Roland Montagne
Principal Analyst FTTx & Broadband
+33 6 80 85 04 80
r.montagne@idate.org

Fibre Global Perspective

European Focus on FTTH & place of France

Assises du Très Haut Débit, Paris, July 9th 2019

01 | FTTx Woldwide Key Trends

Key trends worldwide

➢ **Superfast technologies[1] represented 67% of broadband access subscriptions in June 2018, 5 points more than by December 2017.**

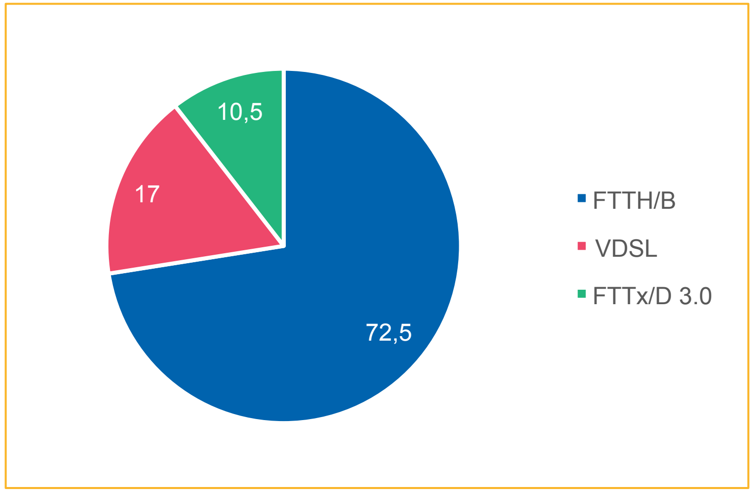
> FTTH/B is still the leading superfast broadband solution, far ahead of FTTx/D3.0, followed by VDSL,

FTTH/B represented **72.5% of FTTx subscriptions** in June 2018.

FTTx/D3.0 represented **17% of FTTx subscriptions** at June 2018. The percentage of superfast connections supplied by FTTx/D3.0 is levelling off even though some players are evolving towards **FTTx/D3.1** solutions.

VDSL is lagging behind, representing **10.5% of subscriptions** in June 2018. New VDSL or G.Fast solutions are installed at a lower pace.

Breakdown of superfast broadband technologies, June 2018



Source: IDATE DigiWorld, *World FTTx market,* December 2018

(1) Three main architectures meet our definition of superfast access technology: FTTH/B, FTTN+ VDSL and FTTx/D3.x deployed by cable operators

Breakdown of Superfast broadband technologies

> Disparate regional markets

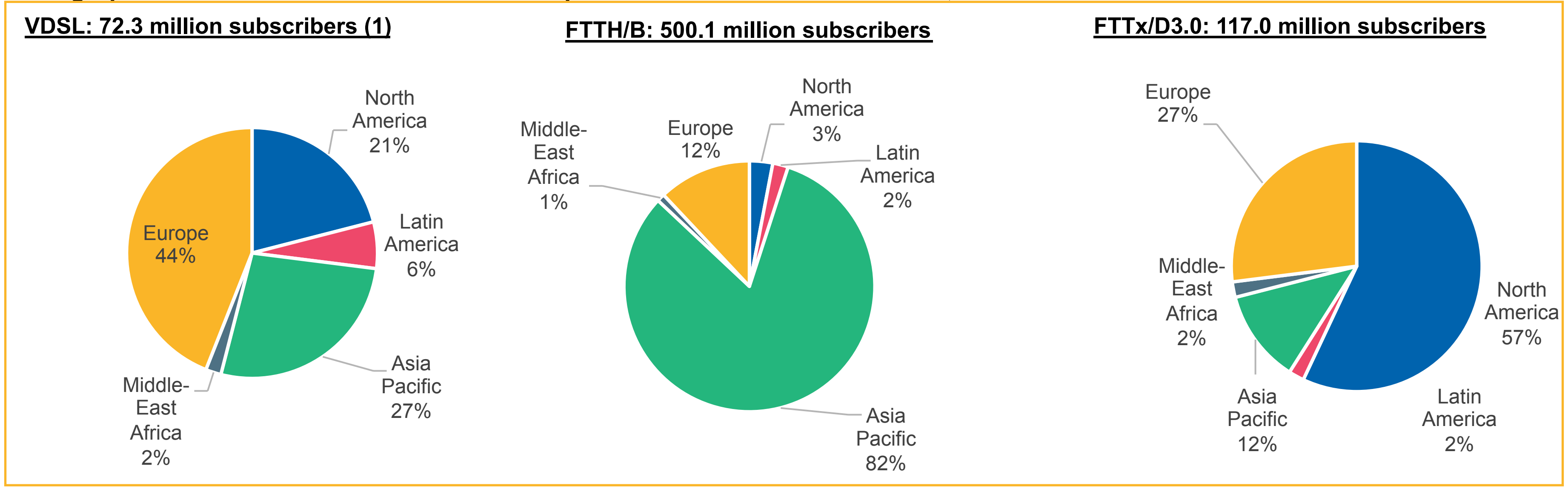
689 million FTTx subscribers Worldwide June 2018

Asia-Pacific continues its leadership in the **FTTH/B** market.

FTTH/B experienced a high evolution in **Latin America,** specially in Brazil and Mexico.
New deployments were observed in **Asia-Pacific**, such as Philippines, Viet Nam and in **Middle-East & North Africa**.

FTTx/D3.0 is still dominant in **North America** and is by and large growing more rapidly than other technologies.
There is limited room for **VDSL** (and other copper based technologies such as **G.Fast**) to grow in Europe where some incumbents are still working to optimise their copper networks.

Geographical breakdown of the three main superfast broadband architectures, June 2018

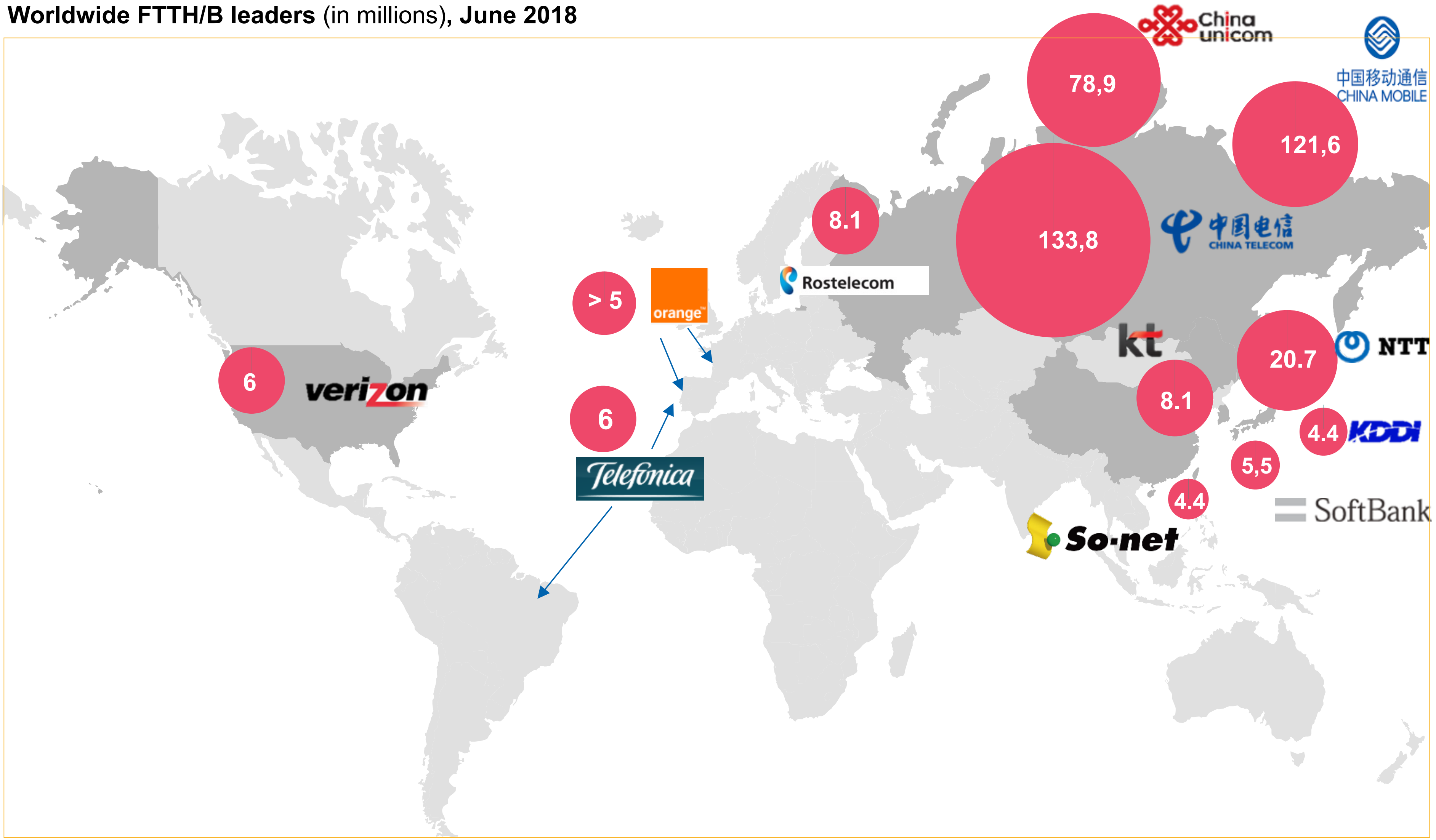


MEA = Middle East and Africa; LATAM = Latin America; APAC = Asia-Pacific; NA = North America; EUR = Western + Eastern Europe
(1) 11.8 M FTTx°+LAN subscribers in China are not taken into account.

Source: IDATE DigiWorld, *World FTTx market*, December 2018

Snapshot of the world's leading FTTH/B providers

Worldwide FTTH/B leaders (in millions), **June 2018**



Source: IDATE DigiWorld, *World FTTx market*, December 2018

03 | FTTH in Europe

FTTH/B figures as at September 2018

As at September 2018 in EU39*:

- **59.6 million FTTH/B subscribers**
- **Almost 160 million FTTH/B Homes Passed**

FTTH Council Europe scope at September 2018

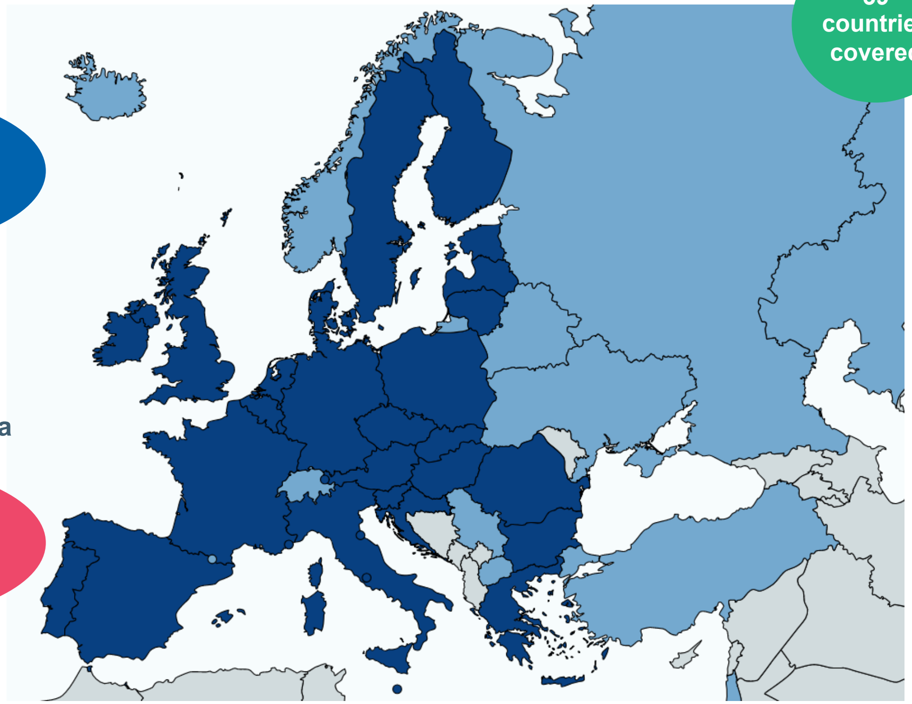
39 countries covered

Take-up rate
EU28 : 38.2%
EU39 : 37.4%

EU28 countries

Covered countries in FTTH Panorama

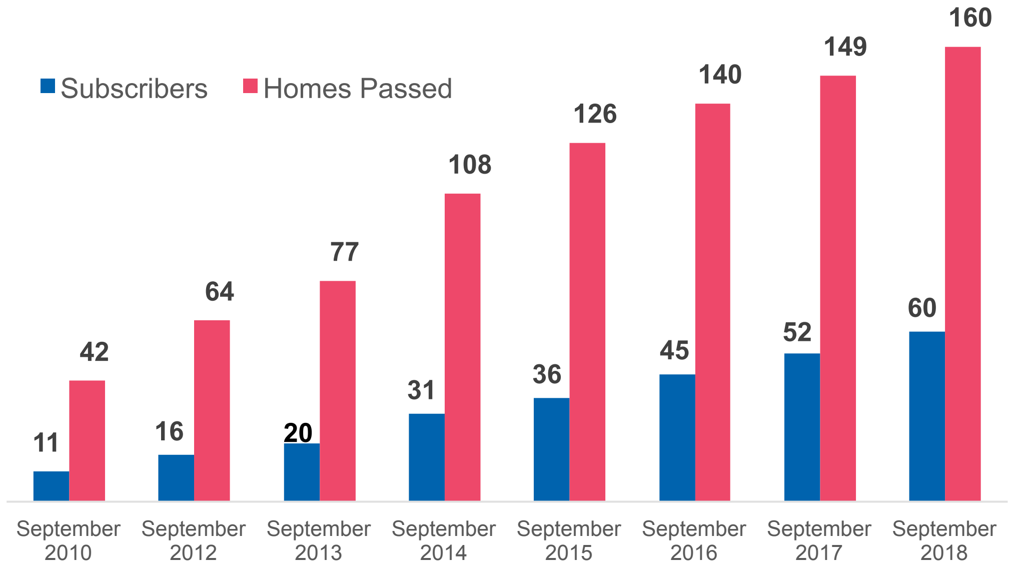
Coverage rate
EU28 : 36.4%
EU39 : 46.4%



Subscriber evolution >x6

Homes Passed evolution >x4

FTTH/B market evolution in terms of Homes passed and Subscribers (EU39)



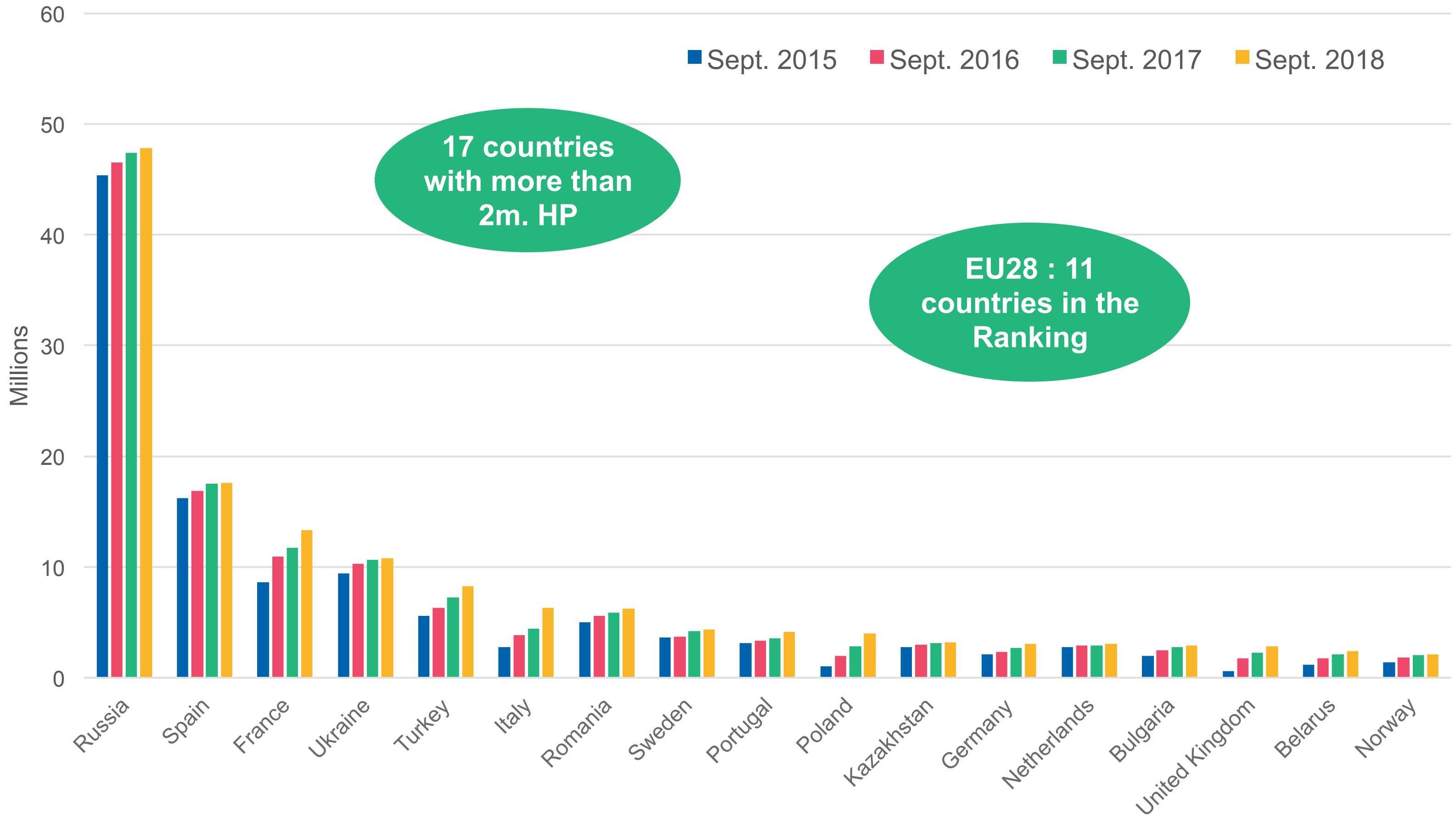
Source: IDATE for FTTH Council EUROPE

(1) EU39 = EU28 (excl. Cyprus) + 4 CIS countries + Andorra, Iceland, Israel, Macedonia, Norway, Serbia, Switzerland, Turkey

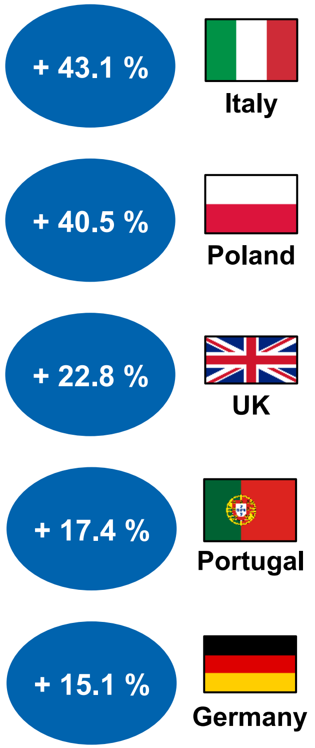
(2) Cyprus was replaced by Macedonia at end-2012 because the FTTH/B market is much more developed in this country.

General Ranking: FTTH/B Homes passed

European ranking in terms of FTTH/B Homes passed over time (in million homes)
Data comparison between Sept. 2015 and Sept. 2018



Top 5 annual growth rates – Homes passed (in %)
Data from Sept. 2017 to Sept. 2018

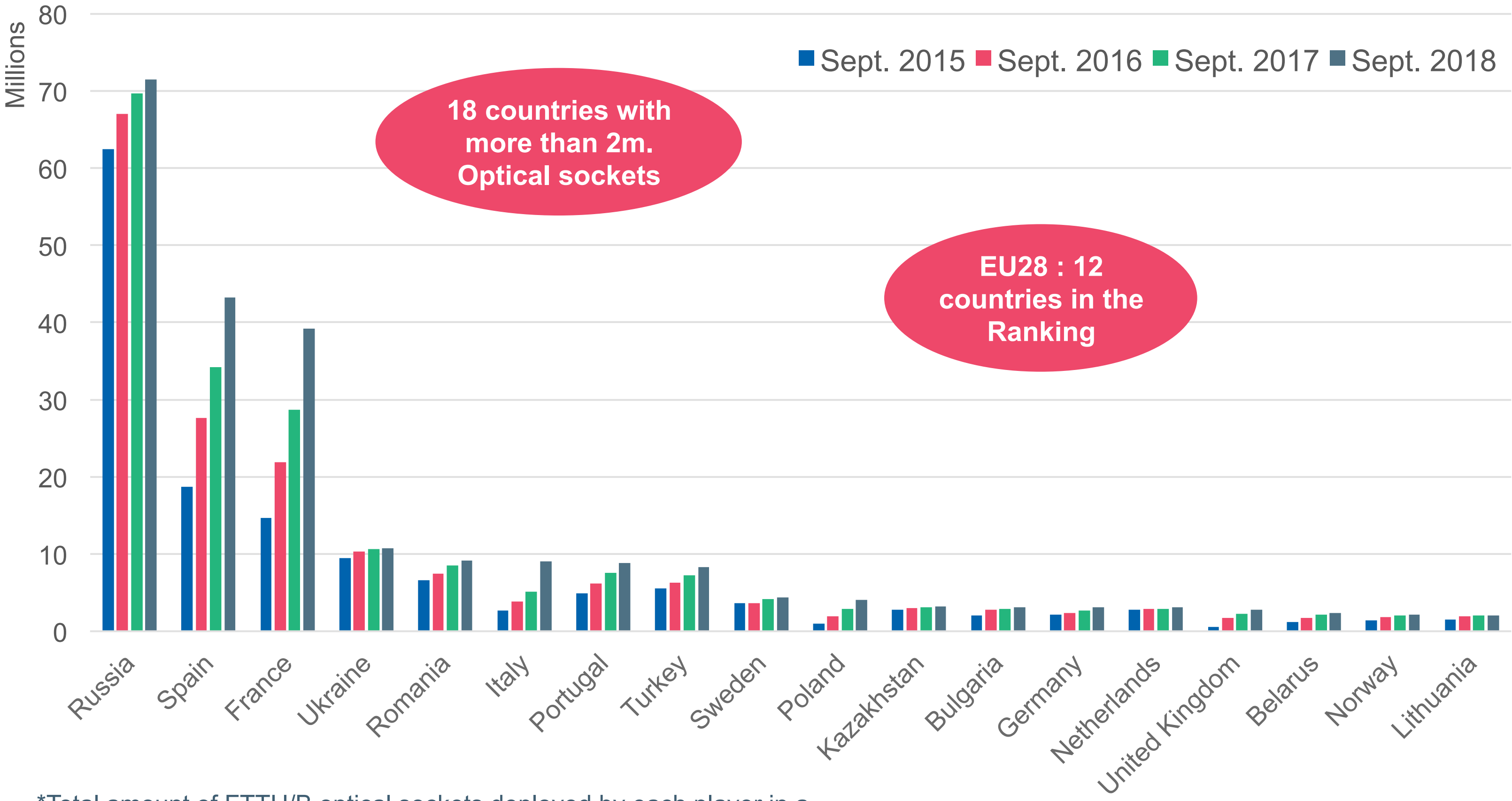


Source: IDATE for FTTH Council EUROPE

General Ranking: FTTH/B Sockets deployed*

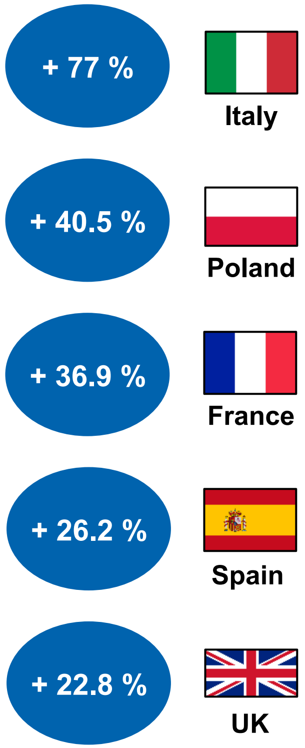
European ranking in terms of FTTH/B Sockets deployed (in million homes)

Data comparison between Sept. 2015 and Sept. 2018



Top 5 annual growth rates – Sockets deployed (%)

Data from Sept. 2017 to Sept. 2018



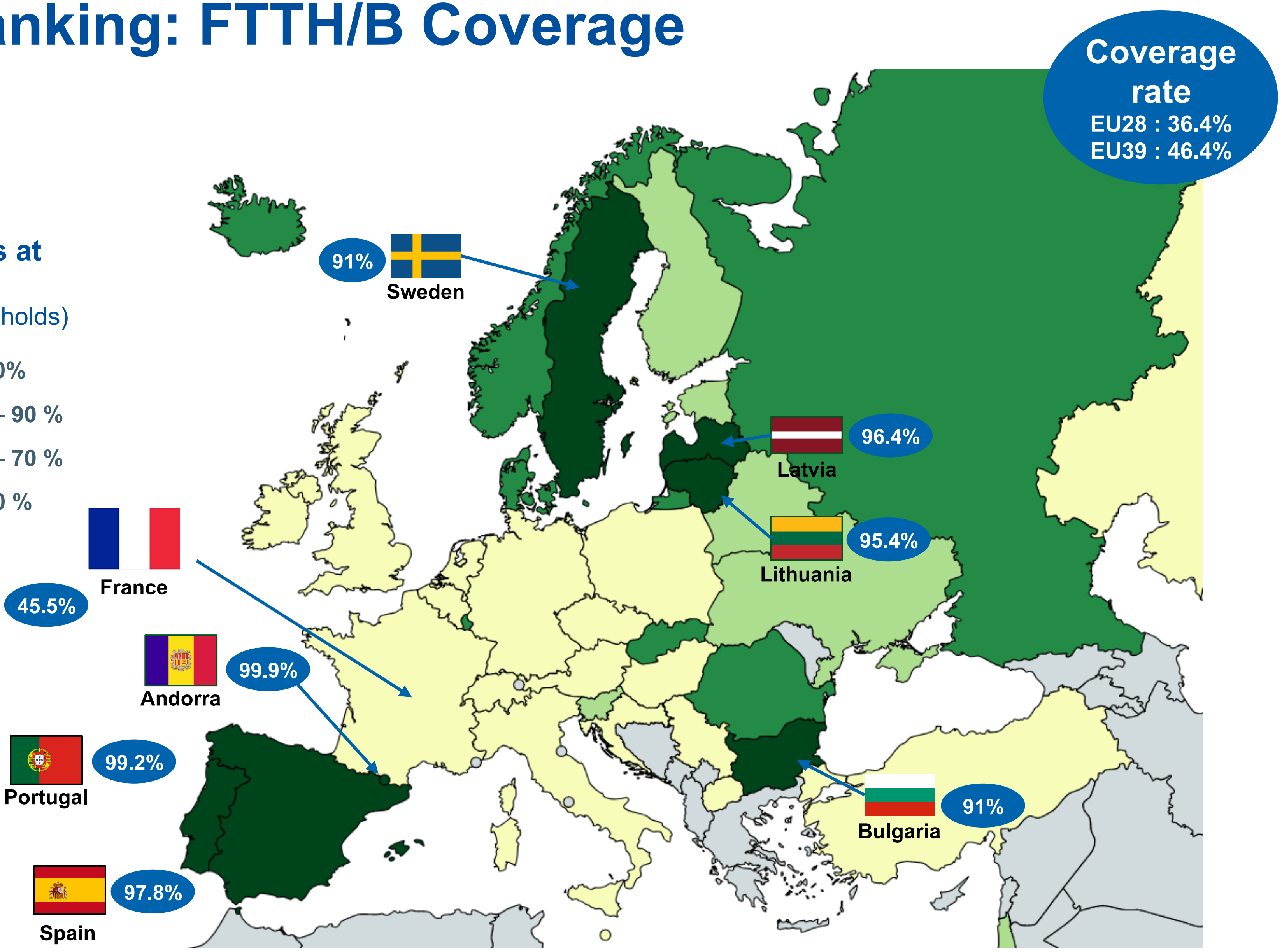
*Total amount of FTTH/B optical sockets deployed by each player in a country (may be higher than Homes Passed when homes are covered by several players). Might lead to overlap situations

Source: IDATE for FTTH Council EUROPE

General Ranking: FTTH/B Coverage

FTTH/B coverage* as at September 2018
(* Homes passed / Households)

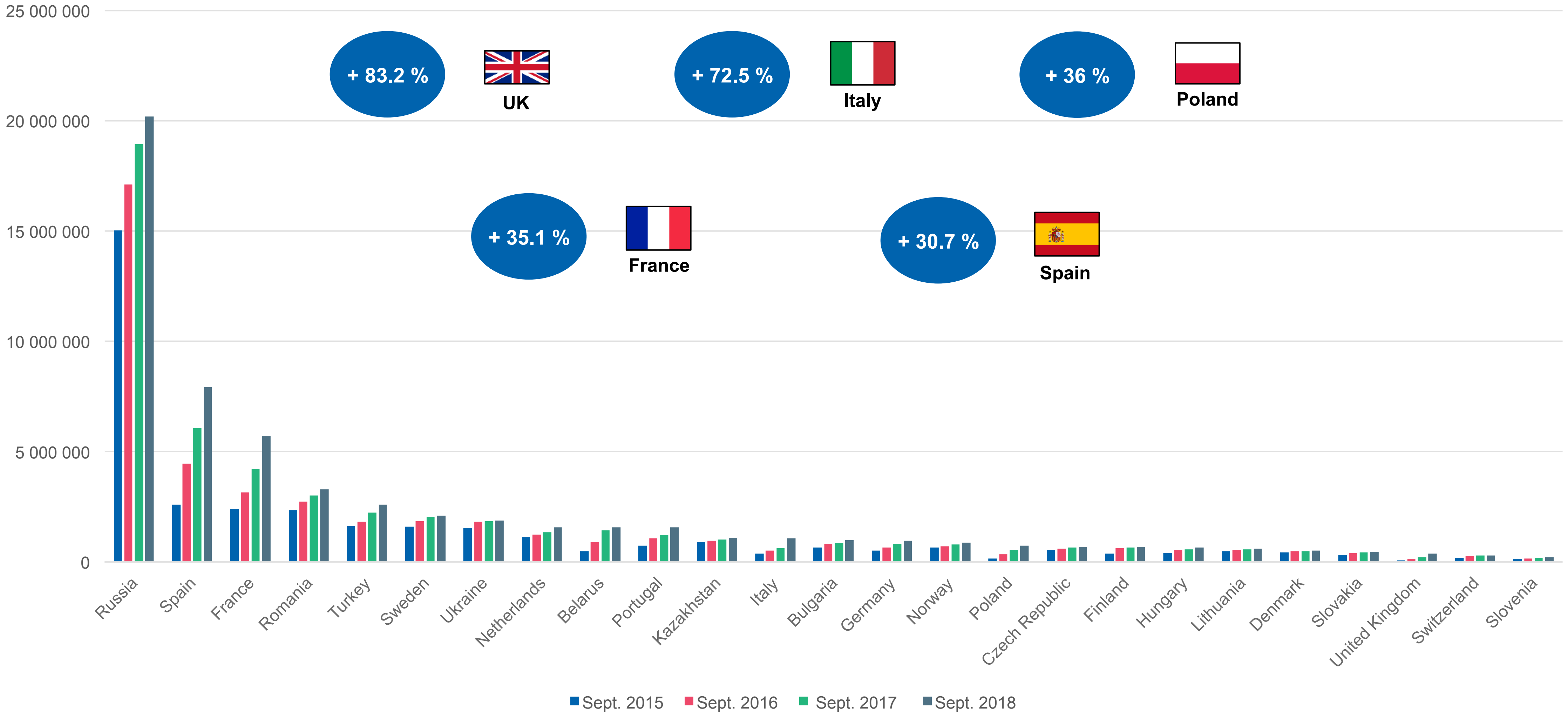
- FTTH/B coverage > 90%
- FTTH/B coverage 70 – 90 %
- FTTH/B coverage 50 – 70 %
- FTTH/B coverage < 50 %



Source: IDATE for FTTH Council EUROPE

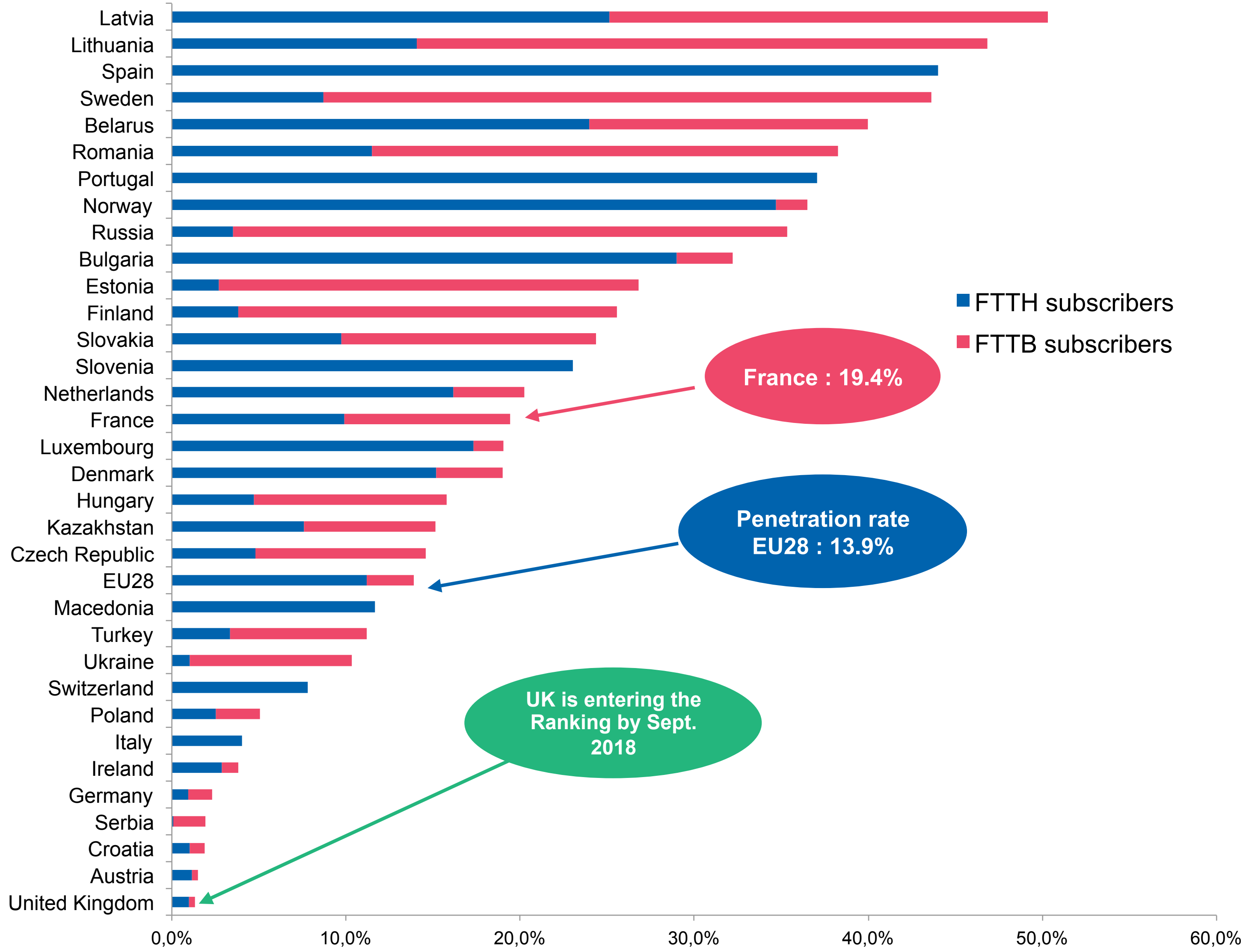
General Ranking: FTTH/B Subscribers

European ranking in terms of FTTH/B Subscriptions (million)
Data comparison between Sept. 2015 and Sept. 2018



Source: IDATE for FTTH Council EUROPE

European Ranking as at September 2018



Source: IDATE for FTTH Council EUROPE

Penetration rates of European countries at September 2018
(FTTH/B Subscriptions / Households)

- Includes countries of +200k Households in which FTTH/B subscribers represent at least 1% of total 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. Spain and Portugal) due to a predominance of copper-based technologies (VDSL, G.Fast) and/or cable networks (DOCSIS 3.0 / 3.1)

04 | Key Conclusions

Indicators affecting the FTTH adoption

Positive criteria

1	Demand for data and bandwidth continues to grow steadily, pushing operators towards FTTH technologies
2	Public authorities, via subsidies and an investment-friendly regulatory framework, will participate actively in fibre enhancement throughout Europe
3	Many incumbents shifting business models to focus on FTTH rather than copper-based technologies plus the Success of FTTH in Eastern Europe
4	Mutualized networks as well as sharing agreements tend to push FTTH development
5	Technology innovation to help lowering costs
6 (5G)	Fibre densification driven by 5G deployment & cost savings from fibre-5G convergence

Country	Subscribers	Homes Passed
Italy	+ 72.5 %	+ 43.1 %
Poland	+ 36 %	+ 40.5 %
UK	+ 83.2 %	+ 22.8 %

Indicators affecting the FTTH adoption

Negative impacts

1	✕	Still no clear mass-market applications for FTTH
2	⏱	New variants or mixed-build architectures, along with G.Fast or DOCSIS 3.1, could delay FTTH investments by operators
3	5G	Potential risk of mobile 5G broadband technology delaying FTTH in economically non-viable areas especially with fixed-wireless access
4	🏛	Public funding initiatives may not be assertive to effectively encourage FTTH growth

Conclusion: Where's the Growth Worldwide for FTTH?

Short Term

- **Europe: Germany** and the **UK :** incumbents will react as Altnets and Munis are deploying. **Italy** : Open Fiber rollouts and role of the Government
- **MENA:** Egypt is today starting large FTTH Rollouts (Telecom Egypt) and **KSA** with massive new cities projects
- **LATAM:** the very segmented market of **Brazil** and still **Mexico** and **Argentina ;** presence of large pan regional telcos such as **Telmex / Claro** and **Telefonica / Vivo**

Long Term

- **APAC:** the huge potential of **India** and **South East Asia: Bangladesh, Viet Nam, Pakistan, Cambodia,…**
- **Sub Saharan Africa:** up to **17 countries** involved in native FTTH Rollouts

IDATE Research: FTTx & Gigabit Society – Reports & Dataset

Type of deliverable	Title	Publication date	Unit price (EUR)
Upcoming publications - 1st half 2019 (additional titles for the 2nd half to be announced)			
Dataset+Report	SDN/NFV and slicing	Q2 2019	3 000
Report	NGA and PPP plans in Europe*	Q2 2019	2 000
Report	Functional Separation	Q2 2019	3 000
Dataset	FTTx markets in Europe	Q2 2019	3 500
Report	Fixed Wireless Access	Q3 2019	3 000
Dataset	FTTx markets in Asia-Pacific	Q2 2019	3 500
Dataset	World FTTx Markets (global)	Q2 2019	5 000
Report	Internet access models in South Africa	Q2 2019	500
Available publications			
Dataset+Report	Telco & OTT Investment challenges - CapEx dynamics	Q1 2019	3 000
Dataset+Report	World FTTx Market - Markets at June 2018 & Forecasts to 2022	Q4 2018	5 000
Report	FTTH: a strategic game-changer for telcos	Q4 2018	3 000
Report	Telco Data Center strategies	Q4 2018	3 000
Dataset+Report	Business model for an FTTx deployment*	Q3 2018	3 000
Report	FTTH/B Enterprise Market*	Q3 2018	3 000
Report	FTTH rollout strategies in Emerging Countries	Q2 2018	3 000
Report	Media-Telecom Convergence*	Q2 2018	3 000
Report	Super Fast Broadband Outlook	Q2 2018	1 000
Report	Fixed Wireless and Hybrid Access	Q1 2018	2 000
Report	G.Fast	Q4 2017	2 000
Dataset+Report	Virtualisation in telco networks - Which markets for SDN & NFV	Q3 2017	3 000
Report	Monetising fibre*	Q3 2017	3 000
Report	Net Neutrality Regulations and initiatives	Q3 2017	2 000
Report	Broadcast & Broadband TV*	Q2 2017	2 000
Report	Ultra Fast Broadband: What role for public funding?	Q1 2017	1 000
Report	All-IP migration	Q1 2017	1 000
Report	Gigabit Nations*	Q1 2017	1 000

** Disponible également en version française*

Titles and scheduling of upcoming publications are indicative – details for available publications can be accessed online

Roland Montagne
Principal Analyst FTTx & Broadband
+33 6 80 85 04 80
r.montagne@idate.org