Meeting between CEO Vodafone and Commissioner OETTINGER

at 7:00 on 6 September 2016

I. Scene setter

For Vodafone: Article 4(1)(b) *– for CV please see background*

For DG CONNECT: Article 4(1)(b)

For the Cabinet: Markus Schulte

Estimated duration: 1 hr

Agenda:

- Review of the regulatory framework for electronic communications
- Vectoring in Germany

Review of the regulatory framework:

Vodafone has provided us with a comprehensive response to our public questionnaire and a summary of their position is included in the background.

We are currently finalising the legislative proposals which are anticipated to be adopted shortly.

Vectoring in Germany:

Vodafone is the second largest telecoms operator in Germany and operates mobile networks (GSM, LTE), as well as fixed telephony and cable TV networks. It has approximately 20% of the German retail broadband internet market.

Offering services both on the basis of regulated wholesale products of the German incumbent telecom operator (Deutsche Telekom, DT) as well as on the basis of competing infrastructure (cable TV), Vodafone is concerned about the plans of German telecoms regulator (Bundesnetzagentur, BNetzA) to allow DT to upgrade its copper network with vectoring technology. Mainly because, vectoring will allow DT on one hand to be able to compete better with cable TV operators, whilst on the other hand vectoring will reduce Vodafone's ability to rely on local loop unbundling (making it more difficult to compete with DT on the basis of regulated access to DT's network).

II. Objective(s):

The proposals for the **telecoms review** will be adopted next week (13/14 September). The issues to be addressed by the review are: connectivity enabling full benefits of DSM, spectrum reform in particular in light of 5G, modernization of universal service, updating rules for services taking into account market and legislative developments and finally reforming the institutional set-up to ensure effective and coherent implementation and application of rules.

Concerning **vectoring**, we expect BNetzA to notify to us further plans concerning the technical parameters and the pricing of the Layer-2 access product, which will serve as a replacement for the potential loss of LLU in a vectoring context.

Their Position

Review of Telecommunications Regulatory Framework

- Vodafone provided a comprehensive response to the public consultation questionnaire (December 2015) and a summary is included in the background.

Vectoring

- Vodafone was very vocal in expressing its opposition to BNetzA's plans to allow for vectoring in Germany, both at national level but also very much here in Brussels.
- Now that BNetzA has published its decision to allow DT to deploy Vectoring im Nahbereich in principle, a fall-back position of Vodafone is that they would at least like to ensure that the technical parameters for the Layer-2 *Ersatzprodukt* are as closely aligned as possible with a physical unbundling product, allowing an access seeker a maximum of flexibility and room for product innovation and differentiation.

Our Position

Review of Telecommunications Regulatory Framework

- Thank Vodafone for their active participation in the public consultation on the telecom review. Listen to their views on how the regulatory framework could be improved.
- Stress the goals of current Commission initiatives to foster infrastructure investment in the single telecoms market for ubiquitous broadband coverage and more and better services.
- Reassure that the future Regulatory Framework will promote investment in infrastructure by focusing on the remaining bottlenecks.

Vectoring

Article 4(3)

III. Speaking points <u>(only if requested)</u>

Review of Telecommunications Regulatory Framework

Introduction and Connectivity

- It is obvious that a real DSM only materialises if our citizens and business have access to affordable and unconstrained connectivity, fixed and mobile, that supports digital services.
- In short, connectivity, and increasingly connectivity to very high speed networks, has become an imperative component of the single market. This is a view shared also by the respondents to our public consultation. Many respondents point to the need for policy measures and adjustments to current policy and regulatory tools to support the deployment of infrastructure in line with future needs.
- In order to reap full benefits of the digital economy, we rely on a competitive telecoms sector which invests in high-performing networks.
- *Market Regulation, Competition & Investment*
- I am a strong supporter that competition is the main driver for investments and bringing the best outcome for consumers.
- As we said on many occasions - access regulation to dominant networks will remain a central mechanism of the telecoms framework.
- However, business as usual will not help to achieve the DSM ambition. Adaptations to the regulatory model are needed if connectivity ambition is to be achieved.
- Such adaptations should ensure that every market player would then have to have equal chances to invest – or if necessary to co-invest – and those who take that chance should then also get the benefit.
- We must have a regulatory model which leads to a race to invest. Infrastructure-based competition should be incentivised wherever it is possible as it provides the only sustainable form of competition. All players, big or small should have this opportunity. Therefore, facilitating access to civil engineering and non-replicable network assets is very important.
- I am a strong believer in encouraging investment projects which are based on open, good faith and reasonable co-investment offers, including a possibility for all players to participate.
- This would ensure that at least the current level of competition is kept when a new high capacity network is build - by maintaining regulated access for broadband at the level that was equivalent prior to the new investment.

Spectrum

- 5G networks will be providing connectivity solutions to smart devices used within different sectors like automotive, health, energy and broadcasting. We need to enhance the spectrum management framework to boost digital network and services' rollout, based on competition, innovation and investment.
- This is a great opportunity for Mobile network operators.

- We need to work closer together to reach this common ambition and to clearly spell out areas where greater coordination of spectrum management will be a win-win solution for all, notably by focusing on those which have the greatest impact on network deployment incentives and markets developments with particular view to 5G. I believe that issues such as spectrum awards, licence duration, coverage criteria, trading and sharing of spectrum are examples of areas where we need more consistency. We also need to enhance transparency and levels of consultation in these processes to ensure regulatory predictability.
- Vodafone is best placed to provide the Commission with the underlying data supporting the changes needed. Given the Member States' known reluctance in this area, I call on your active and genuine cooperation in this regard. This is not only about your sector but about Europe's industry competitiveness in general.
- While connectivity is a central theme in the review process, network access is not the only building block of the telecoms package. The building blocks of the package are not self-standing topics - they are closely linked to the overall connectivity narrative.
- I want to build spectrum debate on a positive foundation and Article 4(3) Article 4(3) getting Member States on board in terms of the overall connectivity ambition will facilitate spectrum debate.
- It is imperative to enhance spectrum management framework, especially as it is so important for the success of ubiquitous connectivity.
- There will be a need for a large bandwidth of radio spectrum to be used by 5G networks for various purposes. I count on GSMA's active and continuous support in spectrum debate and in outlining the role of wireless connectivity and its implications for the success of 5G in Europe.

Services

- We also concluded from the consultation the clear need to respond to the convergence of online and traditional services to ensure a fair competition between digital players, in particular when they provide competing or comparable services. On the basis of your contribution, I believe this a common concern.
- We aim to level the playing field, to the extent possible through simplification and deregulation, in light of new competitive choices for end users, while extending regulation only where strictly necessary to maintain end-user interests or effective competition and innovation.
- An important delineation with regard to various OTT communications services is whether they use numbers from numbering plan to ensure end-to-end connectivity or not. Those using numbers as a public resource are in many respect treated like the traditional telecommunications services whereas those OTT communications services provided exclusively on open internet are clearly not equivalent services and would be subject only to a limited set of rules.
- Our current assessment is that the level playing field and focused end-user protection is best achieved by a targeted mix of both deregulation and extension of a key, but limited, set of sector-specific rules to OTT communication services, for example on security of communications services. Another important area where OTTs may need to be covered by sector-specific rules is confidentiality of communications. However, our reflections on the review of the e-privacy Directive are still pending.

- **Universal service** objectives and methods need to be brought up-to-date.

Governance

- Changes to sector's governance will also be needed in order to support the substantive adaptations to the framework.
- We will need an efficient EU system of regulatory authorities to increase regulatory predictability for market players. This would necessitate reinforcing the competences of regulators and their capacity to act towards the single market in the European bodies. BEREC must have a stronger basis and commitment to work towards the DSM.

Closing

- My ambition is that the proposals could be agreed by the end of 2017, so that the new rules are effectively applied before 2020.
- We have the task to develop a framework for the 3rd decade of the 21st century.
- The challenge is to establish a future-friendly framework supportive to our overall DSM ambition.

Vectoring

- As you will know we had our own serious concerns with BNetzA's original April proposal for vectoring in Germany.
- Following our serious doubts letter to BNetzA, the German regulator withdrew its plans on 16 June and re-submitted revised proposals, which addressed a number of our – and as I understand also some of your - main concerns.
- However, we remain very much aware of your (and other operators') concerns regarding Vectoring in Germany, and in particular concerning the appropriateness of the Layer-2 Bitstream access product as a replacement for the loss of VDSL-quality unbundling.
- In this respect we asked BNetzA in July, to improve the technical means through which alternative operators can provide internet access over DT's upgraded/vectored networks and asked them to submit to the Commission its plans concerning the technical parameters and prices for the relevant access products, which we will then assess against our previous guidance.
- We take note of the fact that, last week, BNetzA's published its decision concerning the principles of Vectoring im Nahbereich. This should offer everyone involved more clarity and legal certainty, much needed to make important investment decisions.
- However, we are now carefully assessing the final measure of BNetzA to see whether the German regulator has taken utmost account of our July comments and to follow this up as appropriate with the German authorities.

- We are aware that the industry groups representing access seekers have reacted with disappointment regarding BNetzA's decision and it goes without saying that we will remain in close contact with the German regulator to ensure that the forthcoming proposals in particular for the technical details of the virtual alternative access product and its pricing will be in line with the parameters we have set out in previous guidance to all regulators in general and to BNetzA in our July decision in particular.
- We will continue to use our influence to ensure that the regulatory regime for vectoring in Germany strikes the right balance between network upgrade and high quality access for competitors and that the technical details and pricing of the alternative Layer-2 product will allow for sustainable competition and a wide choice of products for end-users.

IV. Defensives

Telecom Review

How can access regulation incentivise investments in very high capacity networks? Should more focus be put on the assessment of retail competition before regulating wholesale markets? Should commercial agreement be taken into account in regulation?

- Many factors impact investments and many of them, such as overall economic environment, GDP, population density, have very little to do with regulation.
- However, regulation also has an impact on the investment environment. The investment needed to provide Europe with a future proof infrastructure for the digital age requires ensuring a sufficient return for new investments relative to risks.
- We need to increase certainty for investors. This involves setting the right conditions for investments in high-capacity networks and reducing divergences between regulatory practices.
- Regarding market regulation, we should remember that we ultimately regulate only to address market failures in order to assure good end-user outcomes. The retail market may be competitive without heavy regulatory intervention because of competing infrastructures. Infrastructure-competition also often incentivises operators to open their networks for third parties. Here we should probably give more space for commercial access agreements, subject to necessary ex post dispute resolution safeguards by NRAs. The emphasis on addressing retail-level problems is already accepted practice by many NRAs, even if it is not directly enshrined in the Framework. However, the emphasis needs to become more prominent as the structure of networks and the dynamics of wholesale markets are becoming increasingly varied and complex.

What is your preferred method to realise high capacity networks in (often rural) areas with one infrastructure operator and no viable case for infrastructure competition? What innovative access regulation models would you find acceptable in promoting investment in these areas?

- To address the investment challenge we start from the existing premise that competition is the main driver for investments. Access regulation has allowed market entry and a healthy

level of competition, especially at retail level. However, more emphasis should be put on regulatory models that give sufficient space to investment competition rather than focusing on access-based competition. To achieve this we are considering a set of measures.

- Our starting point is that public funds can help to reach some of the most remote areas with NGA networks, but they cannot bridge the connectivity gap that we have in Europe. It is for market forces to achieve the best possible network in each area.

- Co-investments, provided they have the right conditions, can play an important role to ensure that the risk is shared between operators, including for the riskiest investments, and that the deployment of new infrastructure is not at the expense of end customer choice. We have seen examples in several Member States, which are starting to reshape the structures of NGA networks.

- In some circumstances, local initiatives aggregate demand and bring enhanced networks to areas where the market did not deliver. If other operators move in to respond to their investment, their business case may be fatally compromised. It may be necessary for legislation to intervene and protect local investment initiatives.

- In order to target regulation to the needs of the most disadvantaged areas, national regulators must have a clear picture of the reach and economic potential for the networks that are deployed within their territory. For this reason, regulators' powers and role in mapping networks in the national territory may need to be enhanced.

Do you consider that a market structure with two or more fixed networks has a risk of causing consumer harm (less investment, higher prices, lack of product innovation and choice) without some form of access regulation? What access regulation model would you consider acceptable in these markets? What are the conditions to be fulfilled (e.g. symmetry, regulatory certainty)? Could access regulation bring risks to investment incentives in such markets?

- In the EU, we started from monopolistic market structures in our sector. The fact that liberalisation and regulation have led to oligopolistic market structures is already a great achievement for end users.

- Infrastructure competition has a positive effect on investments. Where alternative infrastructures compete for retail and sometimes wholesale customers, they have a greater incentive to improve the quality and reach of their networks.

- There is no magic number of infrastructures that makes a market effectively competitive. Oligopolies may or may not lead to consumer harm and to retail market problems. This depends on many economic and technological factors, which can provide incentives for healthy competition, or rather for the opposite.

- The Framework already provides for a test to address a market with several network owners, in the case where the conditions for tacit collusion, or joint dominance/SMP, are met. Further clarity could be brought.

- As to other situations, we have to protect market dynamics and end users, but also be mindful of the risk of overregulation. Regulation should only intervene where it is necessary and appropriate, because the connectivity goals in terms of quality, choice and price are not met for end-users.

- For instance in those circumstances, ensuring access to non-replicable parts of the networks can be key to maintain sustainable competition.

For the protection of end-users, is there a political objective to review sector-specific rules for telecom services beyond a mere technical analysis of overlap with general rules?

- The objective of the revision of sector-specific end-user rights is two-fold. First, in REFIT we are screening the scope for deregulation or adaptation either by concluding redundancy or recourse to horizontal consumer protection legislation.

- Second, we aim at achieving a level regulatory playing field between traditional electronic communications services and functionally substitutable communications services provided by online service providers (OTTs), in order to close gaps in the protection of end-users and foster fair competition.

Which rights of users of communication services are insufficiently guaranteed by general rules and therefore need sector-specific rules? Does that also apply in case communication services are supplied by OTT players?

- Our current assessment is that the level playing field and focused end-user protection is probably best achieved by a targeted mix of deregulation and application of a key, but limited, set of sector-specific rules to OTT communication services.

- While the scope for deregulation is the subject of ongoing assessment, we have identified certain areas where leaner provisions may be warranted.

- For instance we are now considering that provisions on contractual information and transparency could potentially be limited to Internet Access Services only.

- Furthermore, we aim at adapting the scope of beneficiaries to the objectives of the relevant provisions in the Universal Service Directive. The experience shown that the level of protection needed by (larger) business users is not the same as that of individual consumers and of small and micro enterprises.

- Sector-specific rules for communication services appear necessary in areas where these services make use of public resources such as numbers in the national numbering plan. Therefore provisions on number portability, access to numbers or emergency calls appear still necessary. Also provisions on security and confidentiality of communications appear necessary for public policy reasons. It may be appropriate to apply those latter provisions also to OTT communications services.

Is it necessary and feasible to overhaul the structure of rules, for instance by distinguishing between digital communication services (whether provided by telcos or OTTs) and communication networks?

- Innovative online services ("over the top ('OTT') services") are increasingly relevant for the electronic communications sector and perform a competitive constraint for traditional electronic communications providers (e.g. VoIP and IP based-messaging make inroads into traditional revenue streams such as voice and SMS). At the same time these novel services also boost demand for the provision of data services.

- The level playing field means different things to different stakeholders and the discussion often lacks clarity. If there is understanding that similar rules should apply to equivalent services it is a prerequisite to assess when different services are equivalent.

- Sector-specific rules for Internet Access Services are generally accepted – what needs to be agreed is the exact scope of rights and obligations.

- The question of equivalence when communications services are provided in addition to or over the Internet Access is more complex.

- It is widely accepted that using public resources is subject to a number of conditions. If the provision of a service depends on the use of a public resource, such as numbers, in order to ensure end-to-end connectivity there may be good, if not necessary reasons, to treat the service differently from a service which is provided on a best effort basis without using such public resource.

- We acknowledge, however, that there are also public policy interest which may eventually require applying certain regulatory obligations to all communications services regardless of the mode of provision or whether they use public resources or not. The security as well as the confidentiality of communications are examples of such public interests.

Connectivity and Investment

Why do we need very high capacity networks (high speed up & down, low latency, etc)?

- Very high capacity networks are the best way to address durably all our future connectivity needs:

- Our connectivity needs increase continuously, including away from home and work. The Internet of Things, cloud computing, the data economy, the abundance of content and the increasing number of devices and connected objects - from fridges to cars - are expected to accelerate this trend. The availability of bandwidth and the ease of upgrading networks will be a key enabler for the vibrant digital economy and society.

- It is not only downloading speed that is important, but also other connectivity parameters which are key to the quality of experience: upload speed for cloud-based services, latency for safety related applications, financial transactions and gaming.

- Very high capacity networks are also needed to deal with the explosion of generated data in almost all aspects of our society and economy, which needs to be transported in broadband networks. Very high capacity networks therefore are also about delivering quality parameters such as higher upload speed and lower latency.

- Very high capacity networks will contribute to the backhaul needs for the upcoming 5G deployments.

- The deployment of very high capacity networks will also gradually impact on demand for connectivity, in particular by making the young generation used to unconstrained bi-directional connectivity at school.

Why do you define ambitions beyond 2020?

- We do very much care about present connectivity needs and we have put in place a number of tools to help speeding up the deployment of high speed broadband.

- Our European objectives for 2020 were set up by the Digital Agenda for Europe. In a number of cases, the means to reach them are detailed at Member States' level in some "NGN plans". But given the time horizon for infrastructure investment as well as the extremely high pace at which our digital uses and needs are changing, 2020 is tomorrow and there is a necessity to anticipate and already look at the day after, beyond 2020.

- Predicting the future is always a very difficult task, but it is clear that data flows are growing exponentially and we will need faster, more robust, symmetrical broadband infrastructure. I hear many calls from companies (both users and builders of connectivity), from citizens and from public authorities for setting up connectivity ambitions beyond 2020. The Gigabit society is a vision which invites Europeans to federate around an ambitious goal and to join forces to achieve it.

- We cannot wait until 2020 to think about which connectivity we need beyond 2020. It is already today that we need to be more ambitious and act accordingly. This is important for everybody, for all EU Member States, for any sector of the economy. This is particularly relevant for businesses and industry. Europe's future economic success will stem from innovations and new business models that will make the most of digital networks – not just telecom infrastructure, but also cloud computing, Big Data, connected cars, the digitalisation of our industry, and so on.

Why do you think that Gigabit connectivity for socio-economic drivers is needed?

- Gigabit connectivity for socio-economic drivers would cover all European schools, libraries, public administration, hospitals and health centres, research centres, business parks and key businesses and industries. This is about ensuring that our education system turns young internet users of today to digitally skilled adults of tomorrow, about improving our access to healthcare at better quality and at lower cost, about supporting our research and innovation, about boosting our economy through collaboration and innovation, and so on. I simply cannot imagine that institutions that can achieve such impact in society are not equipped with the best Internet connectivity.

- Gigabit connectivity is not only about a better experience for consuming digital content, it is about innovative and interactive use: Gigabit download speed implies by default that other quality parameters such as higher upload speed and lower latency are covered to the expected standards.

- It is a practical step towards a truly digital economy and society enabled by unconstrained connectivity. It will facilitate the deployment of networks beyond the socio-economic drivers themselves, bringing high-performance connectivity closer to interested companies, in particular SMEs, and households, including in rural areas. It will support cloud adoption, in particular by SMEs, facilitate opportunities linked to Big Data and high performance computing and contribute to the backhaul needs for the upcoming 5G deployments. It will also impact on demand for connectivity, in particular by making the young generation used to unconstrained connectivity at school.

Why do you think that future-friendly ubiquitous connectivity is needed?

- As our economy and society become dependent on connectivity, users and objects "on the move" cannot be disconnected. I am thinking for instance about users commuting every day to work. I am thinking also about the future of our automotive industry, that is to say automatic driving and the connected cars.

- It is also relevant for users who chose for mobile connectivity as primary – if not exclusive – use, especially in parts of Europe where fixed connectivity improves slowly.

- So it is clear that we cannot focus our efforts only on fixed connectivity and we do need future-proof ubiquitous connectivity.

What do you mean by improved connectivity in rural areas?

- I am the Commissioner for the digital economy and society, not for the digital divide. I do not want to leave anyone behind. But because investing in broadband networks in rural areas is much less profitable than investing in cities, the digital divide will persist if public authorities do nothing about it. Because they are often far away from services such as healthcare, shopping, banking or public administration, those living in rural areas need even more than those living in cities to access e-health, e-commerce, e-banking or e-government services. Rural livelihoods will also rely increasingly on digital markets, trading, the use of new technologies (like drones or robots). So I want connectivity in rural areas to be high on the political agenda of Europe.

How do you plan to reach your ambition?

- The recipe for success includes 4 ingredients: policy, regulation, funding and support.

- We need a political impetus and that is what I am aiming at with my vision for a European Gigabit society. I want to give a clear vision and a clear direction.

- We need an investment friendly regulatory environment. We have regulatory tools. In particular our future telecom regulatory environment – we will make legislative proposals

later this year - will encourage investment in sustainable, market-based, high-performance broadband (fixed and wireless) infrastructures.

- Where the market cannot deliver on its own, we need public funding. We have funding tools. In particular I want a fair share of President Juncker's Investment plan to be injected in the ICT sector.

- We need support to our ambition through cooperation and technical assistance. Nobody can make it a reality on his or her own; this has to be a joint effort. But we are now well into the 21st century and we need connectivity just as we need water and electricity. I cannot imagine anymore that anyone wishing the best for our European society and economy would say otherwise.

We have not seen many EFSI projects in the digital sector so far: how can we ensure the sector will benefit from EFSI?

- So far, there have been 8 projects in the research and ICT sector approved under EFSI Infrastructure and Innovation Window, as well as a substantial portion of the SME Window dedicated to innovative SMEs and start-ups.

- We definitely expect more will be invested, especially in digital infrastructure and digital facilities such as cloud facilities, high performance computing, research in 5G that will require long term financing. There are already very good high speed broadband projects approved under EFSI in France and in Italy, we expect to see more projects of this type coming through.

- I would also expect the ICT sector to be one of the main beneficiaries of the creation of investment platforms under EFSI, which allow bundling of smaller projects together. Funding required is usually smaller in the ICT sector which is quite fragmented. For example, we are currently developing a investment fund for broadband under the Connecting Europe Facility, which is considered a forerunner of Investment Platforms, with the aim to provide financing for the roll-out of super-fast broadband predominantly in underserved areas. The Fund could be further expanded with EFSI support

5G action plan

Do you share our view that the Telecom Review should put increased emphasis on investment?

- Overall I fully share your view that the Telecom review should put increased emphasis on investment. The Digital Single Market Strategy announced that the review of the Telecom Framework's focus would include "incentivising investment in high speed broadband networks". Let me however bring a few clarifications, related to the manifesto, on how this should be done:

    - First, this cannot and will not be done at the expense of competition.

    - Second, co-investment and risk-sharing models allowing for a fair long-term return on investments will be encouraged under precise conditions

- Third, I agree that commercial agreements are important, but provided that a regulatory fall back solution is kept

- Let me reassure you that we are working on a number of measures aiming at incentivising investment in very high-capacity networks and 5G under the Telecom Framework. I appreciate your views as they will nurture our reflection in finalising our proposal, which is to be adopted in September.

Are the Net Neutrality draft guidelines too restrictive and will they stifle innovation and hamper the development of 5G?

- The draft guidelines provide interpretative guidance on the application of the rules, stay close to the flexible principles of the Regulation and do not go beyond the TSM Regulation.

- In particular the deployment of 5G services, the development of Machine to Machine and Internet of Things are perfectly compatible with the Regulation and the draft guidelines.

- If any specific service, for instance connected cars, requires a level of quality that cannot be guaranteed by the Internet Access service, quality assurance can be provided via specialised services.

- And when it comes to the internet access service, the Regulation is also very clear that reasonable traffic management is possible based on objective technical requirements of the traffic transmitted.

What has the Commission done so far? Does Europe have the technology to deliver 5G to verticals?

- The 5G Public Private Partnership between the Commission and the telecom industry is boosting EU-wide work with its unprecedented 700 million euros funding.

- Europe has achieved a true leadership in this initial research phase of the run-up to 5G. This reminds us of the historic days of the GSM technology and is, in my view, another signal that "Europe is back" in the forefront of telecommunications

Vectoring in Germany

BNetzA's revised proposals – What has changed between May and June?

- In May the Commission set out why it had serious doubts that BNetzA's original proposal was in compliance with EU telecoms rules (see further DE/2016/1854).
- In particular, the Commission raised four main areas of concern (see below). In the discussions with BNetzA that followed the Commission's opening of an in-depth investigation, BNetzA agreed to address the vast majority of the Commission's concerns and revised its proposals accordingly.
- The revised plans constitute a clear improvement if compared with the earlier proposals, on each of the points raised in the Commission's serious doubts letter. The following table illustrates the changes that have been made in response to the Commission's intervention:

Original proposal	Commission's original concern	New Proposal	Change
The first alternative access product (virtual access at the street cabinet) is limited to one alternative operator.	Any such limitation cannot be technically justified and unduly restricts competition	No restriction of number of access seekers at street cabinet	EC Commission strongly welcomes this change
Alternative operators, who wish to migrate to the street cabinet have to invest in their own fibre.	Parallel fibre investment may not be economically viable.	Access to ducts and dark fibre granted for two years to those alternative operators currently present at the local exchange and wishing to use virtual access at the street cabinet.	EC Commission welcomes this change
The second (and possibly main) alternative access product (Layer-2 access at the so-called Broadband Network Gateways, BNGs) is, in BNetzA's own view, not (yet) a functional equivalent to physical unbundling due to technical restrictions in the product design.	Any alternative access product, which is intended to compensate for the loss of physical unbundling needs to be an appropriate functional substitute for physical unbundling and comply with the Commission's VULA-criteria set out in the 2014 Recommendation on Relevant Markets.	Commitment that the Layer-2 product needs to meet the required technical parameters. The exact technical details will be notified within few months; a new national consultation is envisaged. The Commission will afterwards scrutinise these detailed proposals against its own Recommendations.	EC welcomes this change but awaits further notifications by BNetzA on the detailed technical parameters and prices for this product
The eligibility criteria under which an operator can "claim" a Nahbereich are designed in a way that means that DT is likely able to vector significantly over 90% of Nahbereiche.	The stringent eligibility criteria unduly favour DT and lead to a quasi-exclusivity.	Eligibility criteria have been re-designed to allow more alternative operators to claim Nahbereiche (over 30% increase in Nahbereiche, which can be vectored by alternative operators). However, new proposal also introduces am "all-or-nothing" requirement, which may lead to certain operators not being able to make use of vectoring.	EC welcomes this change But is critical of the new "all-or-nothing" approach.

- On the Layer-2 product, BNetzA agreed to cooperate with the Commission and industry to ensure an adequate solution is found, which safeguards competition. It agreed to notify to the Commission any final product design. The Commission will assess such a notification in detail and act according to its findings to ensure that the Layer-2 BNG product meets all relevant criteria to qualify as an appropriate functional equivalent to the loss of physical unbundling, VDSL-LLU.

BNetzA's final measure of 1 September – brief initial assessment (not to be shared publicly)

- On 1 September, BNetzA published its final decision in case DE/2016/1876, following our comments letter of 19 July.
- Under the regulatory framework, BNetzA is under an obligation to take utmost account of our comments.

- We still need to assess thoroughly, whether BNetzA honoured its obligation , but a few initial observations at this stage:

Characteristics of the alternative BNG Layer-2 access product

- In its comments letter, the Commission set out a number of criteria it expects BNetzA to take into account when developing the technical parameters for the new BNG Layer-2 access product.
- It has to be noted that such technical details will be subject of a new (forthcoming) notification, which we expect in the near future.
- In its final decision BNetzA clarified that it is of the view that the forthcoming BNG Layer-2 product, the technical details of which are currently in national consultation and will be notified to the Commission in the near future) will meet largely ("weitgehend") the guidance of the Commission.

Market definition / re-classification of the BNG Layer-2 access product

- The Commission asked BNetzA to consider a re-classification of the BNG Layer-2 access product as potentially being located in the local access market as a substitute to physical unbundling.
- BNetzA confirmed that it will look at the classification of all relevant products anew when carrying out the next market review (although it repeated its arguments why it currently thinks the Layer-2 product is a central and not a local access product).

Criteria for vectoring deployment (Alles-oder-nichts criteria)

- The Commission invited BNetzA to reconsider the need to introduce a requirement that alternative operators who wish to vector a street cabinet themselves will have to commit to deploy VDSL2 vectoring to all street cabinets connected to the same exchange (all-or-nothing requirement).
- In its decision, BNetzA continues to apply this requirement arguing that only such and approach would avoid "cherry-picking" and ensure nationwide vectoring deployment.

Access to ducts

- The Commission urged BNetzA to impose on DT a duct access obligation which is not limited to the distance between the local exchange and the street cabinet, nor limited to the sole purpose of taking up DT's wholesale products.
- Mainly for legal reasons, BNetzA remains of the view that duct access should only be granted to gain access to take up DT's KVz-VULA product, i.e. which is limited to the distance between the exchange and the street cabinet.

Why did the Commission not address the detailed technical specifications for the main alternative access product?

- The Commission is constraint in its response by the formal scope of the notification. This scope is determined by the notifying regulator.
- In this case, BNetzA has not made the technical specifications of the main alternative access product (Layer-2 access product) part of the current notification but stated that these will be subject of a later notification, which the Commission expects to receive after the summer break.
- As a result, whilst the Commission recognises that the exact technical specifications the Commission play an important role for the adequacy of the alternative access solution, it

cannot request BNetzA to define already at this stage the final technical specifications for the Layer-2 product as part of this case.

- However, the Commission clearly sets out in its decision, which parameters it expects BNetzA to further improve before accepting the alternative Layer-2 access product as a true functional equivalent for physical unbundling.

Does this mean that the Commission is entirely happy with BNetzA's new plan and has no further comments?

- No, whilst the Commission – also in the interest of allowing for swift network upgrades in Germany to the benefit of end-users – will not block the German regulator to go ahead with its plans, it clearly stated that it needs to see further improvement.
- First, as mentioned above, the Commission is clear that it expects any future Layer-2 BNG access product to meet the relevant VULA criteria as set out in the Commission's 2014 Recommendation on Relevant Markets and further specified in its decision of today. In this respect, the Commission indicates to BNetzA that both the prices and the technical specifications of the Layer-2 product have to be set in a way that allows alternative operators to use the alternative access product as a true functional equivalent to physical unbundling.
- In this context the Commission also noted that BNetzA itself assured the Commission and industry that alternative operators will not lose their current physical access at the exchanges before the adequate Layer-2 access product is available in the market.
- Secondly, the Commission urges BNetzA to re-consider its market definition, which currently states that the virtual Layer-2 access product is not a substitute to physical unbundling.
- Thirdly, the Commission is critical as to whether the newly introduced "all-or-nothing" requirement is appropriate and asks BNetzA to reconsider the need for such a condition in its final measure.
- And last, but not least, the Commission reiterates its earlier concerns (see case DE/2011/1177) with regard to BNetzA's proposal to limit the ability of alternative operators to access DT's ducts to the loop between local exchange and the street cabinet (and to the sole purpose of taking up DT's wholesale products).

What is next?

- The German regulator can now adopt its proposed measure but will have to take utmost account of the Commission's comments (see Q5 above).
- With regards to the need to set the technical parameters and prices for the replacement for the loss of physical access, i.e. the Layer-2 access product, the Commission clearly sets out that it expects BNetzA to notify these conditions as soon as possible after the summer break. The Commission will then assess these proposals against the guidance it has given in the Explanatory Note to the Commission's 2014 Recommendation on Relevant Markets and the more detailed expectations it expressed in its July decision.

Are there similar cases in other Member States?

- Vectoring technology is also deployed in other Member States.
- However, the cases there are not comparable, as they either do not concern nearshore vectoring (and thus do not result in the loss of physical access at the exchange in VDSL quality) or are addressed appropriately by the respective regulator by the imposition of virtual access product at the exchange, which meets the Commission's VULA requirements.

Author: Article 4(1)(b) (*) **and** Article 4(1)(b) (* Article 4(1)(b)

V. Background

1) Review of the Telecommunications Regulatory Framework:

Position of Vodafone during the Public consultation (December 2015)

Article 4(3)

Article 4(3)

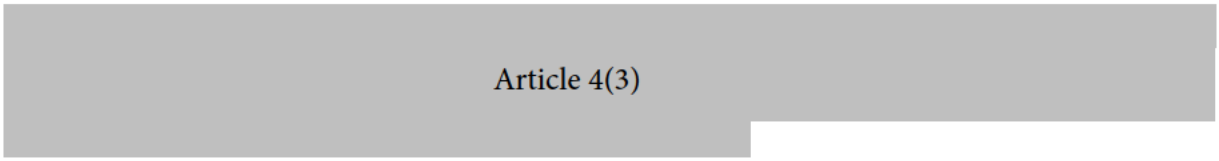
Article 4(3)

Article 4(3)

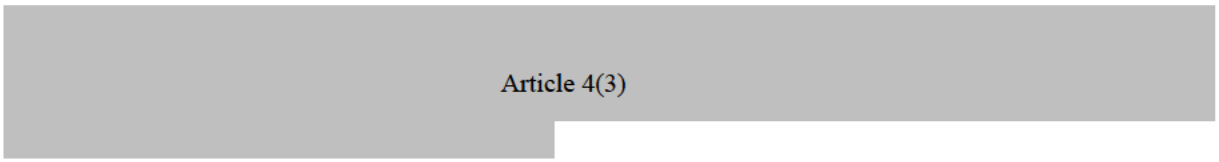
Article 4(3)

Article 4(3)

Article 4(3)


Article 4(3)


Article 4(3)


Article 4(3)


Article 4(3)

Our work on the review of the Telecommunications Regulatory Framework

The public consultation on the evaluation and the review of the regulatory framework for electronic communications networks and services ended on 7 December 2015. 244 contributions were received online and around 30 contributions through other sources. A wide array of stakeholder groups replied, with the majority of contributions coming from the telecom players. Wider digital economy and traditional non-telco industry players were also active. On 20 April 2016, the synopsis report of the consultation was published on the DSM website.

Policy options/issues in the review

We consider that the framework review should pursue one overall regulatory objective, articulated in terms of outcomes: widespread access to and take-up of very high-performance connectivity. It would be made clear, that the current three policy objectives i.e. promotion of competition, of the internal market, and of citizen interests, as well as the regulatory principles relative to investment and innovation, are at the service of this overriding objective.

Network access

Our future proposals on network access will aim at responding to the objective of the DSM strategy to incentivise investment in very high-capacity broadband networks and to the overall ambition to enhance connectivity, while maintaining a pro-competitive approach. To this end we are working on a set of measures which provide necessary safeguards for access-based competition, while limiting regulation to what is necessary and increasing incentives for incumbents and alternatives to roll out very high-capacity networks and (where feasible) competing infrastructures.

To address the investment challenge we would start from the existing premise that competition is the main driver for investments. Market analysis and appropriate remedies, would remain central tools. However, more emphasis should be put on regulatory models that give sufficient space to competition to invest rather than focusing primarily on ensuring access-based competition.

To achieve this we are considering a set of measures which aim for (1) the simplification and geographic focus of access regulation, (2) Value the well-designed access programmes to the civil infrastructure (ducts, poles, etc.), (3) Improving the investment environment for very high-performance networks of SMP operators (4) Clarifying regulatory treatment of wholesale-only models (5) The legal regime on symmetric access to non-replicable assets could be clarified and (6) To enhance competition in the provision of cross-border business services.

To equip the NRAs with sufficient tools to address the connectivity challenge, in particular in rural areas, the competences and tasks of independent regulators may need to be reinforced, e.g. as regards the powers of NRAs to map broadband investment plans across their national territory.

Spectrum

Spectrum is a core enabler for the deployment and development of current and next generation mobile and fixed wireless networks (e.g. 5G). In addition to affecting deployment, the manner in which spectrum is assigned and the conditions attached to spectrum assignment

and usage, are also major determinants of mobile competition, which in turn influence quality of service, prices, speed of roll-out and take-up of mobile broadband. At the same time, fixed-mobile and telecommunications-broadcasting convergence are blurring the distinction between traditional telecommunications markets, which will lead to significant change in the nature of competition for products and services.

The Framework review will be a major building block of the 5G strategy. The objective is to have spectrum rules fit for 5G success and for supporting efficient investments, thereby contributing to the overall objective of deployment of very high-capacity networks throughout Europe. Our proposals would focus on (1) a more efficient timing between allocation and assignment; (2) predictability and consistency for market investors in the next generation of wireless broadband networks regarding the main conditions for assigning or renewing national spectrum rights of use and (3) regulatory clarity on additional needs for 5G beyond spectrum.

Regardless of the question as to what extent the above-mentioned issues should be dealt with exclusively at the national level or co-ordinated at the EU level, it is clear that all of them have a direct impact on the market functioning at the national level and would benefit from greater consistency. Therefore we are reflecting on the right balance of competences between various national authorities, including the role of NRAs acknowledging that, at present, all of them do not have competences in spectrum matters, and on the appropriate setting in which such peers can contribute at EU level alongside the Commission to general policy guidance and to peer-review of specific national proposals, so that the market knowledge is appropriately taken into account in establishing national award procedures, conditions for renewals and main conditions attached to spectrum usage rights.

Services

The objective of revised sector-specific end-user rights is two-fold. First, in REFIT we are screening the scope for deregulation or adaptation either by concluding redundancy or recourse to horizontal consumer protection legislation. Second, in order to close gaps in the protection of end-users and foster fair competition we aim at addressing a level regulatory playing field between traditional electronic communications services and functionally substitutable communications services provided by online service providers (OTTs).

While the scope for deregulation is the subject of ongoing assessment, we have identified certain areas where leaner provisions may be warranted. For instance, the provisions on contractual information and transparency could potentially be limited to IAS only; horizontal rules on alternative dispute resolution and online dispute resolution may have made sector-specific rules redundant. Furthermore, we aim at adapting the scope of beneficiaries to the objectives of the relevant provisions in the Universal Service Directive. The experience and feedback in applying the current framework has shown that the level of protection needed by (larger) business users is not the same as that of individual consumers and of small and micro enterprises.

As regards the level playing field discussion, sector-specific rules for Internet Access Services (IAS) are largely accepted; divergences exist rather regarding the exact scope of rights and obligations. The question of equivalence when communications services are provided in addition to (or over) Internet Access is more complex. If the provision of a service is tightly linked to network operation and is dependent on and benefits from the use of a public resource, such as numbers, in order to ensure interoperability and end-to-end connectivity via

the network, such a service may not be in all respects comparable to a service which is provided on a best effort basis without recourse to such a public resource.

It may thus be opportune, for the purposes of further discussion, to reflect on a possible distinction between (1) rules applicable only to communications networks, and to communications services that include provision of connection to the network as a key feature of the service, and which may use public resources to this effect, and (2) a subset of rules also applicable, according to need, to other communications services. Services that could be considered to provide a connection to the network could include POTS telephony, IAS provision, provision of managed services, or provision of any other services using public numbers (in or out).

We are also examining to modernise the universal service regime by removing old services from the scope. These old services, like public payphones, comprehensive directories and directory enquiry services, may have become redundant since the market offers competitive services.

Governance

We consider that an adequate and efficient institutional set-up is key to ensuring a positive outcome for the overall regulatory framework, and also that an efficient EU system of regulatory authorities is critical for the "connectivity" based digital single market. NRAs and BEREC have been, and should continue to be, at the core of the telecoms regulatory system.

A critical aspect of the governance system is the distribution of competences amongst the different institutional stakeholders (at national level: independent NRAs and other national authorities; at EU level: BEREC, RSPG, Commission…). Another critical aspect is how to efficiently ensure the independence of NRAs, including that they should be adequately resourced to perform their core tasks and to fully participate in BEREC.

In view of market and technological developments, there are areas of pan-European relevance where BEREC could play a (greater) role, such as coordinating the mapping of network infrastructures, monitoring the quality of Internet services or the conditions for provision of cross-border business services, monitoring the development of wider markets for communications platforms or services, and developing as appropriate technical guidance or prerequisite preliminary specifications for standardisation. In co-responsibility with the Commission, BEREC could play a stronger role as repository of regulatory experience.

2) Vectoring in Germany:

What is vectoring?

Vectoring technology can upgrade copper networks to bring higher broadband speeds and is used as an intermediary upgrade technology instead of the deployment of optic fibre networks. Vectoring technology can upgrade copper networks to bring higher broadband speeds in conjunction with the deployment of optical fibre in networks as far as the street cabinet. It is estimated that BNetzA's proposal would lead to broadband speed gains across Germany bringing connection speeds above 50 Mbit/s to 1.4 million households for the first time. However, the technology currently only works when it is applied to an entire bundle of copper cables leading from the cabinet to households and, thus has the potential to restrict competition by excluding competitive unbundling of such lines.

What are the advantages of vectoring – and what are the disadvantages?

It is estimated that BNetzA's proposal would lead to broadband speed gains across Germany bringing connection speeds above 50 Mbit/s to 1.4 million households for the first time. However, the technology currently only works when it is applied to an entire bundle of copper cables and, thus, has the potential to restrict competition.

Today's decision aims at ensuring that the introduction of nearshore vectoring in Germany is accompanied by adequate safeguards restricting the negative effects vectoring can have on the position of alternative operators.

Short update on development in Germany before notification

- In 2015 DT applied to BNetzA to upgrade street cabinets in the so-called nearshore ("*Nahbereich*") to deploy vectoring technology. This would, however, no longer be compatible with the unbundling of the VDSL line at the exchange, i.e. would mean the loss of VDSL LLU.
- In 2013 BNetzA already allowed operators to deploy vectoring outside the *Nahbereich* (since the effects on the loss of LLU were limited there) – the Vectoring I decision. BNetzA used a first-come-first-served approach (*Windhundrennen)* meaning that alternative operators, too, were able to benefit from the ability to vector a street cabinet. At the time the decision was to require the operator that vectors street cabinets to provide a Layer-3 Bitstream access product as an interim solution and a Layer-2 VULA product by the end of 2015. However, the latter deadline has recently been extended to July 2016 since provision of the necessary Layer-2 product has been delayed.
- With the goals of the Digital Agenda in mind, the Commission, in principle, welcomes the development and deployment of speed enhancing technologies. In this context the Commission so far recognised that vectoring allows for greater speeds not only for the incumbent but also for alternative operators. However, in light of the apparent conflict of vectoring with the ability to physically unbundle the vectored line, the Commission repeatedly stressed that a virtual access solution (VULA), should mimic as much as possible the quality and functionality of an unbundled line, thus being able to act as an appropriate substitute for SLU/LLU.
- In this respect, the Commission has set out clear guidance to NRAs in its 2014 Recommendation on Relevant Markets, which product characteristics a VULA product should display in order to be considered a functional substitute for full physical unbundling.
- In 2015, BNetzA required DT to work on an offer of a Layer-2 Bitstream product to be provided at ca. 900 regional hand-over points (BNGs or border network gateways). This product is still under development, and a decision approving it (approval of the Reference offer) is expected in the future. BNetzA committed to closely cooperate with the Commission to ensure that the Layer-2 Bitstream product meet the criteria set out by the Commission, and be an adequate and appropriate substitute product for lost VDSL LLU.

Recent cases: DE/2016/1854 (withdrawn) and re-notified case (DE/2016/1876 – closed with comments)

- BNetzA notified for the first time its decision on near-shore vectoring on 7 April 2016, which - in view of the Commission's serious doubts (sent on 10 May 2016) - BNetzA withdrew in early June. The Commission serious doubts were focused on these main points:

- Relatively small net-effect of 1.4 million households receiving broadband speeds of above 50 Mbit/s; alternative rollout scenarios were not sufficiently taken into account;
- Very strict criteria for alternative operators to qualify for own-vectoring (at least 50% of street cabinets in a given area should be connected with DSL, more than 90% of the street cabinet were to be vectored by DT);
- Limitation of the number of alternative operators who could request an alternative product at the street cabinet (maximum 1 operator);
- Access to dark fibre only subsidiary (only when no access to ducts is possible);
- Lack of clarity as to the characteristics of the substitute Layer 2 virtual access product.

- On 20 June BNetzA then re-notified improved plans taking account of some of the Commission's initial concerns.
- The new proposals introduced some necessary competitive safeguards, which were required by the Commission to ensure an appropriate balance between gains in network performance and continued effective competition from alternative operators, both of which benefit internet users.
- The Commission largely accepted these revised plans. In our view the revised proposals now provide adequate competitive safeguards and restrict the negative effects vectoring deployment can have on the position of alternative operators in Germany. For example, BNetzA proposes to remove the restriction on the number of access seekers at street cabinet, and intends to grant access to ducts and dark fibre for two years to those alternative operators currently present at the local exchange and wishing to use virtual access at the street cabinet. In addition, the increased ability of alternative operators to deploy vectoring themselves, together with BNetzA's commitment to enhance the broader technical parameters of the two alternative access products led the Commission to endorse the overall proposal.
- However, the Commission also warned BNetzA that it must improve the technical means through which alternative operators can provide internet access over DT's upgraded/vectored networks.
- Since the use of vectoring in the areas of 550m around a local exchange is not compatible with alternative operators being able access the physical infrastructure linking customers' premises to the local exchange (also known as local unbundling) at VDSL quality, the Commission requires BNetzA to ensure that competitors have an adequate and alternative means of offering internet access to customers.
- In this respect, the Commission has called upon BNetzA to improve their plans concerning the technical specifications for the main replacement product (a Layer-2 virtual access product) and notify them to the Commission. The Commission will then assess these proposals against the guidance in the Explanatory Note to the Commission's 2014 Recommendation on Relevant Markets and the more detailed expectations expressed in today's decision.
- In addition, the Commission also set out that it expects BNetzA to submit to the Commission further plans concerning prices for the relevant access product.
- The Commission will then assess these new proposals against its previous guidance and the expectations it has set out in its decision today.

VI. Attachments

CV – Article 4(1)(b)

[redacted]

Article 4(1)(b)

[redacted]

Company Profile – Vodafone Germany

Vodafone Group Services GmbH – Germany

Vodafone D2 is the second largest communications carrier in Germany in terms of subscribers, after incumbent operator Deutsche Telekom. The company, a subsidiary of UK wireless carrier Vodafone Group, offers mobile, as well as fixed-line services. It provides service to more than 30 million wireless customers and about 20 million wireline customers. It is the largest geographic segment of its parent by revenues. In addition to voice calling, the subsidiary offers such wireless data services as mobile Internet and its Vodafone live! mobile news and entertainment portal. Landline service is sold under the Arcor brand. It makes sales through about 200 retail locations throughout the country.

The company resulted from the 2000 takeover by Vodafone of the German engineering group Mannesmann GmbH and acquiring D2-Netz, the company's primary asset. It was the second digital (GSM) network licensed in Germany. It was rebranded in 2002 to Vodafone D2.

Currently, the Vodafone Germany's network serves both prepaid and postpaid customers on GSM and UMTS (with HSDPA). In December 2010, Vodafone started providing LTE (Long Term Evolution) services.

In February 2011, Vodafone Germany started with IPTV via DSL and VDSL connection. In April 2011, Vodafone Germany started to contribute a lot of Disney content via IPTV.

At the end of 2010, Vodafone had 36.676 million customers with mobile phone or mobile internet contract and 3.945 million customers with a DSL / VDSL connection.

Following T-Mobile, Vodafone Germany started selling the Apple iPhone 4S in September 2011.

German headquarters in Düsseldorf

CEO for Germany: Dr Hannes Ametsreiter

Germany: approximately 9,000 employees

Vodafone Group – company profile

- *Vodafone is a public company listed in London, NYSE and Nasdaq; only the investment* fund Black Rock holds shares above 5% (6,9%)
- It is present in 25 countries across the world, plus 65 partner networks (in EU is present in Albania, CZ, DE, EL, HU, IE, IT, MT, NL, PT, RO, ES, UK)
- 434 million mobile customers and 9 million fixed customers
- Financial overview (2013, from 2014 Annual Report):
    - 43,6 bn £ revenues (-1.9%), approximately 2/3 in Europe
    - EBITDA 29,4% (-1.1pp)
    - Adjusted operating profit 7,9bn £ (-37.4%, due mainly to the sale of Verizon)
    - Capital expenditure 7,1bn £ (+13.3%)
- In February 2014 it completed its 45% participation in Verizon Wireless to Verison for 130bln$
- In October 2013 it acquired the largest German cable operator Kabel Deutschland for 10,7bln€

In March 2014 it announced its intention to acquire the Spain's largest cable operator Ono for 7,2bln€