



FTTH/B Market Panorama in Europe

September 2023

FTTH Council Europe's Market Intelligence Committee

Agenda

1. Important definitions
2. General overview and main trends
3. FTTH/B Homes passed, Coverage rate and Sockets deployed
4. FTTH/B Subscribers and Take-up rate
5. FTTH/B Penetration rate
6. Who's leading the road to full fibre?
7. Key conclusions

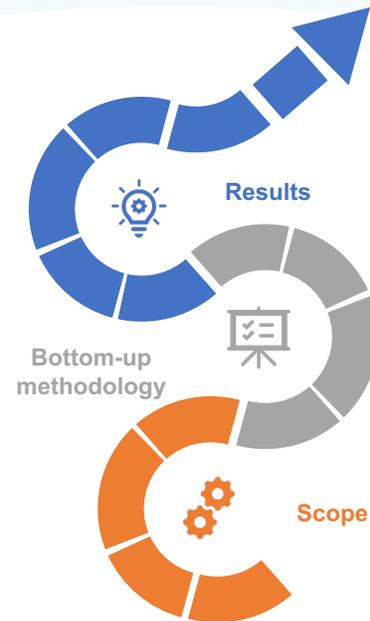
1. Important definitions



Methodology

- Mission on behalf of the **FTTH Council Europe**
 - Provide a complete summary of the status of FTTH/B in Europe measured during September 2023
- 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).

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



- Both quantitative and qualitative data
- Market status in the country
- Strategic approach of involved players
- Desk research
- Data per player for FTTH/B and other fibre-based architectures
- Key parameters study: technical, financial, business model, figures

Scope

➤ The study is focused on EU27+UK and EU39

EUR 27 + UK detailed composition:

Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom

EU39 detailed composition:

EU27 + UK

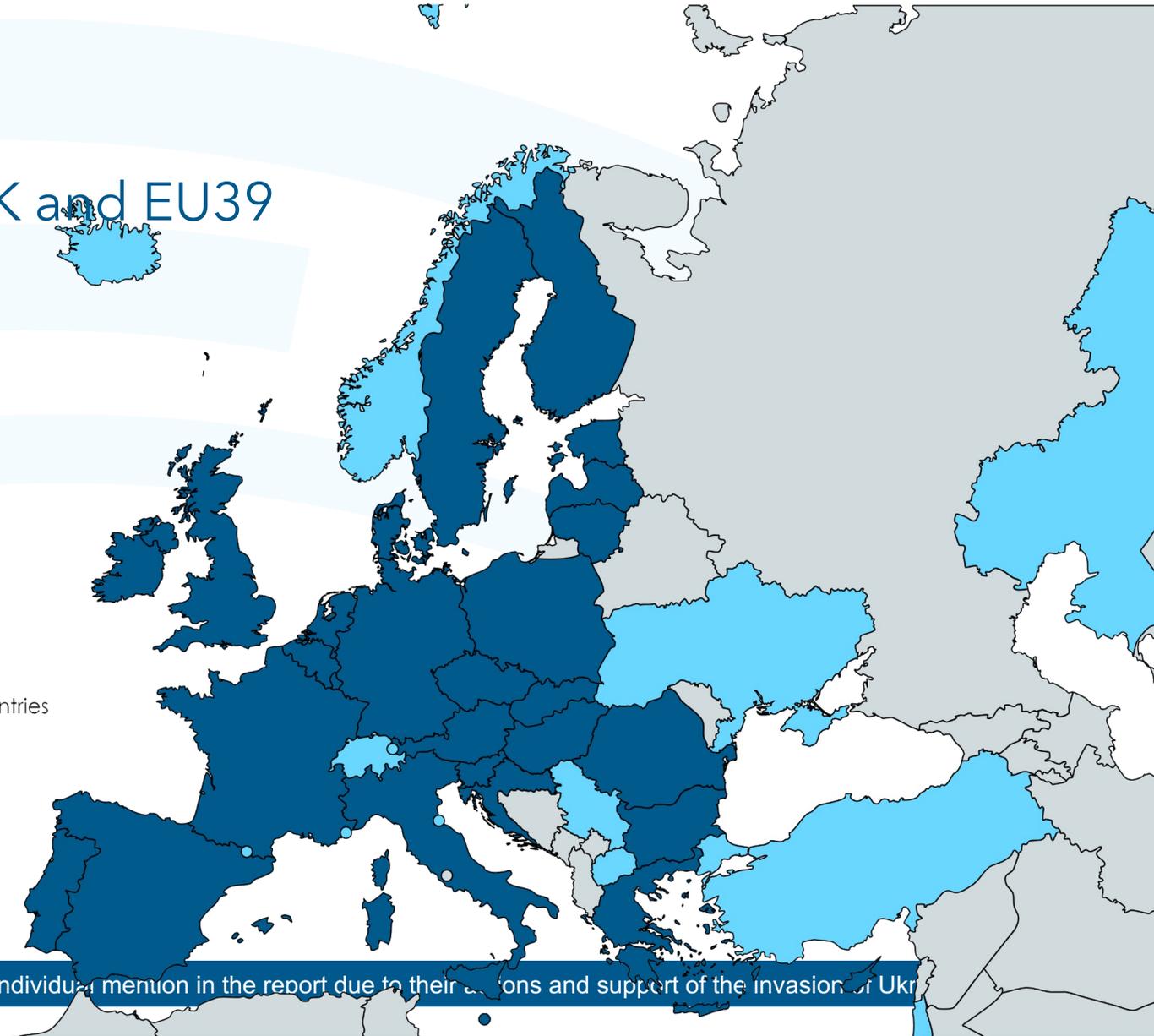
CIS countries: Kazakhstan, Ukraine, +2
Iceland, Israel, North Macedonia, Norway, Serbia, Switzerland, Turkey

■ EU 27+ UK
■ Other European countries under study



Regarding the specific case of Ukraine, the figures are likely to change quickly.

We have no current data on the level of damage caused by the War on FTTH networks in Ukraine and we do not know yet how fast these networks can be rebuilt.



Note: in 2023, 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.

Important definitions

Premise: A house or building, that could be connected by an FTTH/FTTB network

Homes Passed: The potential number of Premises which a Service Provider has capability to connect to an FTTH/FTTB network in a service area with minimal additional installation

Sockets: The In-Home connection point of a single fibre service provider inside a premises. It is possible to have multiple sockets if the location is serviced by multiple FTTH network operators

Subscribers: The number of Premises which are connected to a network and are already subscribers

Coverage rate: Homes passed – as a proportion of Total Households

Take Up rate: Subscribers – as a proportion of Homes Passed

Penetration rate: Subscribers – as a proportion of Total Households

2. General Overview & Main trends



FTTH/B Market Panorama

Key Figures as of September 2023

As of September 2023 in EU39 ⁽¹⁾:

244

million FTTH/B
Homes Passed

121

million FTTH/B
Subscribers

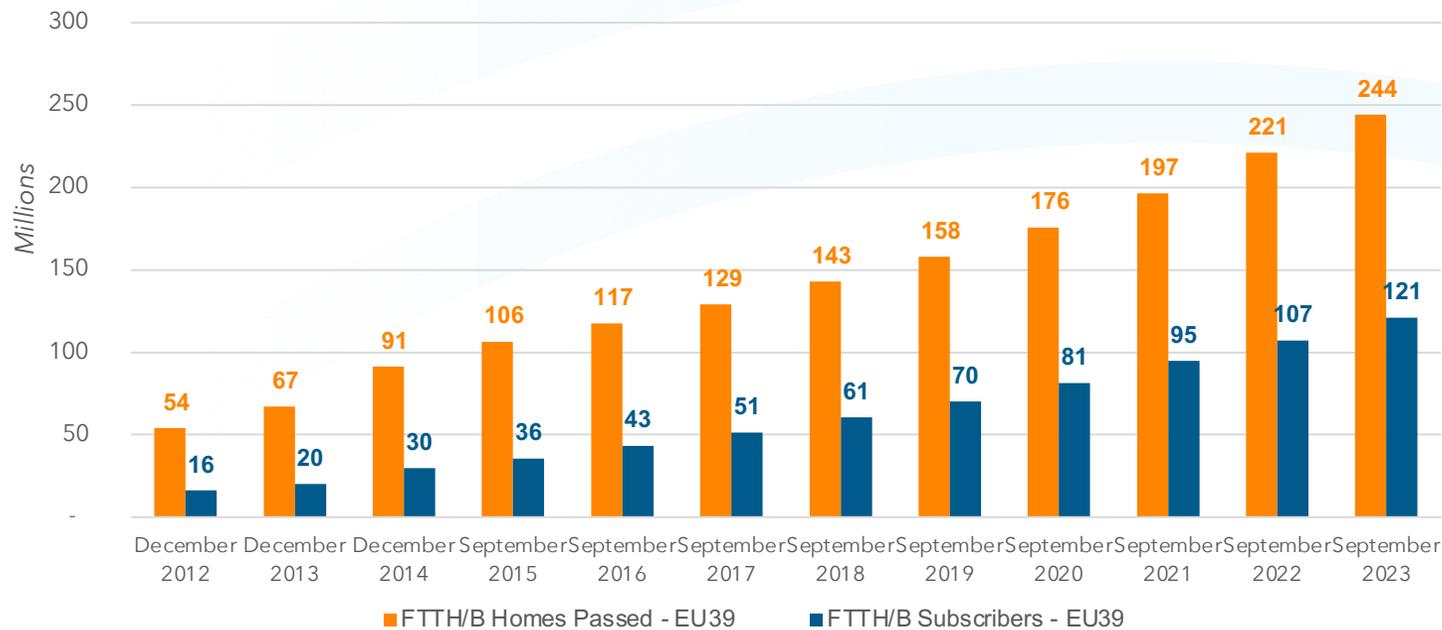
September 2023	EU 39	EU 27 + UK
Premises (Millions)	349	228
Homes passed (Millions)	244	147
Subscribers (Millions)	121	78
Coverage rate	69.9%	64.5%
Take-up rate	49.6%	52.7%
Penetration rate	34.7%	34%

Note: see slide 6 for the definition of the rates

FTTH/B Market Panorama

Key trends as of September 2023

FTTH/B European market evolution in EU39 (1):
In terms of Homes Passed and Subscribers (2012-2023)



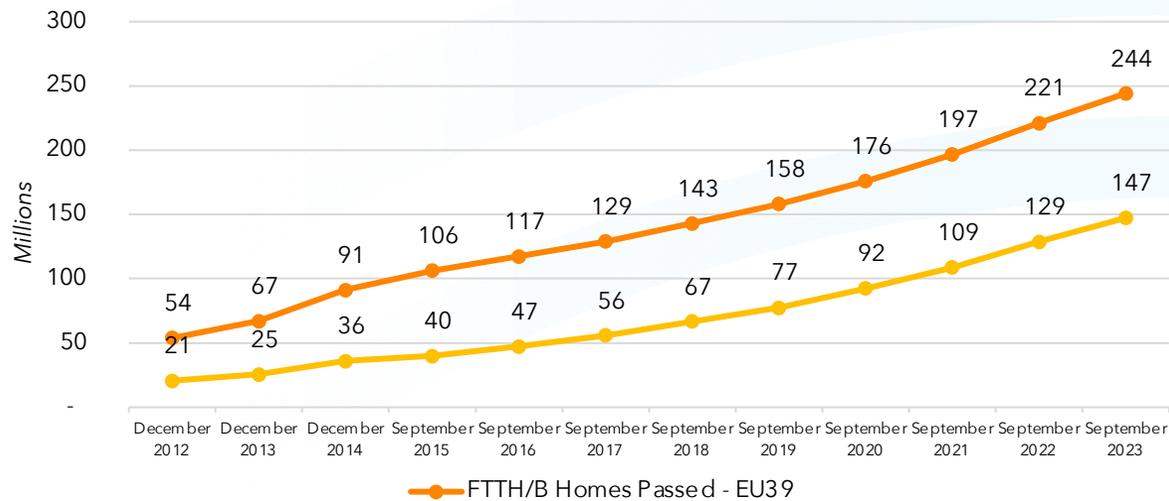
September 2023	EU 39	EU 27 + UK
Coverage rate	69.9%	64.5%
Coverage rate delta vs 2022	+ 6.5 p.p	+7.6 p.p
Take-up rate	49.6%	52.7%
Take-up rate delta vs 2022	+1.1 p.p	+1.3 p.p
Penetration rate	34,7%	34%
Penetration rate delta vs 2022	+3.9 p.p.	+4.7 p.p.

Note: see slide 6 for the definition of the rates

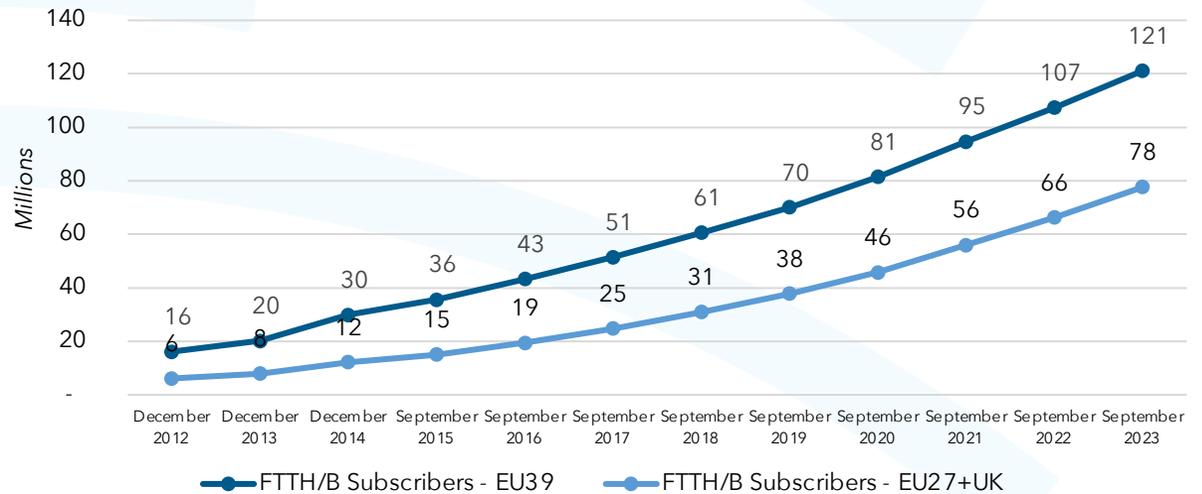
FTTH/B Market Panorama

Market trends (EU27+UK vs. EU39)

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



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



	Sept 2023	Dec 2013
Proportion of the total Homes Passed represented by EU 27 + UK	60%	38%
Proportion of the total Subscribers represented by EU 27 + UK	64%	39%

FTTH/B Market Panorama

FTTH/B initiative types

- FTTH/B initiative refers to the number of public and private players who have launched FTTH/B projects since fibre rollouts began.
- Around 410 FTTH/B initiatives identified in EUR39 by September 2023
 - Alternative operators still leading on the number of initiatives, but the incumbents are close second
 - In 2011 the Alternative ISPs' initiatives were dominant, while in recent years the Incumbents have narrowed the gap

Breakdown of FTTH/B Homes Passed by type of player (%)

Data comparison between Dec. 2011 and Sept. 2023



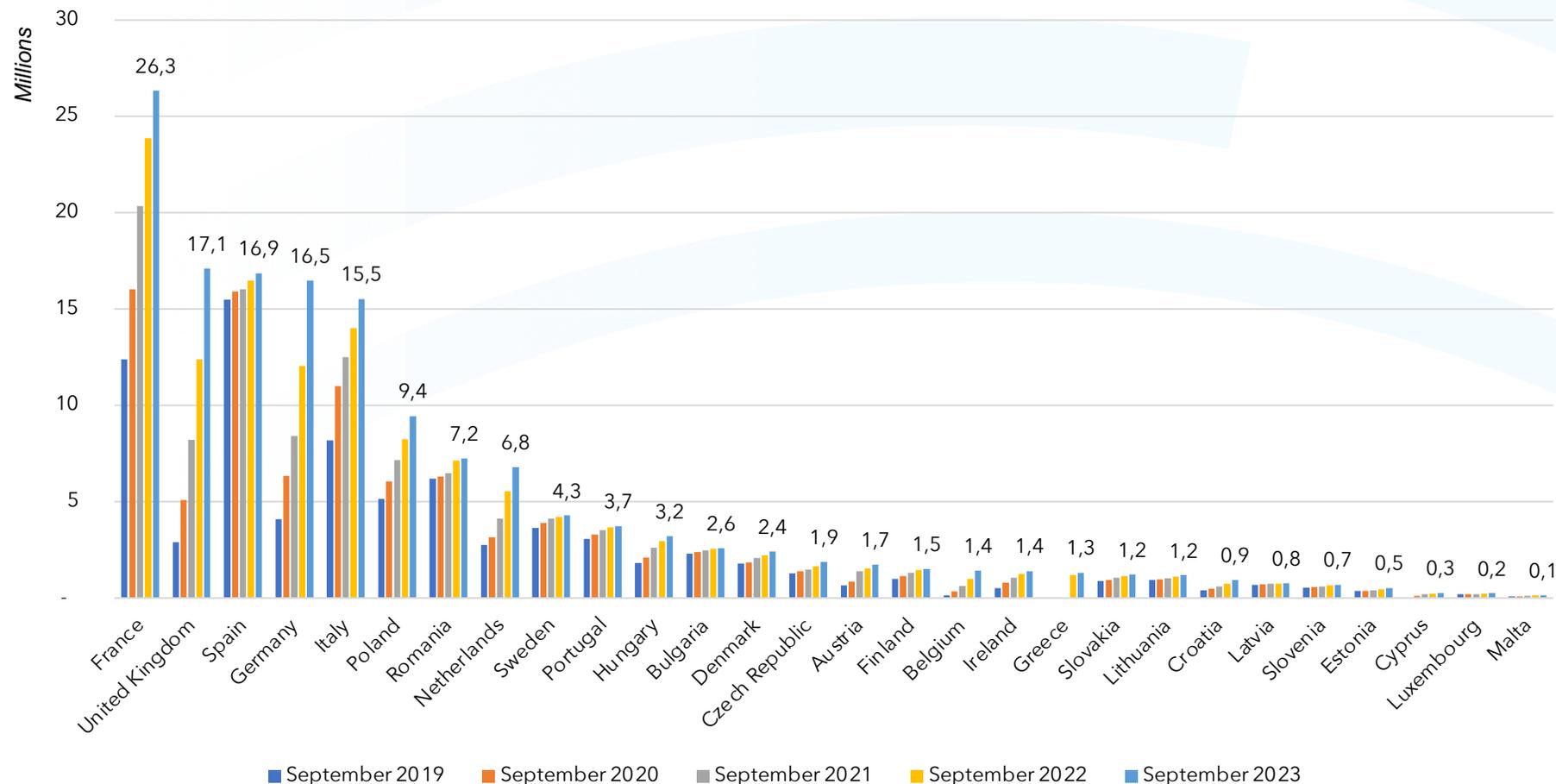
3. FTTH/B Homes passed, Coverage rate and Sockets deployed



FTTH/B Homes Passed - EU27 + UK Ranking

EU27+UK ranking in terms of FTTH/B Homes passed over time (in million homes)

Data comparison between Sept. 2019 and Sept. 2023



5 fastest growing markets (in both volume and %)

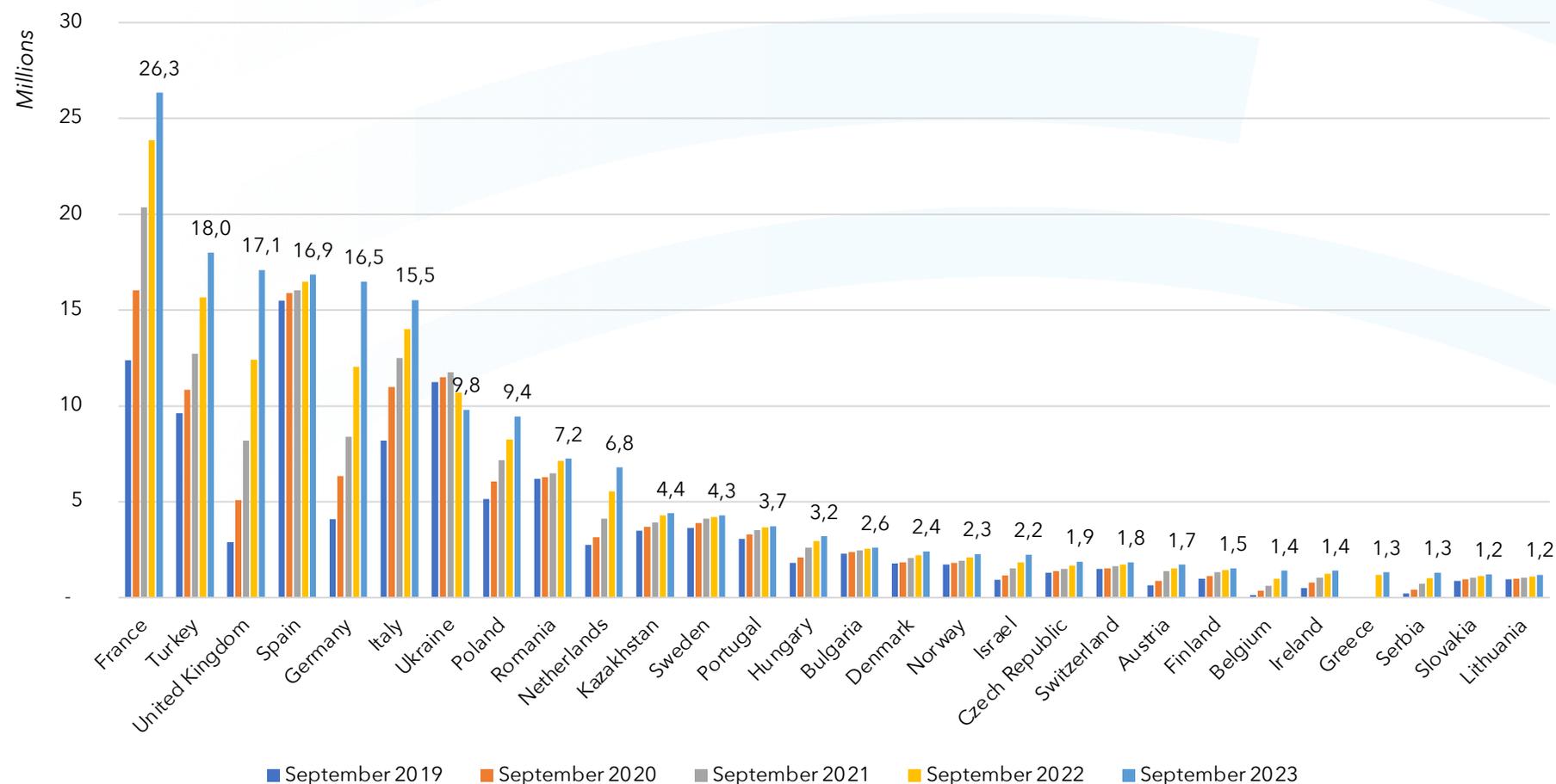
Data from Sept. 2022 to Sept. 2023 (in terms of FTTH/B Homes Passed)

- | | | |
|----------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------|
| 
UK
+4.7 M | 1 | 
Belgium
+43% |
| 
Germany
+4.4M | 2 | 
UK
+38% |
| 
France
+2.5M | 3 | 
Germany
+37% |
| 
Italy
+1.5M | 4 | 
Croatia
+28% |
| 
Netherlands
+1.3M | 5 | 
Netherlands
+23% |

FTTH/B Homes Passed - EU39 Ranking

European ranking in terms of FTTH/B Homes passed, countries with > 1 million homes passed

Data comparison between Sept. 2019 and Sept. 2023 (in million homes)



5 fastest growing markets (in both volume and %)
Data from Sept. 2022 to Sept. 2023 (in terms of FTTH/B Homes Passed)

- 
UK
+4.7M


Belgium
+43%
- 
Germany
+4.4M


UK
+38%
- 
France
+2.5M

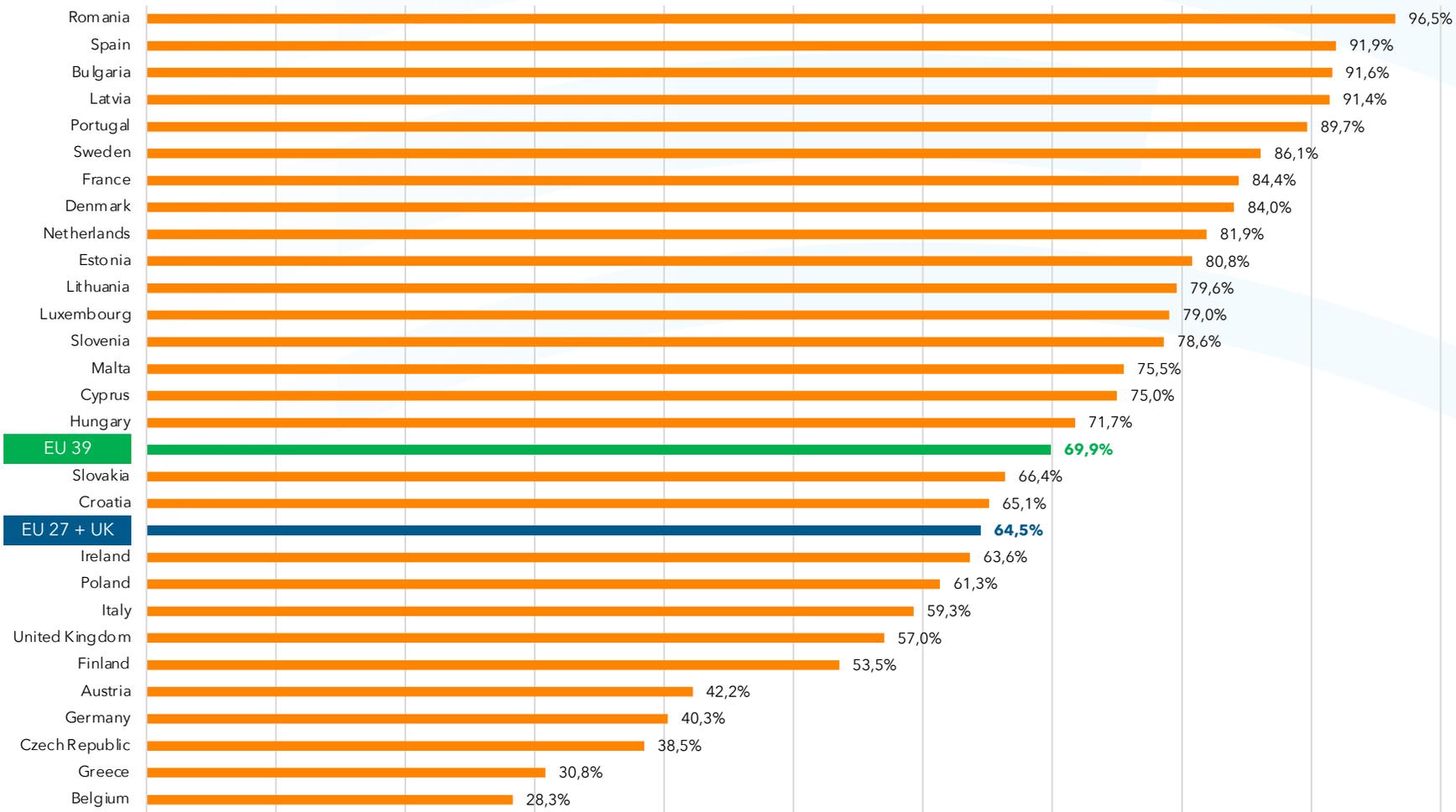

Germany
+37%
- 
Turkey
+2.3M


Serbia
+30%
- 
Italy
+1.5M


Croatia
+28%

Coverage rate, European leaderboards - EU27+UK

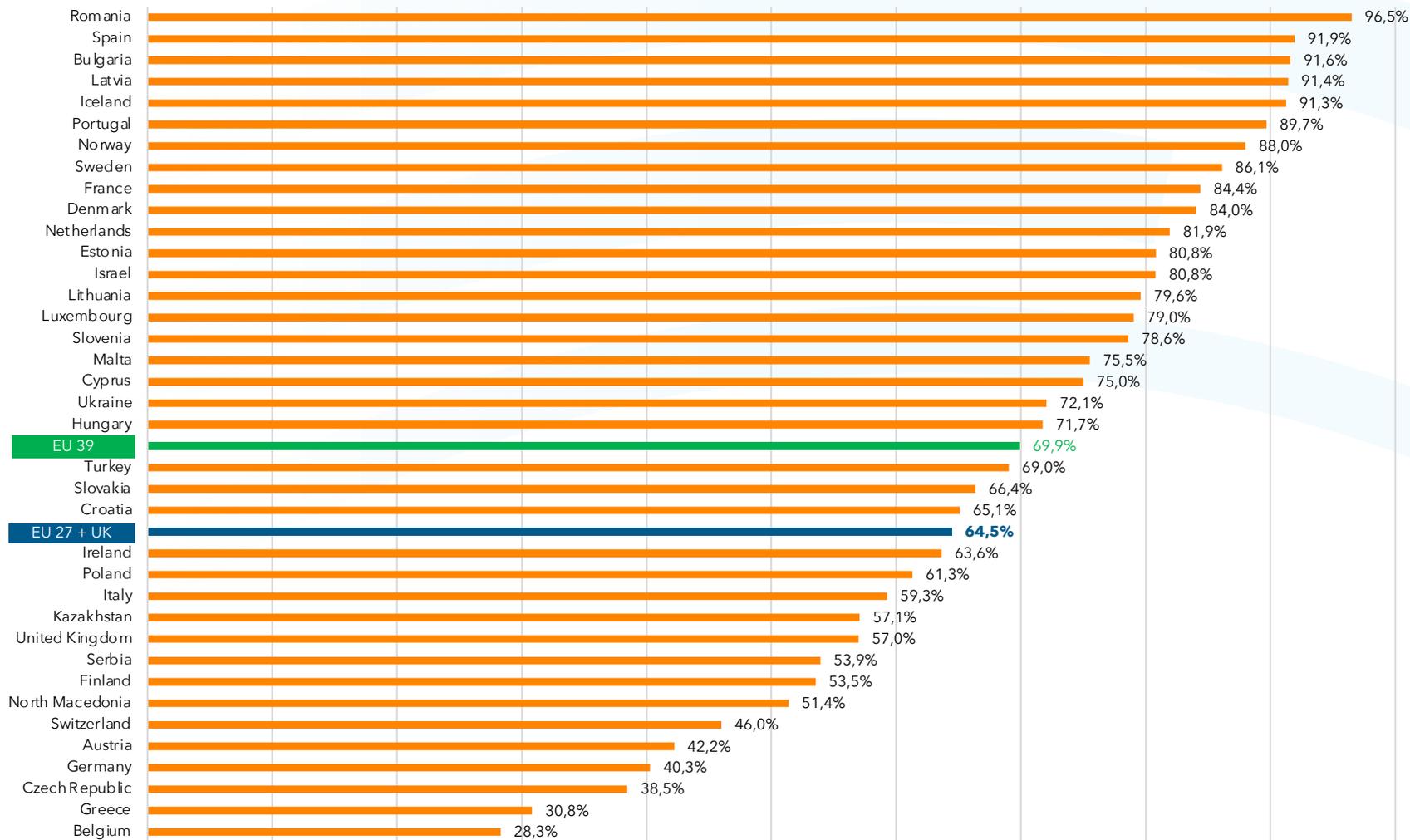
FTTH/B coverage rate (households passed / households) in EU27+UK as of September 2023



Note: see slide 6 for the definition of the rates

Coverage rate, European leaderboards - EU39

FTTH/B coverage rate (households passed / households) as of September 2023

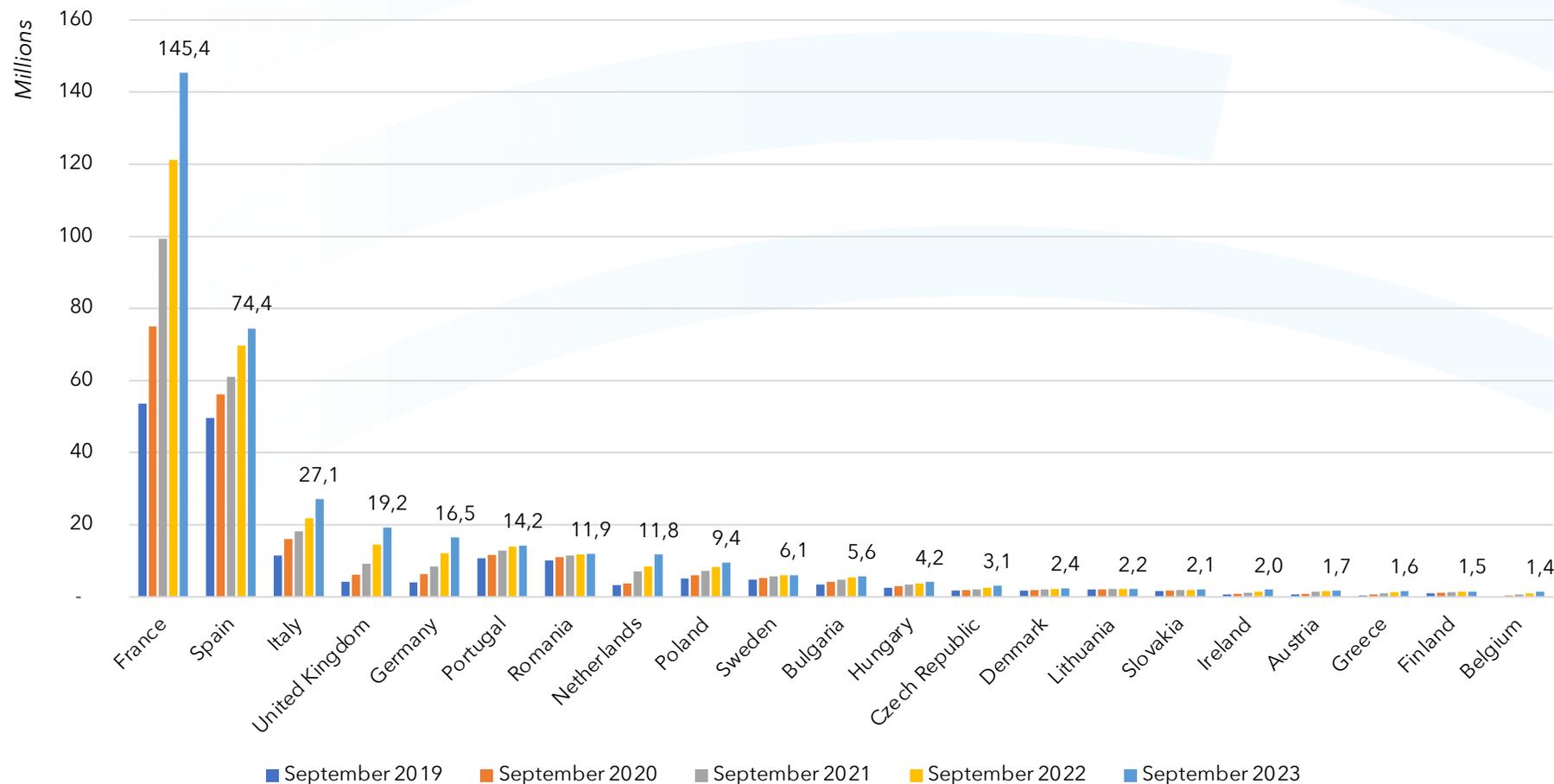


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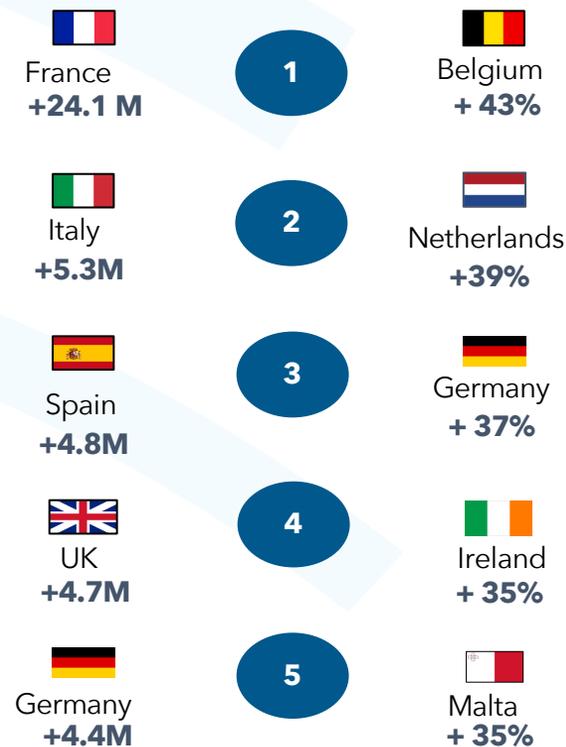
FTTH/B Sockets Deployed - EU27+UK Ranking

EU27+UK ranking in terms of FTTH/B Sockets Deployed, countries with > 1 million sockets deployed

Data comparison between Sept. 2019 and Sept. 2023 (in million homes)



5 fastest growing markets (in both volume and %)
Data from Sept. 2022 to Sept. 2023 (in terms of FTTH/B Sockets Deployed)

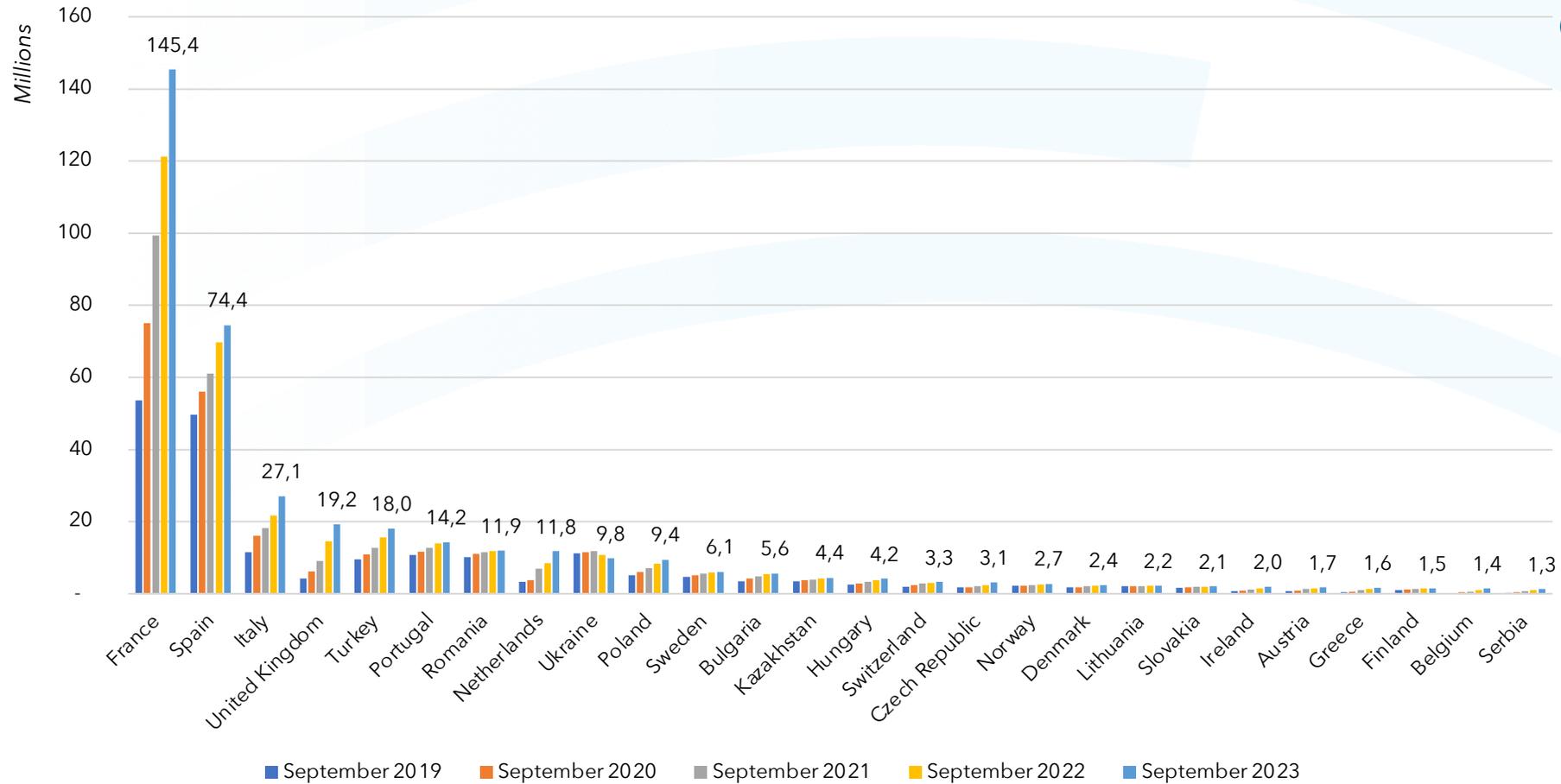


Note: see slide 6 for the definition of the rates

FTTH/B Sockets Deployed - EU39

EU39 ranking in terms of FTTH/B Sockets Deployed, countries with > 1 million sockets deployed

Data comparison between Sept. 2019 and Sept. 2023 (in million homes)



5 fastest growing markets (in both volume and %)
Data from Sept. 2022 to Sept. 2023 (in terms of FTTH/B Sockets Deployed)



Note: see slide 6 for the definition of the rates

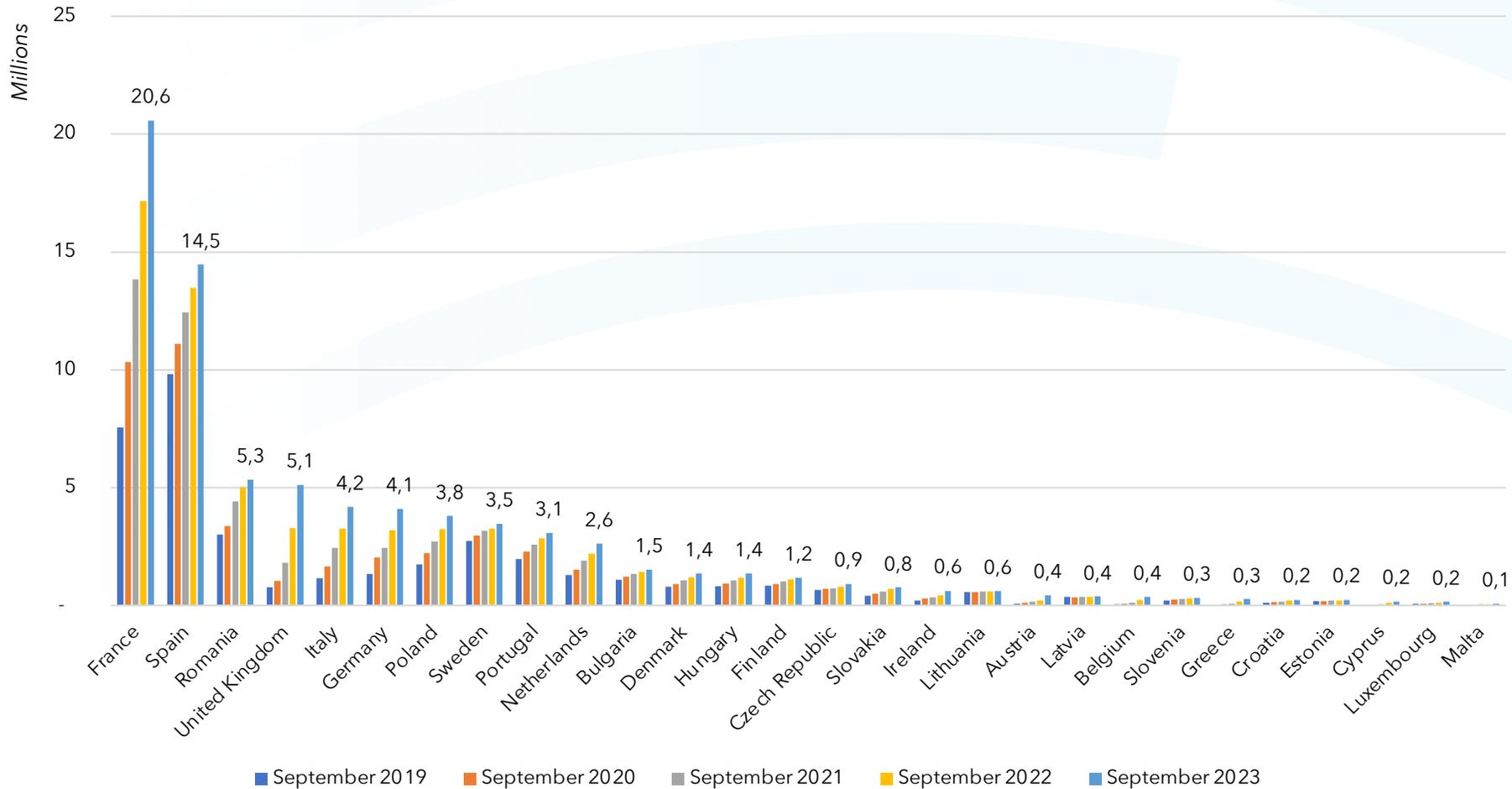
4. FTTH/B Subscribers and Take-up rate



FTTH/B Subscribers – EU27 + UK

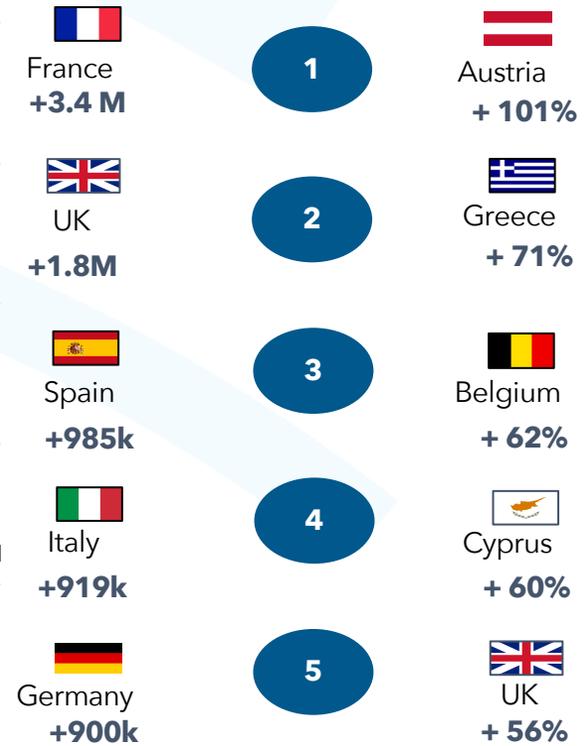
EU27+UK ranking in terms of FTTH/B Subscriptions over time (in thousands homes)

Data comparison between Sept. 2019 and Sept. 2023 (in million homes)



5 fastest growing markets (in both volume and %)

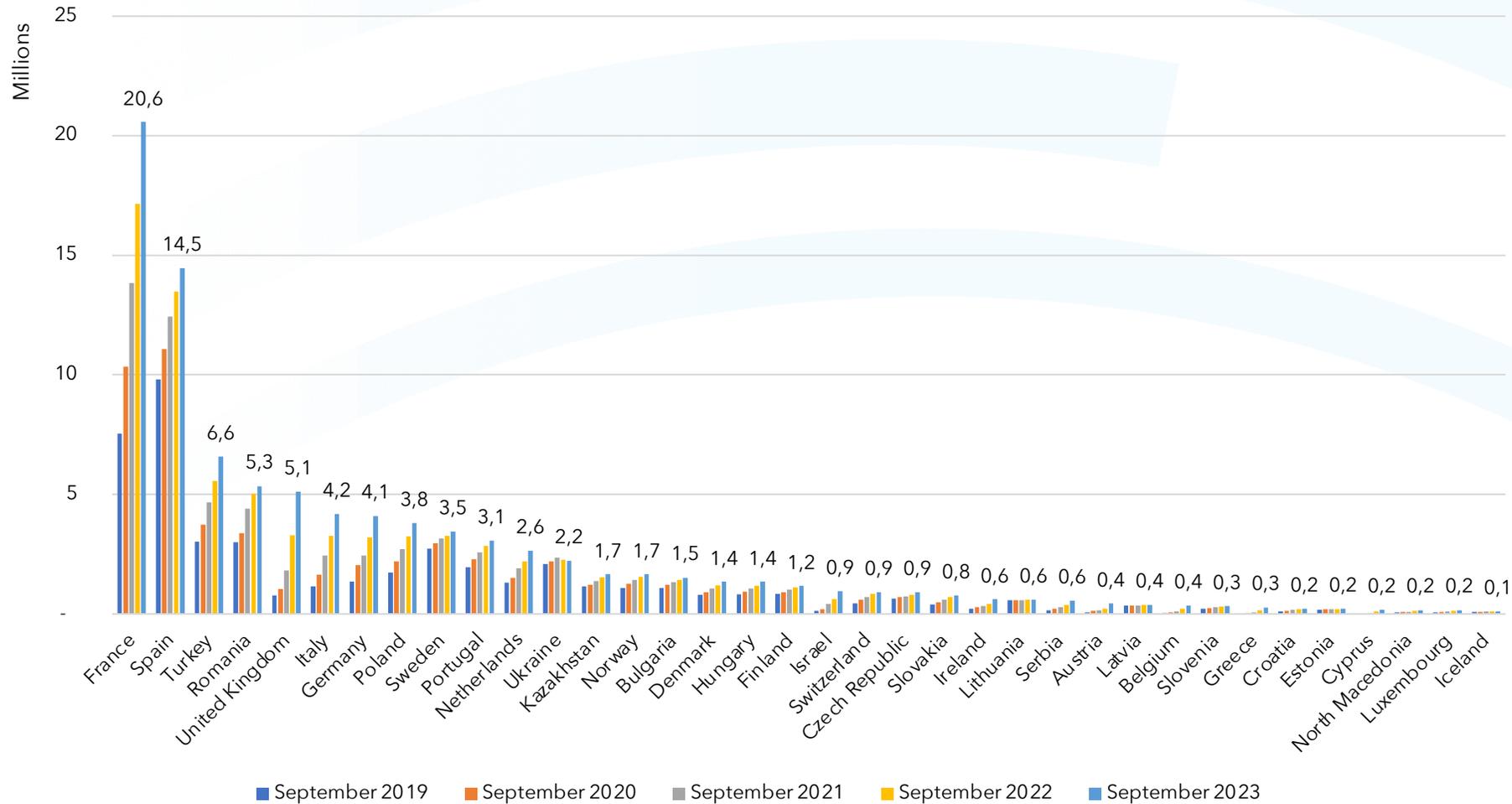
Data from Sept. 2022 to Sept. 2023 (in terms of FTTH/B Subscribers)



FTTH/B Subscribers – EU39

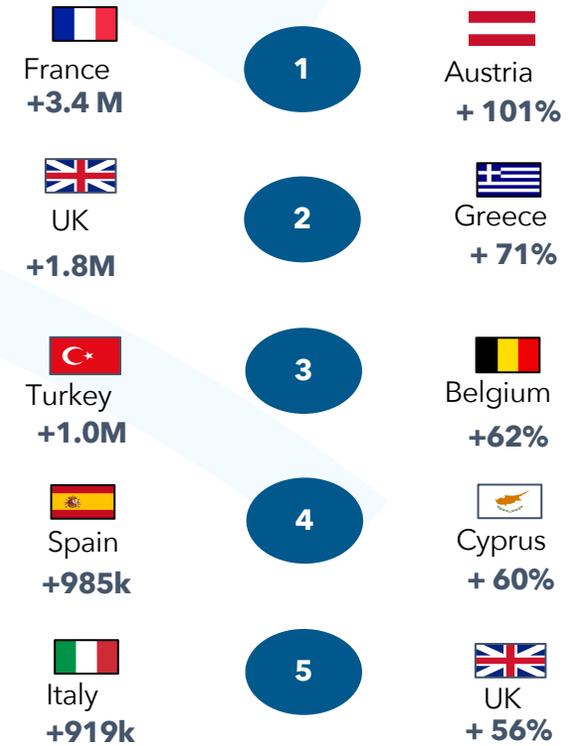
EU39 ranking in terms of FTTH/B Subscriptions over time (in thousands homes)

Data comparison between Sept. 2019 and Sept. 2023 (in million homes)



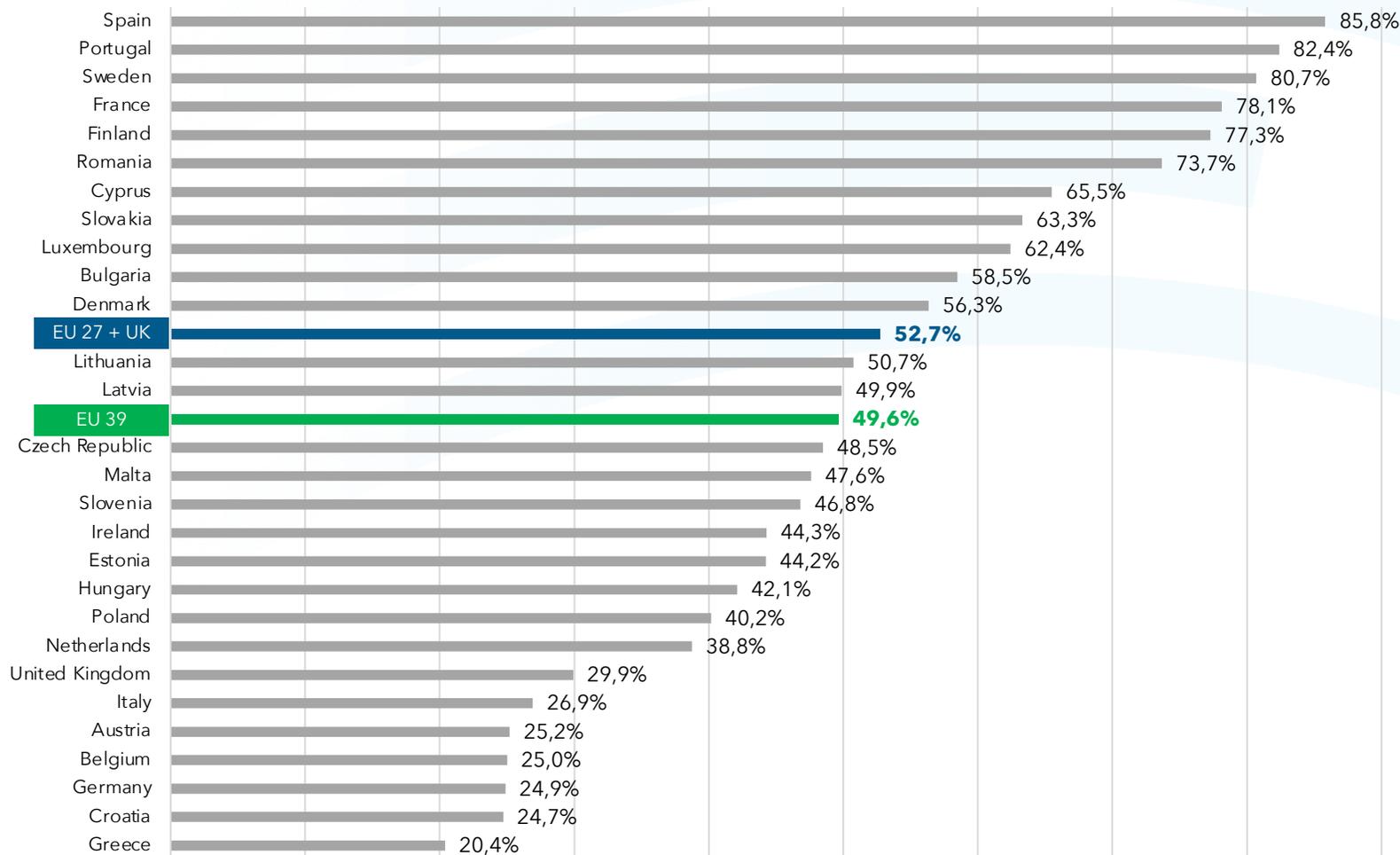
5 fastest growing markets (in both volume and %)

Data from Sept. 2022 to Sept. 2023 (in terms of FTTH/B Subscribers)



Take-up rate, European leaderboards - EU27+UK

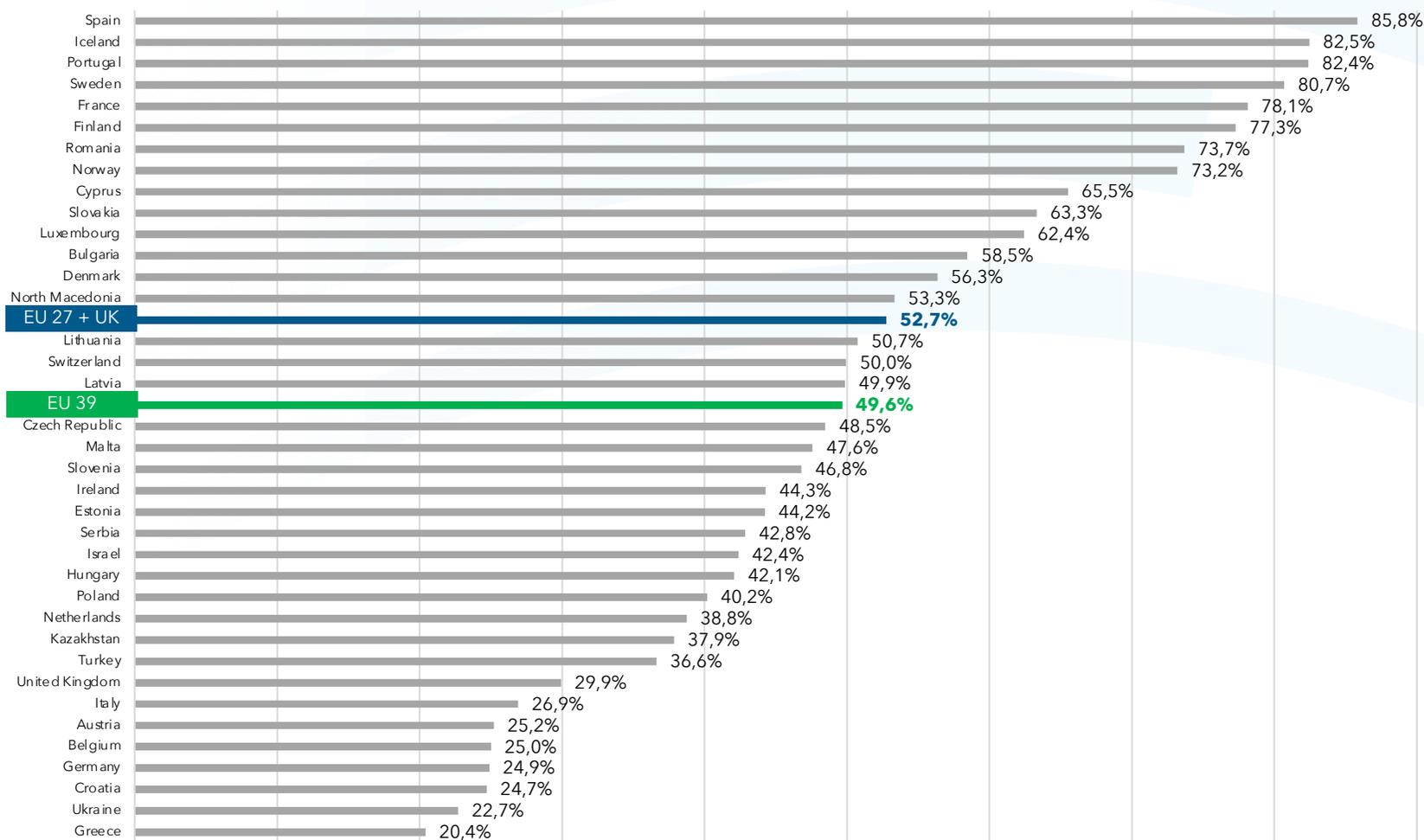
FTTH/B take-up rate (subscribers / households passed) in EU27+UK as of September 2023



Note: see slide 6 for the definition of the rates

Take-up rate, European leaderboards - EU39

FTTH/B take-up rate (subscribers / households passed) in EU39 as of September 2023



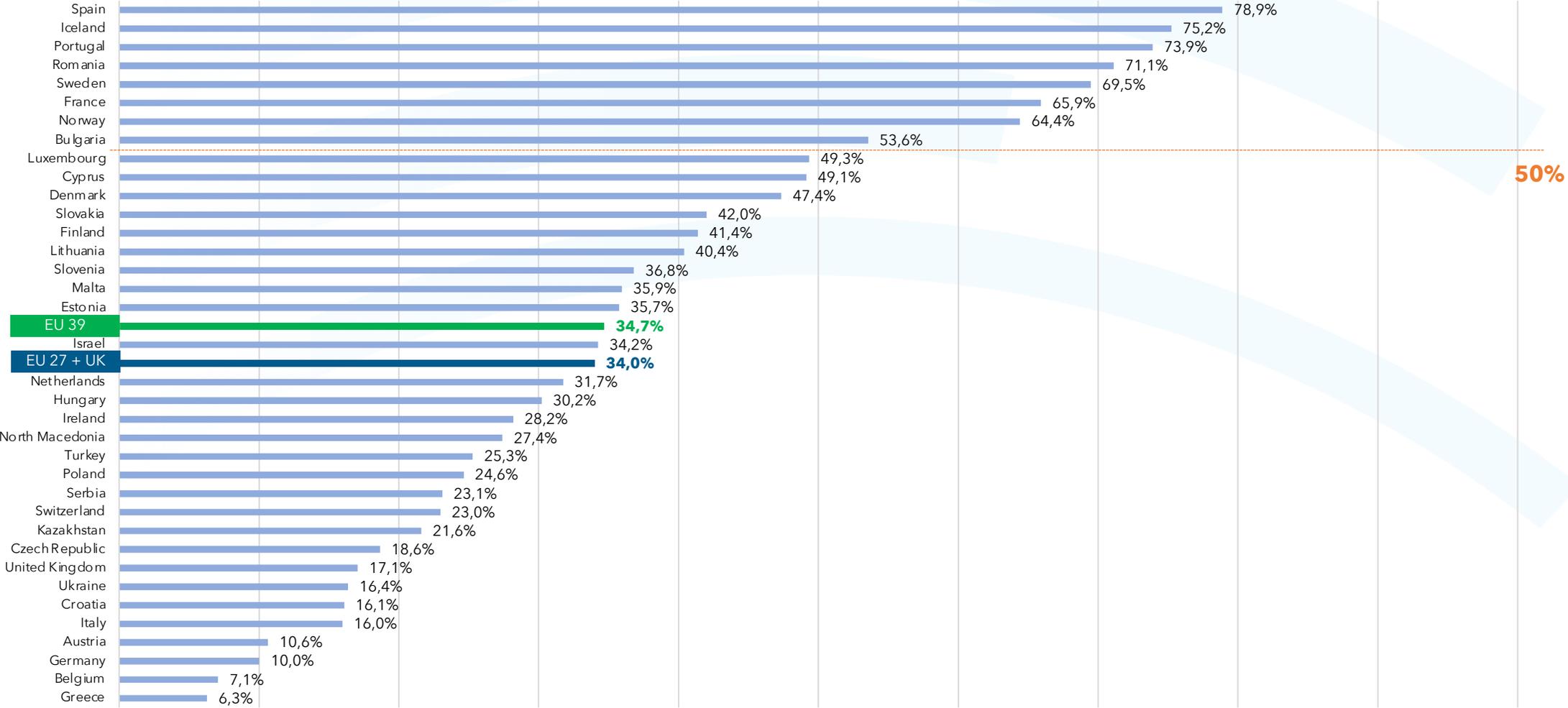
Note: see slide 6 for the definition of the rates

5. FTTH/B Penetration rate



Penetration rate, European leaderboards - EU39

Penetration rates of European countries - September 2023 (Subscribers / Households)



Note: see slide 6 for the definition of the rates

6. Who's leading the road to full fibre?



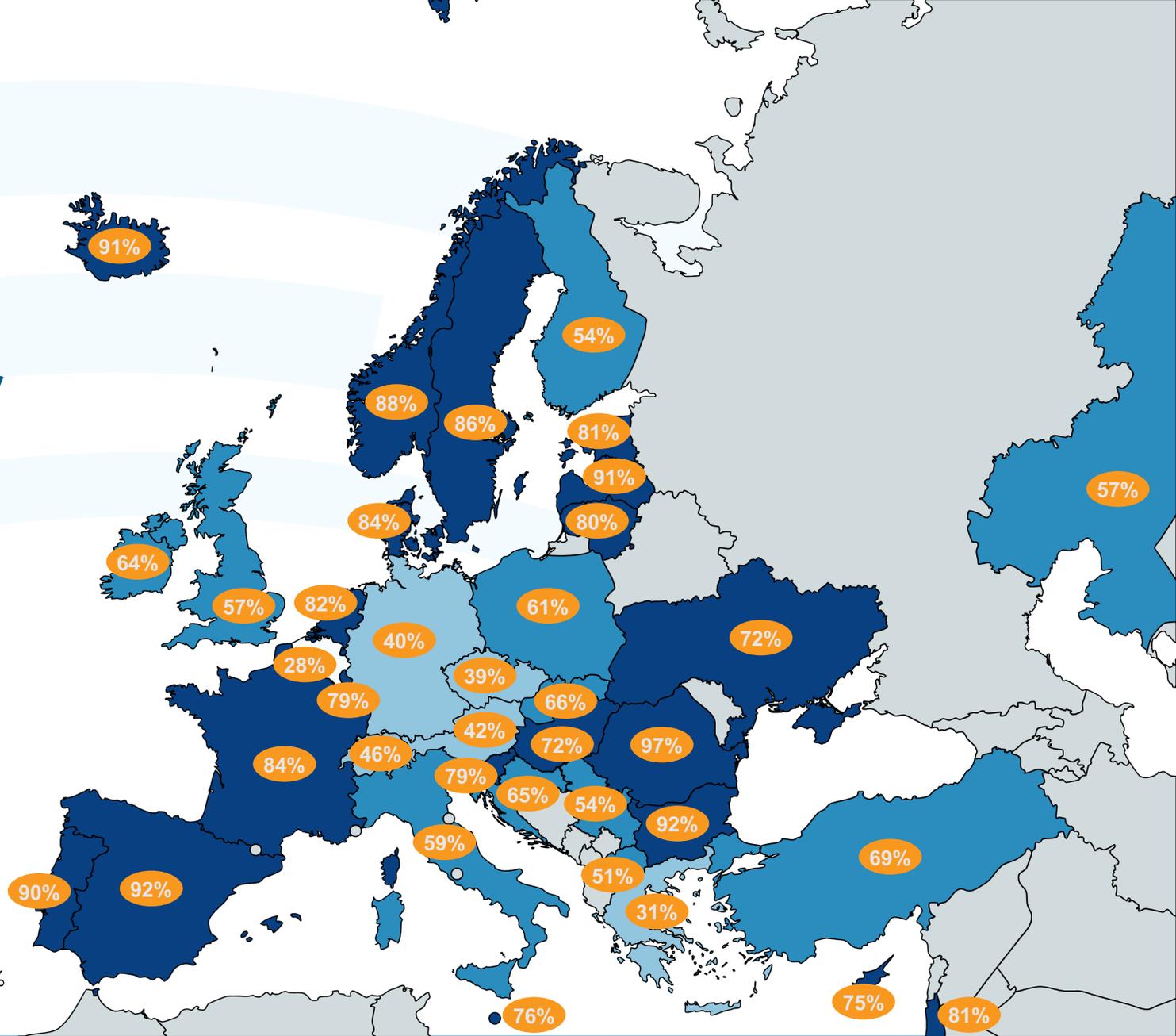
FTTH/B Coverage rate Summary map

FTTH/B coverage rate map (households passed / households) - September 2023

Coverage rate
 EU27+UK: 64.5% (+ 7.6 p.p yoy)
 EU39 : 69.9% (+ 6.5 p.p yoy)

- FTTH/B Coverage < 30%
- FTTH/B Coverage 30% > 50%
- FTTH/B Coverage 50% > 70%
- FTTH/B Coverage > 70%

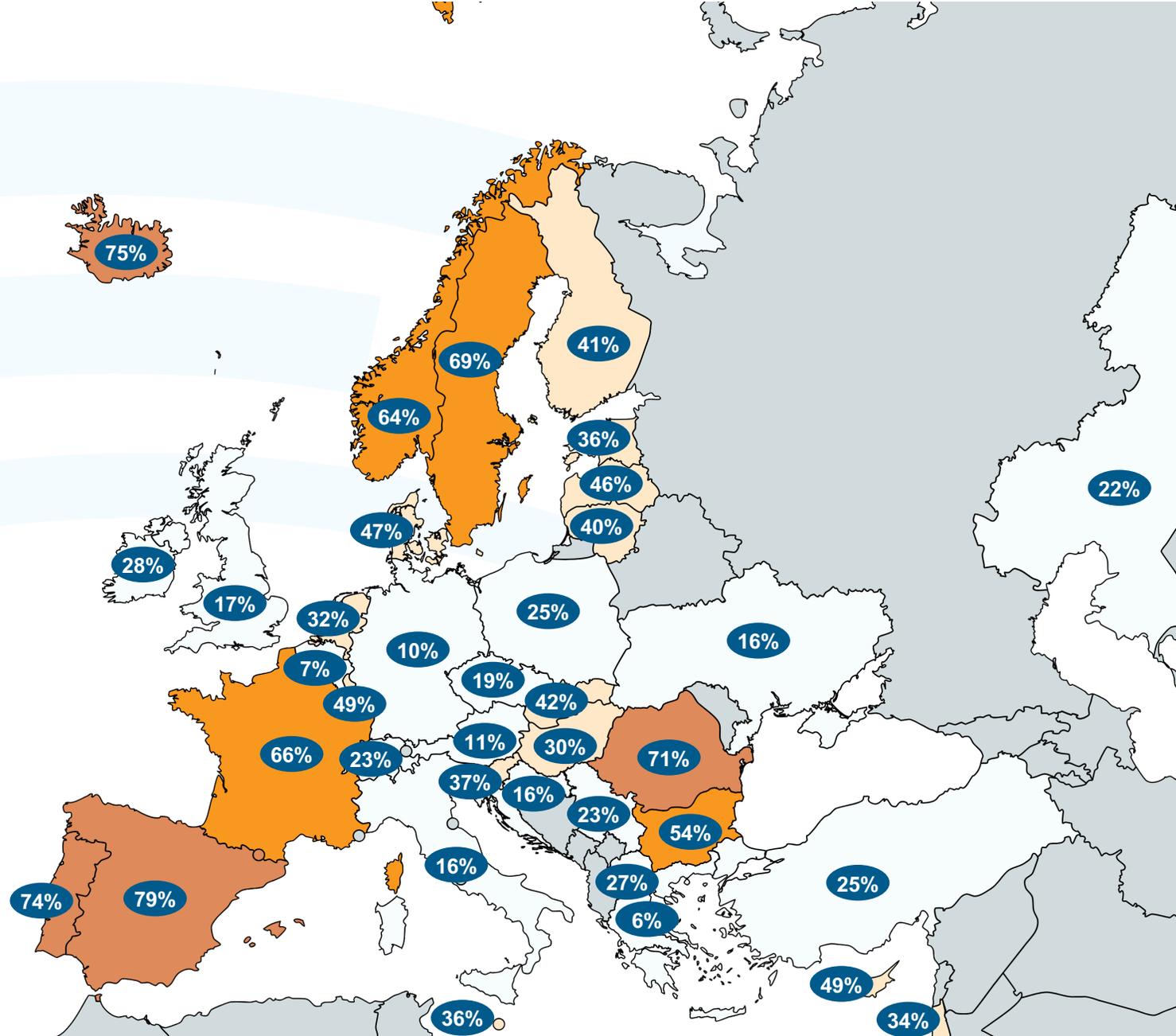
Note: see slide 6 for the definition of the rates



FTTH/B Penetration Rate Summary map

FTTH/B penetration rate map (subscribers / households) - September 2023

Penetration rate
EU27+UK: **34%** (+ 5 p.p yoy)
EU39 : **34.7%** (+ 5 p.p yoy)

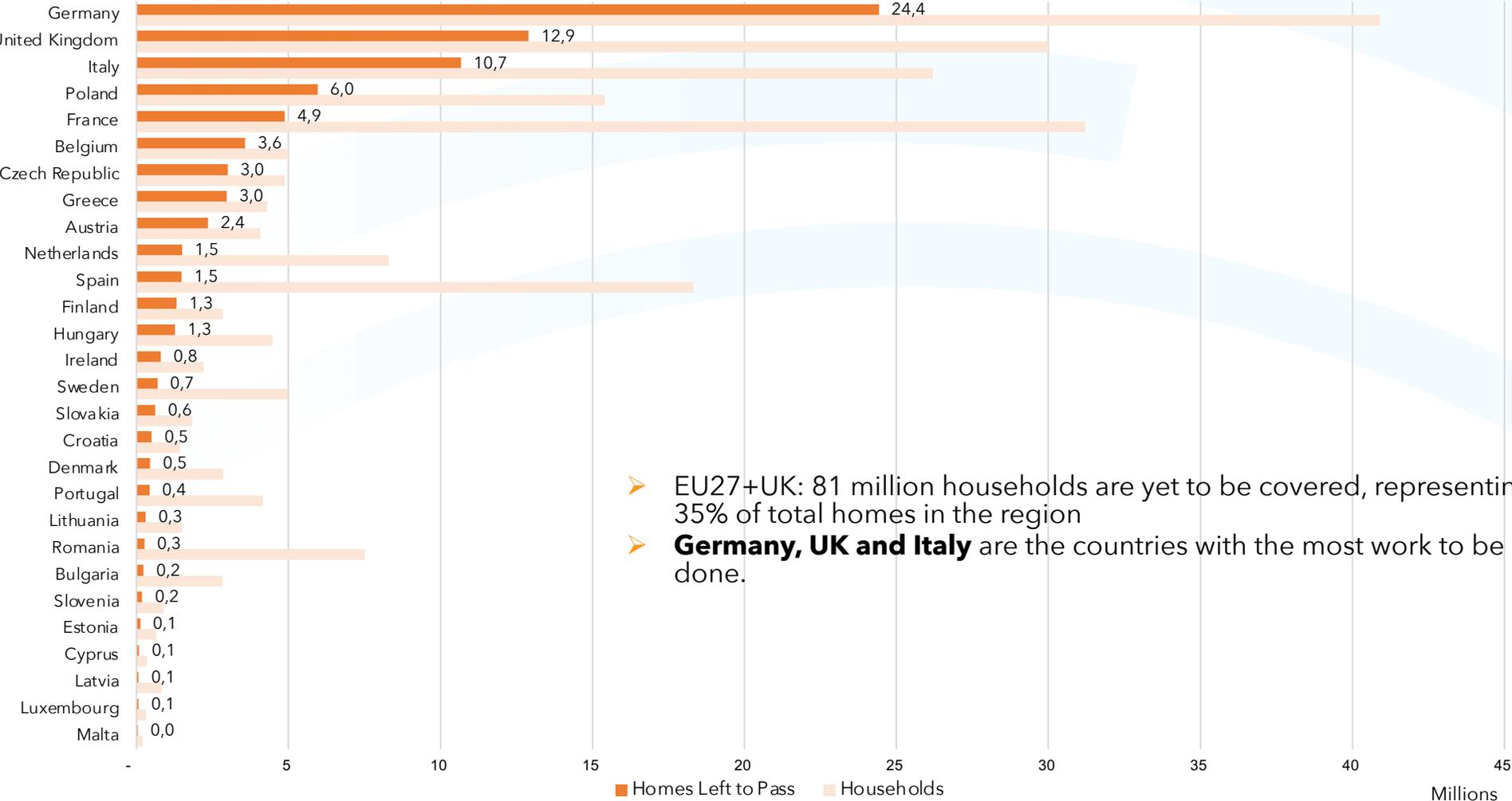


- FTTH/B Penetration < 30%
- FTTH/B Penetration 30% > 50%
- FTTH/B Penetration 50% > 70%
- FTTH/B Penetration > 70%

Note: see slide 6 for the definition of the rates

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

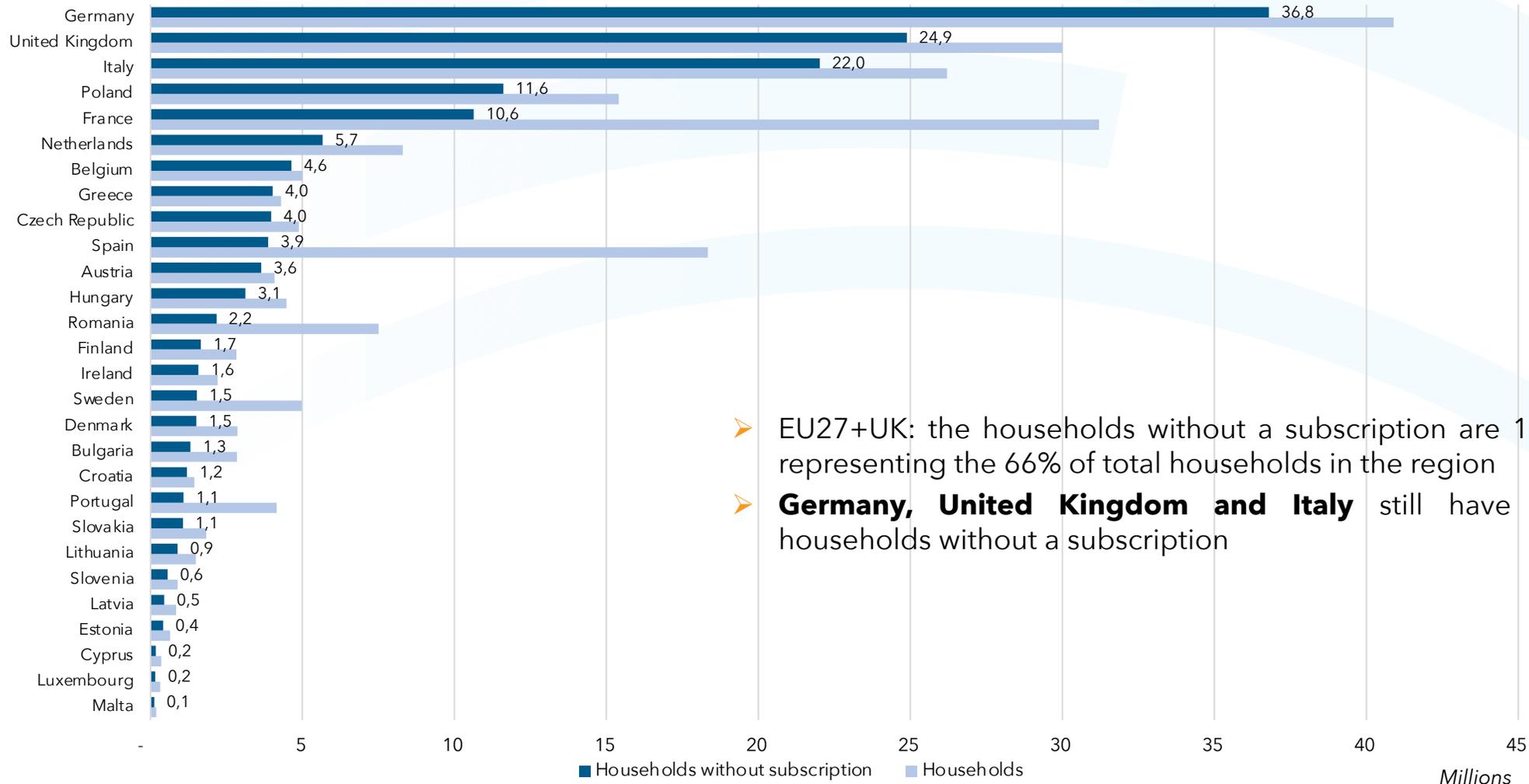
Households left to pass, EU27+UK - September 2023



- EU27+UK: 81 million households are yet to be covered, representing 35% of total homes in the region
- **Germany, UK and Italy** are the countries with the most work to be done.

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

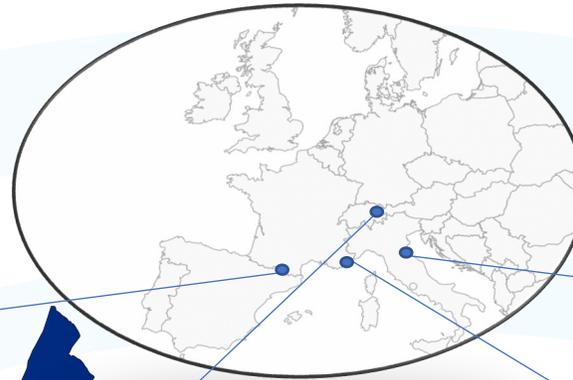
Subscribers left to connect, EU27+UK - September 2023



- EU27+UK: the households without a subscription are 151 million, representing the 66% of total households in the region
- **Germany, United Kingdom and Italy** still have the most households without a subscription

Focus on microstates progress

Microstates are moving forward with FTTH/B deployments



Andorra - 47,400 Households

47,000 Homes Passed by Fibre



41,090 Fibre Subscribers



* of total homes

Liechtenstein - 17,700 Households

15,400 Homes Passed by Fibre



14,350 Fibre Subscribers



* of total homes

Monaco - 18,300 Households

18,300 Homes Passed by Fibre



12,500 Fibre Subscribers



* of total homes

San Marino - 14,900 Households

11,900 Homes Passed by Fibre



8,100 Fibre Subscribers



* of total homes

7. FTTH/B Key conclusions



Key conclusions

Top 3 - Main movers in terms of Homes Passed in absolute numbers - EU27+UK

Data comparison between Sept. 2022 and Sept. 2023

1  UK

+ 4.7M HP

2  Germany

+ 4.4M HP

3  France

+ 2.5m HP

FTTH/B coverage EU39:

- Steady progress with 244 million homes passed, almost 70%
- 33 out of EU39 countries now have passed the 50%

More needs to be done in terms of subscriptions. Only 1 in 4 countries exceeds the 50% penetration rate.

Gigabit capable technologies such as 5G FWA, G.fast and Docsis 3.1/4.0 are still being deployed to meet the current Home bandwidth demands, delaying FTTH in some areas

Coverage: Germany, UK and Italy have the most work to do, with 48 million homes left to pass among them. Crucially the take-up and penetration rates are low too.

FTTH/B coverage EU27+UK:

- Nearly 65% homes are covered by Full-fibre
- 23 out of 28 countries now have passed the 50%

The contribution of EU27+UK to the total is increasing, both for home passed and subscriptions

Thank you for your attention!

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Annex: country data (1/2)

	Households	FTTH/B Homes Passed	FTTH/B Subscribers	Coverage rate	Take-up rate	Penetration rate
Austria	4.078.985	1.721.588	434.000	42,2%	25,2%	10,6%
Belgium	4.989.800	1.412.315	353.100	28,3%	25,0%	7,1%
Bulgaria	2.838.000	2.600.000	1.520.000	91,6%	58,5%	53,6%
Croatia	1.435.440	934.350	230.900	65,1%	24,7%	16,1%
Cyprus	346.000	259.500	170.000	75,0%	65,5%	49,1%
Czech Republic	4.875.000	1.875.000	909.000	38,5%	48,5%	18,6%
Denmark	2.861.559	2.405.000	1.355.000	84,0%	56,3%	47,4%
Estonia	643.500	520.000	230.000	80,8%	44,2%	35,7%
Finland	2.830.000	1.515.000	1.171.000	53,5%	77,3%	41,4%
France	31.212.198	26.340.000	20.576.000	84,4%	78,1%	65,9%
Germany	40.900.000	16.475.000	4.100.000	40,3%	24,9%	10,0%
Greece	4.287.426	1.321.400	269.600	30,8%	20,4%	6,3%
Hungary	4.474.531	3.210.000	1.351.300	71,7%	42,1%	30,2%
Iceland	160.000	146.000	120.381	91,3%	82,5%	75,2%
Ireland	2.200.000	1.400.000	619.968	63,6%	44,3%	28,2%
Israel	2.760.000	2.230.000	945.000	80,8%	42,4%	34,2%
Italy	26.200.000	15.527.000	4.181.000	59,3%	26,9%	16,0%
Kazakhstan	7.703.000	4.397.000	1.665.000	57,1%	37,9%	21,6%
Latvia	831.400	760.000	379.000	91,4%	49,9%	45,6%
Lithuania	1.495.000	1.190.000	603.900	79,6%	50,7%	40,4%

Annex: country data (2/2)

	Households	FTTH/B Homes Passed	FTTH/B Subscribers	Coverage rate	Take-up rate	Penetration rate
Luxembourg	315.000	249.000	155.430	79,0%	62,4%	49,3%
Malta	192.000	145.000	69.000	75,5%	47,6%	35,9%
Netherlands	8.300.000	6.800.000	2.635.000	81,9%	38,8%	31,7%
North Macedonia	590.000	303.118	161.689	51,4%	53,3%	27,4%
Norway	2.581.721	2.271.914	1.663.000	88,0%	73,2%	64,4%
Poland	15.396.785	9.442.000	3.793.000	61,3%	40,2%	24,6%
Portugal	4.154.571	3.726.065	3.070.000	89,7%	82,4%	73,9%
Romania	7.510.000	7.247.000	5.340.000	96,5%	73,7%	71,1%
Serbia	2.423.000	1.307.000	560.000	53,9%	42,8%	23,1%
Slovakia	1.833.150	1.216.358	770.000	66,4%	63,3%	42,0%
Slovenia	884.053	695.000	325.300	78,6%	46,8%	36,8%
Spain	18.334.701	16.853.000	14.464.900	91,9%	85,8%	78,9%
Sweden	4.972.695	4.282.000	3.455.500	86,1%	80,7%	69,5%
Switzerland	4.003.958	1.841.821	920.000	46,0%	50,0%	23,0%
Turkey	26.075.000	18.000.000	6.592.800	69,0%	36,6%	25,3%
Ukraine	13.600.000	9.800.000	2.225.000	72,1%	22,7%	16,4%
United Kingdom	30.000.000	17.100.000	5.115.500	57,0%	29,9%	17,1%