MINISTÈRE
CHARGÉ DE LA TRANSITION
NUMÉRIQUE ET DES
TÉLÉCOMMUNICATIONS
Liberté
Égalité
Fraternité

17èmes Assises du TRÈS HAUT DÉBIT

Jeudi 6 juillet 2023

Maison de la Chimie
28, rue Saint-Dominique
75007 Paris

« Les nouveaux défis du Très Haut Débit »

Partenaires

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BIENVENUE

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ACCUEIL & INTRODUCTION

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Mireille CLAPOT

Députée de la Drôme, présidente de la Commission supérieure du numérique et des postes

Philippe LE GRAND

Président d'InfraNum

ALLOCUTION D'OUVERTURE

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Jean-Noël BARROT

Ministre délégué auprès du ministère de l'Économie, des Finances et de la Souveraineté industrielle et numérique, chargé de la Transition numérique et des Télécommunications

DÉPLOIEMENT DU TRÈS HAUT DÉBIT EN FRANCE ET DANS LE MONDE : ÉTAT DES LIEUX

#THD

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Worldwide FTTx Panorama

EU FTTH Panorama & place of France

Where's the growth in Europe

NGPON: time to re invest in FTTH

01 | Worldwide Picture

FTTx Worldwide picture

Regions tend to differ in terms of technology adoption. It is confirmed that there is no single path for the implementation of superfast broadband technologies.

- **FTTH/B networks** have been widely deployed and adopted in the **Asia-Pacific** region. In Europe, FTTH/B is making real strides, but it has yet to compete with copper-based architectures from some incumbents, who plan to move towards fibre in the next years. In North America, strategies are focused on legacy copper network switch-offs and migrating to FTTH in the coming years. In Latin America, major FTTH/B deployments have been seen mainly in Brazil, Mexico, and Argentina. In the coming years, next-gen PON technologies will enable up to 25/50 Gbps speeds for end-users, accelerating FTTH adoption and creating new opportunities for businesses.

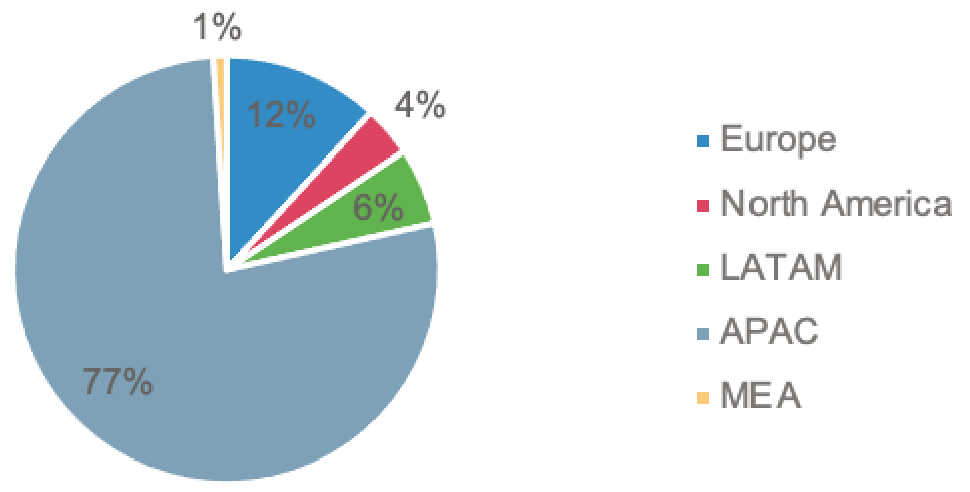
- **VDSL networks: m**any incumbents have switched to FTTx and new generation copper-based solutions (Vectoring or G.fast) to use the legacy copper infrastructure. However, new ambitious national programmes **tend to focus on full-fibre technologies** to eliminate the digital divide.

- **DOCSIS 3.x networks:** have been deployed mainly in the **US**, although some European countries have widely deployed cable networks. Many of these networks are being upgraded to DOCSIS 3.1 to provide Gigabit speeds. Some cable companies are also deploying new FTTH solutions to have a more scalable infrastructure over time. By 2020, DOCSIS 4.0 was released allowing to reach 10 Gbps speeds, however, major players are not considering migrating towards 4.0 in the coming years.

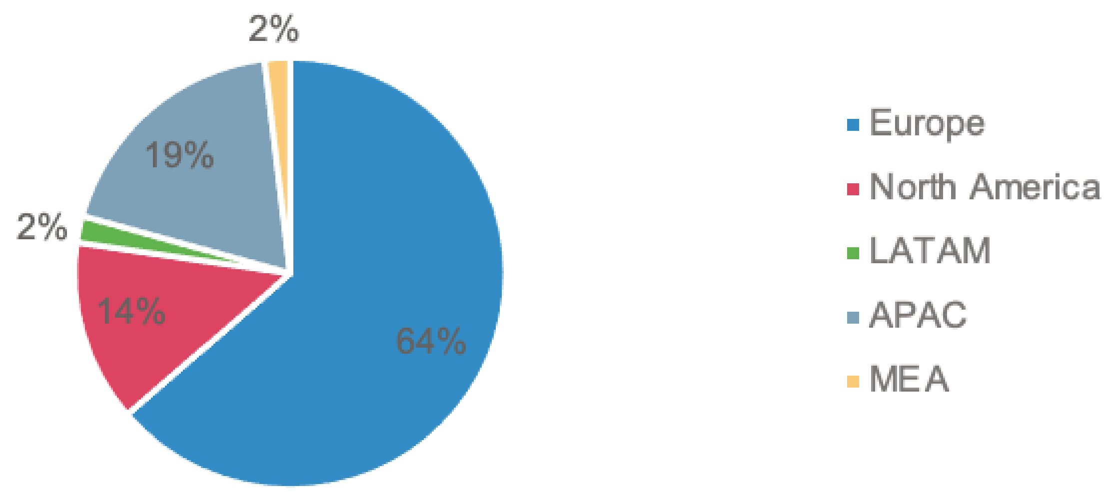
1, 046 million FTTx subscribers worldwide by June 2022

Geographical breakdown of the three main superfast broadband architectures, June 2022

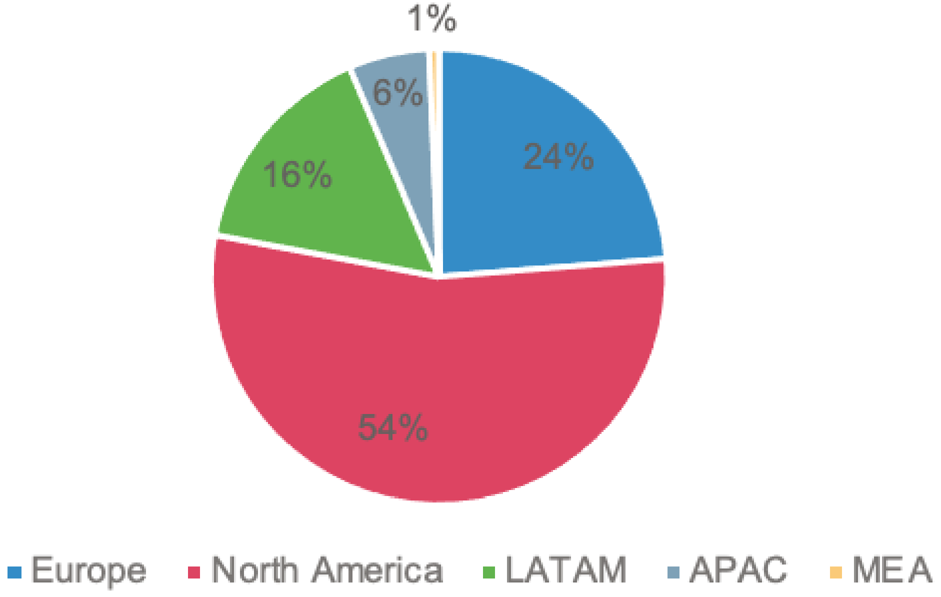
FTTH/B: 797 million subscribers



VDSL: 96 million subscribers



DOCSIS 3.x: 153 million subscribers



Source: IDATE, *World FTTx markets*, December 2022

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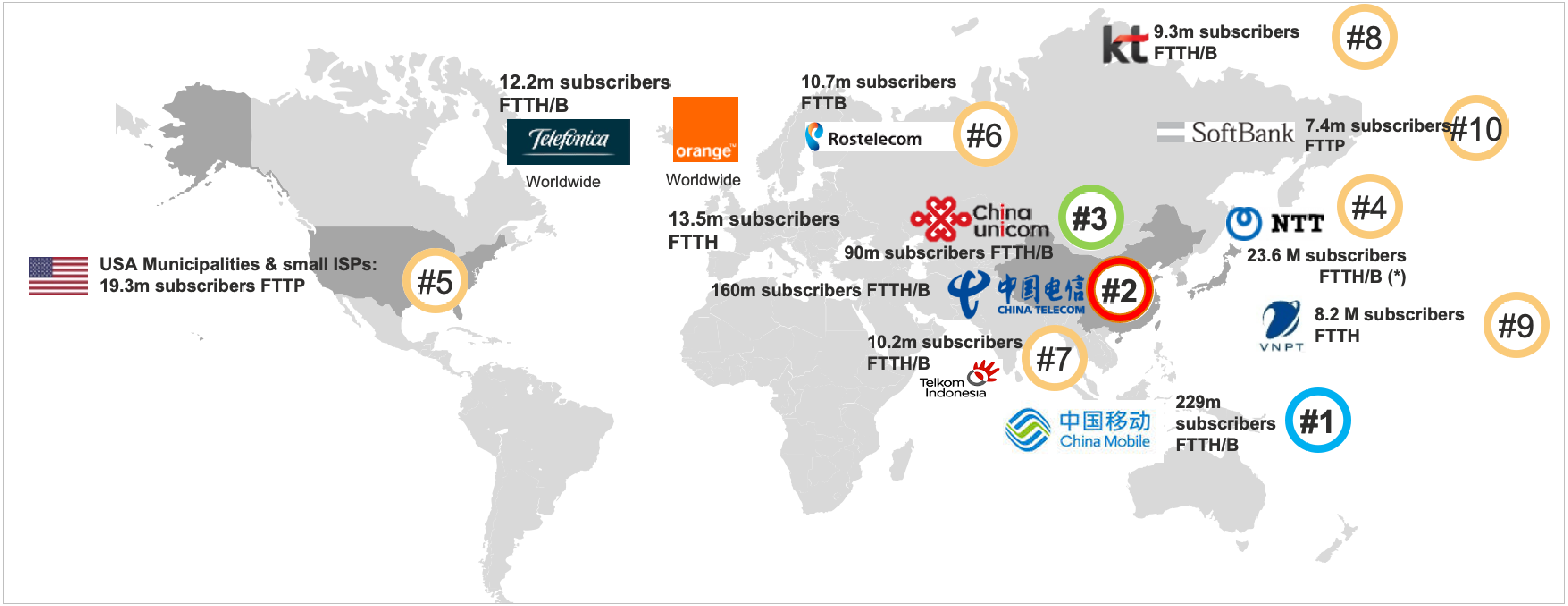
Worldwide FTTH/B leaders

- There are eight Asian telcos among the world's top 10 FTTH/B providers.
- The top 3 providers are Chinese operators, followed by pioneers NTT and US Municipalities.
- No Western European telcos are in the top 10, except for Russian Rostelecom.

Worldwide FTTH/B Leaders, June 2022



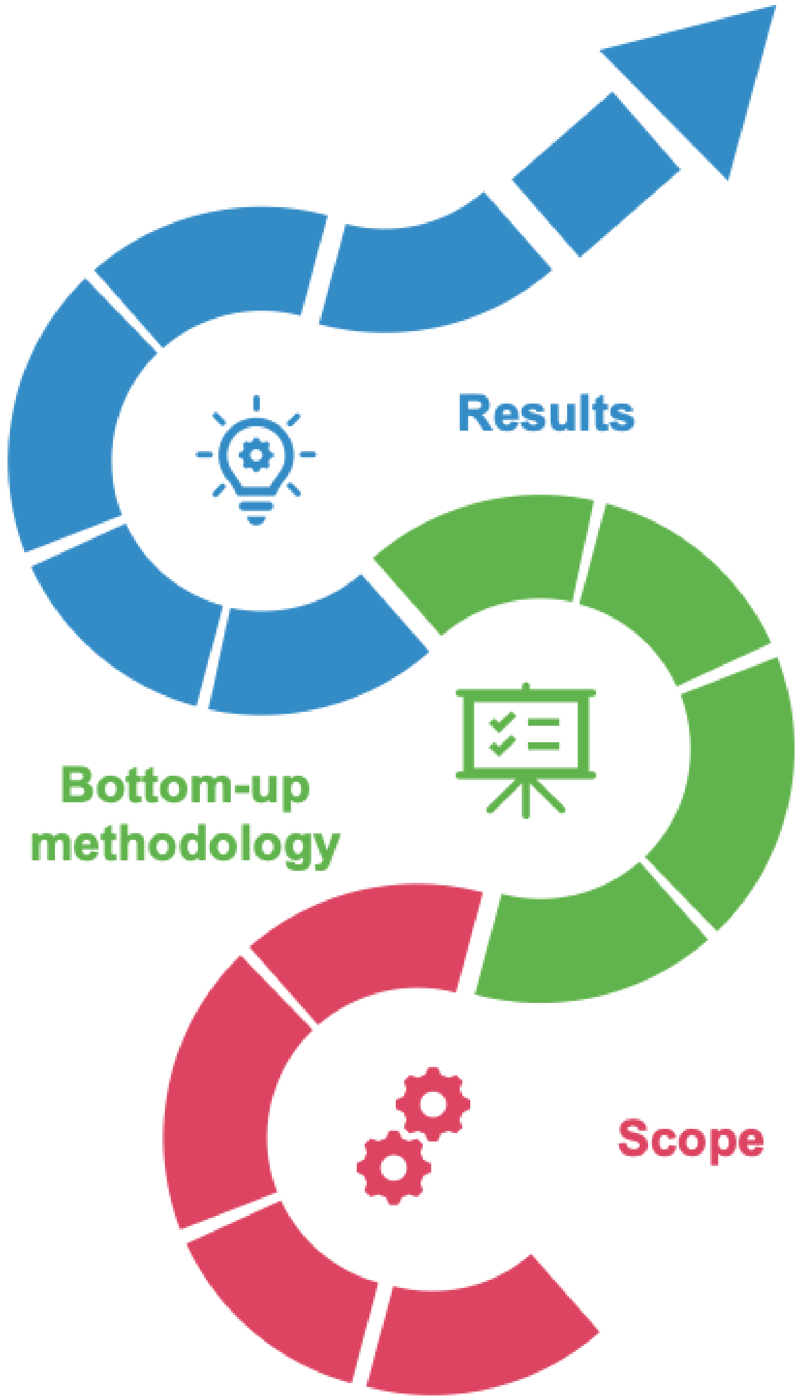
Source: IDATE, *World FTTx markets*, December 2022

(*) NTT includes retail subscribers + subscribers from collaboration model

02 | EU Study Background

Methodology

- Mission on behalf of the **FTTH Council Europe**
  → Provide a complete summary of the status of FTTH/B in Europe measured during **September 2022**
- This study is based on data and information collected by the European Commission (through DESI studies) and information gathered from local regulators in each country (if available).



Results:

- Both **quantitative** and **qualitative** data
- Market status in the country
- Strategic approach of involved players

Bottom-up methodology:

- Desk research
- **Direct contacts with leading players and IDATE partners within countries**
- Information exchange with FTTH Council Europe members

Scope:

- Desk research
- Data per player for FTTH/B and other fibre-based architectures
- Key parameters study: technical, financial, business model, figures

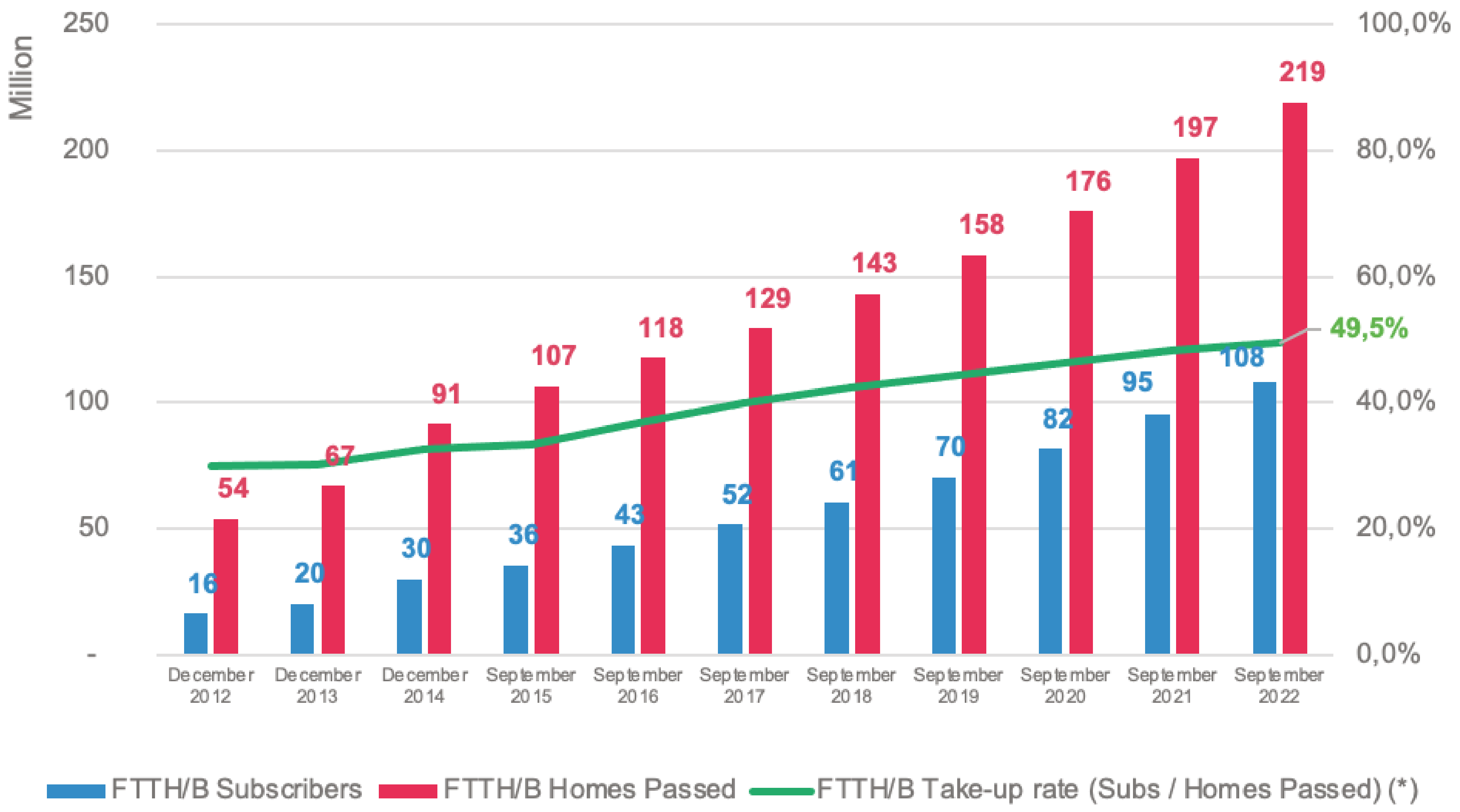
03 | General Overview

FTTH/B Market Panorama

Key Figures as of September 2022

FTTH/B European market evolution (EUR39)

In terms of Homes Passed, Subscribers and take-up rate (2012 - 2022)



As of September 2022, in EU39:

108 million FTTH/B subscribers

219 million FTTH/B Homes Passed

Coverage rate

EU27+UK: **55.3% (+ 6.8% yoy)**
EU39 : **62.3% (+ 5.3% yoy)**

Take-up rate

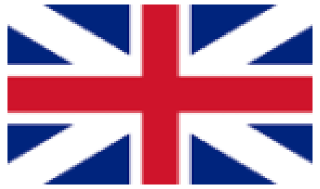
EU27+UK: **52.8% (+ 0.4% yoy)**
EU39 : **49.5% (+ 1.0% yoy)**

Source: IDATE for FTTH Council EUROPE

04 | Who is leading the race towards full-fibre?

Note on several important impacts in 2022

- Several countries have made significant progress since September 2021 and deserve a special mention.
- There have also been significant regional actions this year which impact the accuracy of data from Ukraine
- **The FTTH Council have removed Russia and Belarus from individual mention in the report due to their actions and support of the invasion of Ukraine**



United Kingdom is accelerating extremely rapidly since our report data collection point of September 2022. Full fibre coverage had reached 42% of UK homes, or around 12.4 million by september 2022. This represents an increase of 4.3 million homes between 2021 and 2022.

28% Coverage rate in 2021 → **42% Coverage rate** in 2022

+ 4.2 million HP

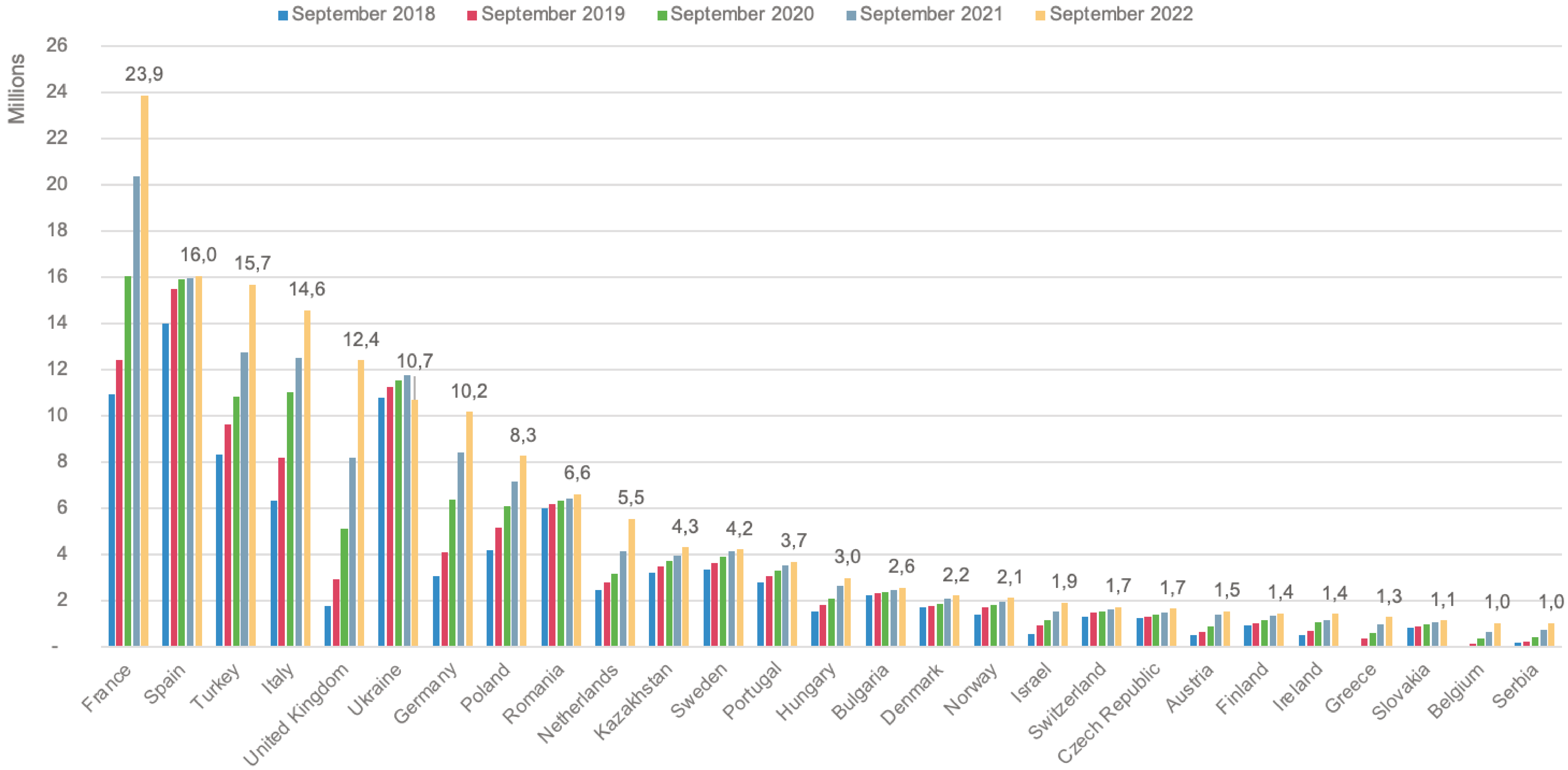
Italy and Germany have also increased the FTTH deployment since 2021, although VDSL technologies remain the most widespread to date.

Regarding the specific case of Ukraine, FTTH/B coverage in the country is estimated to be around 67% of total homes in September 2022. We have no current data on the level of damage caused by the War on FTTH networks in Ukraine and despite seeing reports of amazing efforts to maintain the network as much as possible – we do not know yet how fast these networks can be rebuilt.

FTTH/B Homes Passed

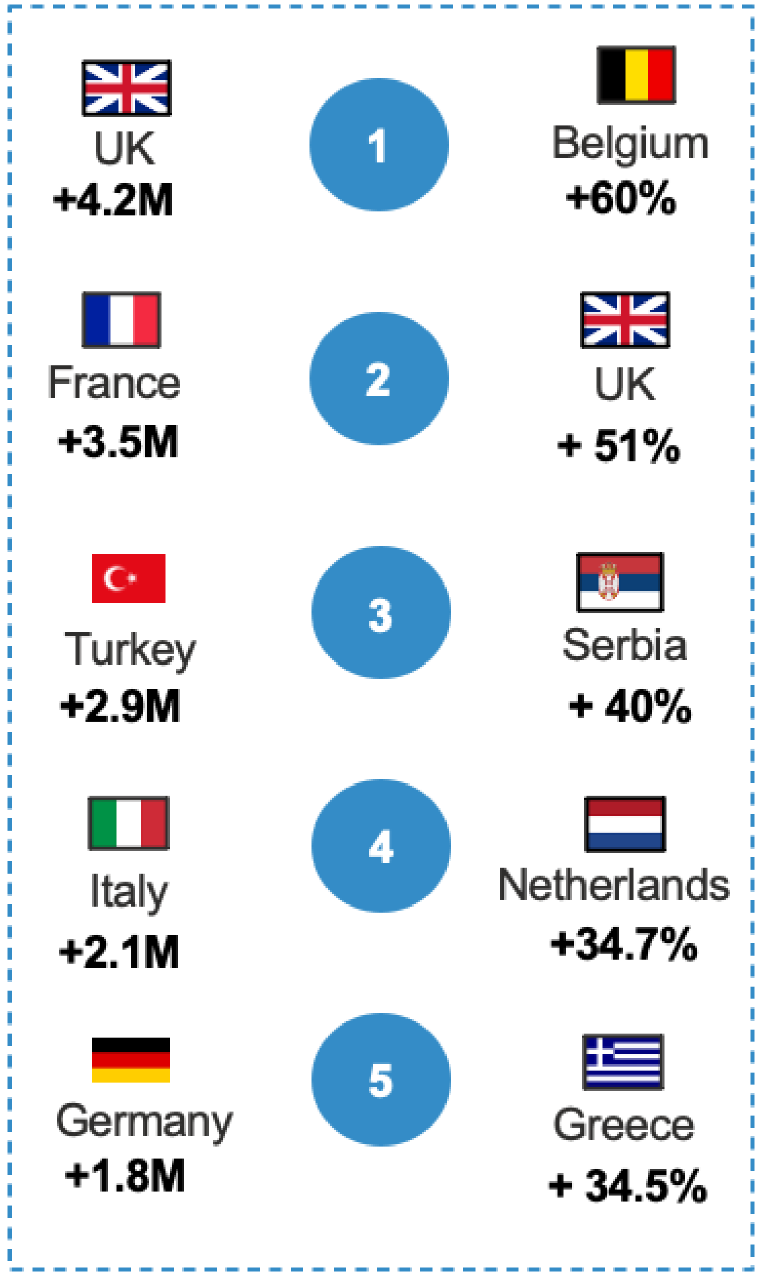
EUR39 Ranking

European ranking in terms of FTTH/B Homes passed, countries with > 1 million homes passed
Data comparison between Sept. 2018 and Sept. 2022 (in million homes)



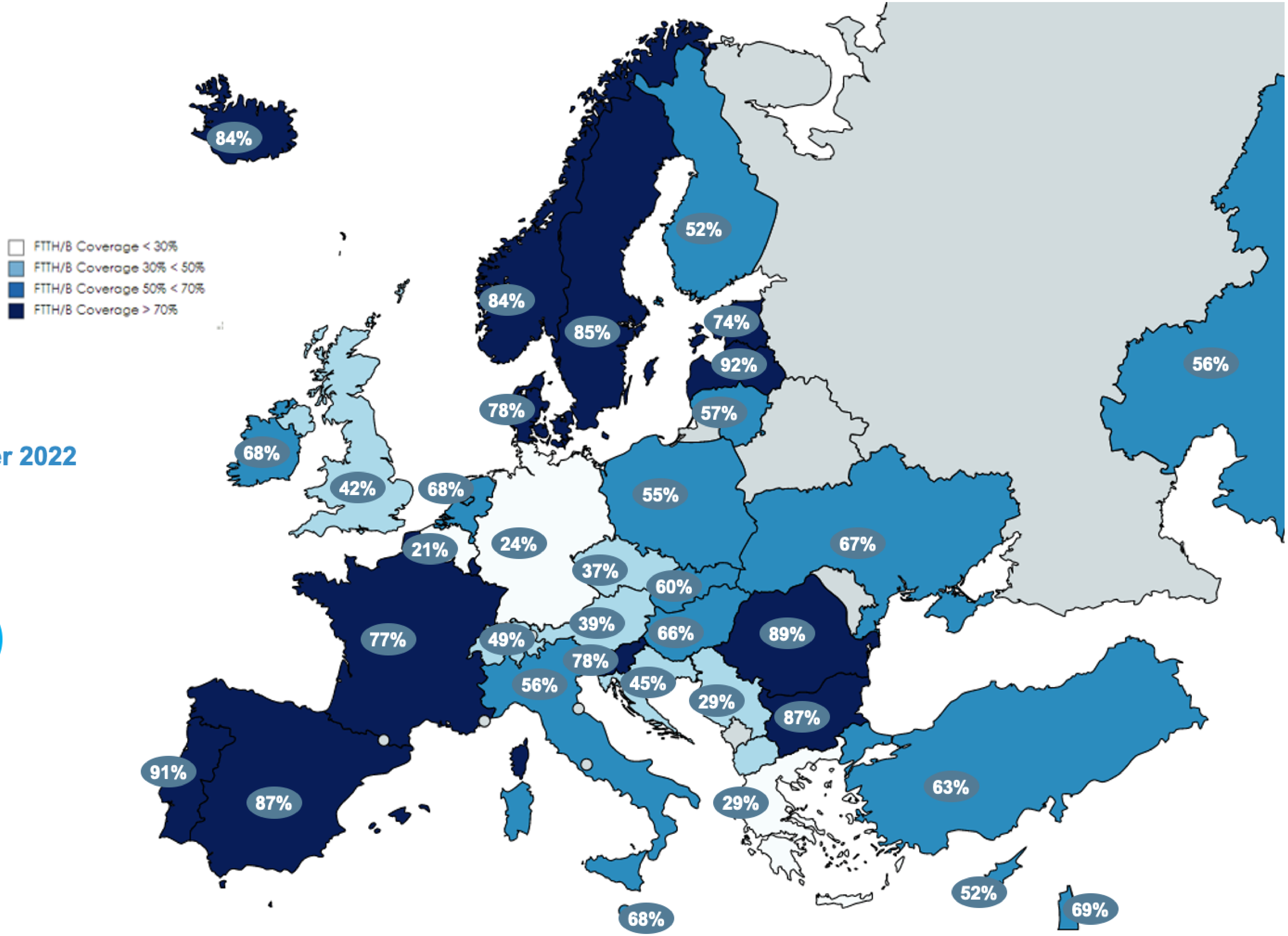
Source: IDATE for FTTH Council EUROPE

5 fastest growing markets (in both volume and %)
Data from Sept. 2021 to Sept. 2022 (in terms of FTTH/B Homes Passed)



FTTH/B Coverage

Summary map



FTTH/B coverage* map - September 2022
(* Homes passed / Households)

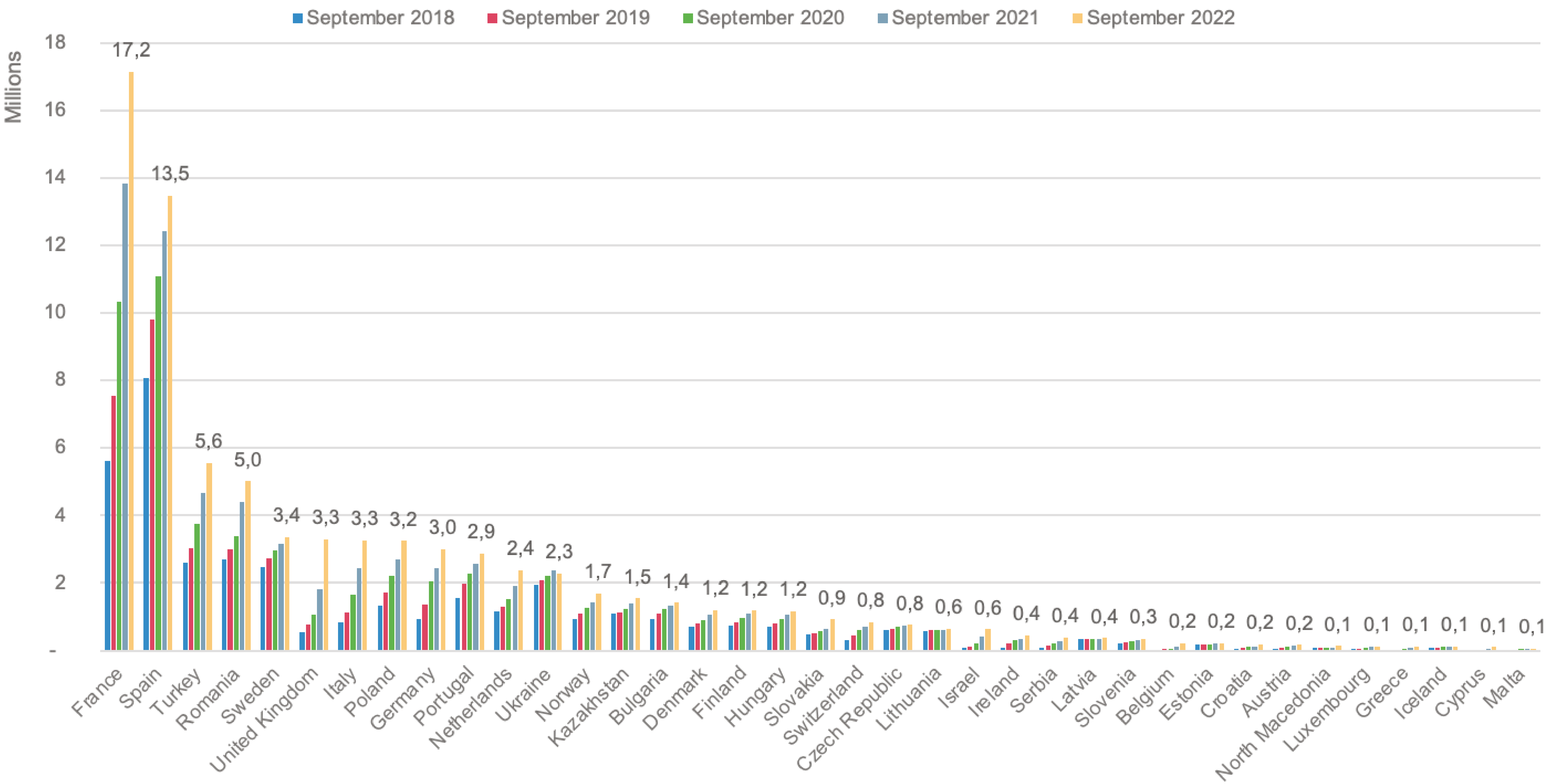
Coverage rate

EU27+UK: **55.3% (+ 6.8% yoy)**
EU39 : **62.3% (+ 5.3% yoy)**

FTTH/B Subscribers

EUR39 Ranking

EUR39 ranking in terms of FTTH/B Subscriptions over time (in thousands homes)
Data comparison between Sept. 2018 and Sept. 2022



Source: IDATE for FTTH Council EUROPE

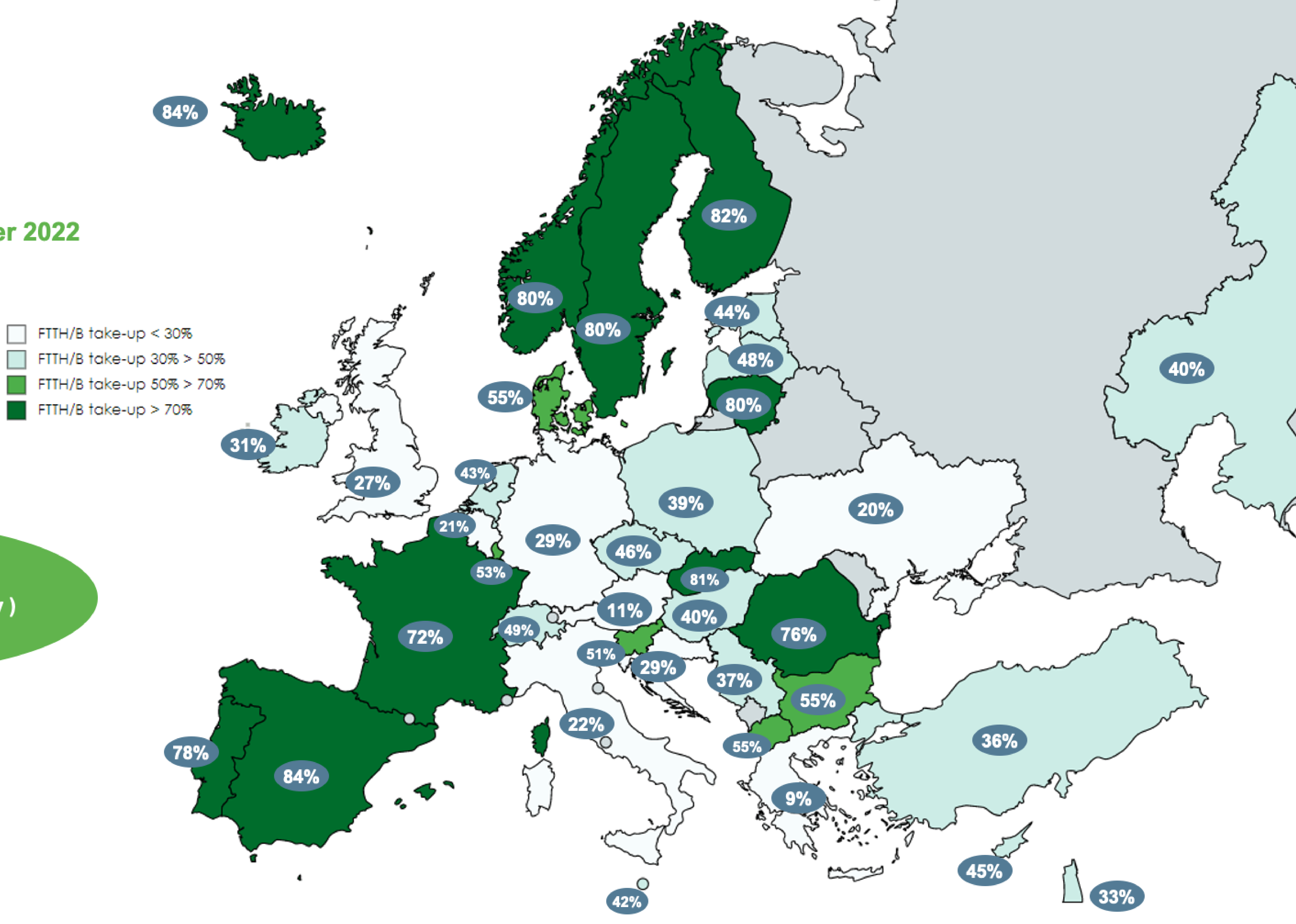
5 fastest growing markets (in both volume and %)
Data from Sept. 2021 to Sept. 2022
(in terms of FTTH/B Subscribers)

Volume	Rank	%
France **+3.3 M**	1	Cyprus **+ 111%**
UK **+1.5M**	2	Belgium **+ 81%**
Spain **+1.1M**	3	UK **+81%**
Turkey **+898k**	4	Greece **+ 70%**
Italy **+822k**	5	Croatia **+ 49%**

FTTH/B Take-up

Summary map

FTTH/B take-up* map - September 2022
*(Subscribers / Homes Passed)



Take-up rate

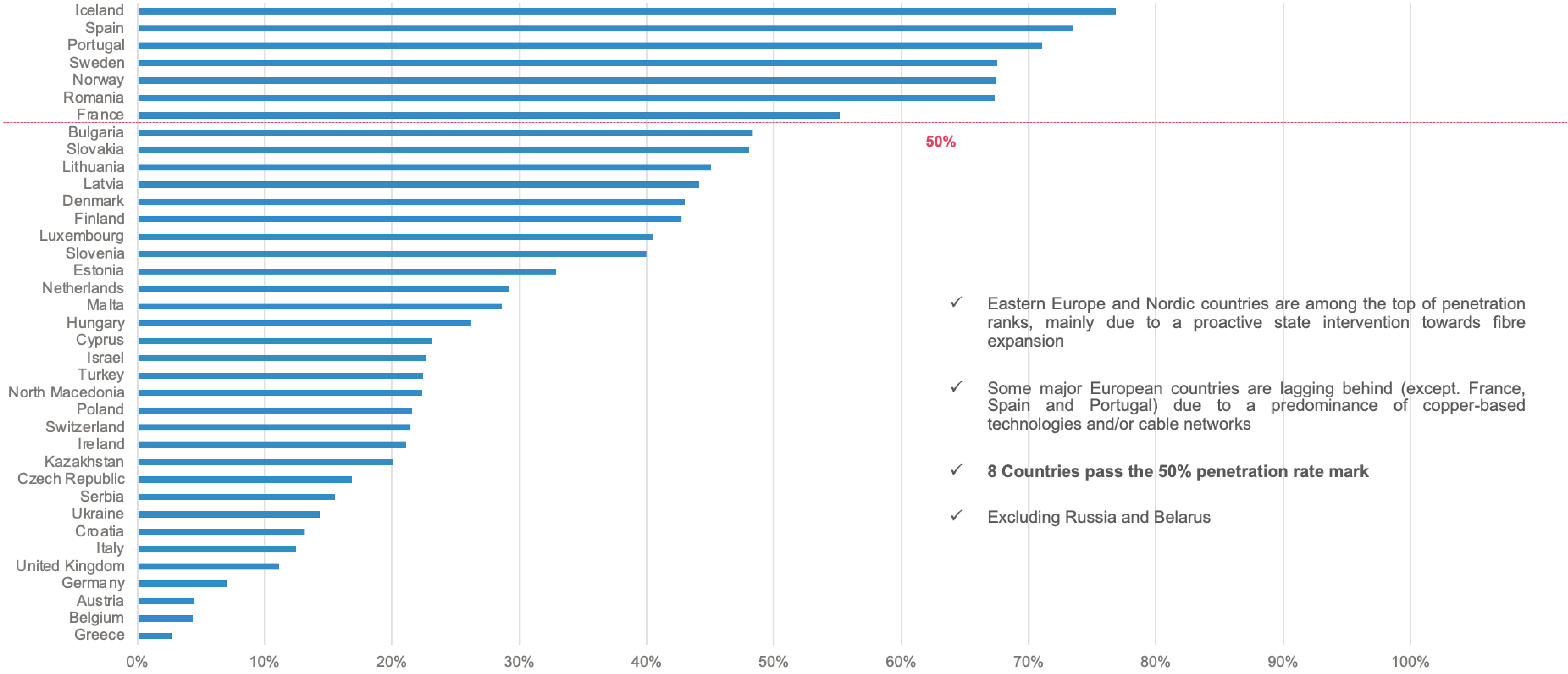
EU27+UK: **52.8% (+ 0.4% yoy)**
EU39 : **49.5% (+ 1.0% yoy)**

Source: IDATE for FTTH Council EUROPE

European leaderboards – EUR39

FTTH/B Markets – September 2022

Penetration rates of European countries - September 2022 (FTTH/B Subscriptions / Households)



- ✓ Eastern Europe and Nordic countries are among the top of penetration ranks, mainly due to a proactive state intervention towards fibre expansion
- ✓ Some major European countries are lagging behind (except. France, Spain and Portugal) due to a predominance of copper-based technologies and/or cable networks
- ✓ **8 Countries pass the 50% penetration rate mark**
- ✓ Excluding Russia and Belarus

Source: IDATE for FTTH Council EUROPE

05 | NGPON: time to re invest

NGPON tendencies

PON technology generation stretches over a period of 8 to 10 years

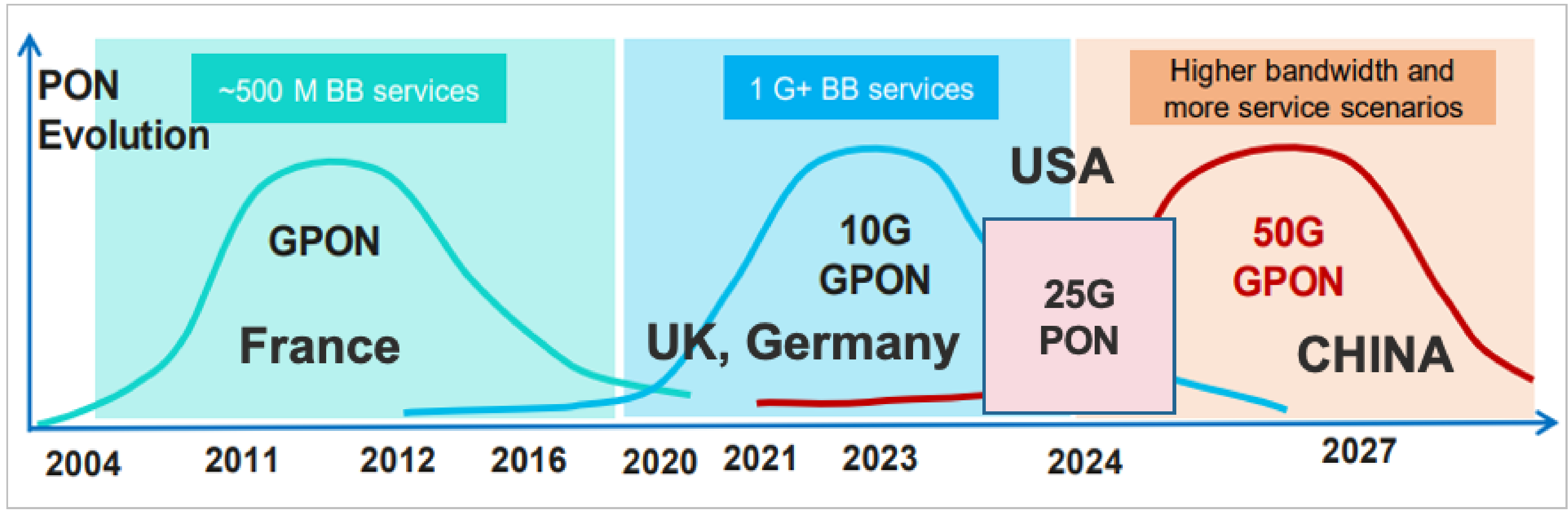
> The next GPON technology is expected to offer significantly higher speed to meet the requirements of new customers.

- Each new generation brings a significant speed increase of at least factor 4.
- After 2020 (Covid-19 being a catalyst in particular) telcos' deployment strategies have rapidly shifted in favour of 10G PON networks.
- In addition to speed improvements, operators are looking for the best PON opportunity that would extend the life cycle of the equipment and position the network for any migration scenario to support any business need and service type.

> 50G PON is a natural step towards the next GPON technology also favoured by standardization, but there will be room for 25GPON during the transition period

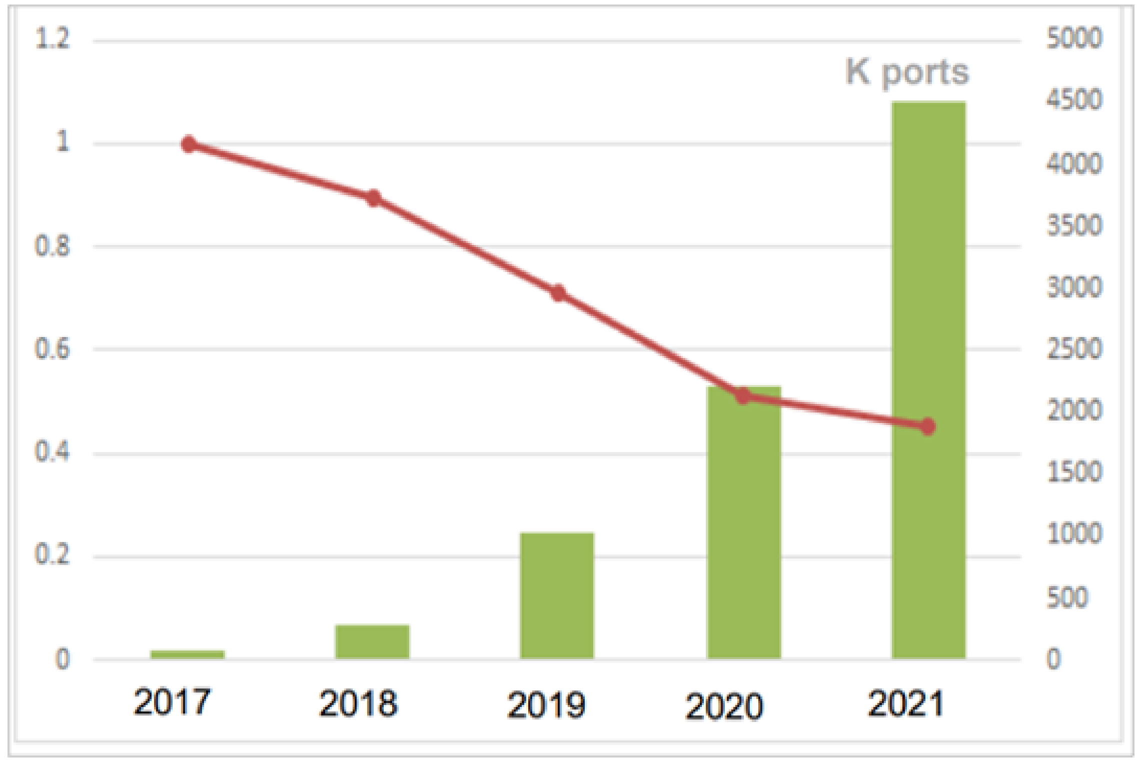
- IDATE observes that the 50GPON developments are moving fast.
- On top of standardisation, equipment price evolution should also be considered. Economies of scale is key to assess equipment pricing evolution.
- Considering the number of telecom operators having expressed an interest, IDATE estimates that their joint coverage of the market represents close to 70% of the total FTTH market.
- Chinese telecommunications operators weight close to two third of this market potential.
- Therefore, IDATE expects the price of 50G PON equipment to fall steadily in the medium term, at least in line with the fall in the price of 10G PON.
- Until the 50 GPON matures, there will be room for 25 GPON, as it can co-exist with GPON and XGS-PON solutions.

PON Technology evolution: 8 – 10 years for one generation



Source: IDATE, *The future of (N)GPON*, July 2022, based on expert interviews

Historical 10G PON price reduce with shipments volume growth

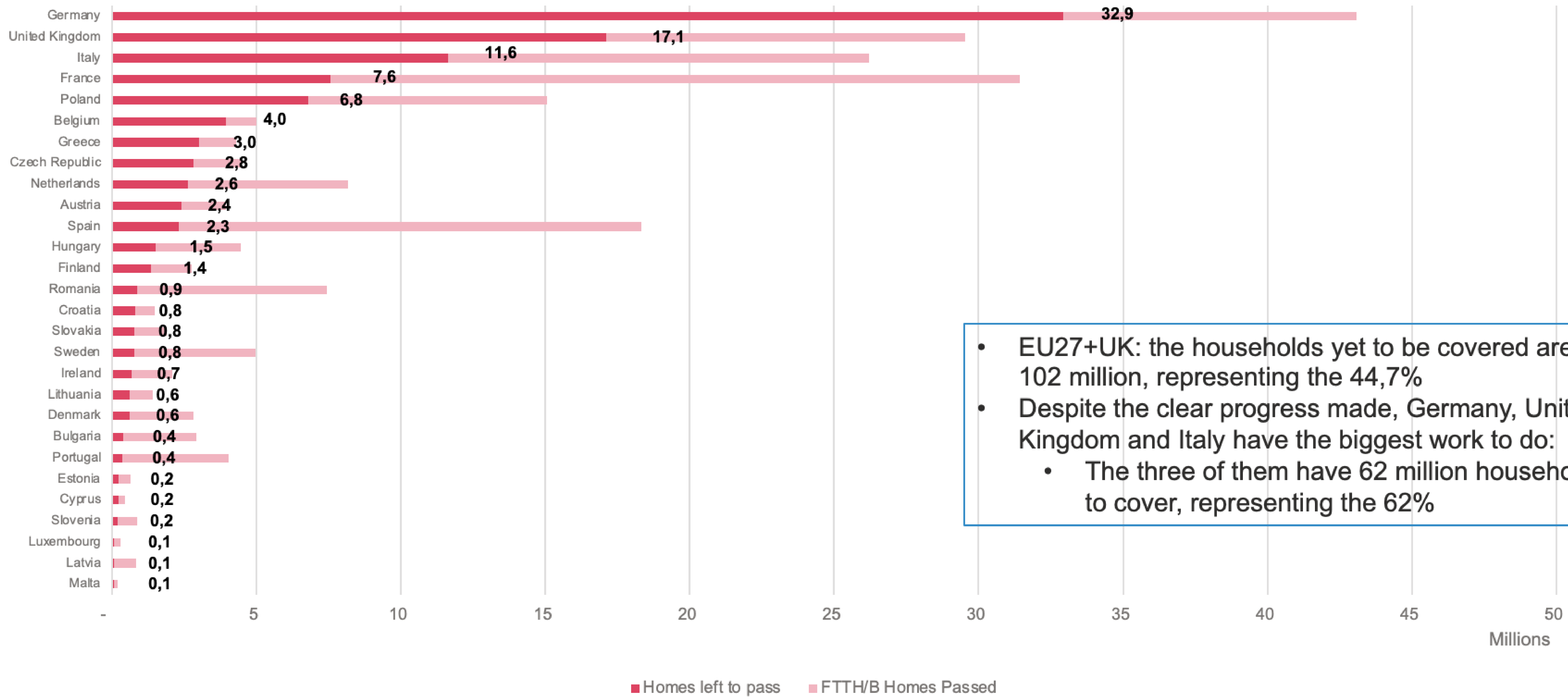


Source: IDATE, *The future of (N)GPON*, July 2022, based on expert interviews

06 | Where’s the Grothw in Europe

Homes not passed vs homes passed – EU27+UK – September 2022

The Road to Full Fibre – Who has the most work left to do?

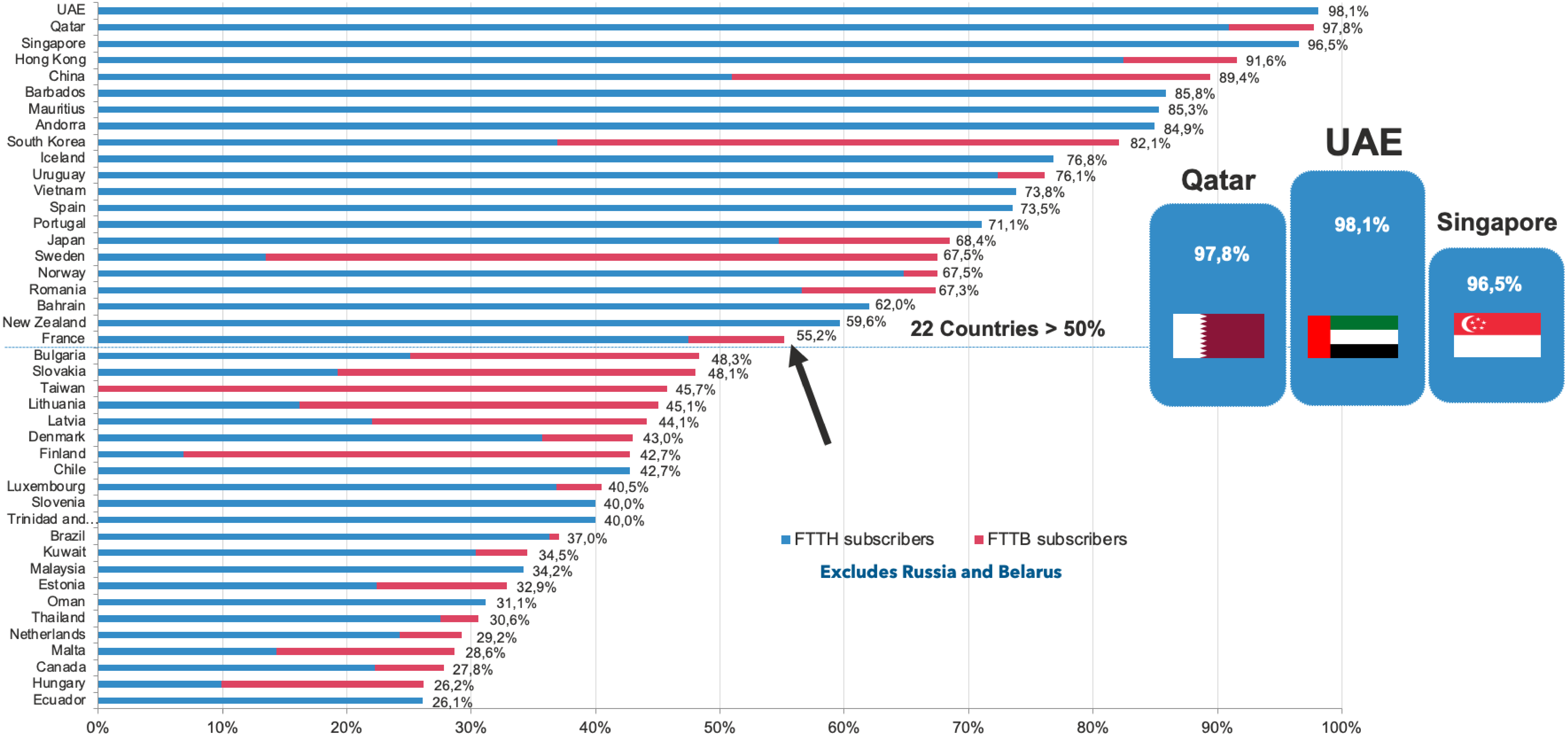


- EU27+UK: the households yet to be covered are 102 million, representing the 44,7%
- Despite the clear progress made, Germany, United Kingdom and Italy have the biggest work to do:
    - The three of them have 62 million household to cover, representing the 62%

Source: IDATE for FTTH Council EUROPE

Global Ranking - FTTH/B Markets - September 2022

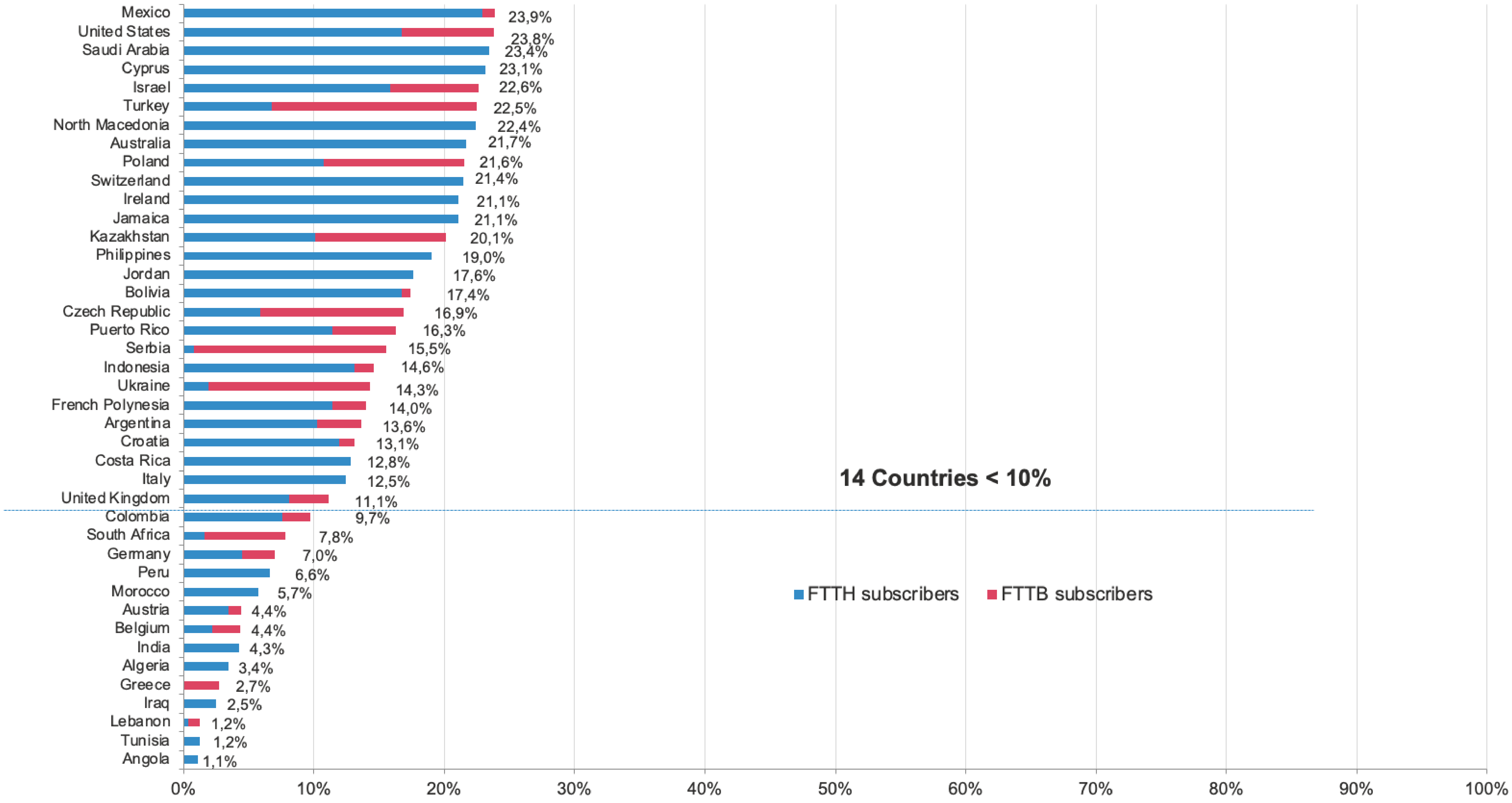
Countries with more than 25% penetration



Source: IDATE for FTTH Council EUROPE

Global Ranking - FTTH/B Markets - September 2022

Countries with less than 25% penetration



Source: IDATE for FTTH Council EUROPE

IDATE Market Intelligence: FTTx & Gigabit Society – Reports & Dataset

MERCI !!

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Upcoming publications*

Format	Title	Publication date
Report + DB	World FTTx Markets – 1H 2023	1H 2023
Report	Government Aids & Broadband/FTTH plans: where are we?	1H 2023
Report	LEO Constellations and FTTH: synergies when deploying FTTH networks?	1H 2023
Report	ODN innovation and market sizing	1H 2023
Report	NGPON for mobile fronthaul and backhaul	2H 2023
Report	GIS planning tools for deploying FTTH: Telco strategies	2H 2023
Report + DB	World FTTx Markets – 2H 2023	2H 2023
Report	Carbon efficiency when deploying FTTH neworks: player approaches	2H 2023

Available publications

Format	Title	Publication date
Report	What are the global growth areas in the fibre industry?	1H 2023
Report + DB	World FTTx Markets – 2H 2022	2H 2022
Report	In-home broadband – Technologies for in-home broadband	2H 2022
Report	Les territoires connectés et durables à l'épreuve des crises – La situation en France *(French only)*	2H 2022
Report	The future of (N)GPON	2H 2022
Report	Copper switch-off	1H 2022
Report	Connected Territories and Mobility	1H 2022
Report	eHealth: digital helping to build the future of health	2H 2021
Report	Corporate Social Responsibility of telcos	2H 2021
Report + DB	Smart City Markets	2H 2021
Report	Key dilemma for cable operators: FTTH versus DOCSIS 4.0	1H 2021
Report	The potential of 5G Fixed Wireless Access	2H 2020
Report	Open Access Fiber Networks in Europe	2H 2020
Report	Power Utilities and FTTH	1H 2020
Report	The Strategies of TowerCos and FiberCos	1H 2020
Report	FTTH deployment in China - The process accelerates	1H 2020
Non-exhaustive list. 40+ other reports in this collection available from our catalogue		

KEYNOTE

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Directeur général adjoint
Finance Innovation

Ilham DJEHAICH

Directrice générale Altitude Infra THD

LE DÉFI DE LA COMPLÉTUDE ET DE LA RÉSILIENCE : GARANTIR ET SÉCURISER L'ACCÈS POUR TOUS ?

#THD

Directeur général adjoint
Finance Innovation

Hervé RASCLARD

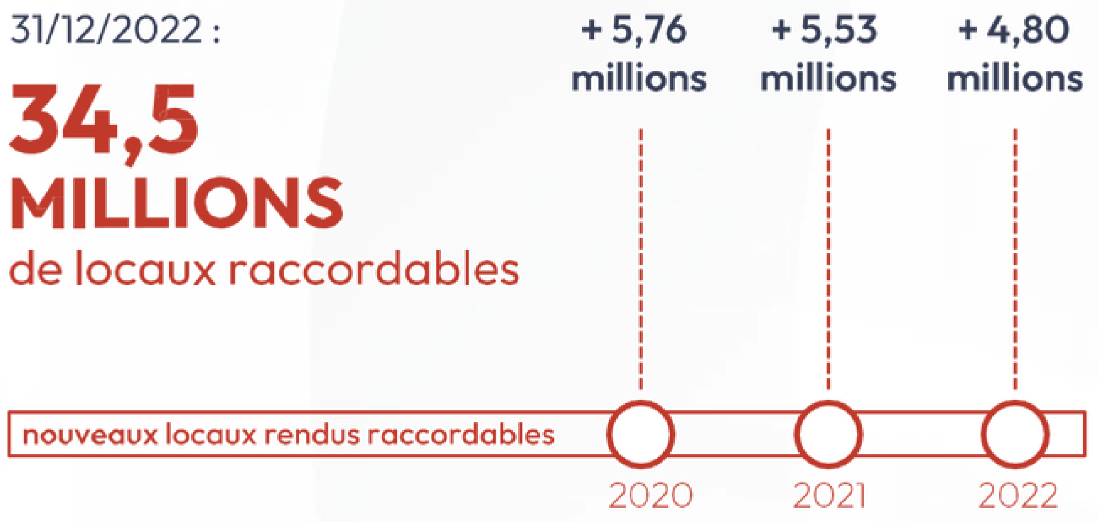
Délégué général d'Infranum

Plan France THD

L'objectif 2022 atteint, en route pour 2025

31/12/2022 :

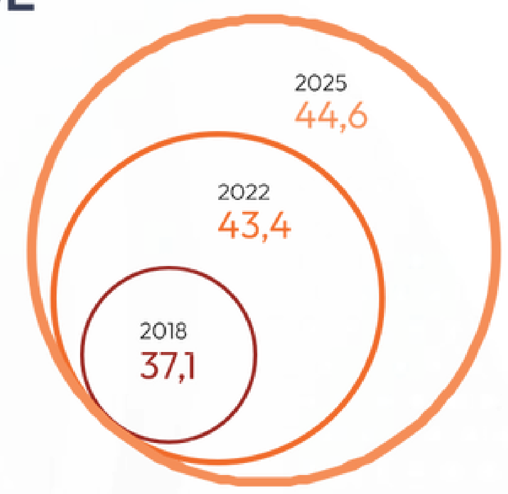
34,5 MILLIONS
de locaux raccordables



80 % **du total des locaux sont raccordables en FttH** conformément aux objectifs fixés il y a 10 ans

NOMBRE DE LOCAUX

(EN MILLIONS)
en croissance de 1.2% par an



LA FRANCE, LOCOMOTIVE EUROPÉENNE

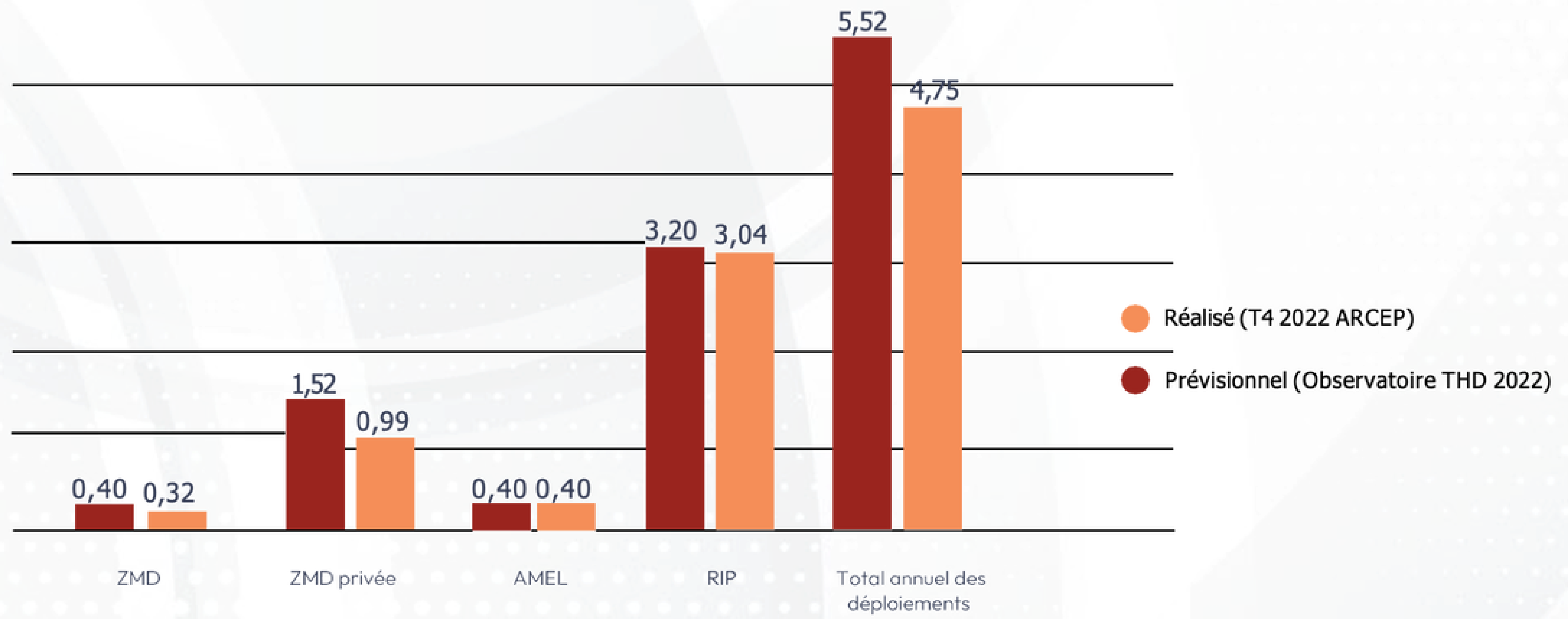
Plus grand nombre de lignes ÏttH déployées

Deuxième plus grand nombre de lignes déployées derrière UK sur l'année écoulée

Plus grand nombre d'abonnés ÏttH au l'ol'al el' sur l'année écoulée

(Source : Idate pour FttH Council 2023 – sept. 2021 à sept.2022)

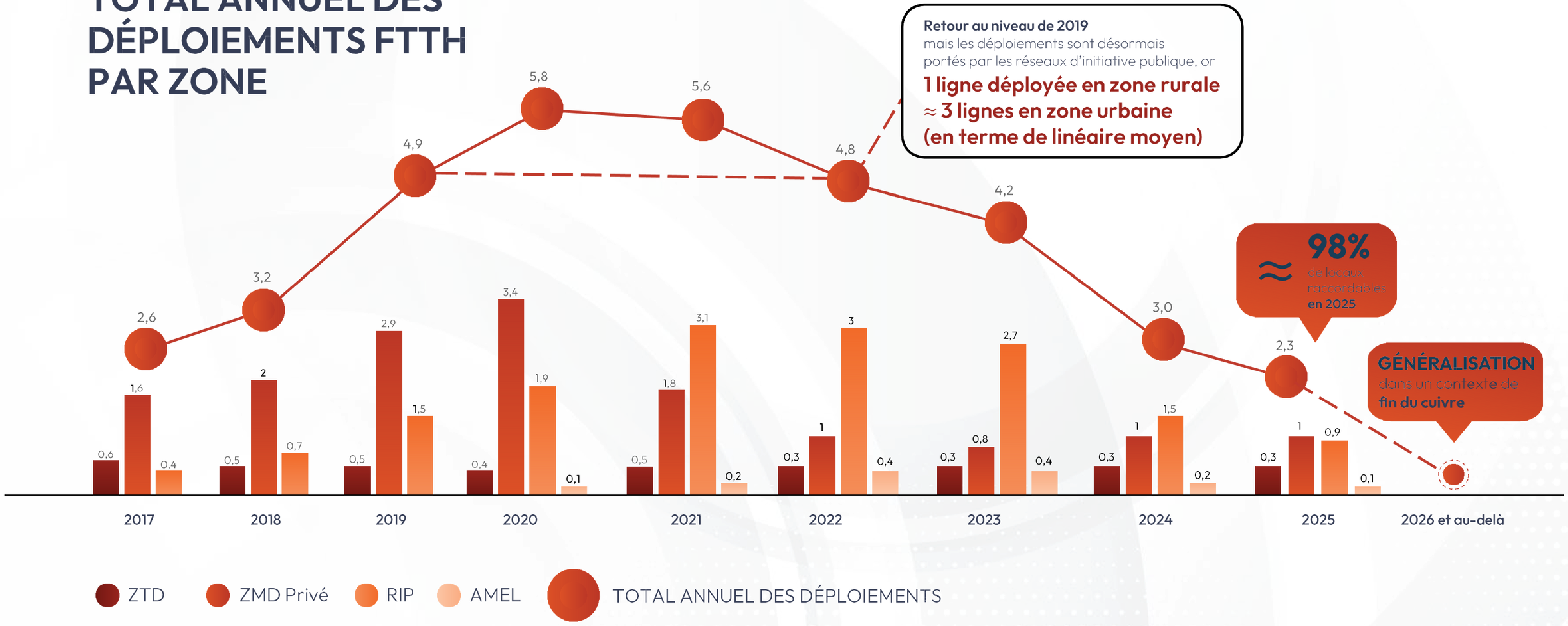
DÉPLOIEMENTS FttH PAR ZONE GÉOGRAPHIQUE EN 2022 (EN MILLIONS DE LIGNES)



Plan France THD

Une réduction du rythme de déploiement en trompe-l’œil

TOTAL ANNUEL DES DÉPLOIEMENTS FTTH PAR ZONE



Égalité, pérennité, solidarité : l'urgence d'un « Good Deal » numérique

Les trois piliers du « Good Deal », fondations indispensables pour bâtir durablement une France numérique juste

Plan France
Très Haut Débit
RÉPUBLIQUE FRANÇAISE

Garantir d'ici 2030 l'enracinement du Plan France THD pour les décennies à venir

ÉGALITÉ	PÉRENNITÉ	SOLIDARITÉ
Raccorder tous les Français	Sécuriser les infrastructures déployées	Exploiter durablement les RIP

STRUCTURE NATIONALE PORTANT L'INVESTISSEMENT ?
FONDS DE PÉRÉQUATION DES RÉSEAUX OPTIQUES ?
EVOLUTION DES LIGNES DIRECTRICES TARIFAIRES DE L'ARCEP ?
PLAN NATIONAL DE RÉSILIENCE DES RÉSEAUX ?

Économe en argent public

Préserve de l'emploi

Garantit la cohésion des territoires

Maintient l'avance de la France au niveau mondial et soutient son attractivité

LE DÉFI DE LA COMPLÉTUDE ET DE LA RÉSILIENCE : GARANTIR ET SÉCURISER L'ACCÈS POUR TOUS ?

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Sandrine LAFONT
Experte télécommunications par satellite – marchés et usages, CNES

Emmanuel PASSILLY
Responsable des infrastructures numériques et données territoriales, Banque des Territoires

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KEYNOTE

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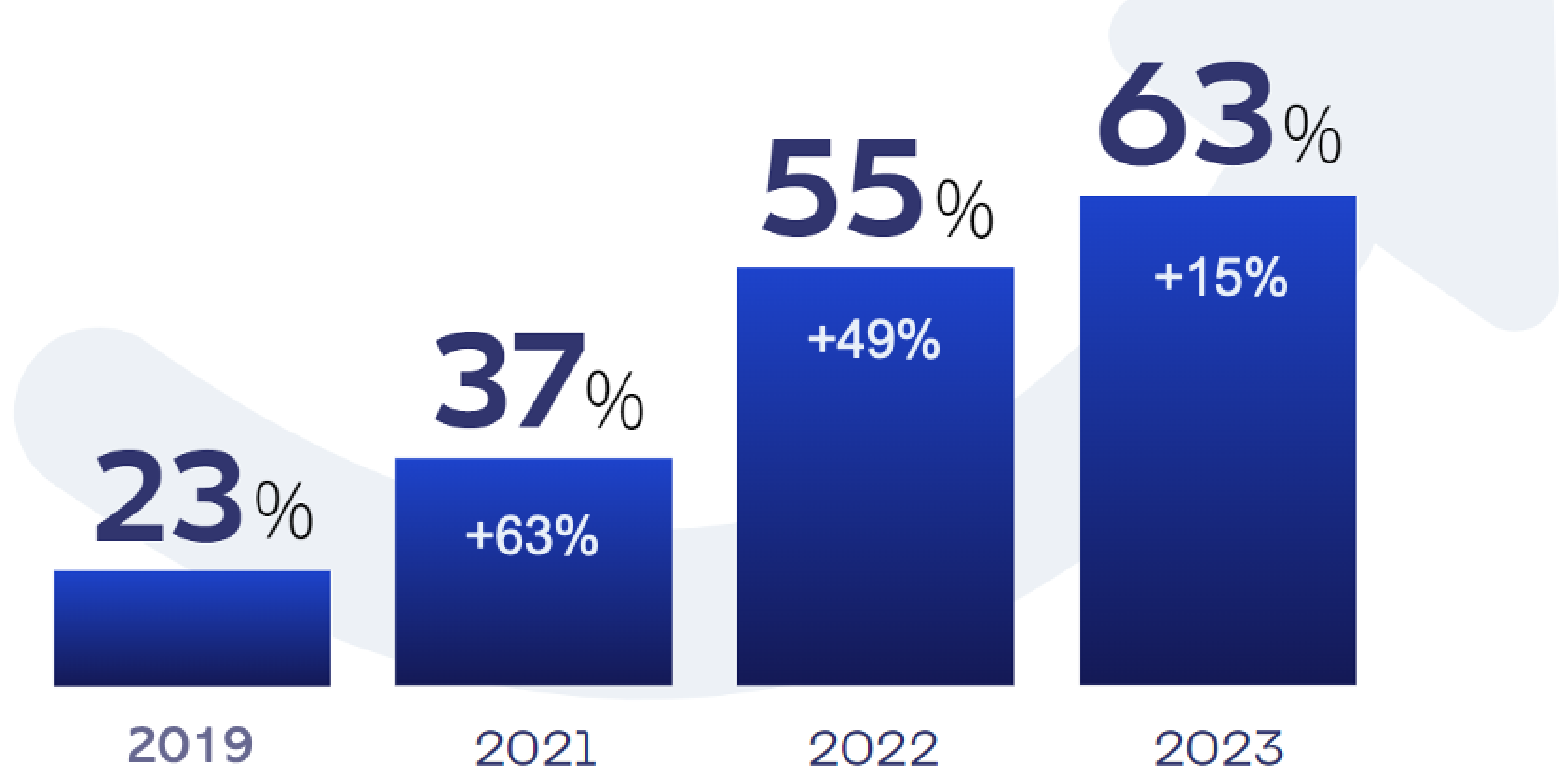
DES ENTREPRISES DE PLUS EN PLUS FIBRÉES

ENTREPRISES RACCORDÉES À LA FIBRE



PROFIL DES ENTREPRISES

44 % +22%
COMMUNES RURALES

64 % +9%
COMMUNES URBAINES EN RÉGION (HORS IDF)

79 % +7%
RÉGION ILE-DE-FRANCE

Taux de croissance
NOMBRE DE PRISES FTTH RACCORDABLES

T1 2023 vs T1 2022

+15%

France entière

CONFIRMATION DE L'EXISTENCE D'UN SOCLE DE RÉFRACTAIRE IMPORTANT

41% ne souhaitent pas basculer volontairement à la fibre

FREINS

33% (+10 pts)
23 % en 2022
Pense ne pas être éligible à la fibre

24%
10 % en 2022
Pas confiance aux opérateurs

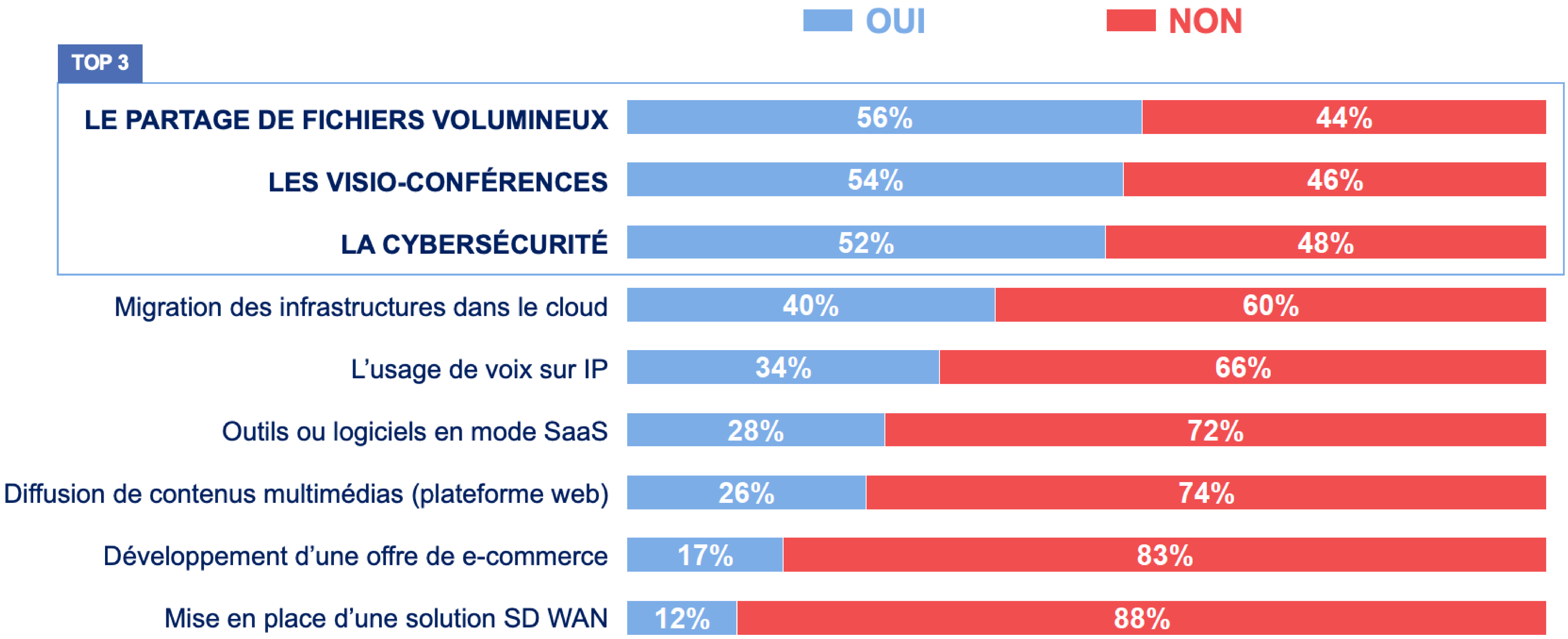
58% (+25 pts)
33 % en 2022
Le coût de l'offre Fibre

- Offre fibre : 37%
- Cout généré par le projet : 21%

11% (+7 pts)
17 % en 2022
Rupture de service

9%
12 % en 2022
Obstacles contractuels

LES USAGES NUMÉRIQUES ENVISAGÉS



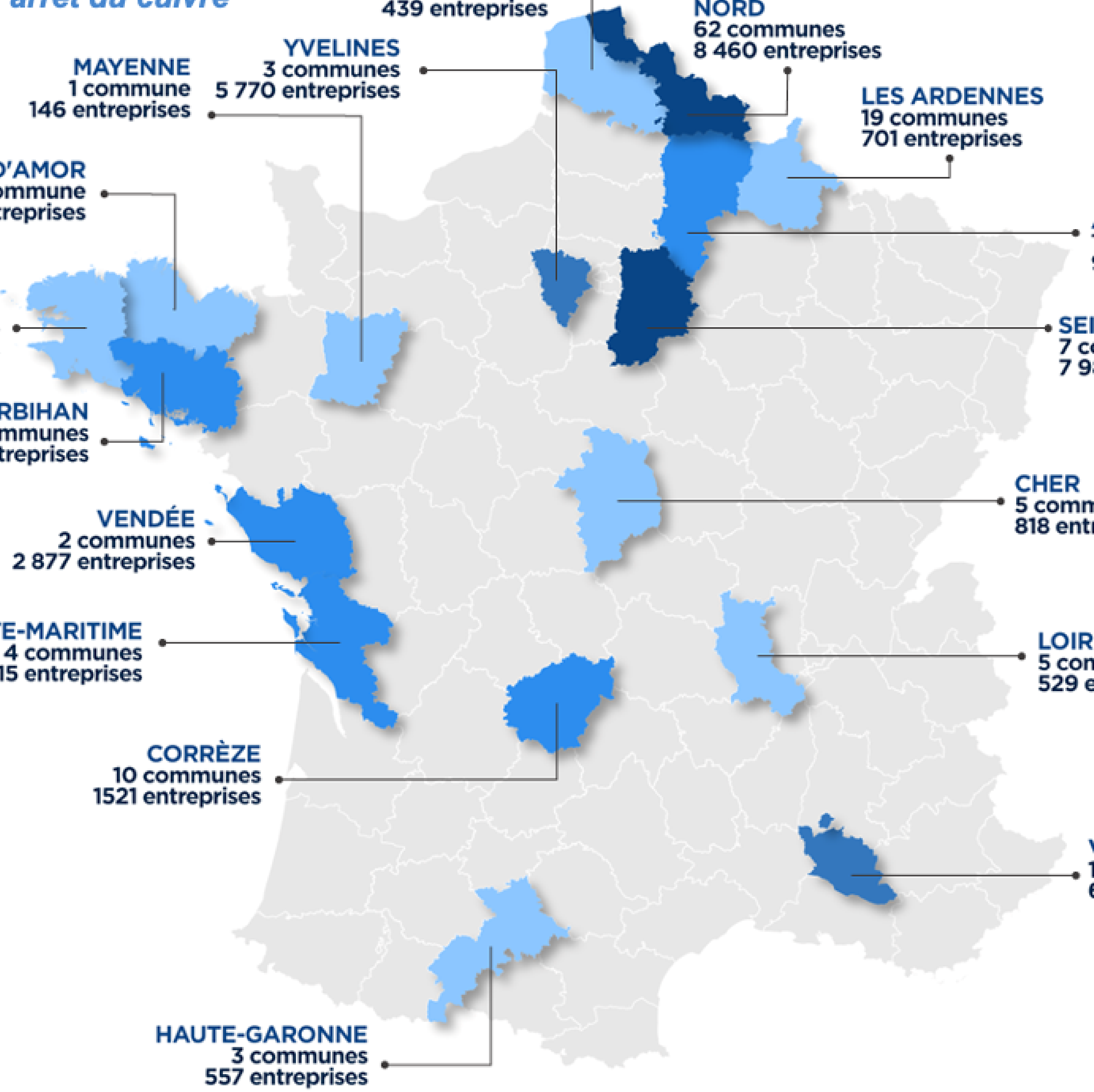
LA FIN DU RÉSEAU CUIVRE

NOUS Y SOMMES !

L'arrêt du cuivre en 2024

les territoires concernés (métropole)

Nombre d'entreprises de 1 salariés et plus concernées par le Lot 1 de l'arrêt du cuivre



158 COMMUNES

40 078 ENTREPRISES

NOMBRE D'ENTREPRISES

- 8 460 à 6 084
- 6 084 à 2 877
- 2 877 à 818
- 818 à 146

OUI		NON
52 %	Les entreprises sont bien informées de **l'arrêt du cuivre**.	48 %

OUI		NON
79 %	Les entreprises sont bien informées des **offres fibre adaptées**	21 %

Encore plus marqué sur les TPE

LE DÉFI DE LA NUMÉRISATION DES ENTREPRISES : DES RÉSEAUX ET DES SERVICES À LA HAUTEUR DES ENJEUX ?

#THD

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François HEDIN

Directeur général, Weaccess Group

Paul MIDY

Député de l'Essonne

Soline OLSZANSKI

Directrice stratégie et développement, Ielo

Cédric RITTIE

Directeur produit et marketing, Sewan

LE DÉFI ÉNERGÉTIQUE ET ECOLOGIQUE : QUEL RÔLE POUR LES TERRITOIRES CONNECTÉS ?

#THD

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CONCLUSION

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TRÈS HAUT DÉBIT

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