing sufficient flexibility for market participants in designing the migration path.

Detailed comments

We welcome the assessment that the *"development of high-speed broadband services is key to creating economic growth and achieving the goals of the Lisbon agenda."* (Recital 1) and we fully support the overall aim of the Recommendation, namely to promote *"efficient investment and innovation in new and enhanced infrastructure ... taking due account of the risks incurred by all investing undertakings and the need to maintain effective competition"*.

However, further guidance should be given on the meaning of the term *"efficient".* The Recommendation should make it clear that whether an investment is to be considered *"efficient"* should be solely left to the market and should not be prejudged by regulation. While it is true that in particular infrastructure competition will probably not be economic everywhere, i.e. in rural areas, market players are those best placed to make the judgement when and where investments are efficient and regulation should avoid pre-empting the answers.

Although the Recommendation includes some positive statements on a regulatory approach for NGAN conducive to investment and innovation in NGAN, **the Recommendation falls short of the aim of fostering large scale NGAN investments in Europe**. Unfortunately, important principles like the endorsement of risk diversification arrangements and the acknowledgement of the need for sufficient pricing flexibility are constrained to the extent that they will be barely effective, while at the same time the apparent aim of the Recommendation to protect and to conserve existing market structures and business models via access regulation continues to effectively limit market driven NGAN investment. Major points of criticism are the following:

1. The Recommendation does not provide for necessary regulatory certainty and consistency

We strongly agree with the assessment of the Recommendation that *"regulatory certainty is key to promoting efficient investment by all operators"* (Recital 8). We thus welcome the notion that *"NRAs should apply a consistent regulatory approach over appropriate review periods"* as stated in point 6.

Regulatory certainty is key for fostering NGAN investment decisions because due to the sunk cost characteristic of NGAN investments network operators only have a very limited choice of business options once the investment has been carried out. Specifically, market exit is nearly impossible even if the regulatory conditions which allowed the investment in the first place later on change for the worse. Therefore investors need to be able to anticipate the terms and conditions of regulation over the full lifecycle of the investment before the investment is being carried out. This requires a long term binding commitment of the regulator to stick to the initial regulatory approach which must be upheld even when market conditions change.[1]

[1] In this respect we would like to point out that according to the Recommendation even in a roll-out scenario with "conditions under which the absence of SMP would normally be indicated" (point 2 Annex III) NRAs apparently are not bound to their initial assessment but are able, according to the

However, according to the draft Recommendation a consistent regulatory approach over several review periods is apparently only justified in case *"the market conditions remain broadly constant"* (point 6). This condition strongly limits the scope of the provision and does not lead to sufficient legal certainty Especially in markets characterized by strong technological dynamics like telecommunications, "*broadly constant market conditions*" simply cannot be expected. It remains open, how legal certainty can be achieved if market conditions change. Thus, in order not to unduly limit the ability of NRAs to provide regulatory certainty, the first half sentence in point 6 should be deleted.

In addition the Recommendation should make explicit reference to the largely "sunk" investment of large scale NGAN roll-out which makes a high degree of legal certainty indispensable for any rational operator deciding whether to invest in NGAN with amortization times in excess of 20 years. Mere non-binding policy statements will not suffice to achieve legal certainty, as they will not reduce the regulatory risk. The Recommendation should not merely call on NRAs to explain future regulatory scenarios *"where possible"* (point 6) but ensure NRAs commit to their regulatory approach prior to the investment.

2. The Recommendation does not emphasise the need for an appropriate regional market definition in an NGAN environment

The Recommendation makes no reference to different competitive conditions within Member States. This disregards the decision of the Council and the European Parliament expressed in the legislative process on the telecoms review[2] and runs counter to the argumentation put forward in the recent draft "Community Guidelines for the application of State aid rules in relation to rapid deployment of broadband networks"[3]. A geographically differentiated and hence graduated approach is key towards better targeted regulation. Many of today's telecommunications markets have reached a status of vibrant and often platform-based competition. Considerable developments in competition, especially in the broadband market indicate that an undifferentiated, often nation-wide regulatory approach is no longer capable of adequately taking the underlying different competitive conditions into account.

Geographic segmentation is likely to be even more appropriate in an NGA environment. Deployment of NGAN requires huge investments which will most likely lead to different players rolling out NGA networks in different regions, thus significantly altering current market structures and leading to more differentiated and more competitive market outcomes.

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provisions set out in points 26 and 27, to reintroduce cost based access regulation in case market results are not satisfactory from the viewpoint of NRAs.

[2] Paragraph 5e, Art. 8 FD, agreed upon by the European Parliament and the Council in the current Review discussion, clearly states that NRAs shall take *"due account of the variety of conditions relating to competition and consumers that exist in the various geographic areas within a Member State."*

[3] The draft Guidelines explicitly take into account different competitive conditions throughout Member States. It is being recognized that in certain regions viable infrastructure competition between different platform is already the case which results in strong competitive dynamics between the competing platforms ("black areas) and thus renders further state intervention unnecessary.

Geographic segmentation is essential for taking into account this changing competitive landscape and for allowing deregulation in areas that are effectively competitive or tend towards effective competition in the foreseeable future. Thus, the Recommendation should contain explicit reference to the need to assess geographically differentiated competitive conditions and to define markets accordingly. The Recommendation should also acknowledge that already today, broadband services are delivered via competing platforms like fixed telecoms, cable[4], mobile and other technological solutions. Even where this will not lead to full substitutes, it will however limit the ability of NGAN operators to behave independently from its competitors on the market.

The Recommendation should further clarify that the term "SMP operator" does not automatically refer to the established legacy operator but that in principle any investing operator, may that be the established legacy operator, alternative operators, cable operators or any other investing entity, might be designated as having SMP in an NGAN environment. The Recommendation should recommend that NRAs take into account that the future NGA competitive landscape might be characterised by different SMP operators in different areas of a Member State.

3. The Recommendation should not predetermine certain technology choices and/or network topologies

It should be common understanding among the Commission, regulators and the market, that regulation should not try to influence or determine technology choices. Regulation of NGAN should be based on the view that the market knows best where and when to adopt which technology, and should refrain from favouring – e.g. - FTTH over FTTC technologies, nor should it favour multi-fibre over other types of approaches, such as the sharing of mono-fibre, or co-operative network roll-out based on a single network. Different roll-out scenarios will be appropriate in different market situations. Favouring a single solution would in many areas lead to over- or under-investment, leading to suboptimal results in the market in terms of infrastructure competition and innovation. Regulation should be careful not to 'pick a winner' be it a particular technology, network architecture or form of commercial cooperation. Current experience indicates that there will be several technological paths and different technical solutions consisting of FTTH, FTTC/FTTB or even mobile broadband solutions.

Against this background, we are very concerned by the regulatory bias against common network architectures and roll-out scenarios displayed in the draft Recommendation. We in particular oppose recital 20, saying that *"it is desirable that NRAs use their powers to facilitate deployment of multiple fibre lines in the terminating segment …* and we question the assumption that *"multiple fibre lines are therefore likely to lead to more timely and more intense competition on the downstream market [than compared to other network topologies]"* (Recital 28). To the

[4] Across Europe roll-out of high bandwidth NGA services is currently driven mainly by cable operators which are aggressively upgrading their networks via DOCSIS 3.0 technology. In a number of Member States, i.e. NL, ESP, PT; B, A (announced), cable operators are already offering speeds of 100 Mbit/s or more.

contrary, we are of the opinion that any regulatory preference for multi-fibre roll-out potentially reduces the possibility for first best solutions based on infrastructure competition between different technologies and topologies which fosters competition and enhances innovation.

Specifically, we do not agree to the rather general assessment that *"networks based on multiple fibre lines can be deployed at a marginally higher cost than single fibre networks."* (point 19) The Recommendation does not give any evidence for this claim. In fact, the additional costs may vary according to the availability of and space within ducts and depend on the relationship between digging costs and additional capex and may indeed be quite high.

Even more important, multiple fibre lines are by no means necessary to foster effective competition and to produce welfare maximizing market results. This is mainly due to the fact that NGAN are not characterised by "congestion costs", meaning that basically one network may be sufficient for handling all demand.

Multiple fibre roll out will not result in superior, more competitive market structures than will be the case with proper implemented risk sharing arrangements based on a single fibre. From an economic and from a business point of view, there is no real difference between an alternative operator's investment in multi-fibre and a decision to invest in a long term access contract over the whole lifetime of the infrastructure asset in a single-fibre setting. Both investments are long term committed investments involving considerable sunk costs. The only difference is that in a multi-fibre scenario the competitor invests in a physical access line while in a risk sharing setting the competitor invests in a "virtual" access line. Thus, a multi-fibre scenario is in essence just a variant of risk sharing. While multi-fibre roll-out will lead to physical infrastructure competition, risk-sharing will result in virtual infrastructure competition. But the final competitive structure of the market will be the same regardless of the existence of, for example five physical infrastructure competitors or five virtual infrastructure competitors - albeit with the added efficiency advantage of a single fibre roll-out due to the absence of any added duplication costs.

Thus, while we in principle agree with the Recommendation not to impose cost oriented access obligations in case of multi-fibre roll-out, such an assessment should not be confined to multi-fibre only but should be extended to include virtual infrastructure competition based on fair and equitable risk sharing arrangements as well.

Furthermore, we do not agree with the Commission's assessment, that investment in FTTN *"normally has a significantly lower risk profile than investment into FTTH"* and that there is *"less uncertainty involved about the demand for bandwidth to be delivered via VDSL."* (Annex I point 6) The resulting regulatory bias against VDSL discriminates VDSL against other technologies und reduces incentives for VDSL roll-out, although VDSL most probably will emerge as the most viable and cost efficient NGA technology for large parts of Europe.

In addition, we do not agree with the Recommendation's statement that wholesale broadband access over VDSL to be a *"chain substitute to existing wholesale*

broadband access over copper-only loops" (point 32). The Recommendation gives no further explanation on why VDSL bitstream access (BSA) is supposed to be a chain substitute to existing copper-only BSA products. By treating VDSL BSA differently from "FTTH BSA" the Recommendation gives the impression to define products on the basis of their underlying technology which is incompatible with the established principle of technological neutrality in the EU Framework. The Recommendation should avoid such technology based regulatory discrimination.

Against this background we just as well object to the Recommendation's claim that *"in most cases NGAs are a result of an upgrade of an already existing copper or co-axial access network"* (Point 8). In the light of this, the Commission's regulatory approach for NGAN becomes biased by implying that NGAN investment are not that risky (since they are just upgrades) and favour the established legacy operator.

Europe's NGA deployment is still in its infancy. Although it might be possible that in the end only a limited number of "winning technologies" might survive, it is at this early stage for from certain to predict which technology will prevail. Quite to the contrary: It is already clear that NGANs will adopt several different technologies, and that each of them will be best suited to a particular market scenario and customer segment.

Regulation should respect these choices and should not try to outguess the market by trying to favour specific approaches. Latest figures from IDATE (FTTx Watch Service – 2009, 2nd. edition, 2009) clearly demonstrate that by far the most deployed state of the art fibre networks worldwide are single fibre, GPON FTTH/B or VDSL networks.

4. The Recommendation should refrain from mandating the imposition of parallel access obligations

Unfortunately, the draft Recommendation misses the opportunity to relax access regulation and to allow for more flexibility of NGAN investors. Instead of fostering commercial agreements and non-discrimination the draft Recommendation still foresees heavy handed regulation with the imposition of several access obligations to be made available for access seekers in parallel. Thus, apart from access to civil engineering infrastructure (points 9 – 14), the Recommendation stipulates a wide variety of additional access obligations like *"access to the terminating segment of the access network"* (point 15), unbundled access to the fibre loop *"irrespective of the network architecture and technology implemented"* (point 20), access to the sub loop in case of FTTN plus backhaul measures (points 28 – 31) as well as mandated wholesale broadband access on top of the already existing obligations (point 32).

When defining access products, the draft Recommendation states that *"access seekers should be able to select the solution best fitting their requirements"* (Recital 35). Instead of targeting regulation to monopolistic bottlenecks the draft Recommendation intends to offer access seekers a whole range of access alternatives to best fit their respective requirements. Thus investors cannot design their NGA network architectures in a way which allows them to offer their customers the best services in a most economically way, but according to competitors´ needs. This will potentially lead to inefficient network architectures.

This becomes most apparent with regard to the obligation for fibre unbundling in case of FTTH roll-out. The draft Recommendation mandates fibre unbundling on top of existing obligations for access to civil engineering infrastructure and access to the terminating segment of the SMP operator. Fibre unbundling shall be imposed *"irrespective of the network architecture and technology implemented by the SMP operator"* (point 20). The Recommendation should refrain from imposing inappropriate general, across-the-board unbundling obligations. Instead, unbundling obligations should be limited to suitable cases, which for example include in-house cabling. In any case, unbundling obligations should not be imposed in areas where infrastructure competition is present or can be expected in the future on the basis of access to passive infrastructures or in areas where unbundling is no viable business option.

The Recommendation should in principle abstain from mandating the imposition of parallel access obligations. Under the Framework NRAs have to conduct a proper market analysis to first determine SMP and then impose proportionate remedies targeted to remedy a specific market failure. This principle should be clearly respected by the Recommendation.

To provide guidance to NRAs, the Recommendation should indeed clearly state that regulation in a NGAN environment should be based on the overriding principle that always the least intrusive regulatory remedy should be chosen. This assessment should be based on the possibility for infrastructure competition. Thus in areas where infrastructure based competition is economically feasible, regulation should concentrate on access to civil works. If, on the basis of access to ducts, market entry is economically feasible, the Recommendation should refrain from mandating further access obligations, since this is neither needed nor proportionate to remedy the underlying market failure. In areas where infrastructure based competition is not feasible, i.e. largely in rural areas, access regulation should concentrate on Bitstream Access instead.

Symmetric imposition of access to basic facilities

Regarding duct access the Recommendation should further specify that NRAs should establish a level playing field for the roll-out of NGA networks by securing non-discriminatory access to civil infrastructures, in particular ducts, of all infrastructure owners in all sectors (including electricity, gas, municipalities etc.). As stated in the reply to the first Draft Recommendation, an obligation to offer duct access without analysing the entire duct and duct like infrastructure available is not appropriate. If a bottleneck is found, ducts owned by alternative telecommunication operators, electricity companies, municipalities and other public utilities as well as duct like infrastructures like water pipes, sewers or underground railway systems should also be subject to access obligations.

Against this background it is questionable whether traditional requirements for an reference offer regarding duct access are adequate. Access obligations for ducts cannot be based on a finding of SMP in an upstream telecommunications market but on the basis of availability, space and proportionality in the area where access is requested. The completion of the access contracts should not be bound to an overly

strict deadline but should give market participants sufficient flexibility for negotiations. Thus, while we agree that access offers should be in place as soon as possible, we do not agree with strict timelines, as for example the six months specification beginning *"after an NRA has entered into consultation with interested parties"*. (Point 13) Apart from the strict timeframe, we in particular object to the notion that interested parties consult with the NRA and not with the duct owners directly.

In the future, in-house wiring will become ever more relevant. However, points 15-17 of the draft Recommendation remain limited to a discussion of asymmetric remedies imposed on operators with SMP in current markets 4. By doing so, the SMP in a part of market 4 will be linked to some assumed SMP also in the in-house wiring segment. The consequence will be again a bias to the disadvantage of those undertakings having SMP in market 4 but who are not having ownership of the in-house wiring segment. A proper analysis of the (potentially different) competitive conditions between the in-house wiring segment and the upstream segments of market 4 should be the basis for determining any potential access obligations.

No '2nd mover advantage' for new NGA retail products

Point 33 of the draft Recommendation should be amended to not grant a "second mover advantage" for new services by mandating a blanket six-months- advance availability of wholesale access products for competitors. Access regulation in market 5, where applicable, should not automatically extend to wholesale inputs for new retail offers, unless the need for such access products has been determined by a market analysis. Even where new regulation was justified, a blanket obligation to make available products six months in advance would grant an undue "2nd mover advantage" to the access seeker.

5. The focus of the Recommendation on cost based regulation prevents pricing flexibility

We very much support the assessment in Recital 29 of the draft Recommendation, that a limitation of a NGA network operator's pricing flexibility and the restriction of *"its ability to profit from increased consumer willingness to pay for new services would thus delay rather than foster the development of networks ...".*

Thus, although the Recommendation in principle endorses welfare enhancing pricing flexibility it nevertheless simply carries over the current cost based regulatory approach of the copper legacy world to the NGAN environment. Only where an NGA is built using a very specific multi-fibre architecture and has a specific ownership structure (co-investment), the draft potentially foresees an exception to the rigid set of remedies including cost-oriented wholesale tariffs. This prevents pricing flexibility in all other scenarios and makes it nearly impossible to freely negotiate access conditions on commercial terms. As the Recommendation correctly states, pricing flexibility as such has a positive impact on NGAN business cases. Therefore, it is hard to see why this effect should be limited to a very specific roll-out scenario only.

The *de facto* prevention of differentiated wholesale pricing - which is the basis for price differentiation at the retail level - is most obvious with regard to the pricing of

BSA, which probably will become the most important access product regarding NGAN. According to the draft Recommendation, BSA should *"in principle"* be imposed on a cost based basis (point 36). Differentiated BSA prices should only be allowed *"to the extent that such price differences can be justified by the underlying costs of service provision."* The Recommendation claims that this would allow all operators to *"benefit"* from *"price differentiation at wholesale and retail levels"*. However, the practical effect will be negligible, since for example price differentiation of different bandwidths cannot be justified by different underlying cost structures to the extent that allows differentiated retail prices. Price differentiation for bandwidth is driven solely by different demand characteristics, i.e. different willingness to pay of different customer groups.

The restriction of differentiated wholesale prices severely limits the retail pricing flexibility for NGA access products. But exactly such kind of price differentiation is required to allow a successful NGA business case. Since some customers will not be willing to pay a significant price premium for higher bandwidth access products or may even be happy with a simple voice connection, the ability to be able to target the higher value customers will be crucial to make the investment pay off in the end.

As a consequence, the pricing of NGA access products should be decoupled from the current strict cost based approach and allow value-based pricing to make possible a wider variety of access products, e.g. low priced basic "copper look-alike" entry products as well as higher priced, higher bandwidth premium products.

In this respect Recommendation should acknowledge that commercial agreements are better suited than ex-ante regulation to set prices which properly reflect the market's assessment of the level of risk associated with NGA investments and take into account market player's estimation of the willingness to pay of their customers. Therefore commercial agreements should be seen as the norm, not an exception, and should not be hampered by unnecessary or detailed regulation.

Further, point 40 of the draft Recommendation grants flexibility to NRAs to not impose cost-orientation on BSA products in case "*functional separation or other forms of separation have proved effectively to guarantee equivalence of input*".

We strongly object to this statement. Firstly, because pricing flexibility should be granted in all roll-out scenarios, i.e. irrespective of the degree of organisational separation (s. above). Moreover, functional separation is designed to achieve effective enforcement of non-discrimination, so it is only a means to an end. Any regulatory solution that achieves effective non-discrimination in access should, according to this logic, result in the same regulatory conclusion and benefit from similar guidance on pricing flexibility. It appears arbitrary to link pricing freedom for active wholesale products to separation and a specific 'equivalence of input' requirement, while the EU legal framework and other Commission guidance under the framework do not recommend such regulatory outcome. To directly link more flexible regulatory conditions to the imposition of functional separation or "other forms of separation" creates an undue bias in favour of a separation of the established operator, even in cases where the imposition of separation is not proportionate or economically efficient as such. Functional separation can, under the current

agreement on a new telecoms framework, only be imposed where it is demonstrated that other remedies, such as non-discriminatory access, have not resulted in effective competition. These conditions would be effectively undermined in point 40 of the draft.

To conclude, the Recommendation should state that, whenever regulatory intervention proves to be necessary, NRAs should refrain from regulating prices on the basis of costs but instead concentrate primarily on ensuring non-discrimination.

6. The strict definition of margin squeeze test makes risk diversification nearly impossible

We welcome that the Recommendation takes up the notion of risk diversification developed by the Council and the European Parliament in the legislative process on the telecoms review and highlighted by the European Council in its Council Conclusions of March 2009. We very much agree with the statement of the Recommendation that *"diversifying the risk of deployment may lead to more timely and more efficient deployment of NGA networks."* (Recital 25) Due to the overall positive welfare effects of risk diversification arrangements we therefore not only would like to see that NRAs *"assess"* pricing schemes to diversify the risk of the investment (point 22), but instead take a more pro-active stance and "not unduly restrict" such pricing schemes.

However, despite the overall positive assessment of risk diversification schemes in the Recommendation, we are very concerned about the related criteria put forward in particular in points 7 and 8 of Annex I. Great care must be taken that the criteria and the application of the related margin squeeze test is not defined too narrowly, thereby making risk sharing arrangements effectively impossible or at least ineffective. The definition of the margin squeeze test in its current form would prevent effective risk diversification arrangements by placing the emphasis on preserving existing business models and thereby preventing further development and adaptation of business models in light of the NGAN investment challenge.

We are particularly worried that the Commission appears to define the margin squeeze test in a way that it secures an efficient operator an adequate profit margin even if this operator is not willing to share part of the investment risk and to engage in long term access contracts. In doing so, the Commission protects non investing business models and thus undermines the business logic of entering into risk sharing contracts. No rational investor will opt for risky long term access contracts if competitors with non risk business models are granted a sufficient margin as well.

The Recommendation should clearly state that in case of risk diversification arrangements access prices based on long term commitments are taken as a basis for application of the margin squeeze test in order not to undermine the effectiveness of these arrangements and to allow adequate retail pricing.

Regarding the methodology applied, the Recommendation does advocate a "reasonably efficient competitor test" (RECT) instead of an "equally efficient competitor test" (EECT). However, the application of an RECT conflicts with the

general aim of regulatory certainty for the investor, since the term *"reasonably efficient"* is open to interpretation and hard to assess *a priori* for a dominant operator.

Besides these basic objections we also strongly question the practical relevance of the Recommendation's claim that "*alternative provider with smaller customer bases and unclear business perspectives … are unable to commit to purchasing a large number of fibre lines over a long period."* (Annex I pt. 7) Apart from the fact that regulation by no means should protect market players simply because they face *"unclear business perspectives",* which is a common characteristic of investing and operating in the emerging NGA environment, the supposed dichotomy between "big" and "small" just does not hold true. As the draft Recommendation rightly points out, holders of long term access contracts are free to engage in secondary trading, which allows market entry for any competitor at any time at market based prices.

Furthermore, long term access contracts are supposed to be sold on a regional basis in line with regionally differentiated roll-out of NGAN. Thus, operators who might seem to be "small" on a national scale are "big" in a regional context. And even further still, smaller operators can establish joint purchasing schemes which allow them to take advantage from enhanced economies of scale.

Most important, the discussion about possible discrimination of long term access contracts and volume discounts in points 7 and 8 of Annex I, is a misinterpretation of the economic rationale for these contracts. The Recommendation gives the impression that for example long term contracts (the same applies for volume discounts) are *per se* beneficial for access seekers and that therefore long term committed access seekers have a competitive edge over those competitors without long term contracts. This is not true. Long term access contracts were only beneficial per se if NGAN investments were largely risk free. However, as the Recommendation rightly concedes, this is not the case. Thus, lower prices for long term access contracts come with a price tag attached, namely the "price" of considerably higher exposure to risk than would be the case without long term access commitments. In economic terms, a lower price for long term access contracts is just the compensation for the option value which a non committed entrant enjoys by being able to wait and see how the nascent NGA market develops without being forced to undertake considerable sunk investments beforehand.

Proper devised long term access contracts will never be discriminatory; they just ensure a level playing field for investing and non-investing market players. On the other hand, any limitation of the scope of long term access contracts through margin squeeze tests designed to protect other operators with less committed business models would be discriminatory indeed. It would discriminate against long term investors, since they would no longer be able to be properly compensated for the forgone wait and thus would be de facto forced to subsidize their more risk adverse competitors.

In summary, the Recommendation should thus stipulate that the margin squeeze test applied should be

- based on the long term business case

- of an “equally efficient competitor” and
- take the wholesale price for long term committed entry as the basis for assessing a sufficient margin between wholesale and retail price.

Construction of new civil works infrastructure is risky

When assessing the investment risk all relevant NGAN investment costs including investments in civil engineering infrastructure as, for example, ducts and pipes must be taken into account. Costs for civil works account for up to 80% of NGAN investment costs so that the exclusion of these costs severely limits the relevance of risk premium surcharges and its impact on the business case of NGAN investors. Against this background we especially object to the assessment that investments in civil engineering infrastructure *“are not specific to the deployment of NGA networks”* and therefore *“do not entail a similar level of systemic risk.”* (Recital 14) Quite to the contrary; if NGAN roll-out requires investments in civil engineering infrastructure, these investments are intrinsically linked to the roll-out. They are an integral part of the investment. Thus, from an investor’s perspective the riskiness of the NGAN investment is determined by the sum of all relevant investment costs and not by the costs related to active technology and the fibre cable only. To disregard the vast majority of the investment risk would leave most parts of the risk unaccounted for which in turn will not foster risky investments in NGAN.

A risk premium alone is not sufficient

To take the NGAN investment risk into account the Recommendation stipulates that “*NRAs should assess whether the cost of capital should reflect the higher risk of investment relative to investment into current networks based on copper”* (Annex 1, point 1). This would lead to a higher, risk adjusted WACC used by NRAs for the calculation of access prices.

A risk premium approach alone will not be sufficient for adequately addressing the NGAN investment risk but must be coupled with further arrangements for diversifying the investment risk between investors and access seekers. This is due to the fact any NGA investment also contains the prospect of a failure, meaning that the revenues do not meet the expectations and therefore will not be sufficient to cover the costs of the investment. This investment risk has to be borne by the investor only and can be fully avoided by the access seeker, since, absent of risk sharing arrangements, the access seeker does not incur irreversible sunk investments. Thus, the access seeker can wait and see how the market develops and enter on a case by case basis once the market outlook is positive. A risk premium alone does not compensate for the "wait and see" option value of the access seeker since it still leaves all sunk cost related risks solely with the investor. In case of a negative market outcome, i.e. an investment failure, a risk premium for access products will not benefit the investor at all: because if the take-up rate of new NGAN related services remain limited so will the demand for access products and thus a risk premium for access will not have much of an impact.

Apart from the practical difficulties of calculating the exact size of the risk premium, the application of a standard margin squeeze test to an access price based on a risk premium surcharge would necessarily lead to less flexibility for retail prices to take into account the end-customers willingness to pay. Positive investment incentives through higher access prices shall not be “paid” for with less pricing flexibility which in the end might frustrate the business case altogether. Thus, a risk premium shall not be considered when carrying out the margin squeeze test.

7. Overly prescriptive migration requirements hinder efficient migration to NGA

We agree that a transparent migration path from first generation broadband to NGAN is important to ensure competitive markets also in an NGAN environment. However, the migration should not be hampered by too much red tape und unduly prescriptive specifications by regulation.

Therefore the Recommendation should foster commercial agreements between investors and access seekers regarding the appropriate migration path as the most efficient way of managing the transition period. Thus, the Recommendation should avoid giving a strict timeframe for informing of the de-commissioning of points of interconnection (point 43) as this would make necessary a very early commitment on a certain technology or topology which in turn could prevent more efficient solutions made possible by technological progress.