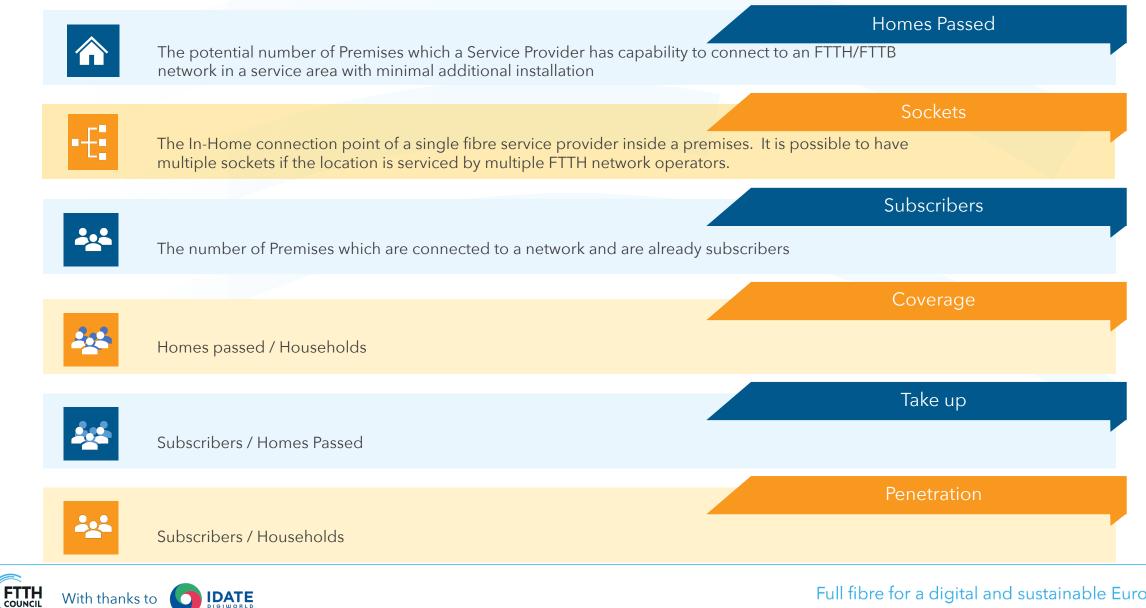


FTTH/B Market Forecasts 2023-2028 Update September 2022

FTTH Council Europe's Market Intelligence Committee



Important definitions



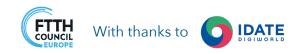
Methodology

- Desk research
- Direct contacts with leading players and IDATE partners within countries
- Information exchange with FTTH Council Europe members
- Apply Forecast Model based on Supply/Demand Criteria.



- > Both quantitative and qualitative data
- Adjusted Forecasts for years 2023 and 2028 taking into account COVID impacts
- Results compared with local intelligence sources, including regulator and other recent publications where available and appropriate
- Study of EU27+UK and EU39 (1) countries
- Based on feedback from all main operators, service provider associations and regulatory contacts in each country

Note: the Forecast methodology is currently under revision to take into account the full impact of the recent geopolitical situation



Forecast study - Factors considered



Supply criteria

- **Strategic plans** from telecom players towards high-speed broadband deployments once COVID-19 impacted in the European region.
- **Public Funds** allocated from governments to deploy fibre networks.
- New Initiatives from Municipality/utility players to accelerate fibre development in remote areas, where private operators don't have any incentives to deploy.
- **Copper switch off** initiatives delimited by many players.
- Cable operators migrations to FTTH/B

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• **Green-field housing** and systematic deployment of FTTH in any new build housing



Demand criteria

- **Broadband services take-up.** Average speeds continue to rise for households and new dynamics after COVID-19 impacted
- Data consumption keeps growing due to new confinement dynamics (teleworking and remote studying) that force the intensive use of video content, highdefinition streaming which demand high bandwidth capacity.
- Demands to accomplish **EC Digital Agenda goals** by 2025 and 2030
- People in rural areas still not covered by high-speed connections demanding access to NGNs. People moved to rural areas as a way to reduce virus exposure.
- **National and Digital Agendas** pushing to accelerate fibre deployments

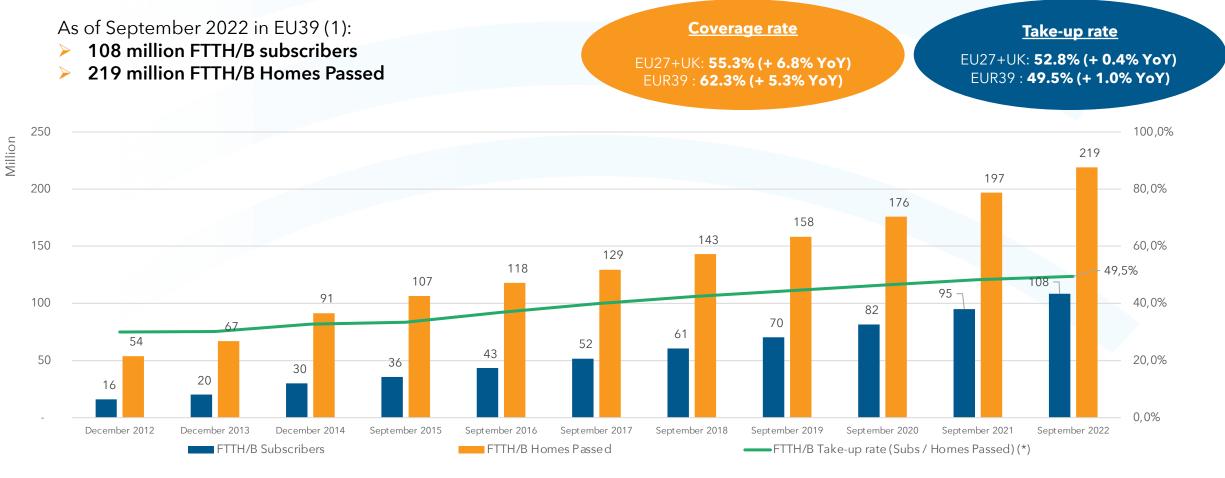


- Impact of **infrastructure costs**
- Impact of copper-based DSL improvements, such as super-vectoring and G.Fast.
- Impact of cable-based networks with DOCSIS 3.1 and coming DOCSIS 4.0
- Impact of networks sharing agreements and new deployments based on coinvestment among players.
- Regulatory changes at European and national level to create a common commitment to deploy FTTH networks.
- Impact of macroeconomic environment and economical trends: teleworking as a new dynamic and the creation of new business models
- FTTH rollout planning may be impacted by **buildout resource availability**





FTTH/B subscribers and Homes passed as of September 2022 Trends from 2021 to 2022



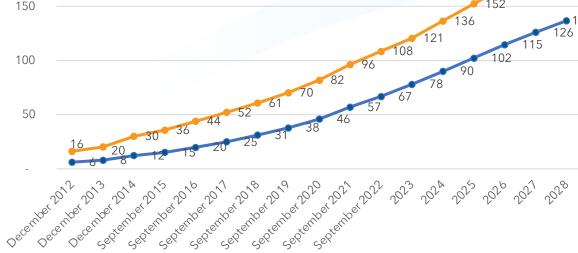
(1) EU39 = EU27+UK + 4 CIS countries + Andorra, Iceland, Israel, North Macedonia, Norway, Serbia, Switzerland, Turkey



Source: IDATE for FTTH Council EUROPE

European FTTH/B Historical and Forecasts (2012-2028)

FTTH/B Subscribers Forecasts (million) Comparison EU27+UK / EU39 182



FTTH/B Subscribers - EU39

FTTH/B Subscribers - EU27+UK



Evolution of FTTH/B Homes Passed (million) Comparison EU27+UK / EU39

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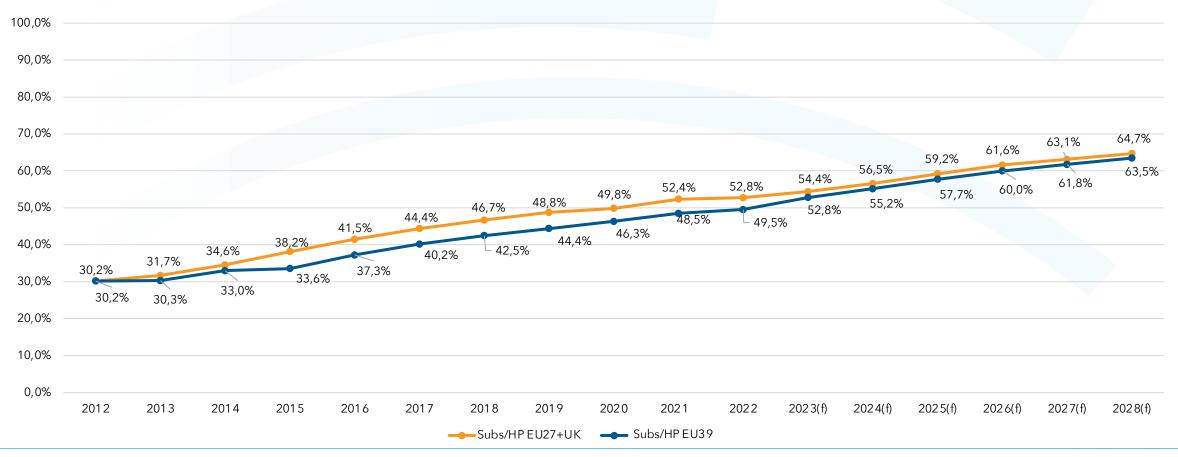
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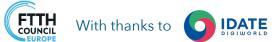
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Source: IDATE for FTTH Council EUROPE

European FTTH/B Historical and Forecasts (2012-2028)

FTTH/B Take-up Rates Forecasts (Subs over Homes Passed, in %) Comparison EU27+UK / EU39



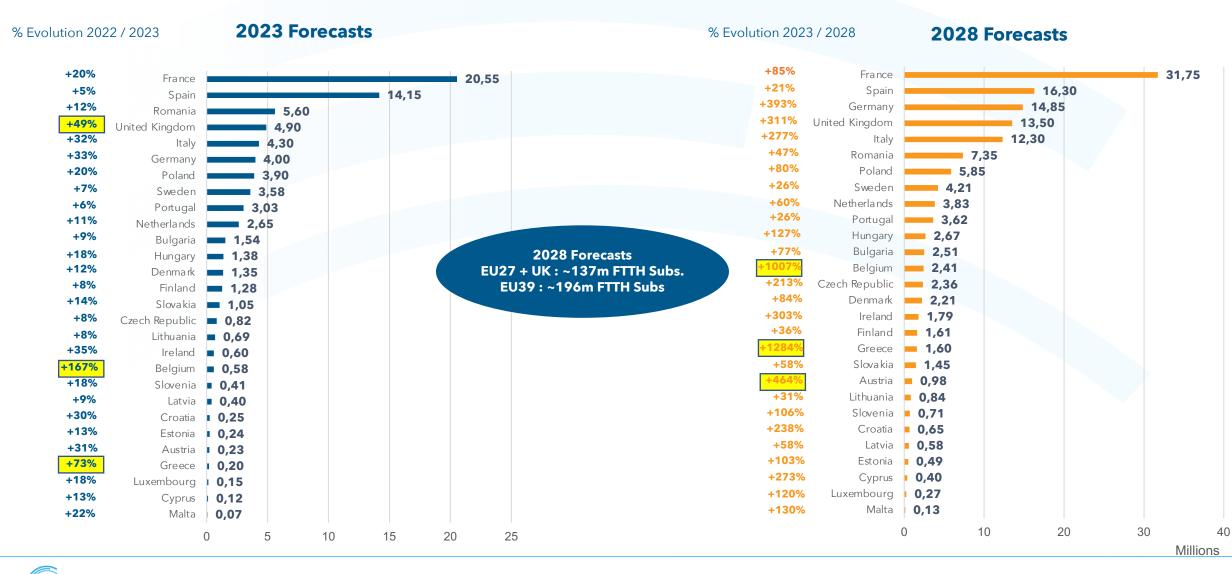


European ranking in terms of FTTH/B Subscriptions (in million)

FTTH

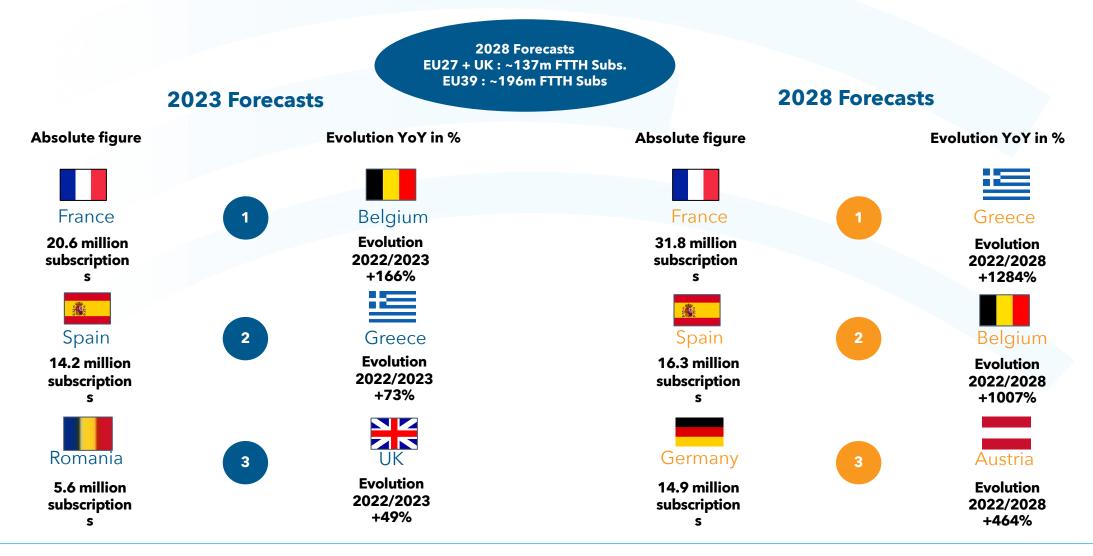
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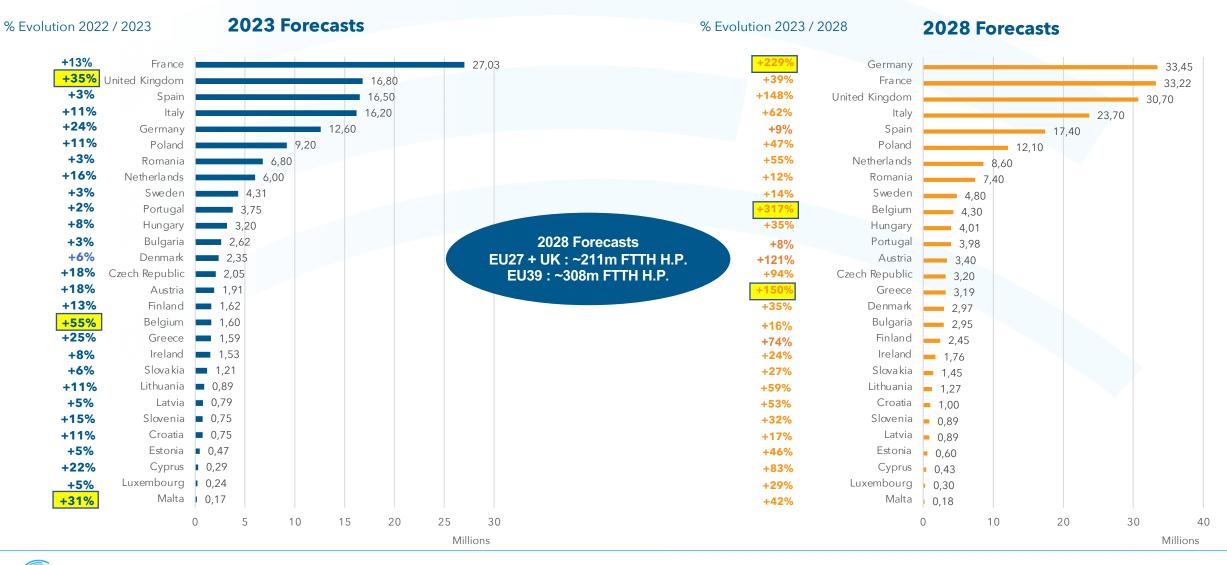
Source: IDATE for FTTH Council EUROPE

European ranking in terms of FTTH/B Subscriptions (in million)



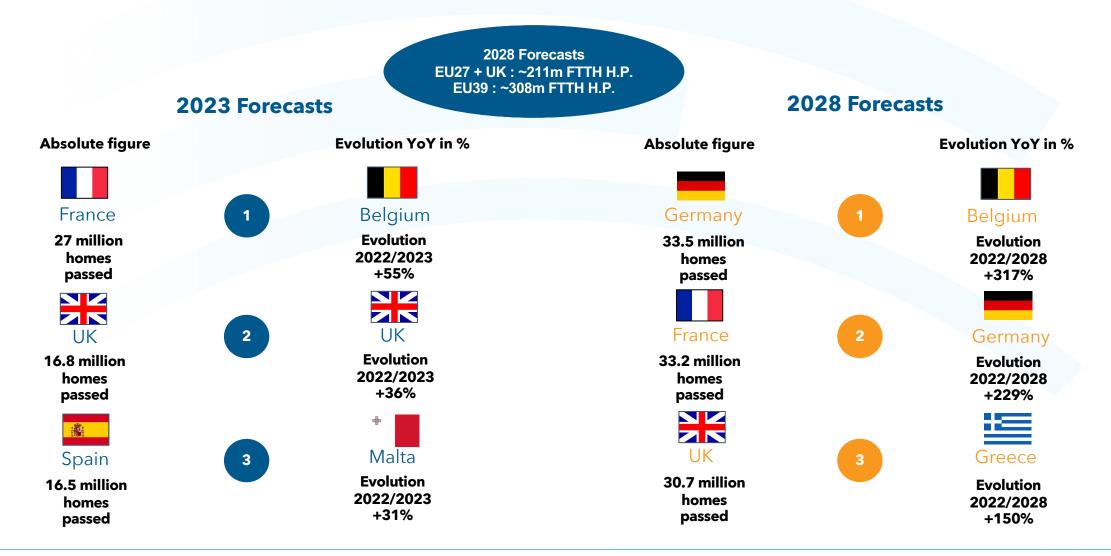


European ranking in terms of FTTH/B Homes Passed (in million homes)



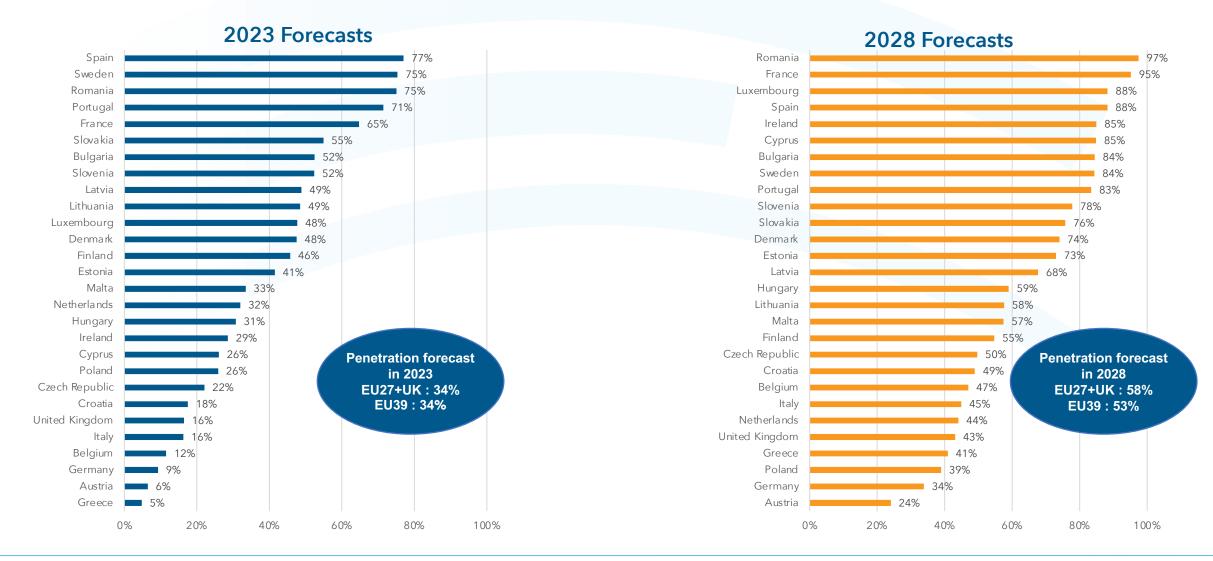
FTTH COUNCIL With thanks to DIDATE

European ranking in terms of FTTH/B Homes Passed (in million homes)





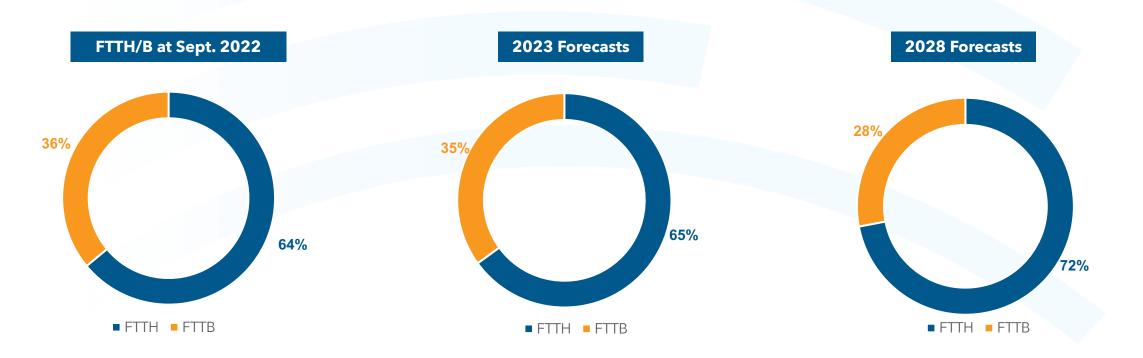
European ranking in terms of FTTH/B Household penetration rate(%)





FTTH/FTTB architecture evolution

Fibre in the process of being installed closer to end-users

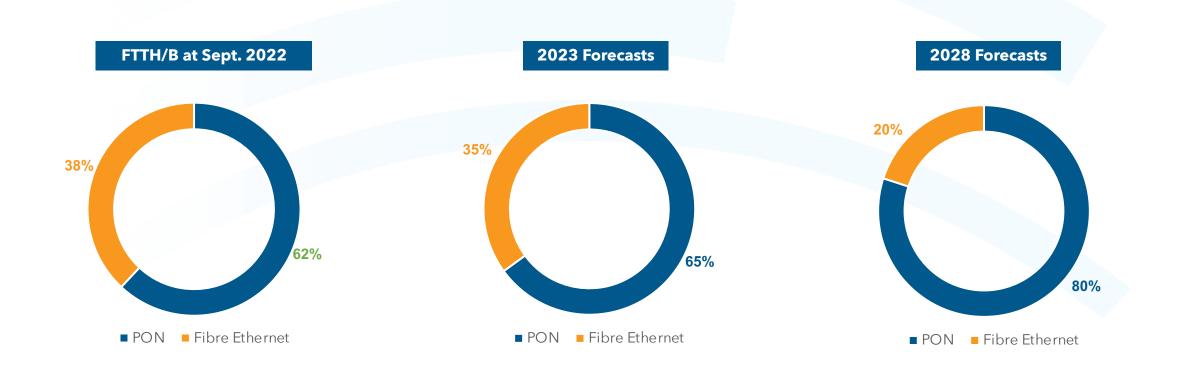


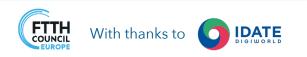
- Looking ahead, it is expected that by 2028, FTTB deployment will account for approximately 28% of fibre deployment, while FTTH will make up the remaining 72%.
- > This shift towards FTTH architecture is indicative of the growing need for faster, more reliable internet connections that can keep up with the increasing demands of modern-day consumers.



PON vs. P2P Fibre Ethernet: technology evolution

PON is expected to become mainstream, delivering multi-gigabit symmetric speed in a much more sustainable way





Source: IDATE for FTTH Council EUROPE

Key Conclusions

This forecast exercise highlights the ongoing transformation of European countries towards a 'Digital Society' as planned by European authorities, and FTTH/B will play a major role in this digital inclusion. The full elimination of the digital gap between rural and urban regions will also be a key topic in the next periods.



The physical limitation of existing cable and copper networks in terms of bandwidth is pushing telecom players to deploy full fibre solutions. In addition, increased traffic demand in the region is pushing operators to update their networks to Full Fibre in order to be ready for new traffic peaks.

Thanks to recently launched national programmes coupled with DAE targets for 2025 & 2030, full-fibre connectivity will be reaching new high levels in European countries.

03

In several historically copper- and cable-based countries, the fixed broadband market is intensively evolving. In these countries, alternative ISPs are involved in FTTH deployments in areas not covered by major national players. However, recent initiatives from incumbents to migrate their core architecture towards FTTH will drive full-fibre rollouts in the next periods. This is the case for example of the UK, Germany, and Italy.

By the end of 2023, EU39 could reach over 123 million FTTH subscriptions milestone, with EU27+UK accounting for 65%. By 2028, Europe39 will be home for around 197 million FTTH subs, EU27+UK representing over 138 million.
230 million homes passed by full-fibre infrastructure in the region in 2023, 146 million in EU27+UK. By 2028, FTTH/B will cover 310 million homes in the whole region, of which 213 million for EU27+UK.

Thank you for your attention!

FTTH Council Europe asbl

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