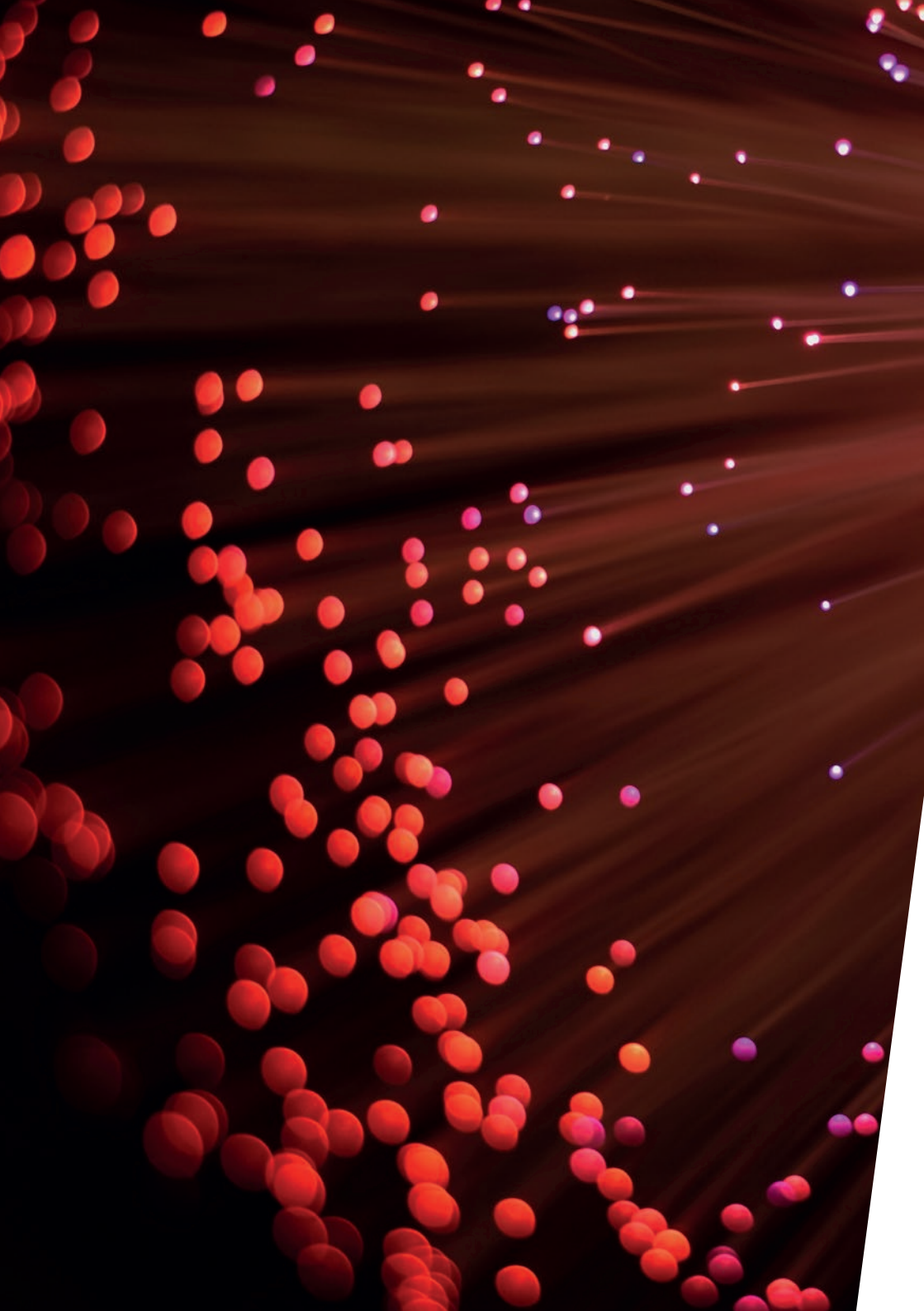




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Financing of broadband expansion in Germany





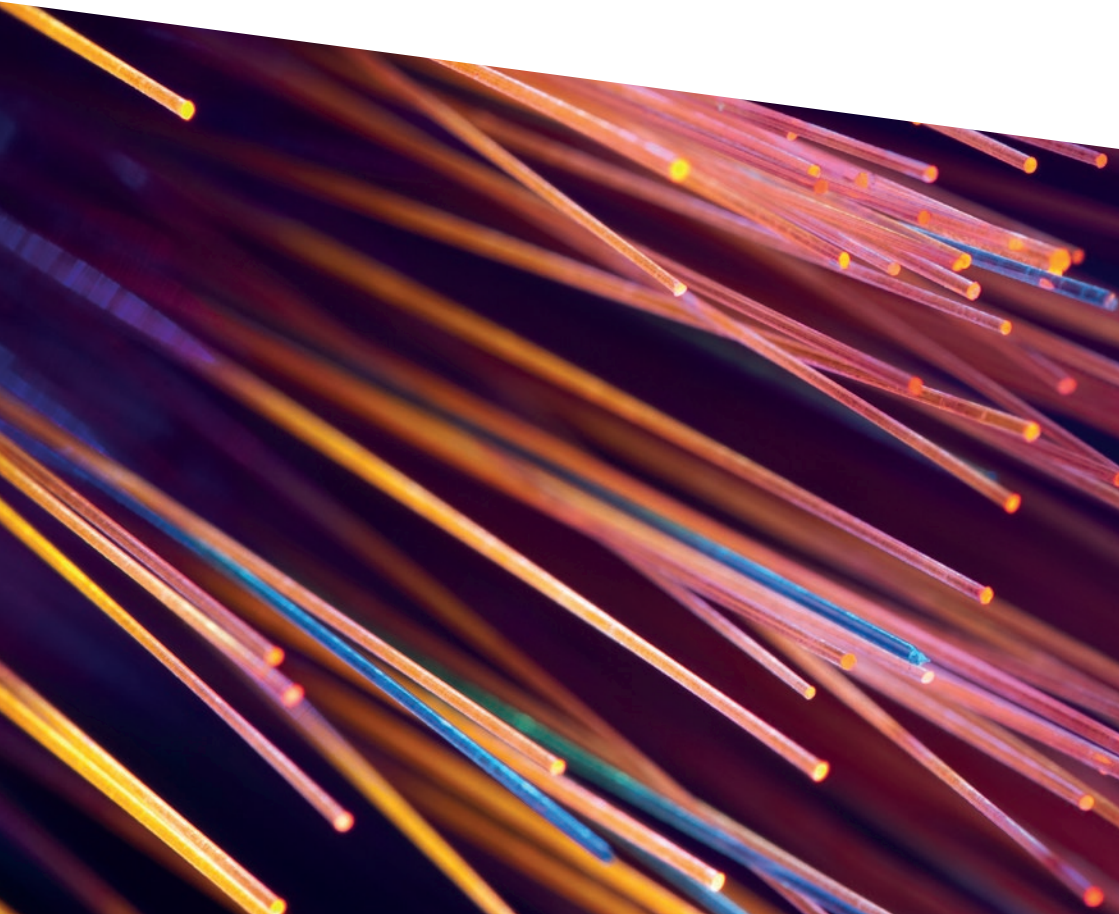
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1. Introduction

The continuing digitalisation of society requires a powerful and future-proof digital infrastructure. The basic prerequisite for Industry 4.0, the Internet of Things and eGovernment is the widespread availability of broadband connections. This will make

broadband expansion in Germany one of the key issues of the coming years in order to ensure and increase social welfare, quality of life and the ability of businesses to grow and compete.

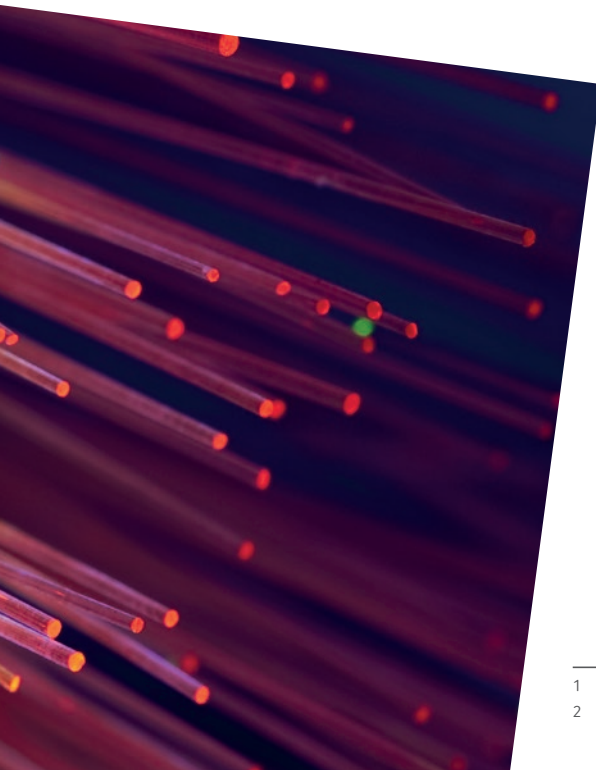


2. Technical Background

Investment is needed mainly because the existing digital infrastructure in the gigabit society is reaching its limits¹. From a technological aspect, the technologies in question can be divided into four groups: copper technology (e.g. DSL), coaxial technology (e.g. cable TV), wireless technology (e.g. LTE) and fiber optic technology. Of these four technologies, fiberglass with a data rate of 1,000 gigabits per second and more is the most powerful way to transfer data. At the same time, fiber optic networks are considered to be less

susceptible to faults and particularly energy-efficient². Fiber optic technology is already used today, but often only up to the serving area interface. The rest of the route to the end customer is bridged by copper cables (Fiber To The Curb, “FTTC”). As a result, the so-called “last mile” becomes the bottleneck of the telecommunications network.

In contrast, the future-proof alternative is fiber optic connections to the building (Fiber To The Building, “FTTB”) or to the apartment (Fiber To The Home, “FTTH”).



1 BREKO, Action Plan Fiberglass, S. 3.

2 Special Report 78 of the Monopoly Commission (2017), p. 48 ff.

3. Political objective

The objective of the German federal government's "Digital Agenda 2014 – 2017" was for all households to have a 50 megabits-per-second broadband connection by 2018. However, it was apparent even before the end of 2017/beginning of 2018 that this would not be achieved. According to the Federal Network Agency³ ("BNetzA"), only 80% of all private households had such a broadband connection at that time. For businesses, commercial broadband availability in the above-mentioned transmission range is 75%.⁴ This puts Germany in the middle of the European ranking for Next Generation Access ("NGA") connections, but well below the European average in fiber optic technology. Pure fiber connections were only used by 1.6% of German households in 2016, while the average European usage was 10.7%.⁵

The stated objective of the new German government is to expand gigabit networks nationwide by 2025 and to enshrine in law a "right to fast Internet."⁶ As a result, billions in investment will be required over the next few years.⁷ The government is to provide EUR 10 to 12 billion in funding for fiberglass expansion via a gigabit investment fund. At the same time, new incentives for the private sector are to be created by implementing a model of non-discriminatory access ("open access") with ex-post control, rather than detailed ex-ante control, in order to regulate competition.⁸ The political signs are therefore good for investors.

³ Vgl. Bundesregierung wird ihr Breitband-Ziel für 2018 verfehlen, SZ vom 21.12.2017.

⁴ Bericht zum Breitbandatlas Mitte 2017 im Auftrag des BMVI (Teil 1), S. 24.

⁵ Sondergutachten 78 der Monopolkommission (2017), S. 56 f.

⁶ Koalitionsvertrag für die 19. Legislaturperiode, Rn. 1625 ff.

⁷ Die Bundesregierung geht für einen flächendeckenden Netzausbau in den nächsten drei Jahren von Kosten in Höhe von 20 Mrd. EUR aus, vgl. BT-Drs. 18/8332, S. 2.

⁸ Koalitionsvertrag für die 19. Legislaturperiode, Rn. 1649 ff.



4. Legal framework for the expansion of the passive network infrastructure

The telecommunications network is part of the network infrastructure and therefore tends to become a natural monopoly because line-related utility networks cannot usually be duplicated for economic reasons. Since liberalization in the 1990s, the telecommunications sector has therefore been subject to sector-specific regulation to create and maintain viable competition. The legal basis for this is the Telecommunications Act (“TKG”) at national level.

The value chain in the telecommunications market can be divided into three incremental stages. The first stage is the passive network infrastructure (e.g. conduits, transport cables), the second stage is the construction and operation of the active network by the network operators, and the third stage is the service provided to the end customer. Regulation focuses on the second stage, where the BNetzA sets rules governing

access (sec. 16 ff. TKG) and charges (sec. 30 ff. TKG). The Act to Facilitate the Development of Digital High-Speed Networks (“DigiNetzG”) of 4 November 2016 also created incentives in the TKG for investment in the expansion of passive network infrastructure. The background to this is that 80% of the costs for broadband expansion are attributable to civil engineering, which means that there is substantial potential for savings through synergy effects.⁹ The objectives here include reducing the costs of constructing and expanding high-speed networks, ensuring fair competition, and thus promoting the expansion of next-generation networks. Thus, there is a right to share existing infrastructure (sec. 77d TKG), and additional civil engineering work can be avoided if cables are laid in the course of other infrastructure measures (sec. 77i TKG).



⁹ Dazu Ufer, MMR 2016, 12 (12 f.).

4.1 Use of public transport for the transfer of passive network infrastructure

The main requirement for the transfer of the passive network infrastructure (1st stage) is obtaining the right of way. Under sec. 68 para. 1 TKG, the federal government is authorized to use free of charge any traffic routes for telecommunication lines serving public purposes, provided this does not permanently restrict the dedicated purpose of the traffic routes (right of use). Traffic routes are public roads, squares, bridges and tunnels as well as public waterways (sec. 68 para. 1 sentence 2 TKG). Upon application, the federal government assigns this right of use to the owners or operators of public telecommunication networks or telecommunications lines serving public purposes for the duration of the public activity (sec. 69 para. 1 TKG). The status of future owner or operator is sufficient.¹⁰

The application must be addressed to the BNetzA. For decisions on the transfer of rights of way under sec. 69 TKG, the BNetzA charges fees and expenses pursuant to sec. 142 para. 1 no. 7 TKG.¹¹

The application must contain:

- information on the applicant;
- information on the area for which the right of use is to be transferred, whereby

only that are delimited for administrative purposes, such as municipalities, districts, federal states, etc., are permissible;

- proof of expertise, reliability and efficiency: in order to demonstrate efficiency in relation to the planned exercise of the right of way conclusively and comprehensibly, the applicant must disclose its investment and financing plan in particular, i.e. its medium-term business plan over 5 years and its financing.

In addition to this area-related right of use, the approval of the carrier of the road construction load is required for specific laying or modification measures (sec. 68 para. 3 sentence 1 TKG). Who is responsible for the road construction load is determined according to the respective road and water law; in general, this is the municipality.¹² If the prerequisites are met, approval must be granted, but thus may be subject to ancillary provisions.

The consent of the carrier of the road construction load pursuant to sec. 68 (3) sentence 1 TKG has no concentration effect, i.e. it does not replace the regulatory approvals required under other provisions (for example, according to the construction, road traffic, nature conservation, water and cultural heritage law).

10 See application form on the website of the Federal Network Agency: https://www.bundesnetzagentur.de/DE/Sachgebiete/Telekommunikation/Unternehmen_Institutionen/Breitband/Ausbau/Wegerecht/AntragsformularPDF.pdf?__blob=publicationFile&v=3, S. 2.

11 The survey is based on the Telecommunications Fees Ordinance (Telecommunications Fees Ordinance - TKGebV) of 19 July 2007. The amount of the fee can be found in Annex 3 to this ordinance.

12 Schütz, in: Beck's TKG commentary, 4th ed. 2013, § 68 marg. 48th.

4.2 Use of private land for the transfer of passive network infrastructure

If the expansion is not to take place on public transport routes, but on private properties, neither a transfer of the right of way nor consent pursuant to sec. 68 para. 3 sentence 1 TKG is required. Under sec. 76 para. 1 no. 1 TKG, the owner may not prohibit the expansion of the use of existing lines or systems unless the usability of the property is also permanently restricted.¹³

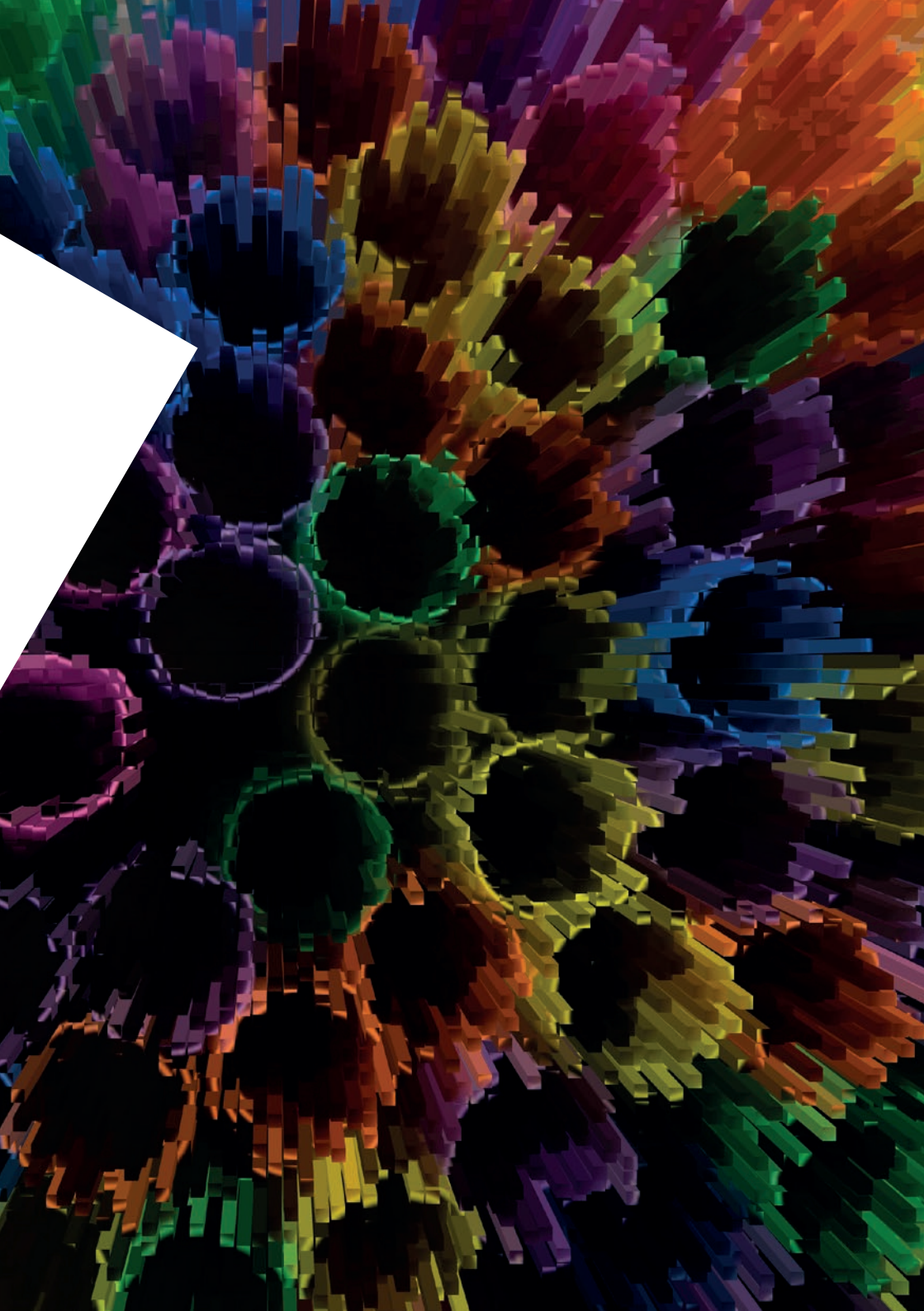
The initial construction, operation and renewal of telecommunications lines as well as the connection to next-generation public telecommunications networks cannot be prohibited by the owner as long as the property is not unreasonably affected (sec. 76 para. 1 no. 2 TKG). Therefore, the connection of a building to a public telecommunications network must generally be tolerated, so-called “Hausstich”.¹⁴

However, if owner has to tolerate such measures and is thereby unduly impaired in the use of his property or in its yield, he may demand adequate monetary compensation from the operator of the telecommunications line or the owner of the pipeline network. In addition, the operator or owner of the network must repair any damage caused thereby at his own expense.

The landowner is also obliged to tolerate network connection to the grid within buildings (in the premises of the end user) and the interference with his property rights must be as minor as possible (§ 77k TKG), so-called “Wohnungsstich”.

13 Schütz, in: Beck'scher TKG commentary, 4th ed. 2013, § 76 marg. 30.

14 Schütz, in: Beck'scher TKG commentary, 4th ed. 2013, § 76 marg. 16a.



5. Funding

5.1 Priority for private sector fibre optic expansion

The cost of replacing the copper network with a fiber-optic network is estimated by the Scientific Institute for Infrastructure and Communication Services (“WIK”) at up to EUR 80 billion.¹⁵ Even if synergy effects are leveraged, the estimate is still up to EUR 45 billion. Although part of this is to be covered by public subsidies,¹⁶ these funds are primarily intended for the (unprofitable) development of underserved areas. In addition, it is necessary to comply with the general prohibition of subsidies pursuant to Art. 107 (1) TFEU. However, the federal and state funding programs were approved by the European Commission until 31 December 2021.¹⁷ Nevertheless, only local authorities are beneficiaries of this state aid.

As a result, irrespective of the (complicated) funding landscape in Germany, there is a considerable need for investment, which must be pre-financed by private-sector companies.

5.2 Fiber optic expansion as a project

In particular, investment at the first stage of the telecommunications market is an option, i.e. expansion of the passive network infrastructure. Private infrastructure providers can lay empty conduits with unconnected fiber optic cables (so-called “dark fiber”) – in compliance with the above-mentioned legal framework– and then lease them to a network operator. The network operator, as the “operator of a public telecommunications network”, is the first to be subject to special regulatory requirements in the form of access regulation (sec. 16 ff. TKG) and price regulation (sec. 30 ff. TKG) by the BNetzA. The project generates a cash flow from the rent generated by leasing the passive network infrastructure.

Of course, there is also the option of getting involved at further stages of the value chain. The network itself can be expanded with active components and then operated in order to make it available as a telecommunications network operator to service providers, i.e. Internet providers, for a fee.

¹⁵ WIK-Consult, Success Factors in FTTB / H Expansion (2016), p. 10.

¹⁶ Guideline “Promotion in Support of Broadband Expansion in the Federal Republic of Germany” of 22 October 2015 - first revised version of 20 June 2016.

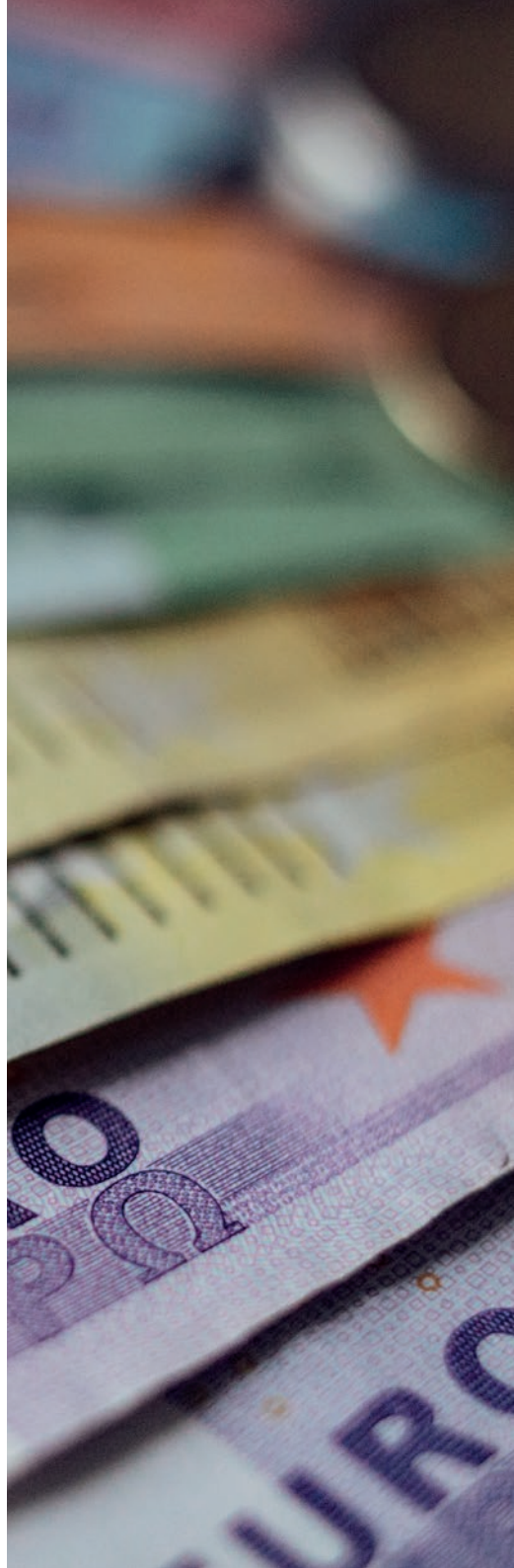
¹⁷ European Commission, decision of 15 June 2015, State aid SA.38348 (2014 / N) - Germany Establishment of nationwide NGA broadband coverage in Germany.

5.3 Project financing

If structured properly, the financing of such projects is both possible and an interesting proposition. Depending on the project, development loans may also be available from financing banks.

By linking the disbursement of loan tranches to construction progress, a close connection can be created with the respective project, and financing banks can demonstrate that the so-called ESG factors (“Environment, Social and Governance”) also play a decisive role in their business decisions.

With regard to the repayment of the loans, project financing is based, for example, on income from rent or leasing to the service provider. Both can represent an ongoing, reliable source of revenue for a possible borrower.



5.4 Project risks

A general prerequisite for the success of a project financing is always an appropriate risk profile. Starting points are usually the planning and a feasibility study, in which the technical, economic and legal feasibility of a project is examined and confirmed on the basis of the existing key points.

Although the content of the study depends on the individual project, it will usually address the following points:

- Is the project location suitable?
- Which public-law or regulatory approvals are required and what are the licensing requirements?
- Can the project be built and maintained at the planned cost?
- Efficiency studies with sensitivity and scenario analysis (e.g. base case and downside scenario).
- Who are the main contractors in the construction and maintenance phase? What is the planned contract structure and risk distribution?
- What insurance is necessary or sensible?
- Where does the cash flow come from and how reliable is it? Is there a state subsidy? Are there market risks?

The market risk can complicate projects in rural and urban rural areas. Depending on how the relationship with the network operator as the lessee is designed, an economic risk may remain with the infrastructure provider. The success of the project depends not least on the potential number of end customers. An open access approach, under which all market participants are granted non-discriminatory access to the infrastructure, may have a positive influence on the capacity utilization and profitability of the network.

For successful project financing, therefore, financing banks must, from a legal point of view, pay particular attention to the following points when structuring financing and contracting:

(a) Legal due diligence

In order to identify and assess relevant project risks, the financing banks and their advisors must carry out careful due diligence, i.e. legal, technical and actuarial due diligence. This should cover at least the following questions and topics:

- existence and organizational structure of the project company;
- effective transfer of rights of way pursuant to sec. 69 para. 1 TKG;
- consent or in any case ability to consent pursuant to sec. 68 para.3 sentence 1 TKG with regard to the necessary relocation or modification of telecommunications lines;

- existence of all necessary official approvals (in particular according to road traffic, nature conservation, water and preservation of historical monuments law);
- work contracts with (civil) engineering companies for the construction of passive infrastructure;
- lease contract with the network operator or similar (depending on business model).

(b) Securities package typical of project financing

The typical project financing securities include:

- pledging of shares;
- pledging of project accounts;
- security assignment of claims (especially lease claims);
- additional securities from the lessee, if necessary;
- transfer by way of security of all assets¹⁸ of the project company;
- direct agreements with major project participants.

(c) Satisfactory network management concept

The choice of the respective management concept depends heavily on the important question for project financing regarding the relevant cash flow and the source of revenue.

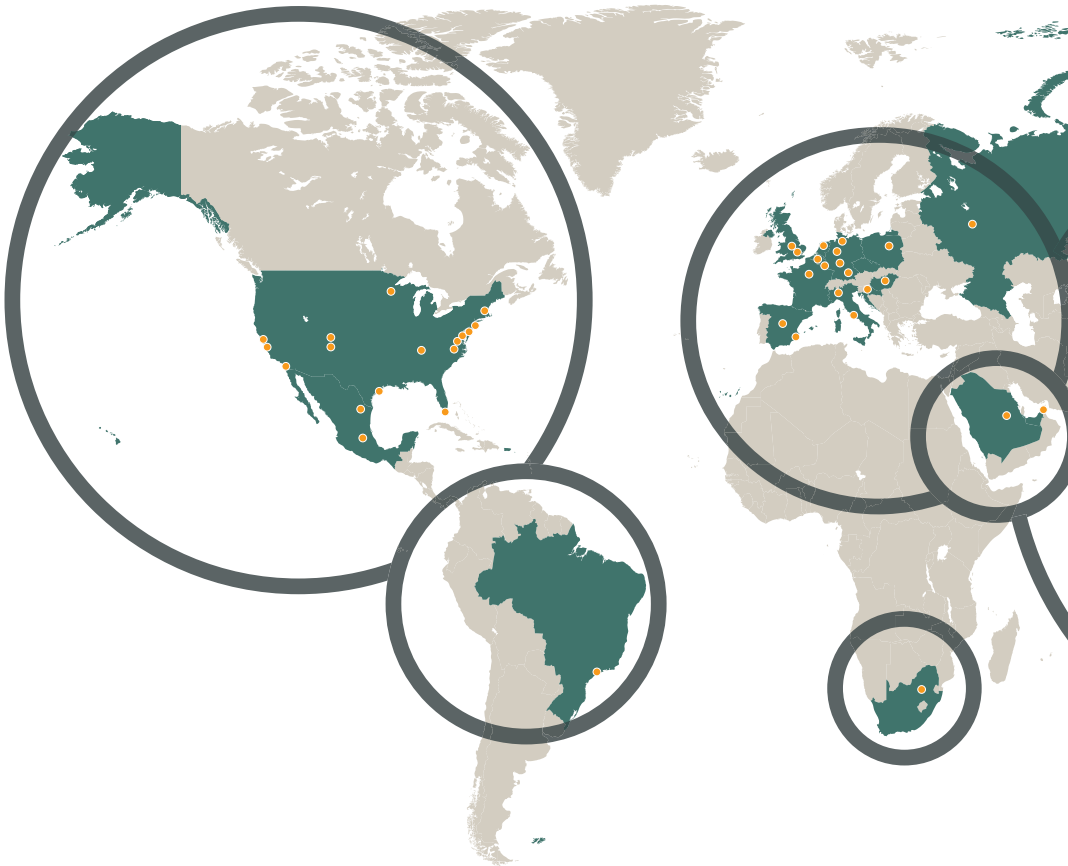
In the case of the lease model, the provisions and safeguards in the lease contract must be examined. Particular attention should be paid to the provisions governing the maintenance of the networks and the promised rent. For example, the rent can be fixed over the entire term, regardless of the number of end customers.

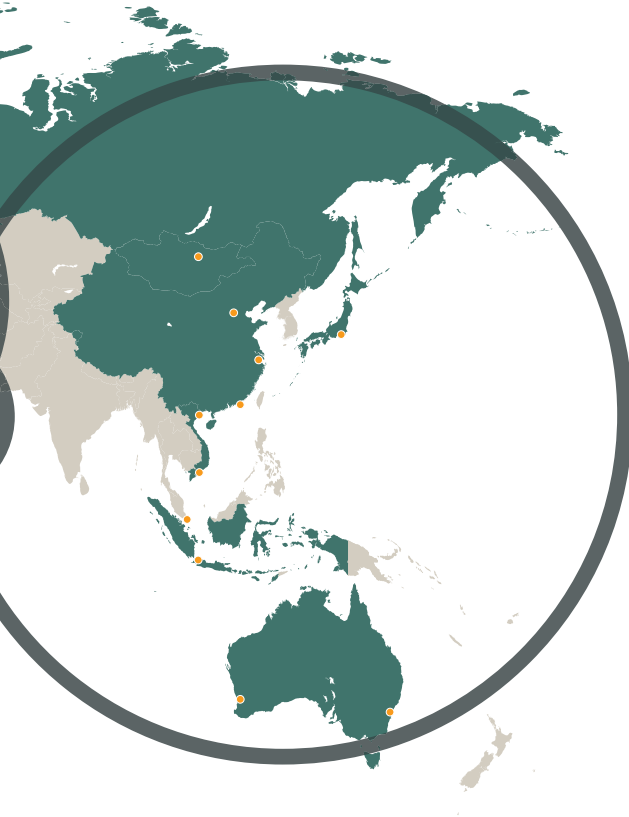
If a different business model is chosen, for example if the network itself is to be operated, it is essential to become familiar with the regulatory requirements of the TKG as part of the due diligence process. It must be examined to what extent the revenues from network charges –taking into account access regulation (sec. 16 ff. TKG) and fee regulation (sec. 30 ff. TKG) - cover debt service satisfactorily over the duration of the project.

Overall, the risk of proper network management must be carefully examined on a case-by-case basis. Depending on the distribution of risk, additional collateral may be required, e.g. from external service providers. These should then – just like the positive result of the due diligence of the grid management concept - be disbursement conditions for the loans.

18 On the ability to own TC lines Münch, VIZ 2004, 207.

6. Team in Germany





Dr. Carla Luh
Hamburg



Dr. Christian Knütel
Hamburg



Dr. Tobias Faber
Frankfurt



Ulrich Helm
Frankfurt



**Dr. Alexander
Stefan Rieger**
Frankfurt



**Prof. Dr. Thomas
Dünchheim**
Düsseldorf



**Matthias
Hirschmann**
Hamburg



Dr. Alexander Koch
Hamburg

Notes



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