



## Vortrag

Donnerstag, 07. Oktober 2021, 11:30 Uhr

### **Stand und Perspektiven für den Glasfaserausbau in Deutschland**

Vortragender: Daniel Seufert

Firma: BREKO Bundesverband  
Breitbandkommunikation e.V.

Web: [www.brekoverband.de](http://www.brekoverband.de)

## Lecture

Thursday, 07<sup>th</sup> October 2021, 11:30 am

### **Status and Prospects for Fibre Optic Expansion in Germany**

Speaker: Daniel Seufert  
Company: BREKO Bundesverband  
Breitbandkommunikation e.V.  
Web: [www.brekoverband.de](http://www.brekoverband.de)

# State and Prospects for Fiber Optic Expansion in Germany

Königswinter, October 7th 2021

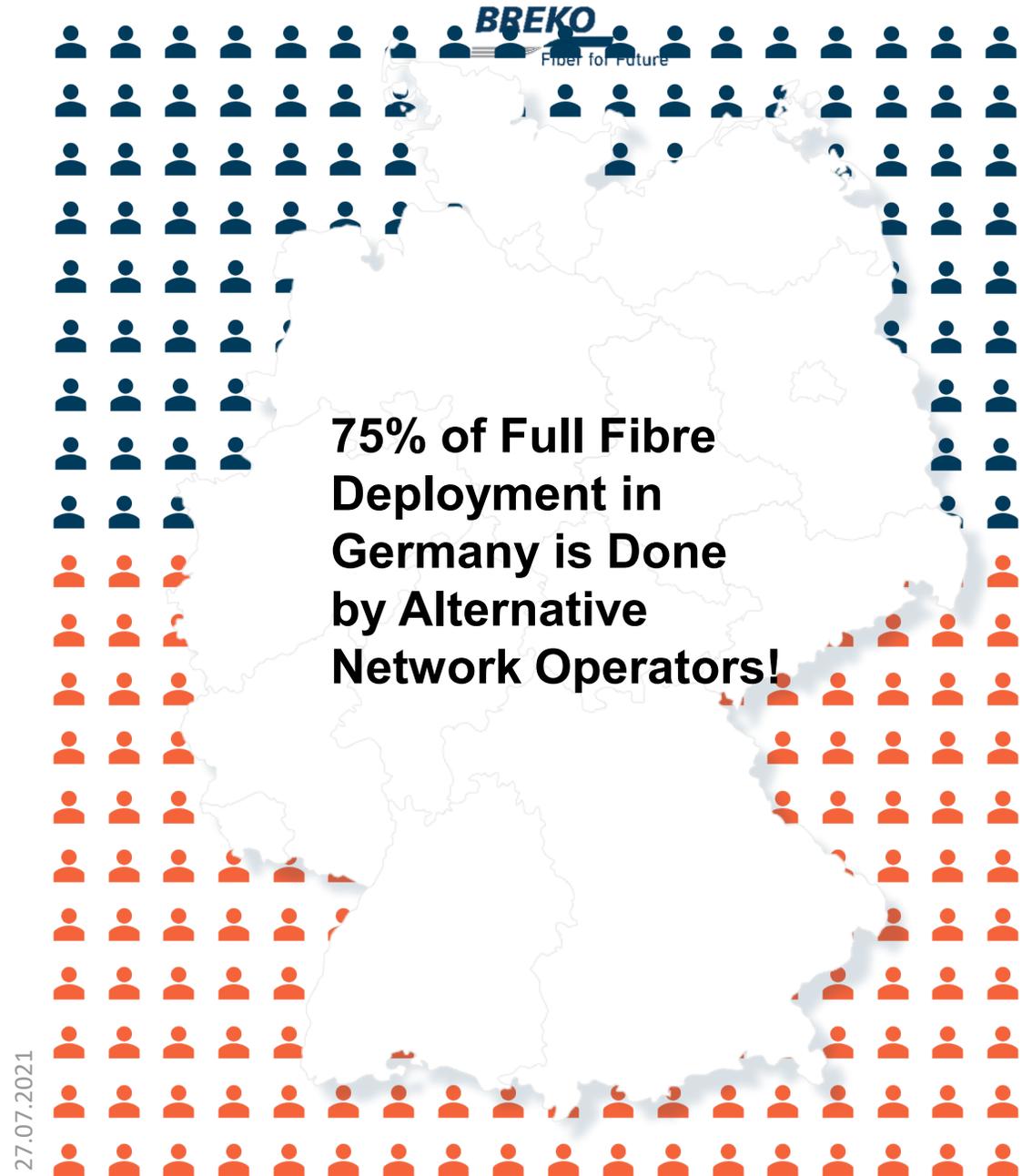
Daniel Seufert, BREKO Bundesverband Breitbandkommunikation



# BREKO's Data

With **396 members**, BREKO has the largest fibre network in Germany.

Our **221 network operators** and **175 affiliate members** are committed to future-proof fibre infrastructure.

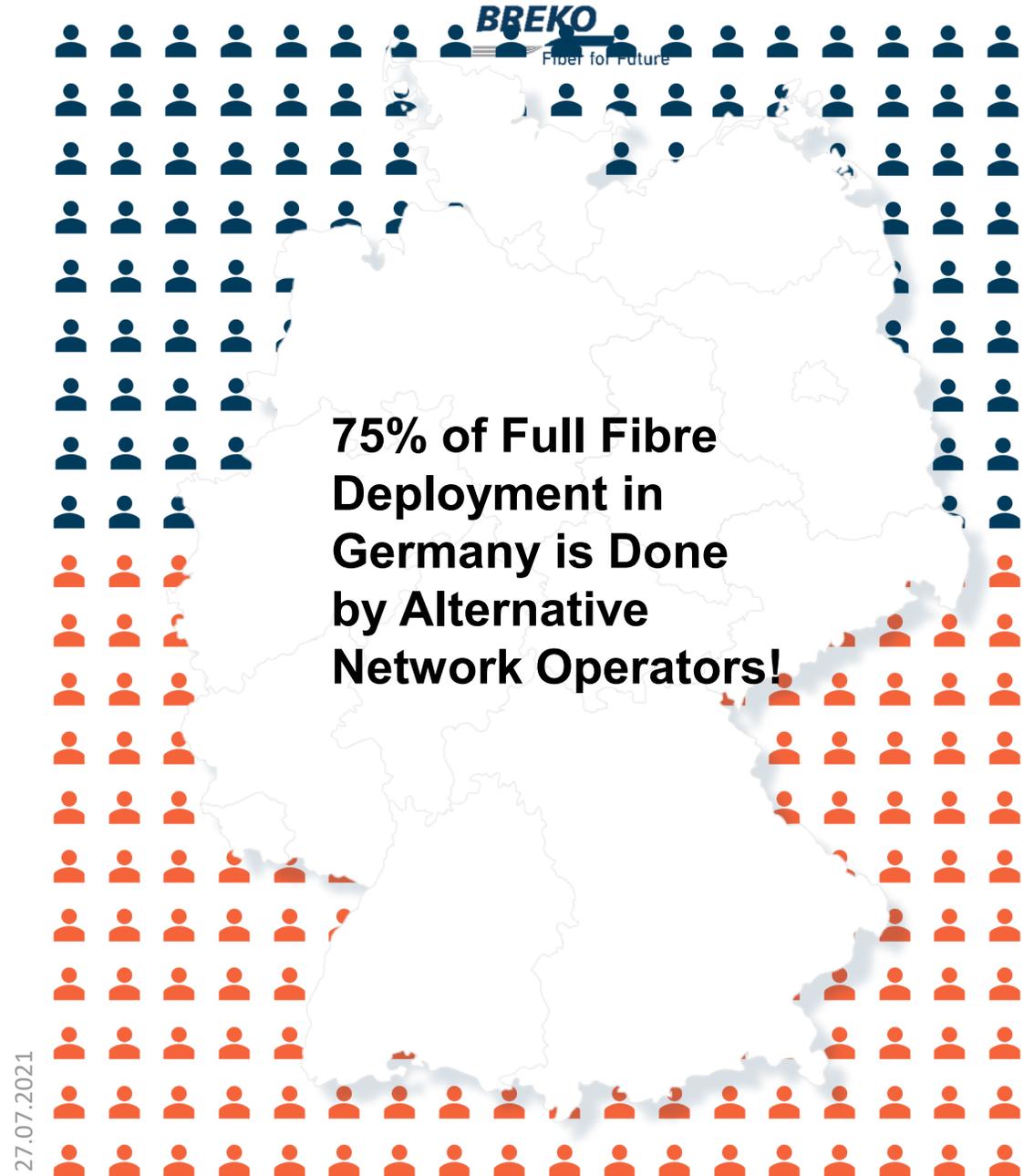


# BREKO's Positions

**Priority on Privately Financed  
Fibre Optic Expansion**

**Greater Acceptance for  
Alternative Deployment Methods**

**Fair Market Conditions, Open  
Access,  
More Cooperations for Efficient &  
Sustainable Fibre Optic  
Expansion**



201 BREKO network operators have been interviewed throughout Germany in May 2021. The interviewees are executives of telecommunications companies (e.g. Managing Directors, Heads of Strategy, etc.).

## BREKO data summary

- 220 of 270 active alternative network operators in Germany are part of BREKO (81%)
- The BREKO market study is representative for the German market and is validated by additional sources
- Regional distribution of the BREKO members:



1



Revenue of BREKO network operators in 2020: **€ 5.0 billion**

2



Investments by BREKO network operators in 2020: **€ 2.9 billion**

3



Homes Activated fibre connections by BREKO network operators: **1.9 million**

4



Homes Passed fibre connections by alternative network operators: **6.2 million**

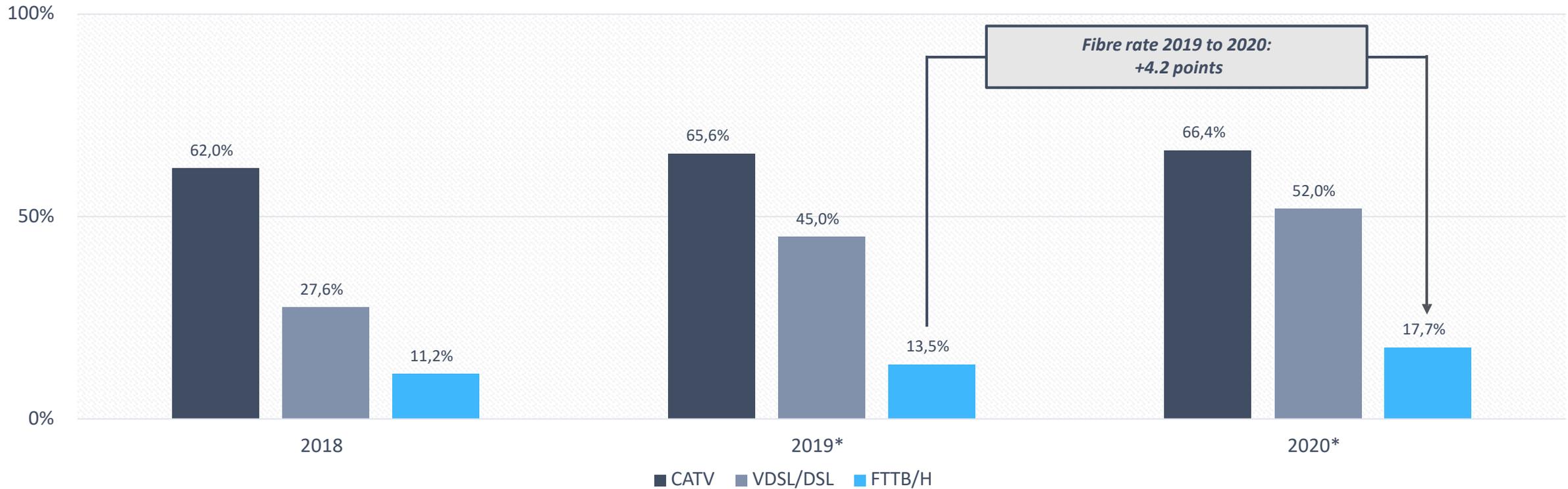
Source: survey of network operators (n=187-195).

# Available technologies

Fibre rollout is gaining momentum: The fibre rate increases by 4.2 points to 17.7%.

## Percentage of available technologies $\geq 200$ MBit/s based on all households, companies and public institutions

Percentage of available technologies  $\geq 200$  MBit/s

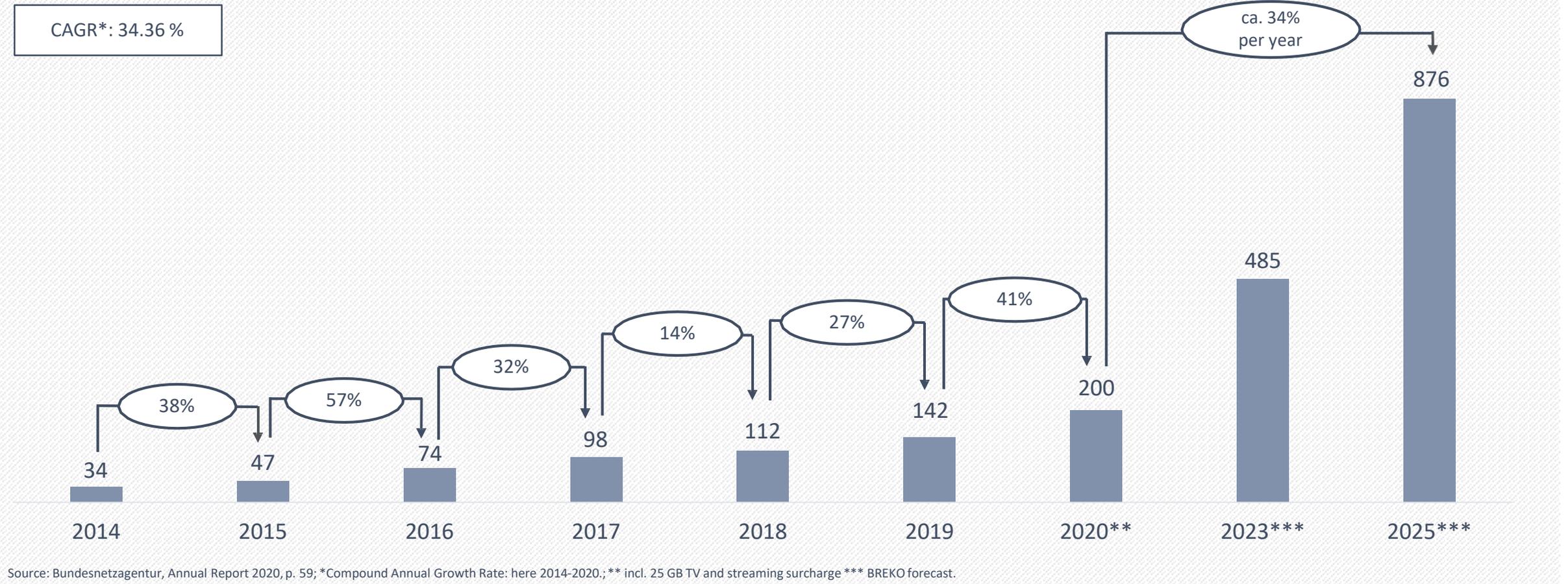


Source: BMVI (Federal Ministry of Transport and Digital Infrastructure), Broadband Atlas, end of 2020, p. 7; \*Data refer to Homes Passed: FTTB/H 2019 & 2020: incl. households, companies and public institutions

# Evolution of the data volume

The average growth in data volume in Germany is approximately 34% per year.

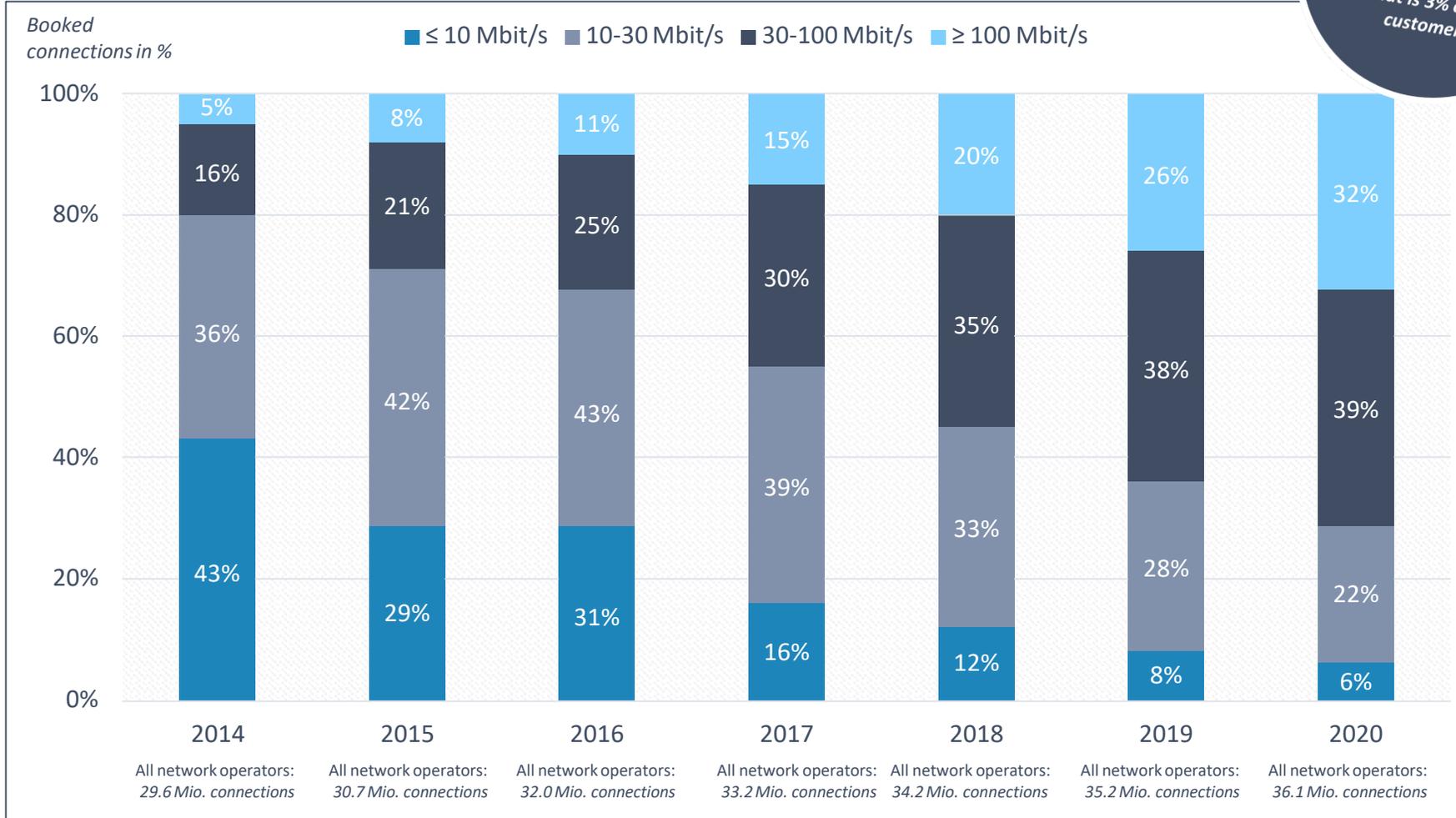
## Average data volume of fixed networks per connection and per month in GB over time (incl. TV and streaming services)



# Available connections by bit rate

Every third connection faster than 100 MBit/s in 2020

More than 1 million customers subscribe to connections  $\geq 1$  GBit/s. That is 3% of all customers

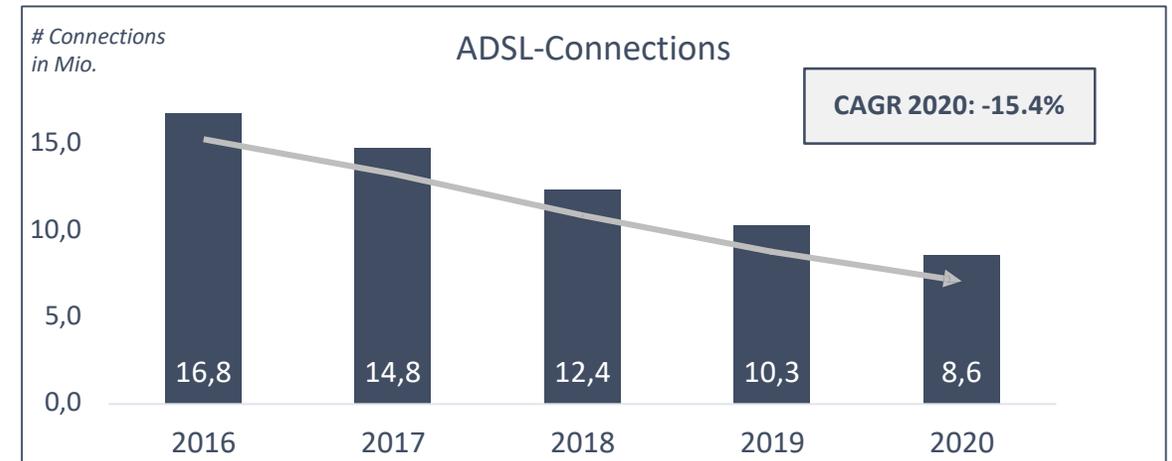
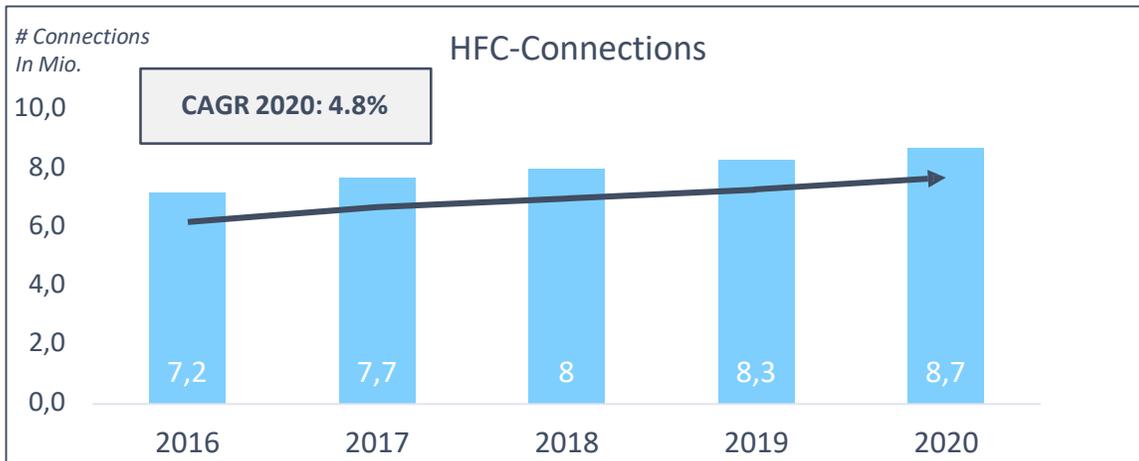
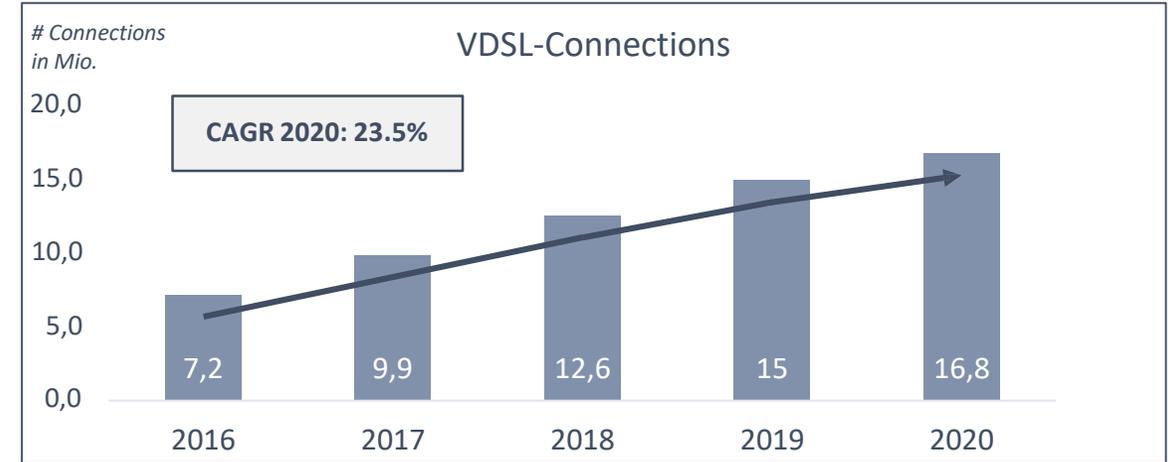
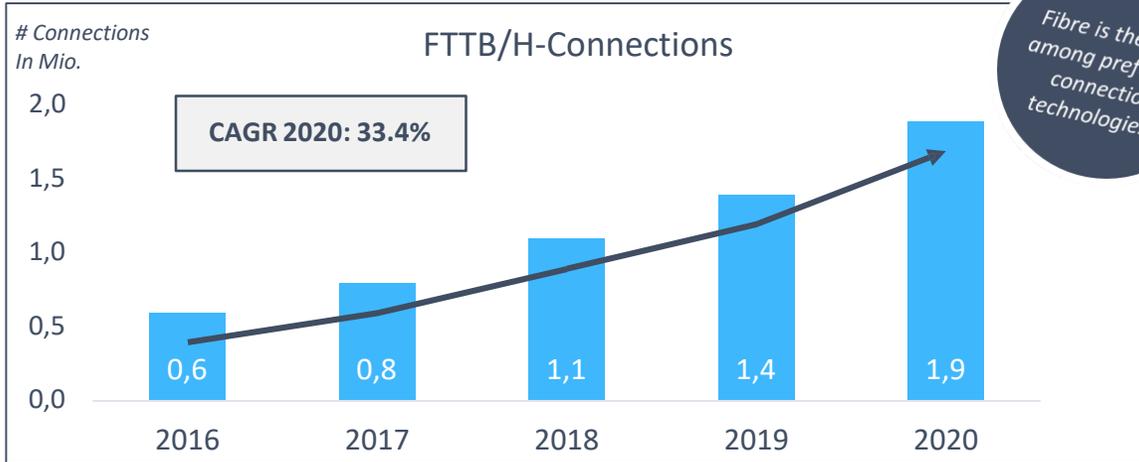


Bitrate	Growth in connections
≥ 100 MBit/s	↑ +2.3 mio.
30-100 MBit/s	↗ +0.7 mio.
10-30 MBit/s	↘ -1.5 mio.
≤ 10 MBit/s	↘ -0.6 mio.

Source: Bundesnetzagentur, Annual Report 2020, p. 55, p. 56.

# Broadband connections by technology

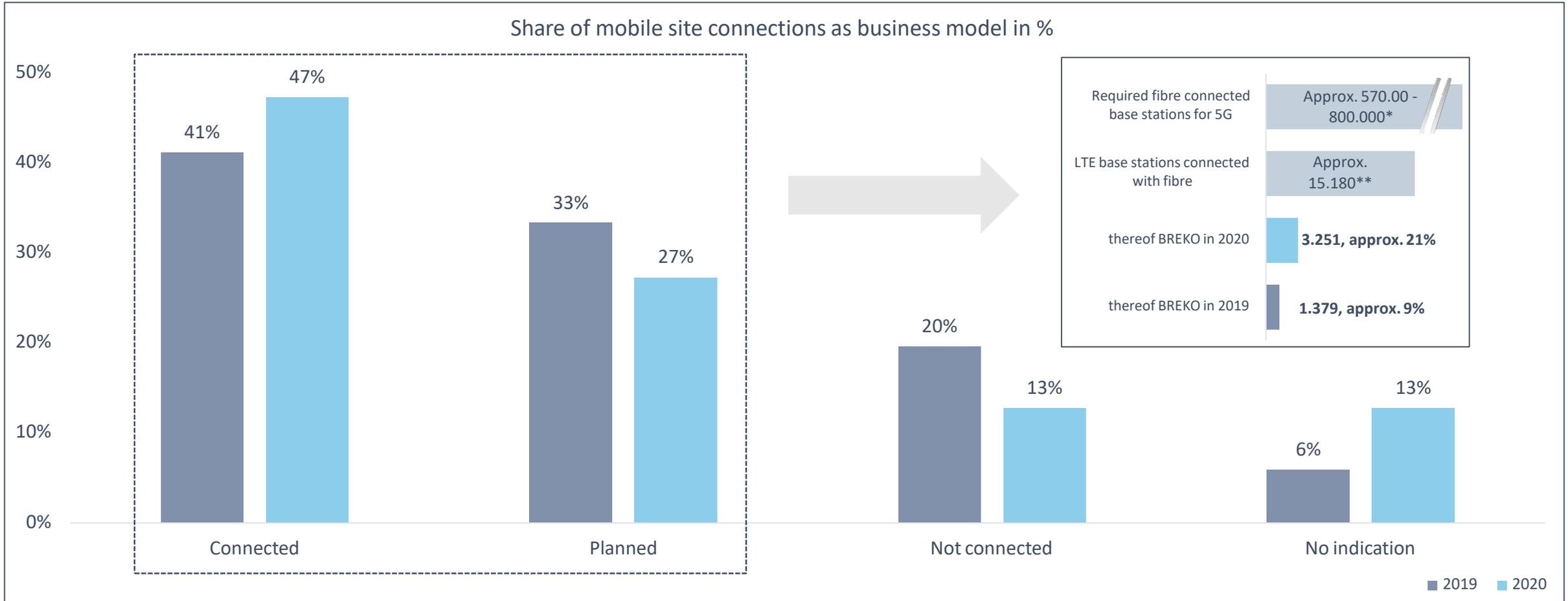
Above-average growth in active fibre connections (Homes Activated)



Source: Bundesnetzagentur, Annual Report 2016 - 2020, p. 45-58; \*Cisco Broadband Index.

# Fibre connection of mobile sites

Approx. 3/4 of BREKO network operators provide mobile sites with fibre or plan on doing so in the future.



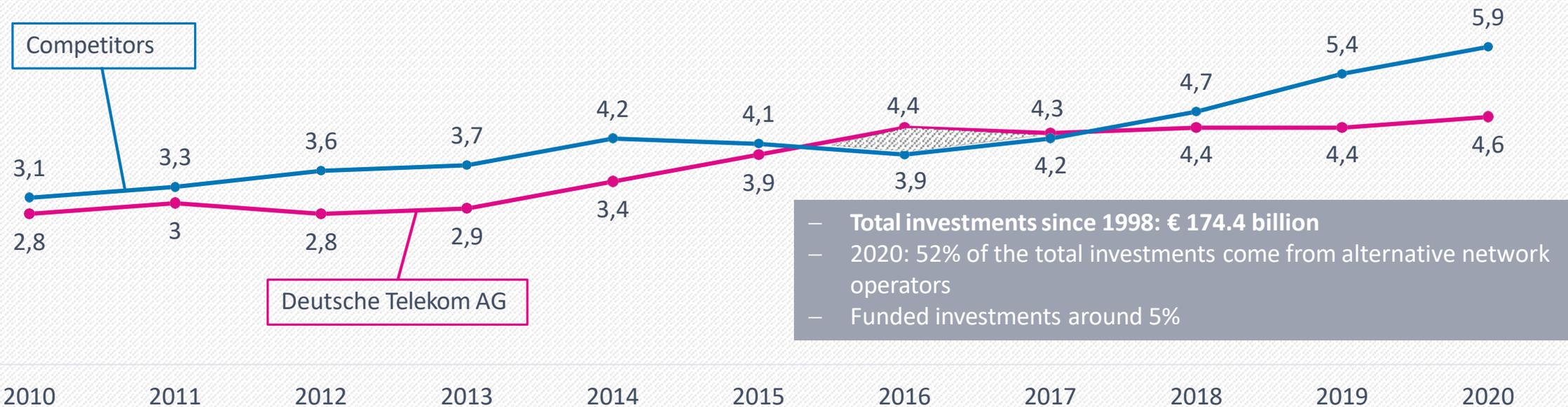
Source: survey of network operators (n=55); \*Bitkom 2018; BMU, 2019.; \*\*Statista, 2020: LTE base stations in Germany: 75.901, approx. 20% connected with fibre (15.180).

Question: Is the connection of mobile sites a potential business model for you? If yes, how many mobile sites have you connected already?

# Total investments in broadband network infrastructure

Investments increased by 7.1% to € 10.5 billion in 2020, of which 56% is invested by competitors.

## Investments\* in broadband network infrastructure\*\* in the telecoms market in € billion



Source: Bundesnetzagentur, Annual Report 2020, p. 53; BMVI (Federal Ministry of Transport and Digital Infrastructure); \*incl. Public funding; \*\*Investments in predominantly new, but also in existing broadband networks infrastructure (without mobile communications)  
/// Vectoring dent triggered by the vectoring decision of the German national regulator „Bundesnetzagentur“.

# Agenda

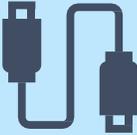
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Market data



**2.**

**Fibre trends**



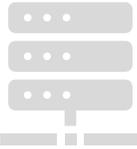
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Deployment & State



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Regional Data Centres



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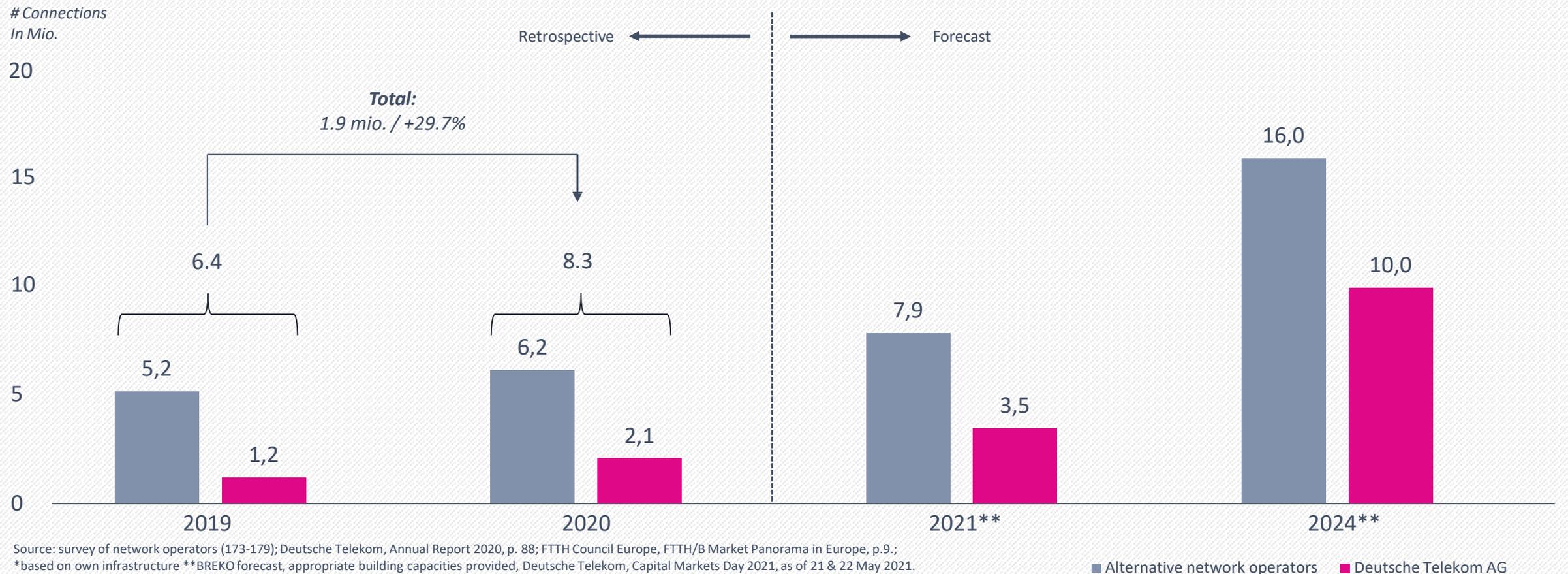
Smart City



# Number of fibre connections in Germany

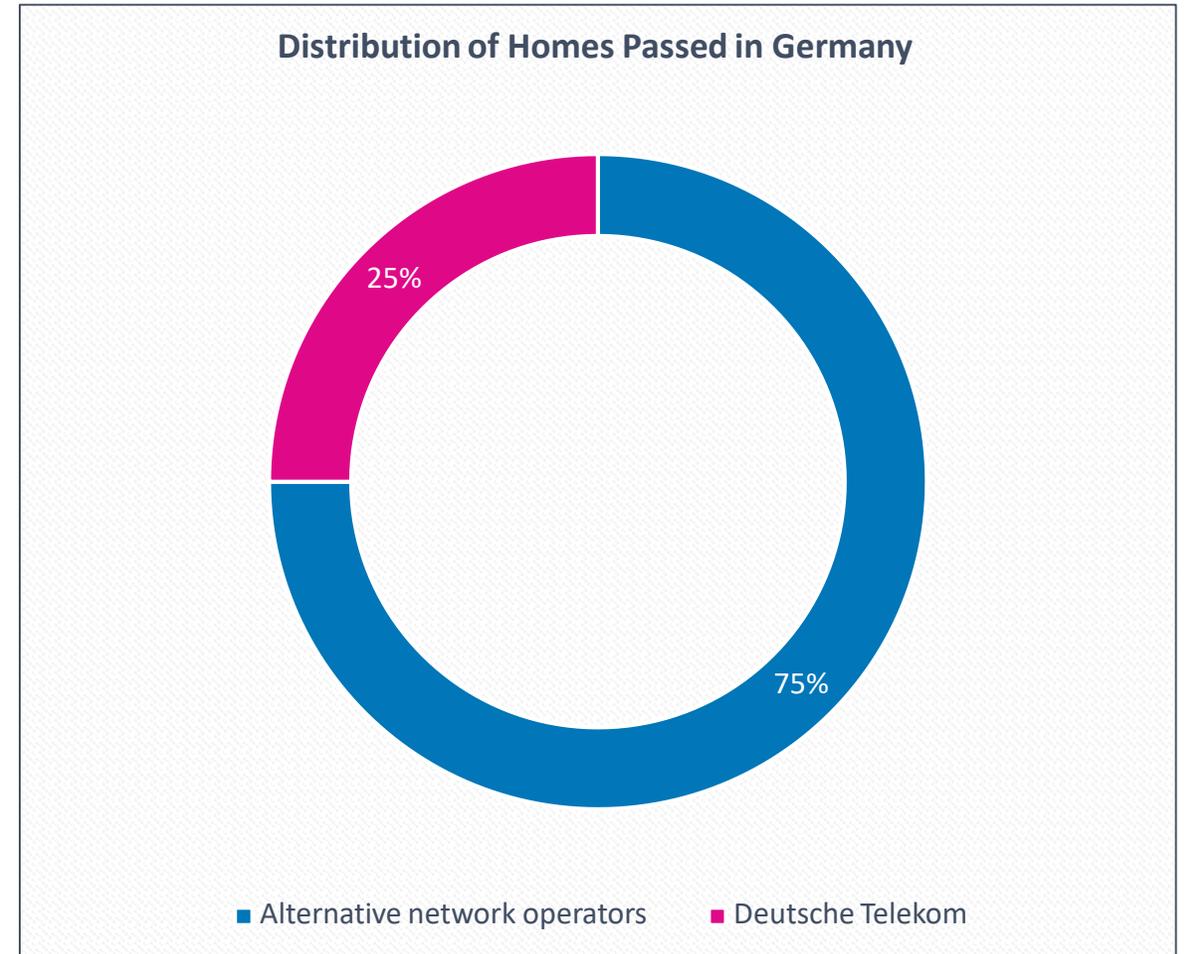
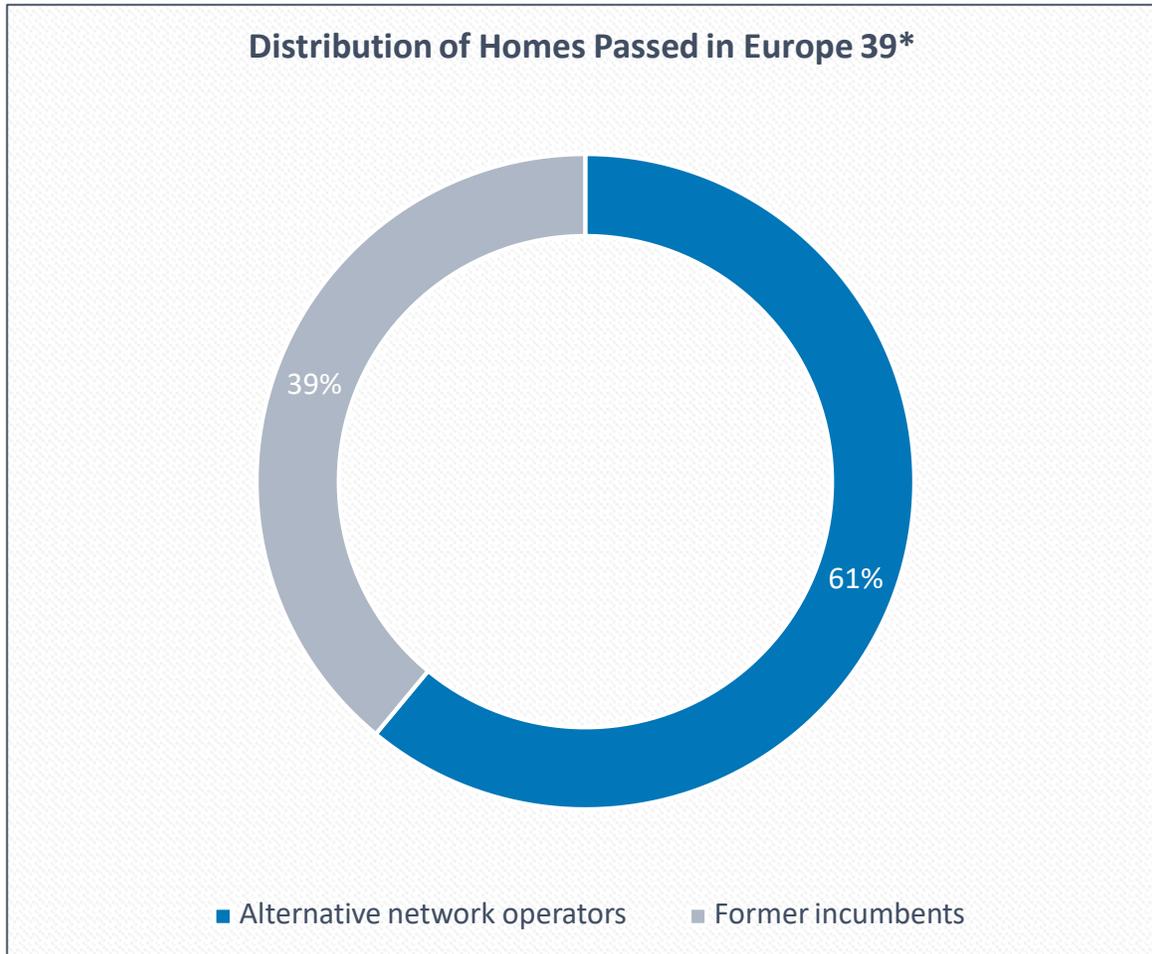
The number of available fibre connections (Homes Passed) increased from 6.4 mio. in 2019 to 8.3 mio. in 2020.

## Number of Homes Passed\* in millions over time: alternative network operators vs. Deutsche Telekom AG



# Share of former incumbents in fibre deployment

The majority of fibre deployment is being carried out by alternative network operators.

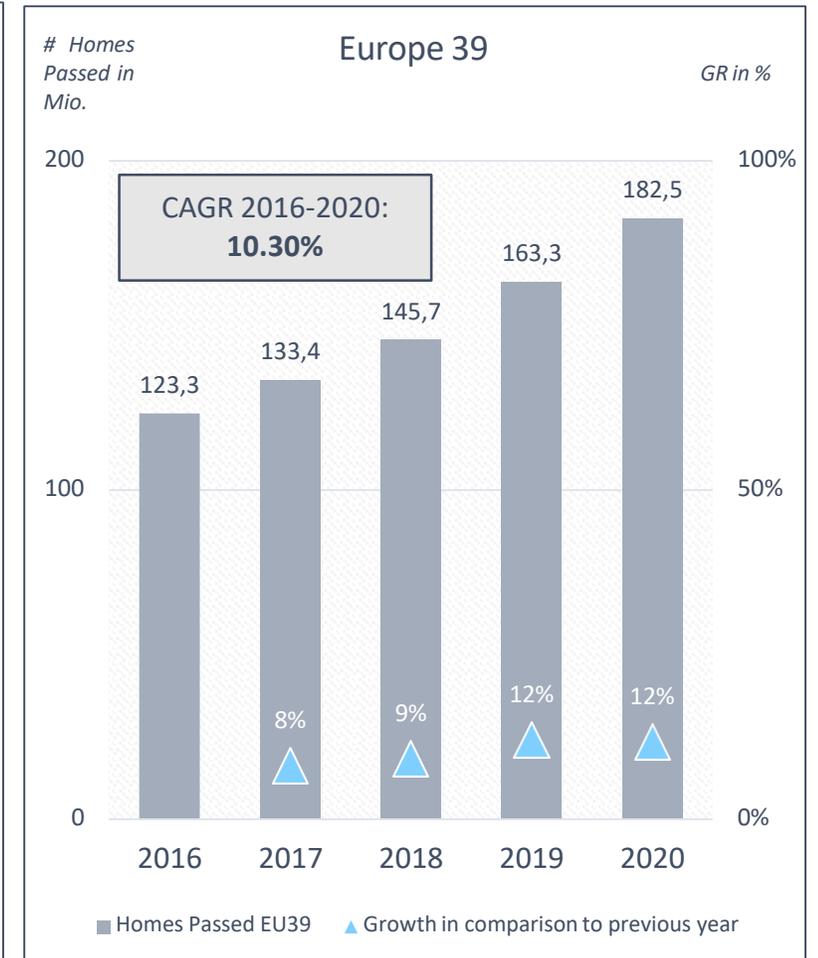


Source: FTTH Council Europe, FTTH/B Market Panorama in Europe, p.9.; \*EU27, UK, Belarus, Kazakhstan, Russia, Ukraine, Iceland, Israel, North Macedonia, Norway, Serbia, Switzerland, Turkey.

Source: survey of network operators (n=179); Deutsche Telekom, Annual Report 2020, p. 88.

# Germany in comparison to other European countries

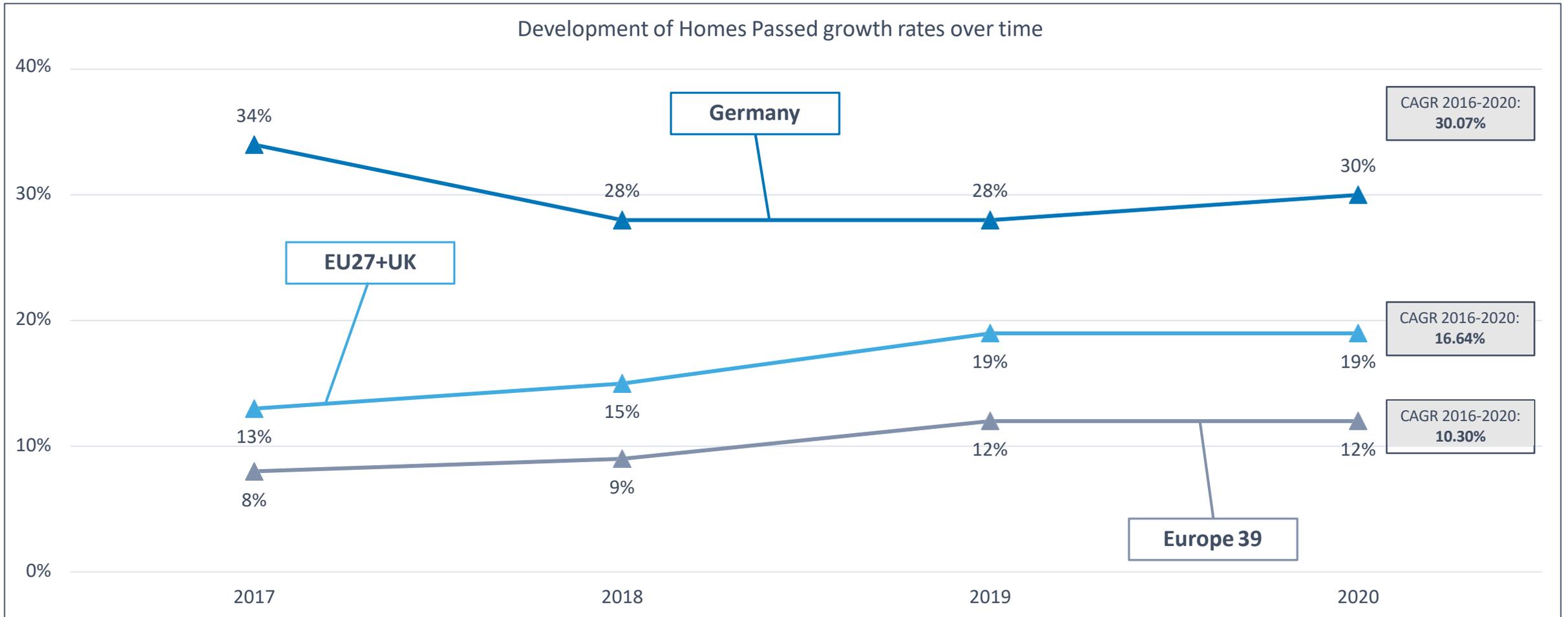
The growth rate for fibre in Germany is above average in comparison to other European countries.



Source: survey of network operators (n=179); Deutsche Telekom, Annual Report 2020, p. 5, p. 88; FTTH Council Europe, FTTH/B Market Panorama in Europe 2021, p.8.; \*In relation to the growth of Homes Passed.

# Germany in comparison to other European countries

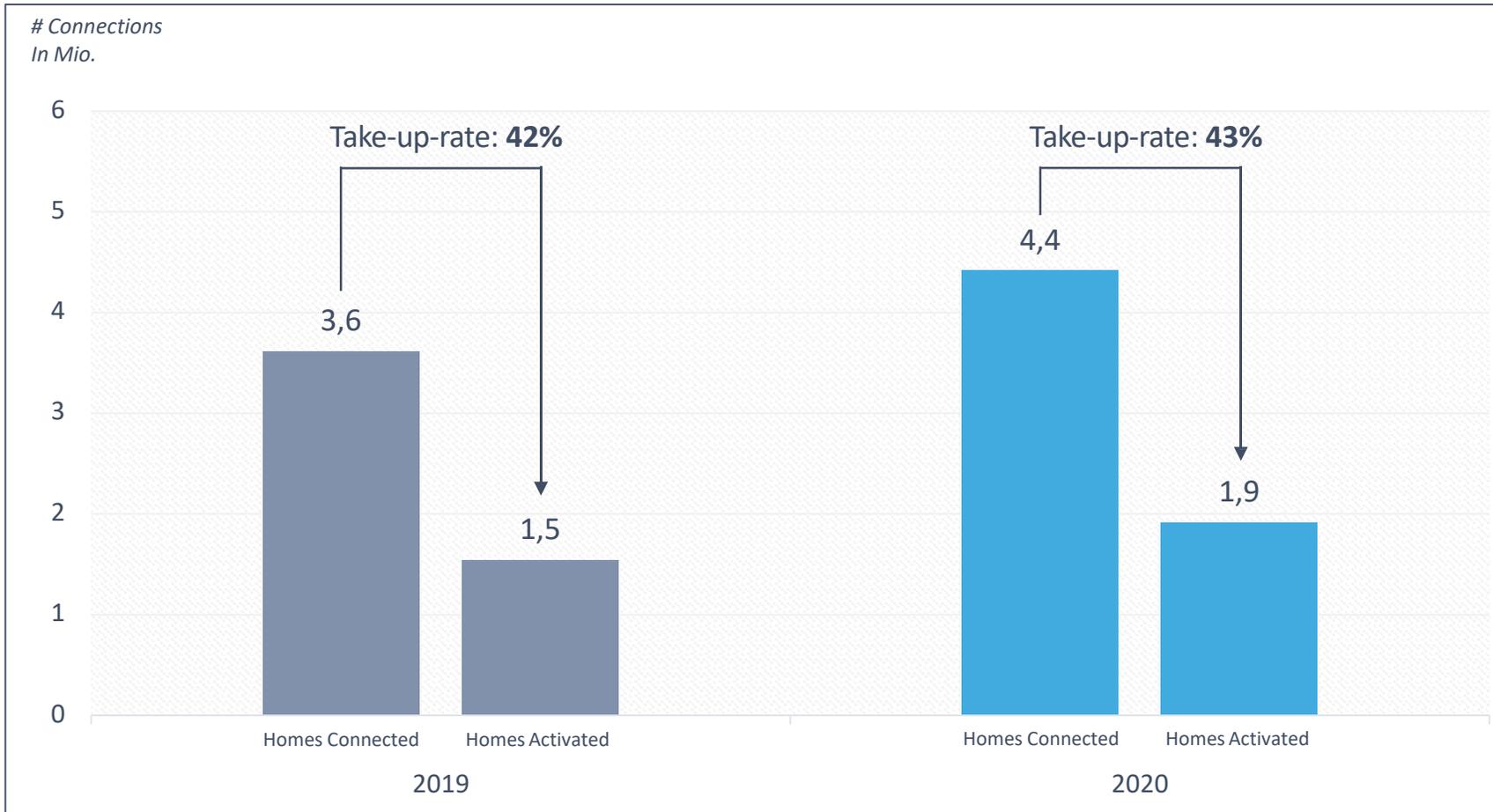
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Source: survey of network operators (n=179); Deutsche Telekom, Annual Report 2020, p. 88; FTTH Council Europe, FTTH/B Market Panorama in Europe 2021, p.8.; \* In relation to the growth of Homes Passed.

# Take-up-rate of the BREKO network operators

In 2020 the take-up-rate increased to 43%.



## Implications

- The take-up-rate for fibre increased **by one percent** despite increasing numbers for Homes Connected and Homes Activated.
- This means that it remains **above the take-up-rate of HFC connections (30%)**.
- The take-up-rate within Europe (Europe 39) is slightly higher (44.9%).

Source: survey of network operators (n=173-177); FTTH Council Europe, FTTH/B Market Panorama in Europe 2021, p. 20.

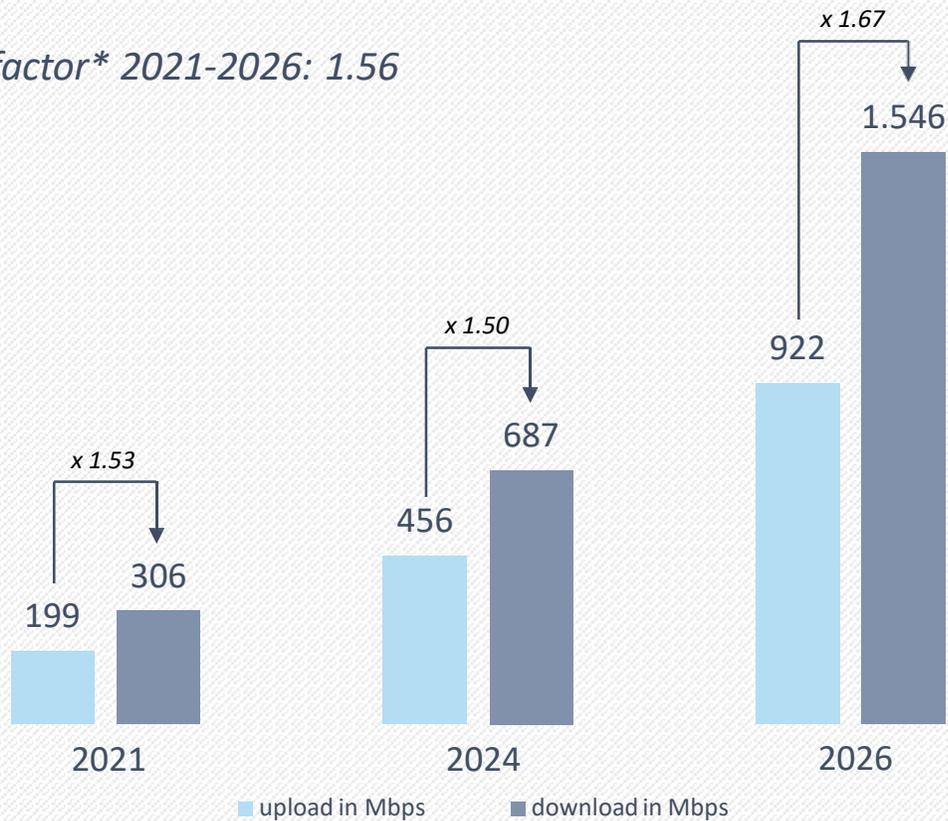
Question: Please indicate the number of your gigabit capable connections for the following deployment stages: FTTH/B; HFC; statements refer to your own infrastructure, without leased appliances.

# Demand for bandwidth in the next 5 years

The demand for bandwidth is going to increase by a factor of 5-6 in downloads over the next 5 years. Drivers for private customers are IPTV and streaming services, for corporate clients the implementation of cloud architectures.

## Corporate clients

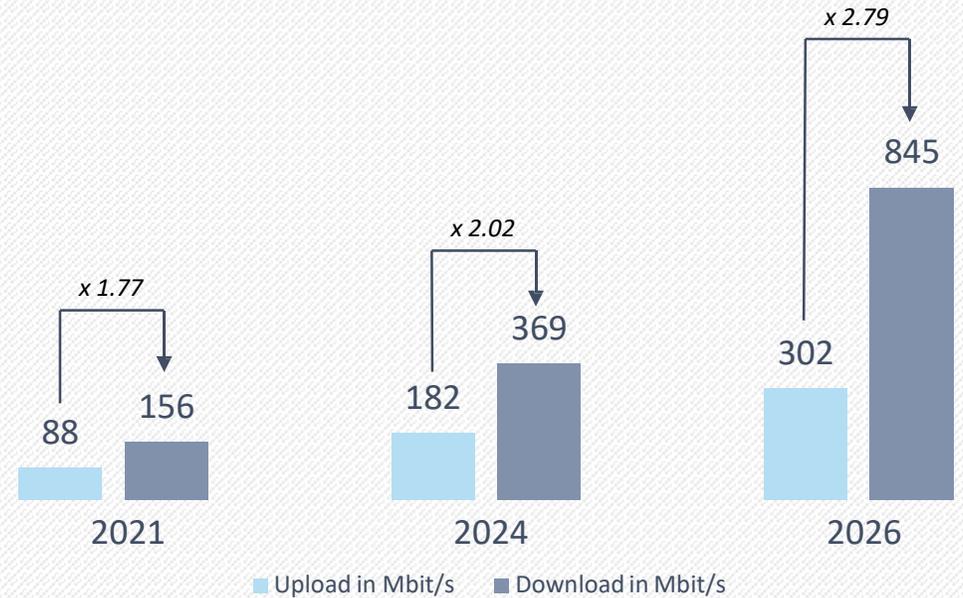
Ø-factor\* 2021-2026: 1.56



Source: survey of network operators (n=128). \*relation upload to download

## Private customers

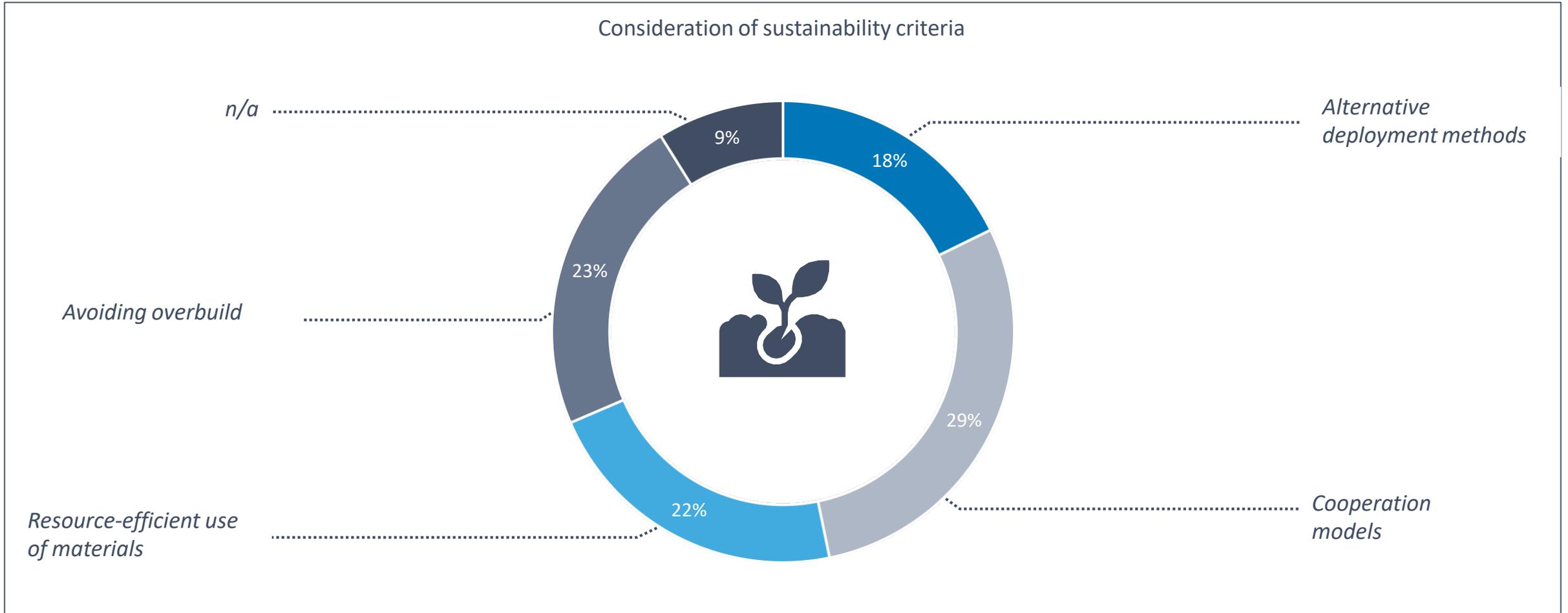
Ø-factor\* 2021-2026: 2.19



Question: How will the demand for bandwidth develop for corporate clients and private customers in the next years?

# Sustainability in deployment

Sustainability gains importance in network deployment and becomes a prerequisite for investments.



Source: survey of network operators (n=113); Hamburg Commercial Bank, Fiberweek, 2020.

Question: Are sustainability criteria taken into account in the implementation of fiber optic networks?

# Agenda

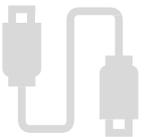
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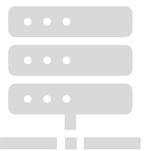
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**Deployment & State**



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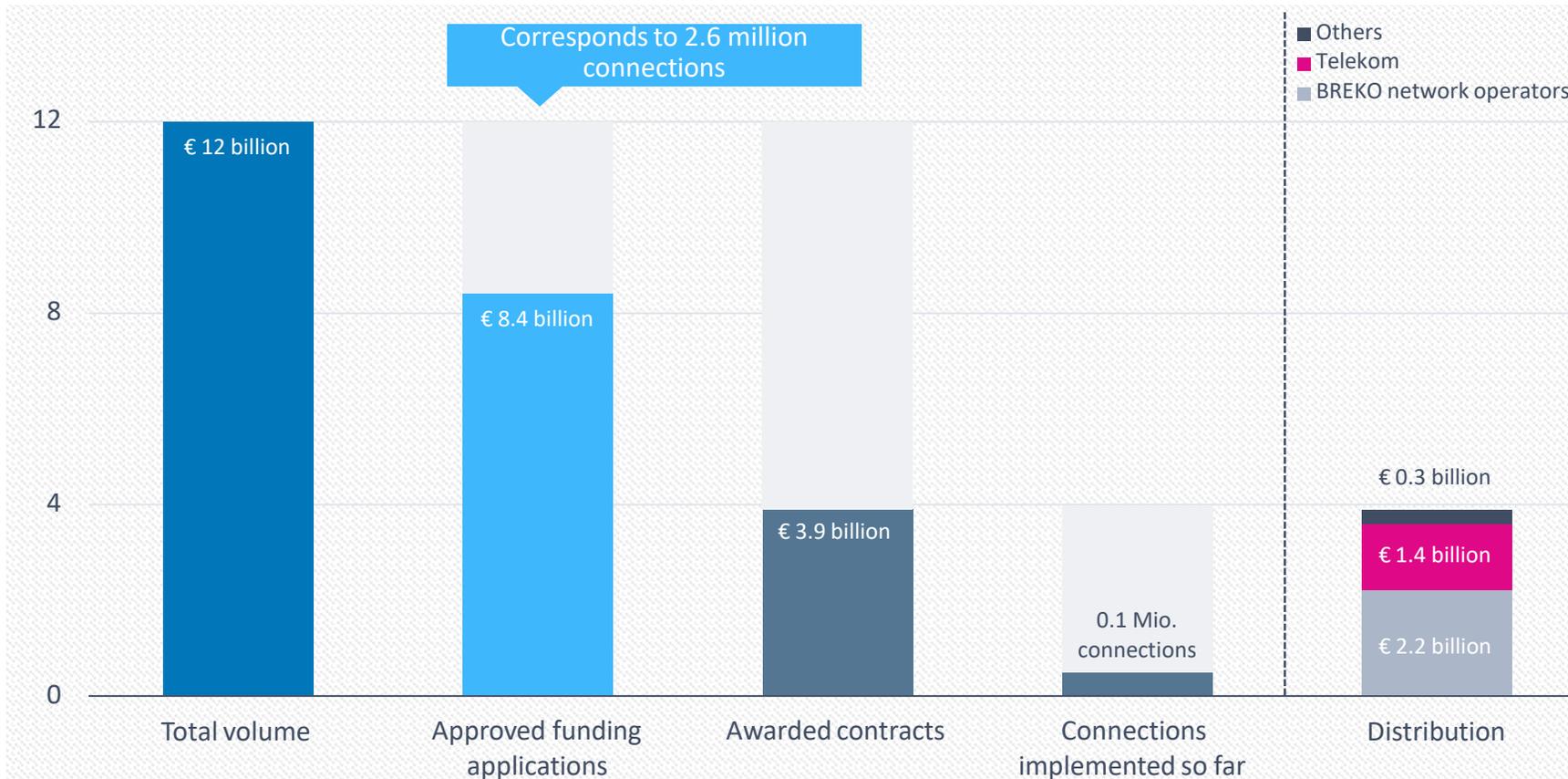
Smart City



# Federal funding programme for broadband deployment

BREKO network operators receive € 2.2 billion, which represents 57% of the total amount of funding.

## Funding of the federal funding programme



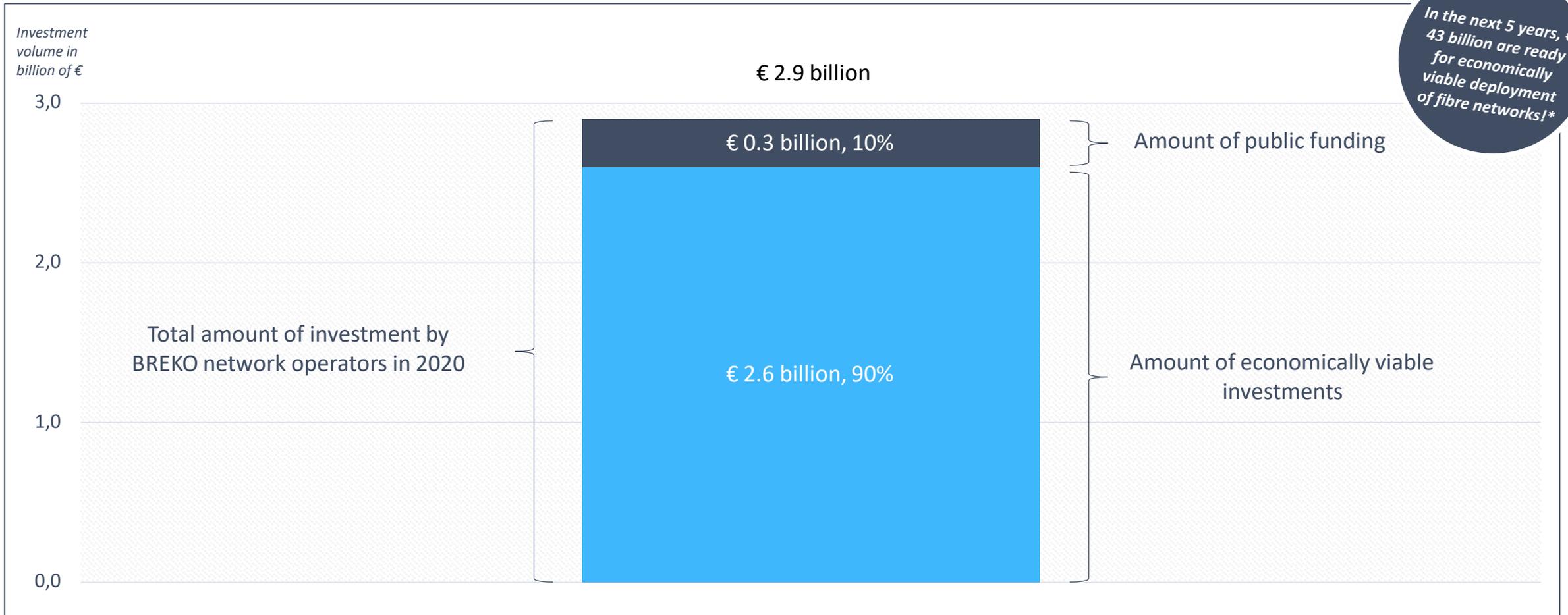
## Implications

- The approved volume of € 8.4 billion corresponds to 2,230 projects.
- 2.6 million fiber-optic connections to be built
- The committed volume (awarded contracts) of € 3.9 billion corresponds to 572 roll-out projects
- So far, 122,054 connections have been built with the help of the funding programme.
- The sums are the federal government's share of funding, corresponding to around 50% of the total investment volume.

Source: BMVI (Federal Ministry of Transport and Digital Infrastructure), list of beneficiaries, 1 July 2021; federal government's reply to the parliamentary question by delegates Uwe Schulz, Joana Cotar, Dr. Michael Ependiller and the AfD parliamentary group, 26 Mai 2021.

# Investments in network deployment

The distribution of public funding is progressing slowly. The main reason is complex procedures.



Source: survey of network operators (n=80); \*BREKO-forecast

Question: Please indicate your total investments in network deployment in 2020 (in €).

# Agenda

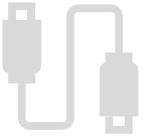
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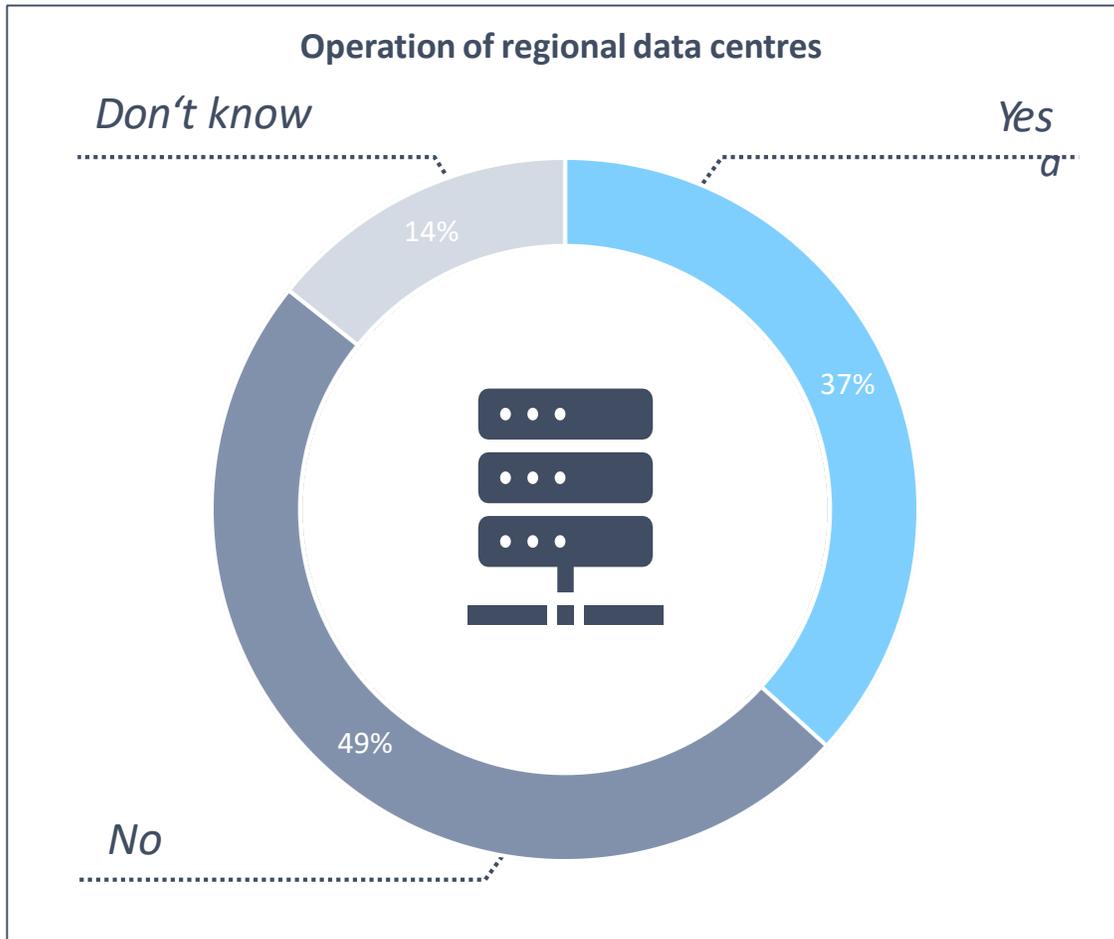
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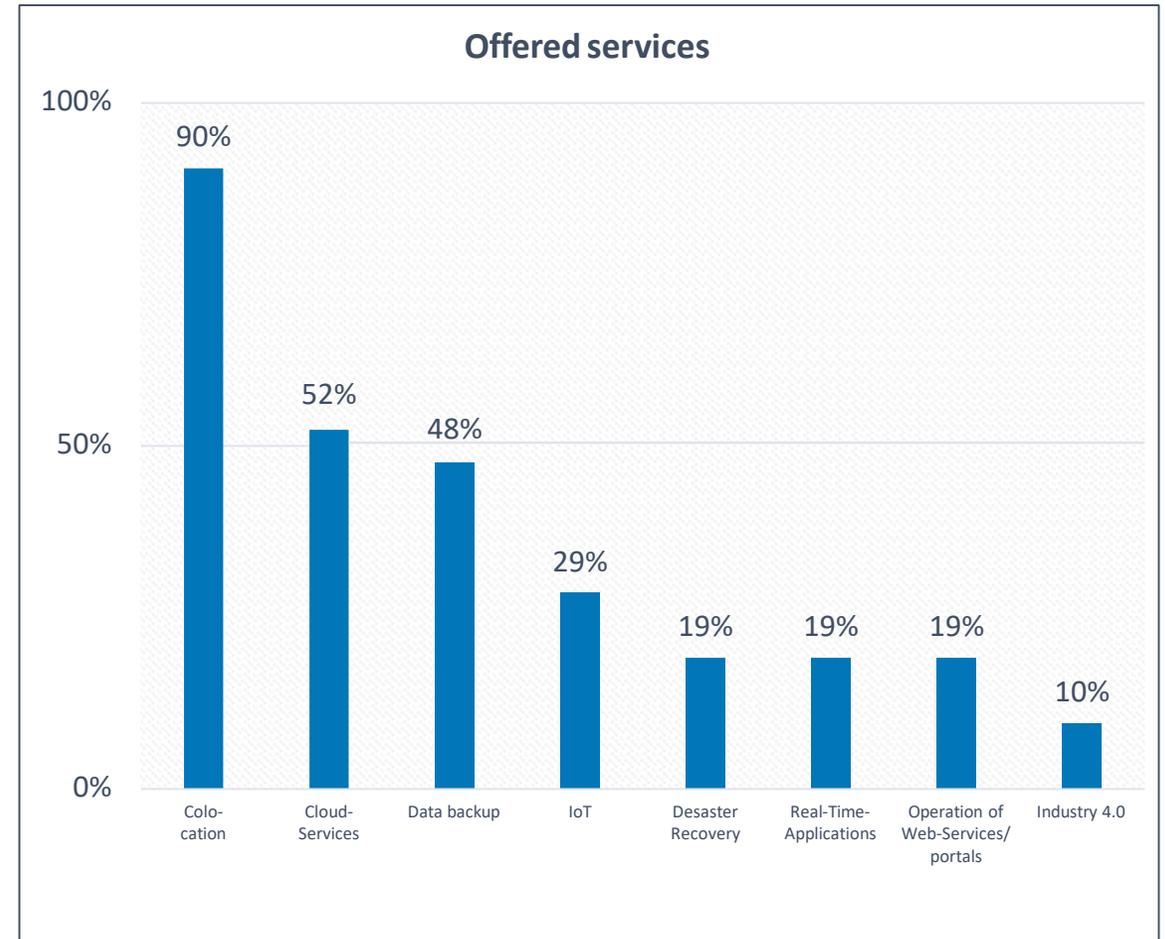
# Regional data centres

37% of BREKO network operators operate regional data centres with a broad range of services.



Source: survey of network operators (n=49).

Question: Do you operate regional data centres or do you plan on operating them?



Source: survey of network operators (n=21). Multiple answers possible.

Question: Which services do you offer or plan on offering?

# Agenda

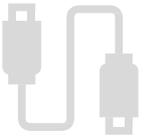
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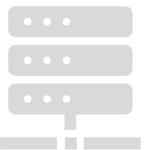
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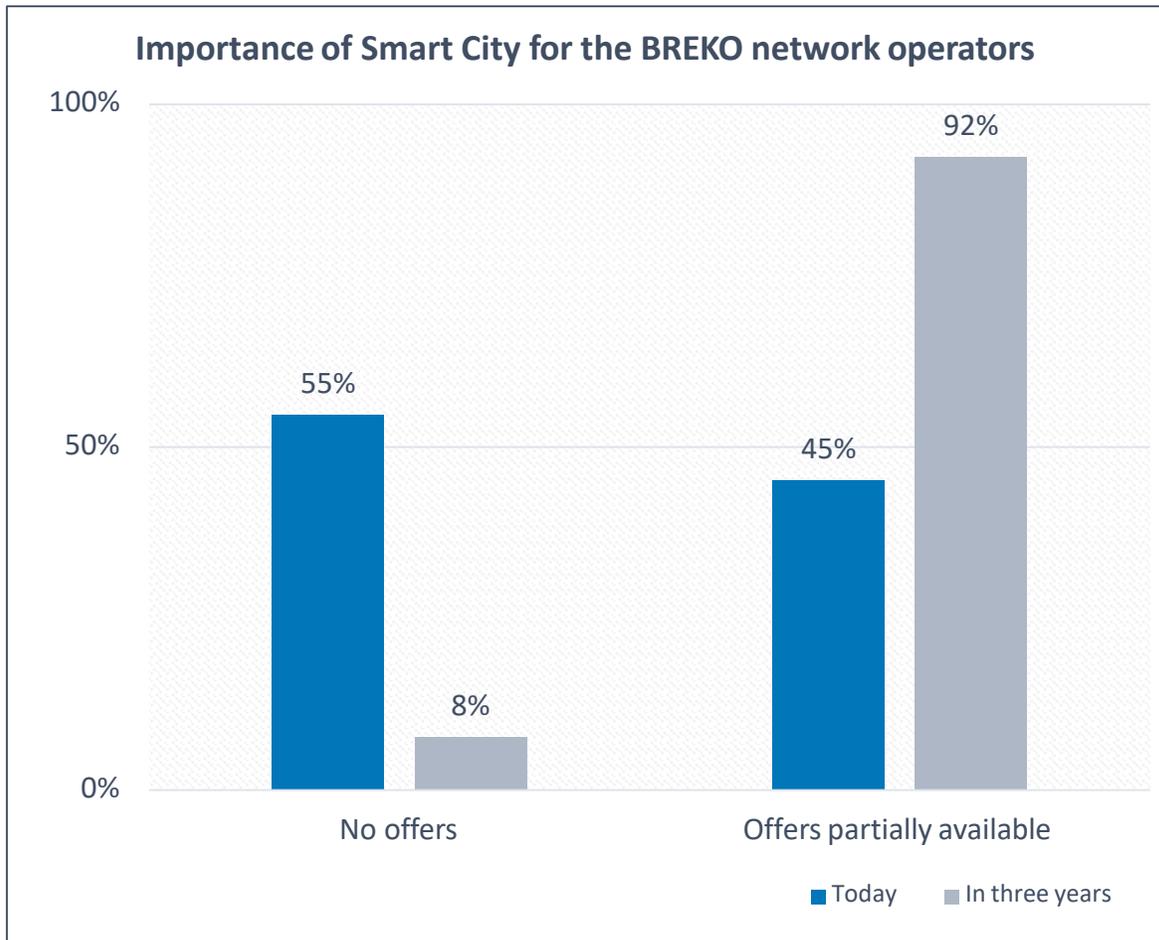
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**Smart City**



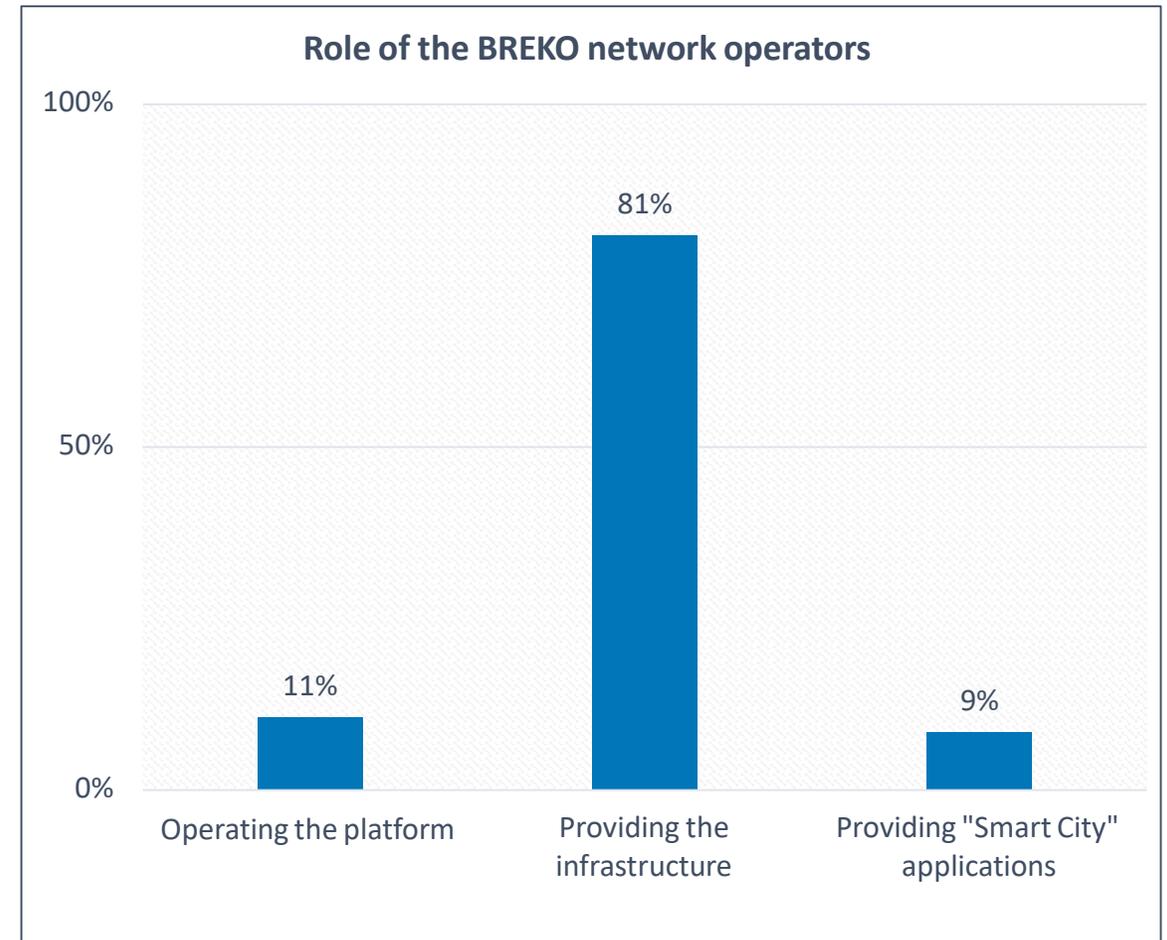
# Importance of Smart City

Smart City becomes increasingly important for the BREKO network operators – the focus lies on providing the infrastructure.



Source: survey of network operators (n=39-42).

Question: What role does „Smart City“ play for your company?



Source: survey of network operators (n=47).

Question: How do you assess your role concerning „Smart City“?

## summary:

The fibre market has a positive trend – investments are being made, supply and demand are increasing.

- Reality exceeds expectations – demand for high bandwidths is coming faster than expected.
- Financing for nationwide fibre deployment in Germany is secured.
- Positive investment climate: The market is developing – investors are making their contributions.
- 2020: Highest investments in telecommunications-infrastructure to date.
- Public funding is being „put into perspective“: The scope for economically viable deployment is growing.
- A new standard connection is developing (esp. for business clients): 1 GBit/s, almost symmetrical.
- Alternative network operators are increasingly offering data centre services with the goal of strengthening digital sovereignty.

# BREKO BroadbandStudy21 – Messages for DCA Europe Members

The fibre market has a positive trend – investments are being made, supply and demand are increasing.

- **The expansion of fibre optics in Germany has really taken off.**
- **The nationwide roll-out of fibre is a long-term infrastructure project for which further civil engineering capacities and the increased use of alternative installation methods are needed.**
- **Capital is available and wants to be invested. In the next five years, 43 billion euros from the private sector will be available for the roll-out of fibre optics. In addition, there are extensive subsidy programmes by the German Federal Government and the governments of the German Federal States.**

# Contact



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