

Below René Obermann, former boss of Deutsche Telekom and outgoing CEO of Ziggo, tells the incoming Commission what the telco sector really needs in order to boost its competitiveness on a global scale and to invest in infrastructure.

### **Introduction**

Building a state of the art gigabit infrastructure, combining fibre based (including hybrid) and wireless networks to provide a high-speed Internet access for everyone and “every-thing” is one of the most important European projects of our time. But to fund an ubiquitous coverage is very difficult. Telecommunication companies, regulators and governments have to open up and challenge their long-established beliefs in order to achieve a breakthrough in closing the gap towards a gigabit society.

I believe this gigabit society must be inclusive. Every child and student, each citizen, everyone working, retired or in search of work, teachers, engineers, nurses or craftsmen, entrepreneurs or scientists, wherever in Europe they live, wealthy or not, educated or inexperienced, they should all be able to connect and participate.

### **Key factors of the gigabit society**

Seamless connectivity at gigabit speeds will be in high demand and must eventually be ubiquitous, so not just at your well-connected workplace. It will become an indispensable precondition for world-changing innovation, research, modern education such as MOOCs, Industry 4.0, a connected medical sector, social media, online entertainment such as gaming, Ultra HD video and a fast growing number of other over-the-top services. This, of course, applies to urban environments where huge infrastructure investments can be amortised, but it must not stop there.

*‘Fibre to the farm’* is not a joke, even though some people seem to find it funny. They believe it will never pay back. For individual network companies, this is indeed true, but from a societal perspective, it will. The agriculture business as well as the children and people on farms will need their gigabit access just as much as children and businesses in cities do. This applies to every school, business or household in rural areas. Think of the otherwise increasing digital divide. High-speed connectivity will be a precondition to live and work there, otherwise the people will all be forced to move to large cities. We need to put a stop to this exodus of digital diasporas by connecting them to the information highway.

No time to waste, it is urgent to act. If we do not accelerate our efforts, we will fall further behind. All the speed we build will eventually be used, even though some investors may have concerns that applications requiring this kind of speed will not be available. “Marketing experts” sometimes say that more Internet speed will not be a competitive differentiator once 100 Mb/s is reached ... sure, and the earth is flat.

I have heard that “who needs the speed?” argument before. It is as though we do not learn. 15 years ago, many questioned the need for DSL. Ten years ago, the app-economy wasn’t even born yet, Ultra HD was not at the horizon, neither were Netflix nor Spotify; cars weren’t connected and video-conferencing was not popular. Many thought that 3G wireless would never be used much. So, let’s not worry about applications that do not even exist yet. They will be created by a new generation of creative entrepreneurs, fostered by open innovation and supported by business angels, venture capitalists, private equity firms and others. Europe is able to attract more investment capital, and the successes of its digital policy should also be measured by the growth of investments in the ICT sector.

The gigabit society needs to be inclusive. Over time, it could converge the living standards between rich and less wealthy European countries, link generations, bring together natives and new European settlers. The divide between digital knowledge and practice must become smaller, we need to bring digital education to people of all age groups. The ICT industry is to take on an active role in that and partner up with (public) institutions for education and training. A digital divide exists between generations. Mobile Internet usage, for instance, still seems to be reserved for young people. In 2012, already more than 50%

of youngsters used Internet on their mobile devices, while less than 5% of those above 65 years of age did. In ageing Europe, larger parts of society will be left behind unless we put more effort into bringing them back in and keeping them involved in our digital community. That is a moral as well as an economic obligation. High-speed Internet access is not the only precondition for everyone to participate. Usability of technology and its adoption through education and training are key to closing the gap as well. We should, for example, support senior citizens by developing technologies which improve the ease of use and assist them in learning how to use devices and digital services. Nobody should be left outside the gates of the gigabit society.

### **Closing the gap by new industry cooperation and regulatory changes**

The Telecoms community must cooperate more in order to improve the economics of infrastructure which is build-out in rural areas and ensures a seamless cross-border/cross-network user experience (including cooperating with over-the-top service providers).

Whilst open and competitive markets must be maintained, for technology-based innovation to thrive and the benefits of one digital Europe to be unlocked – seamless and ubiquitous connectivity at gigabit speed will become indispensable – and some rules need to be changed. According to expert estimates, such a network requires enormous additional investments, in the order of €300 billion for the whole of Europe. Unfortunately, the path to reach appropriate investor returns is unclear. Even if returns were more promising, we would need more than 10 years to build it. Unless we accelerate our efforts now, we won't be able to catch up with more advanced regions and loose competitiveness for a long time.

Access regulation on what used to be monopolistic resources in years gone by is still being applied, though the market has changed and has become very competitive. Whilst ten years ago, the US has taken a different, non-regulated approach on Next-Generation Networks, European regulators still pursue ex-ante regulation. At the same time, they want to ensure a large number of (rather small) competitors. Today, in the US, there are only a few nationwide network carriers, which, as a result of large scale effects, can afford immense investments of double digit billion dollars per year. It is inevitable that such a capital-intense industry will consolidate into a few large players, and it would be wrong and illogical to ignore the need and to prevent that. In the US and in China, a few very large Telecom companies not only drive the infrastructure build-out, but they also strongly influence developing technology standards, while European players lack size in the globalised value chain.

The European Commission, whilst talking about one digital Europe (which I fully endorse), should further reduce the barriers for in-country and eventually European consolidation. Lawmakers and regulators need to face the economic and strategic problems of this fragmented market. Whilst Europe pursues its “small-is-beautiful” approach, the internet-economy has enabled global giants to emerge – very dominant in their respective fields. The relations between European infrastructure-based operators and these giants are sometimes “tense”, to say the least, and definitely not helpful in resolving our network investment problem. Parties need to sit down and figure out ways to share the burden where needed. Neelie Kroes initiated such a ‘round table conference’ between the different stakeholders in 2011. Though the outcome was limited, it was a good start and it is worth to be continued. Under her supervision, at least the key issues were tabled and addressed by the dissenting parties in a constructive way.

Stakeholders deserve more than just the lowest possible pricing for network access, all will need a superb network infrastructure. A must-have for successful European companies in the digital economy. Next to providing broadband access to everyone, the second largest challenge is to build gigabit wireless networks with excellent coverage. Data volumes are exploding, and so far, we only scratched the surface of wireless internet evolution – numerous new use cases are emerging. Therefore, the European Commission and member

state governments need to accelerate their efforts in order to free up further radio spectrum in a coordinated way and allocate it smartly.

I strongly believe ubiquitous gigabit access is doable, enabled with a smart technology combination. On top of a well built out fibre network, we have to make best use of different wireless technologies (in licensed and unlicensed bands) and need to allocate many additional spectrum soon to capable operators. So-called 'reverse roll-out' obligations, where rural areas need to be covered first, make sense, depending on the characteristic of the available spectrum, of course. And instead of auctioning the spectrum for billions of Euros, governments should, in return, demand a reliable investment commitment – for coverage and quality – from applying operators.

LTE is a very capable technology, 5G standardisation is already work in progress. As a short-term next step, Wi-Fi must be seamlessly integrated into access networks, and users should not have to worry about which interface to use. They need to have the best connection at all times, without interrupting their sessions. This seamless handover shall become possible within the next 2 years.

**Unless we accept that Europe shall lose its competitiveness, the time for debating is over**

Firstly, the European Commission and member states should dare to change their regulatory approach – from a very popular consumer-price focus to a less popular investment focus – knowing that this will cause resistance and protest. In this context, it is important to withdraw from the sector-specific ex-ante price regulation, such as for local loop access, and “only” apply anti-trust legislation. And network build-out cooperations or access in rural areas, where only one fixed-line infrastructure can be financed, should be negotiated between the network operator and the various interested parties who want to provide their services using it, rather than ex-ante price determination by regulators. In case market power is misused, parties can always refer to anti-trust legislation.

Secondly, in line with a need to stop ex-ante price regulation, structural reforms at the respective regulatory bodies seem necessary too. Potentially by reassigning many of their experts to new, more important tasks, some of which are addressed in this text. Such as enforcing the use of cross-sectoral synergies in order to minimise the costs of gigabit connections to rural and remote areas. The groundwork is the most expensive part, and synergies could be simplified, for example by enforcing comprehensive documentation of existing infrastructures (from TelCos, railway, utility companies, municipalities, etc.) across Europe into a centralised database (e.g. the German '*Infrastruktur Atlas*' model), so sharing those resources for new network build-outs could be enabled. There are many underutilised ducts and other components which are already placed in the ground, thus an enormous saving potential exists.

Thirdly, in areas where the competitive market model does not offer amortisation, we need to allow competitors to cooperate and share the remaining financial burden. Think, for example, about building a common local or regional passive infrastructure and sharing it. It is already common for wireless operators to share sites and related infrastructures for antennas, which proves that the sharing model works. It seems quite complicated to bring Telecom providers, regional utility companies, construction companies, municipal councils and so on to the table and get them to agree upon a master plan. But if that can save us a good part of the €300 billion for the build-out, then it is absolutely worth to try hard.

And last but not least, creating larger funds for subsidisation is unavoidable. Assigning them in an efficient and transparent way to the appropriate projects is essential. This must follow a strict set of criteria as well as close monitoring, or a lot of money could be wasted and distort fair competition. Whilst I am no advocate of subsidies in general, here we need much more than what is so far provided – even when wireless technologies and bespoke cross-sectoral synergies are being applied. Think about it this way: the annual spending of all 28

member states amounts to more than 6 trillion Euro. Take 0.2 percent of that per year and apply it smartly, and we would obtain this desirable objective much easier: gigabit speeds for all European citizens by 2025. In my view, money wisely spent to build the foundation of a modern gigabit society.

To conclude my thoughts on Europe's digital future, the gigabit society stands for a new way to live and work. New business models emerge, while old models either adapt or die. To quote Marc Andreessen, "software eats the world", which couldn't be more true. The gigabit society, for instance, produces less CO2 emissions. Smart infrastructures, sharing more than just consumption, predictive maintenance and virtual meetings rather than travelling are merely a few examples. The boundaries between virtual and reality shall blur, augmented reality becomes a part of life. It means a new way of infotainment, personalised, anywhere, on any screen. If used with media competence (teaching and training needs to be accessible to all people), it can enable us to make very sensible use of our time and could enhance our quality of life. A gigabit society also means better and much more efficient healthcare. Individualised, fast and precise, supported by a connected system of doctors, patients and clinics and super-fast Big-data analyses. A gigabit society means better access to education and information for anyone, everywhere, on every subject of interest. It means more innovation, more competitiveness for our companies and more jobs. The upside-list is long and the benefits outweigh the costs and risks by far. Creating this inclusive gigabit society is worth a concerted effort by all stakeholders.

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