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„FTTH in Europe Forecast 2016-2019: Behind The Numbers “

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FTTH in Europe Forecast 2016-2019: Behind The Numbers

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Independent Consultant



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Webinar

- 20-25 minutes presentation
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- Please write your questions in the questions box of the webinar system
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- The slides will be available for download after the webinar
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Introduction

- Based on individual analyses of 22 countries, and brief reviews of a further 22 countries
- Covers a total of just over 335 million households, 221 million in the EU and 114 million outside the EU
- **Most countries (and the region as a whole) will have passed the 20% “fibre maturity” household penetration line by 2019**
 - 15 out of the 22 analysed in detail will have hit this mark; 11 will be over 30% penetration
 - 5 of the 22 will still be below 5% penetration

How The Forecast Is Created

- In order to avoid inconsistencies, we agreed to use IDATE data from its Panorama as the starting point for the forecast
- A detailed forecast is created for each of 22 countries individually, and aggregated to create the overall forecast
- Forecasts are based on a set of “leading indicators” (demand-side, supply-side, and other factors such as regulation) which might affect market development

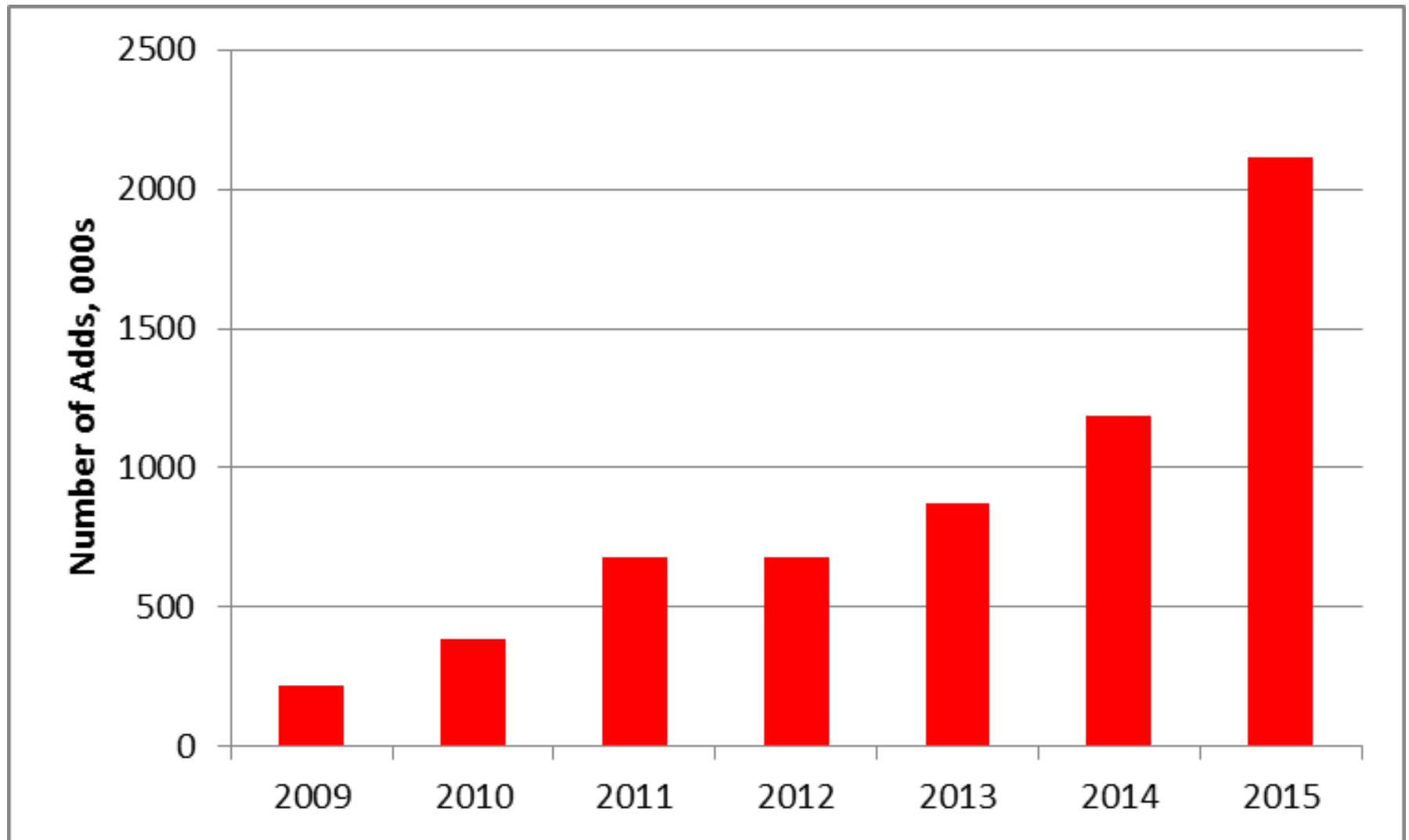
Demand-Side Catalysts

CATALYST	DEVELOPMENTS OVER THE PAST 12 MONTHS	POTENTIAL DEVELOPMENTS OVER THE NEXT 12 MONTHS
Consumer electronics—PCs, digital cameras, HDTV, etc	The last two years have seen high sales of both 4KTVs and Smart TVs which may generate higher bandwidth requirements. A steady rise in connected devices per household, including HD-enabled smartphones, is stoking demand	4K video will continue to spread as all TVs use the standard, and the number of devices and streams per household will also increase—potentially taking high-end households above 100Mbit/s
Services that drive higher-speed broadband	There has been an explosion in the use of video streaming of all kinds over the Internet, now usually HD and increasingly in future 4K	4K will continue to spread and TV will increasingly be delivered on-demand, increasing bandwidth needs.

Supply-Side Catalysts

CATALYST	DEVELOPMENTS OVER THE PAST 12 MONTHS	POTENTIAL DEVELOPMENTS OVER THE NEXT 12 MONTHS
Stated attitudes and plans of ex-incumbent telcos	Major builds in France and Spain, re-commitments in other countries such as Portugal and Slovakia. However there are also some big hold-outs and slow-downs too	Market share of incumbents will continue to rise gradually, and incumbent FTTH should continue to make good progress overall
Competitive and entrepreneurial telco plans and their impact	Competitive operators such as Orange and Vodafone have become more important in many countries in the past couple of years, with lots of new funding committed.	Overall, the involvement of non-incumbents looks set to rise in Western Europe, while in most of Eastern Europe they remain important players
Muni and utility plans and their impact	Continue to be important in Scandinavia; elsewhere activity is patchy, with many projects behind schedule.	Could become more important if there is better progress in countries like France and especially Germany. But we expect overall share to decline
Impact of cable MSOs	Cable MSOs have had a mixed impact, forcing some telcos to opt for VDSL as a faster means to respond, while others move on to FTTH to gain a clearer advantage.	The availability of DOCSIS 3.1 enables operators to offer Gigabit services, and this could give a boost to FTTH deployment in a year or two in some countries
Impact of mobile broadband	Some substitution of fixed broadband and diversion of capital has occurred, but this is counterbalanced by need for 4G fibre backhaul	No major change is foreseen, with the positive and negative impact of mobile broadband cancelling each other out
Green-field housing and construction	House-building has been depressed in many countries since 2009. However, incumbents now routinely pull fibre to any housing development over a certain size	Deployment of FTTH to new build housing will modestly contribute to the overall FTTH build-out in the next few years

Incumbent FTTH Adds in EU, 2009-2015



Other Catalysts

CATALYST	DEVELOPMENTS OVER THE PAST 12 MONTHS	POTENTIAL DEVELOPMENTS OVER THE NEXT 12 MONTHS
Impact of equipment cost and construction trends	Cost of both construction and electronics continues to fall slowly, gradually improving the business case	Costs will continue to fall as builds mature, but the higher cost of builds in less dense regions could be a barrier
Impact of copper-based DSL developments	DSL vectoring is enabling some operators to delay FTTH and others to use it alongside FTTH. New variants at higher speeds are emerging, and G.fast is attracting strong interest	Vectoring is making good progress in Europe and will have some adverse effect on FTTH. G.fast is coming in 2017 but will have mixed impact.
Regulatory and political changes at European and national level	There has been a gradual improvement in the FTTH regulatory environment, though without an EU-wide commitment to FTTH. The Juncker plan is adding some funding	A continuing improvement is expected, though without any decisive impact on FTTH build-out except in some specific national markets
Macro-economic environment	The poor economic outlook in many places has had little clear impact on FTTH builds	The economic outlook remains uncertain, and public indebtedness may prevent massive subsidized builds

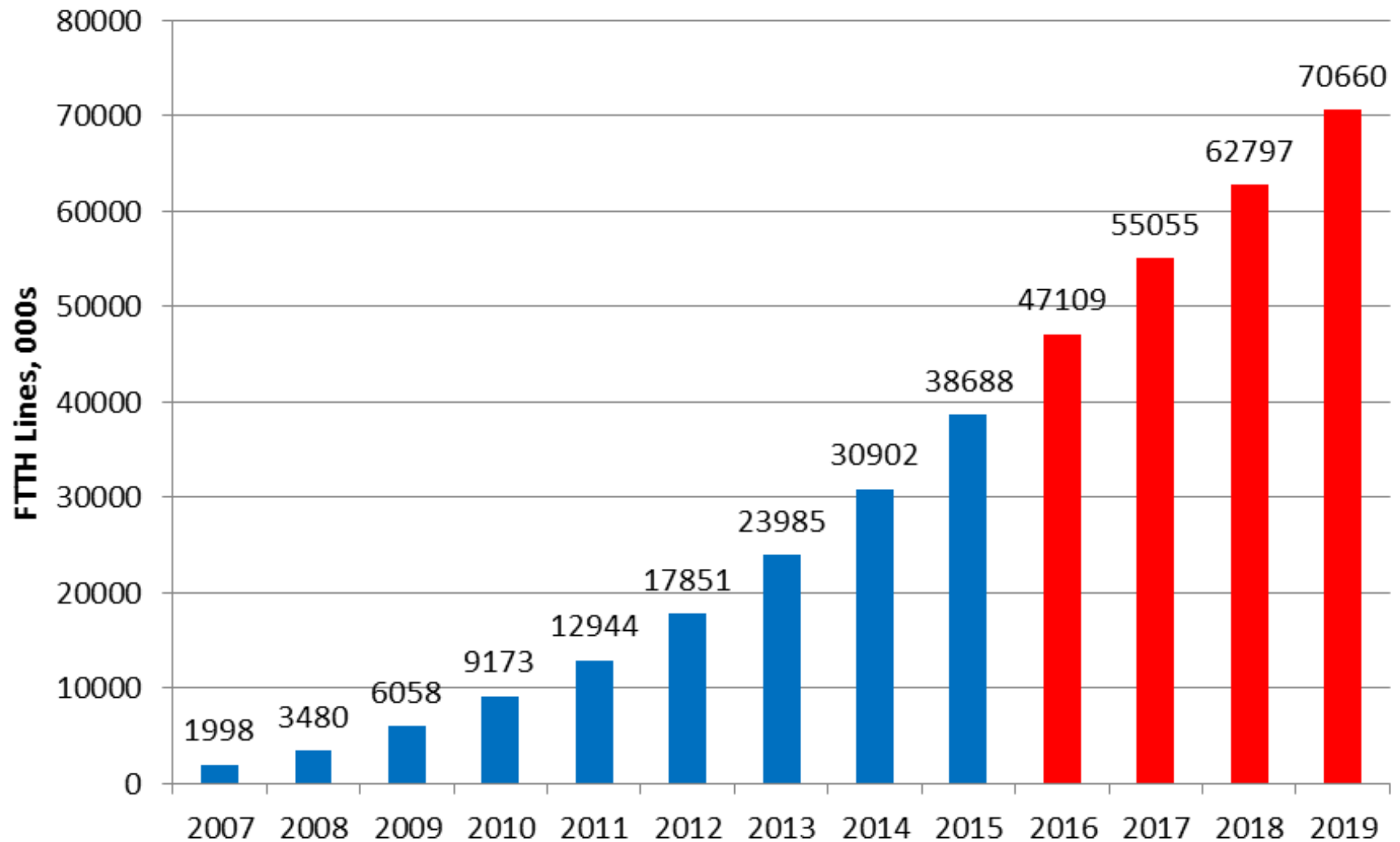
Summary of Key Catalysts

- Line speeds continue to rise steadily, pushing network operators towards FTTH; 4KTV, smart TVs, video streaming and device proliferation are key factors
- Many incumbents and alt-nets have shifted strategy towards FTTH
- Eastern Europe generally is leaving DSL behind; DSL in decline in many territories
- Competing (and collaborative) builds are important catalysts in many countries
- Cable operators are pushing other types of telcos to higher speed technologies
- A better regulatory environment is speeding builds and lowering costs
- Technology innovation (e.g. microtrenching) is also helping to reduce costs

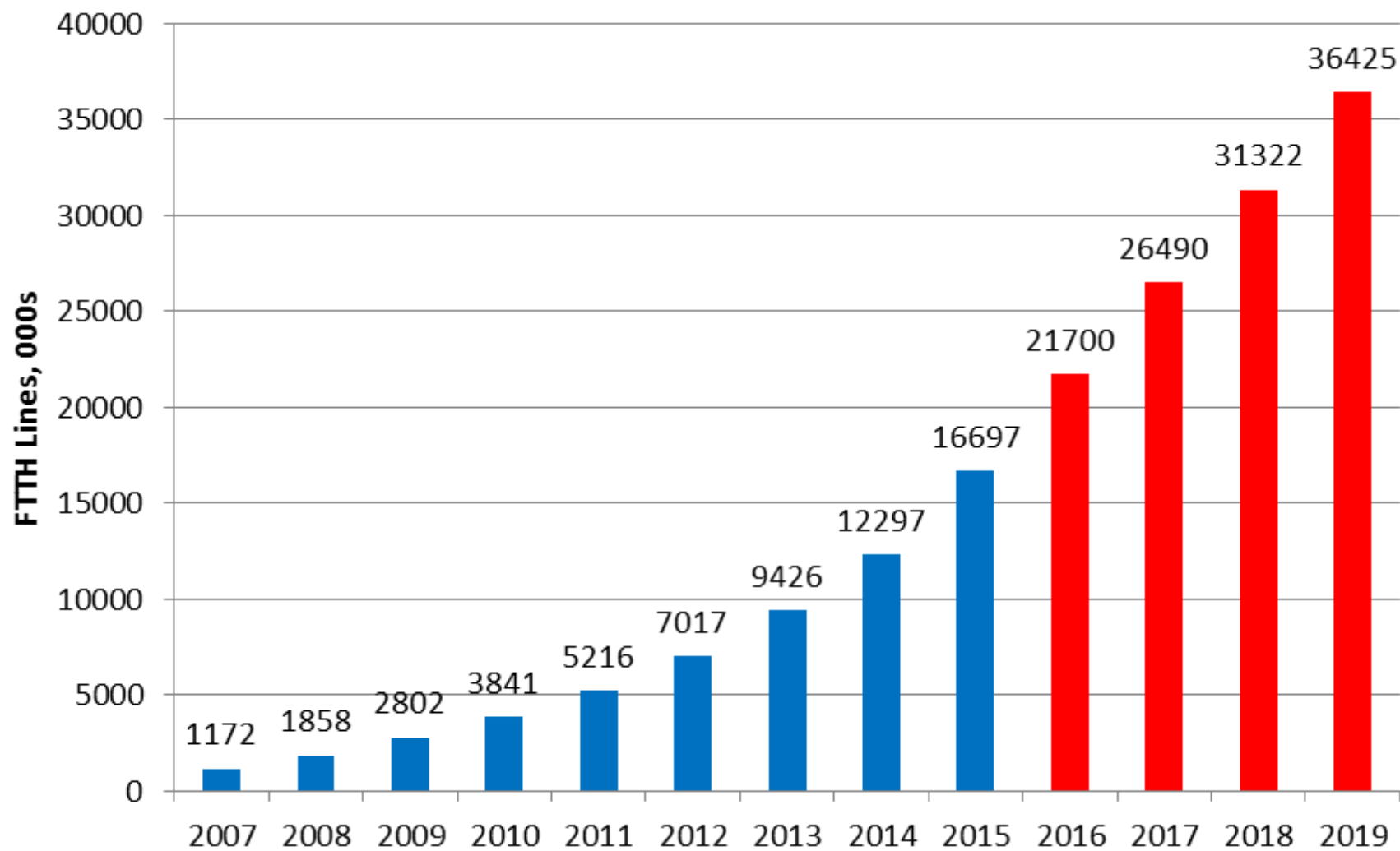
Summary of Barriers

- Still no clear mass-market killer app for FTTH
- Vectoring has been successfully deployed, and new variants, along with G.fast, could enable operators to delay FTTH, or use mixed-build strategies
- Many muni and utility builds have faltered and many other projects are behind schedule or have been put on hold
- As penetration rises, the business case in harder-to-cable areas could become tougher; public funding may not be available to fill the gap
- Substitution by enhanced 4G may affect penetration—though 4G can have positive effects too

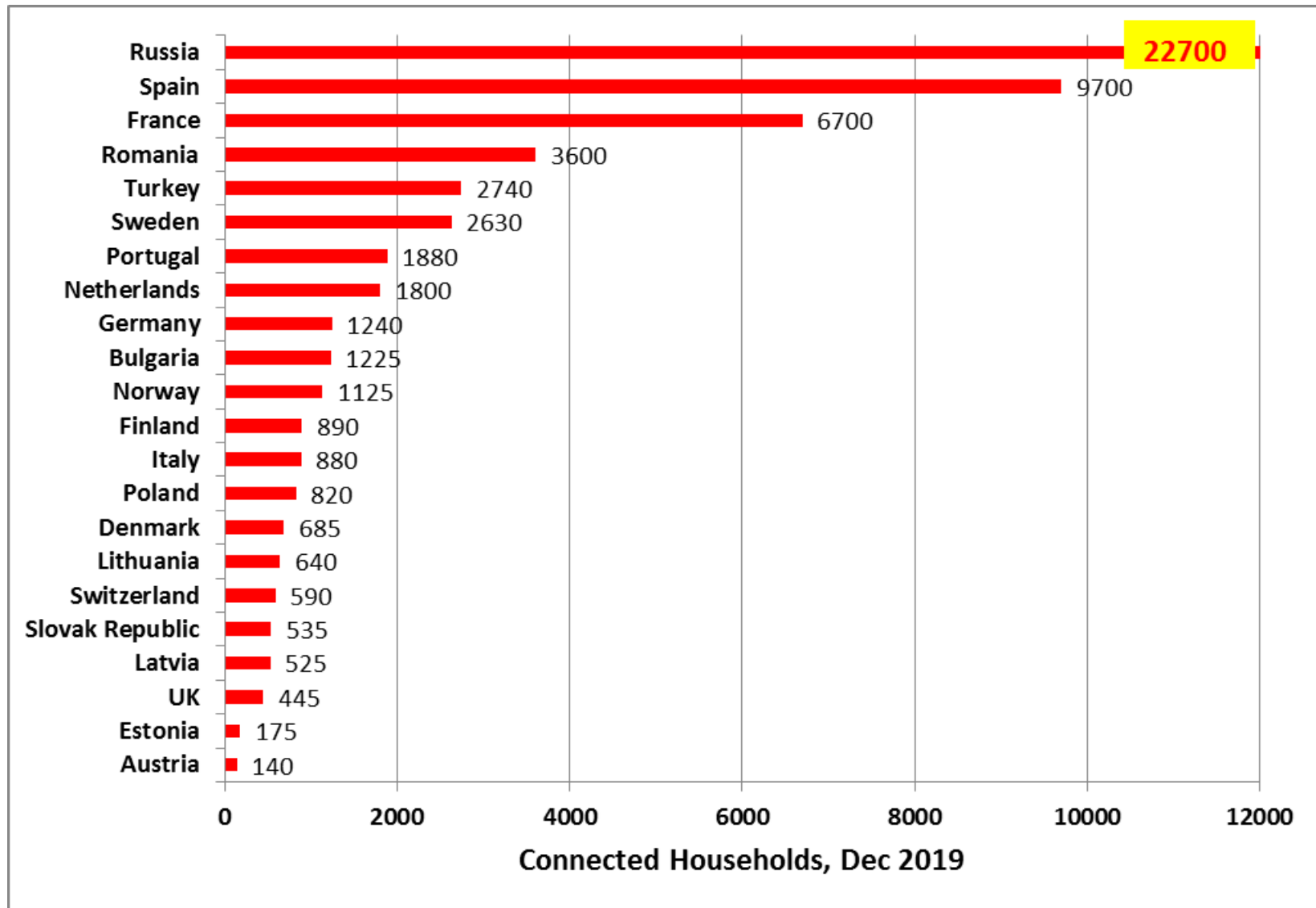
FTTH Subscribers, 2007-2019



EU-Only Forecast

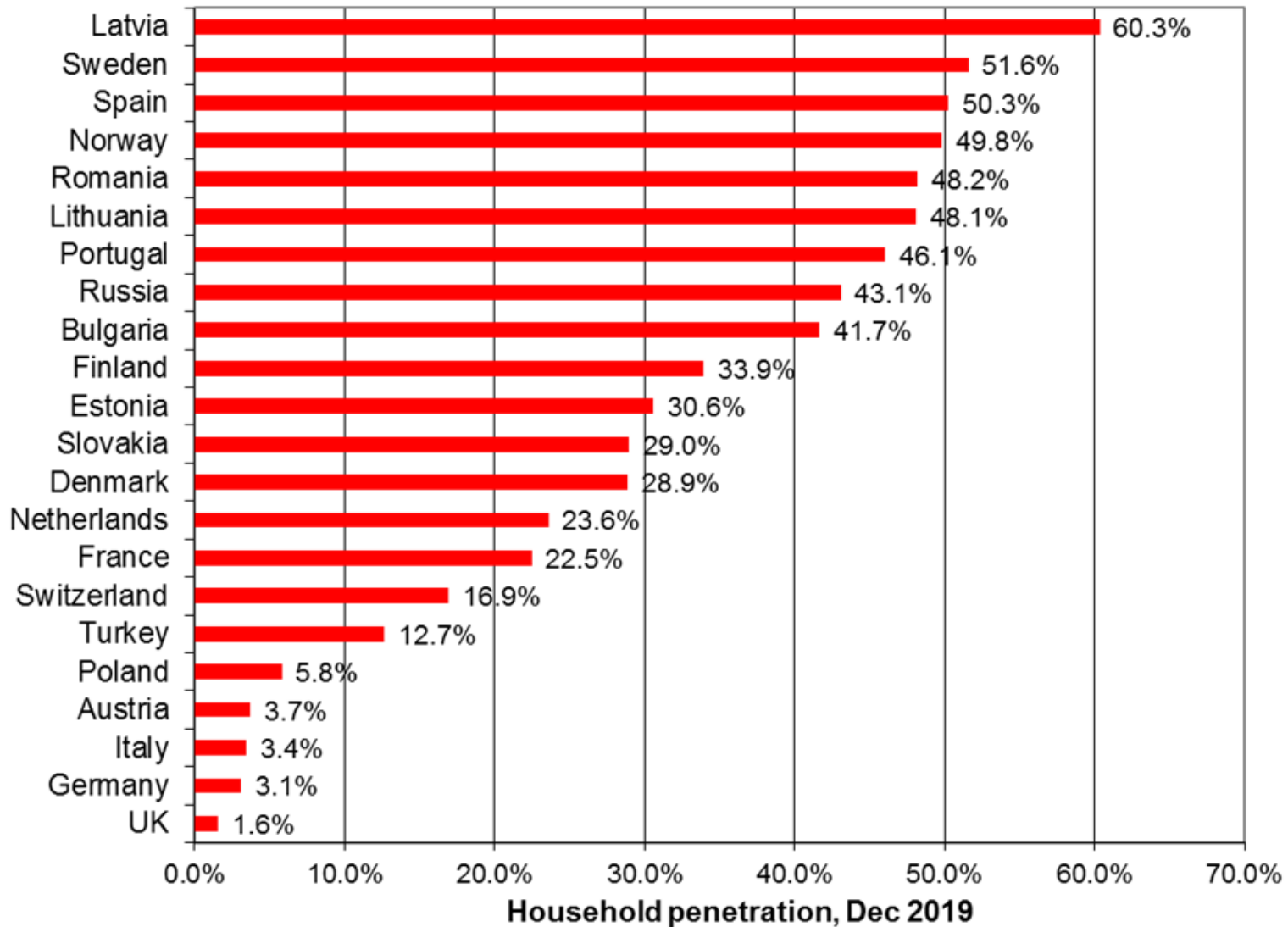


FTTH by Country In 2019*, By Number Of Connected Households



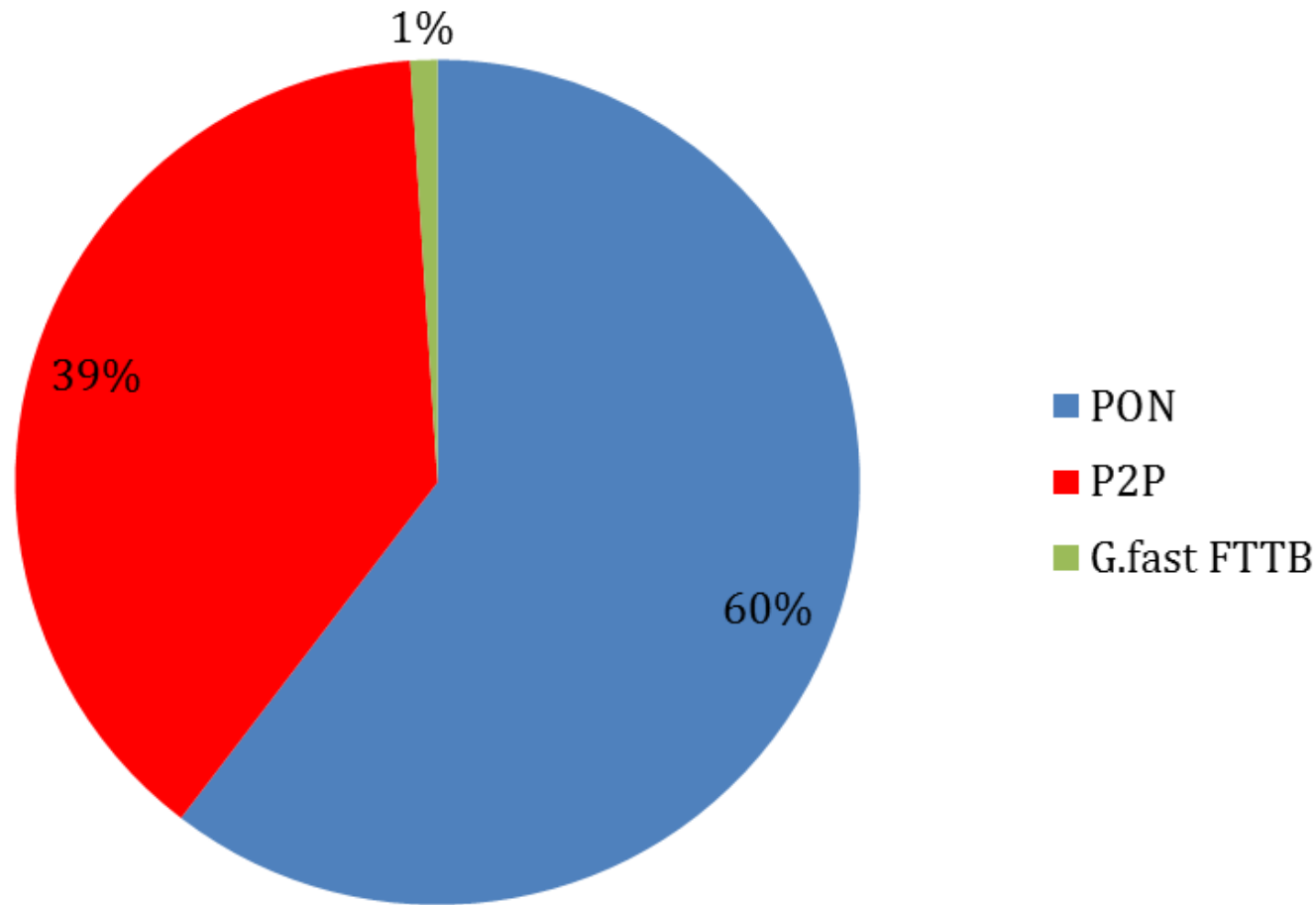
*Among the 22 countries analyzed in detail

FTTH By Country, 2019*, By Household Penetration

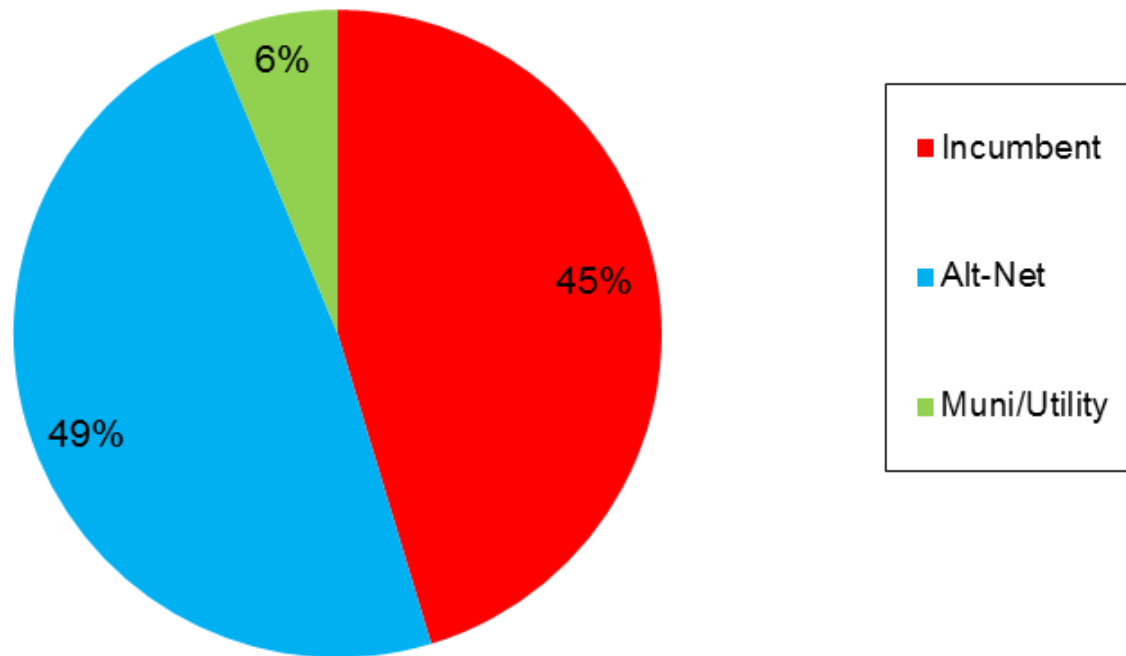


*Among the 22 countries analyzed in detail

FTTH Connections in 2019 by Technology

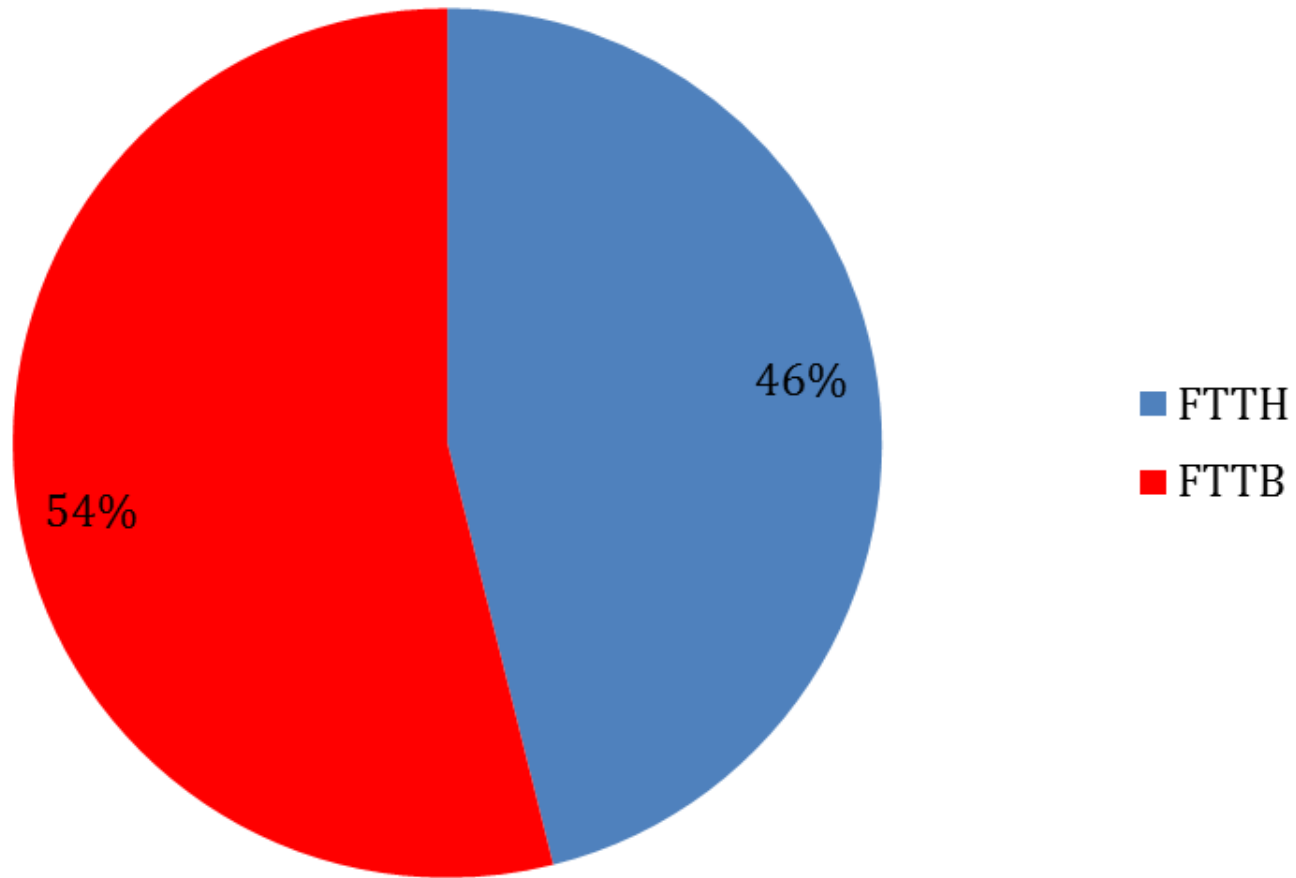


FTTH Connections In 2019, By Type Of Builder

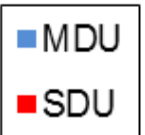
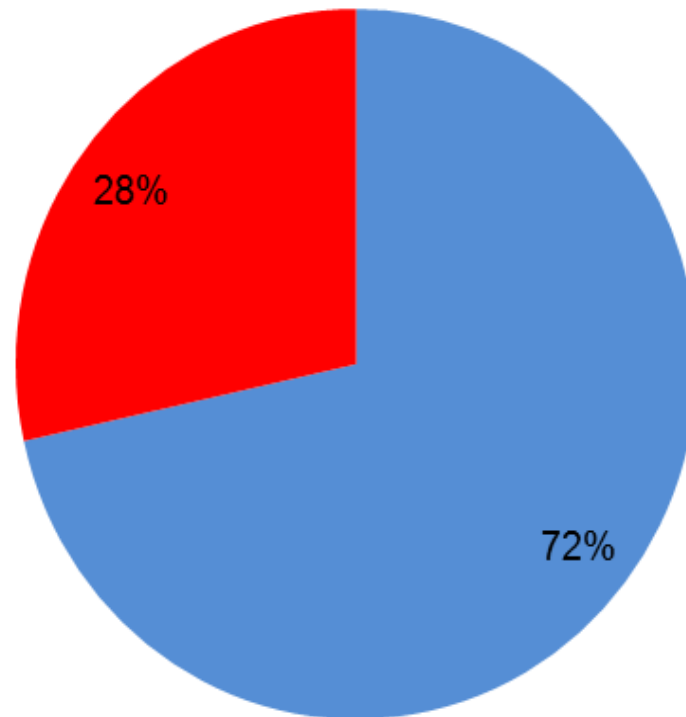


Note: Incumbent = former incumbent monopoly telco (PTT). Alt-net = competitive or alternative telco or broadband provider. Muni/Utility = network built by municipal local authority or by a power utility

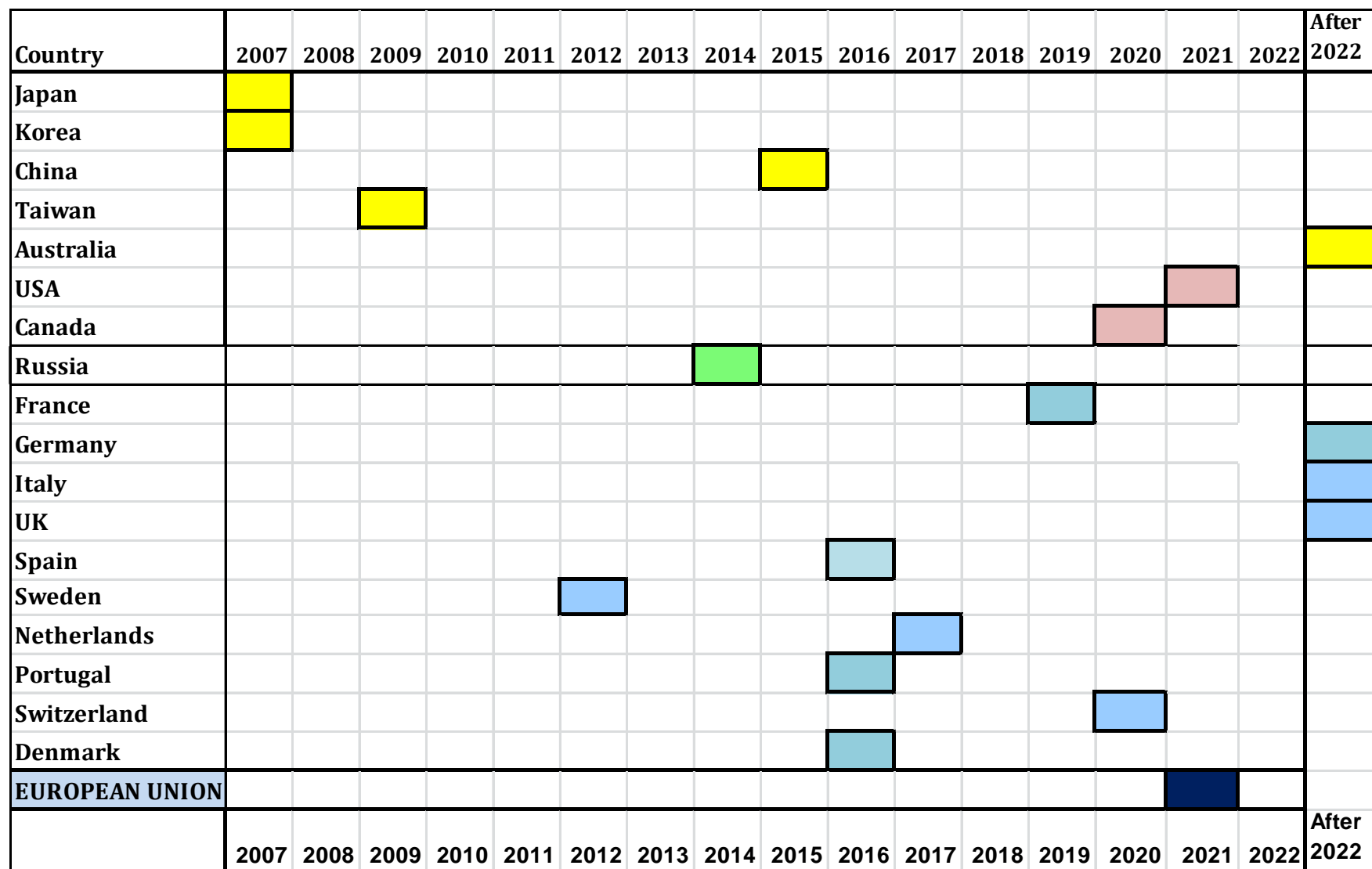
FTTH Connections in 2019 by Type of Connection



FTTH Connections In 2019, By Type Of Dwelling

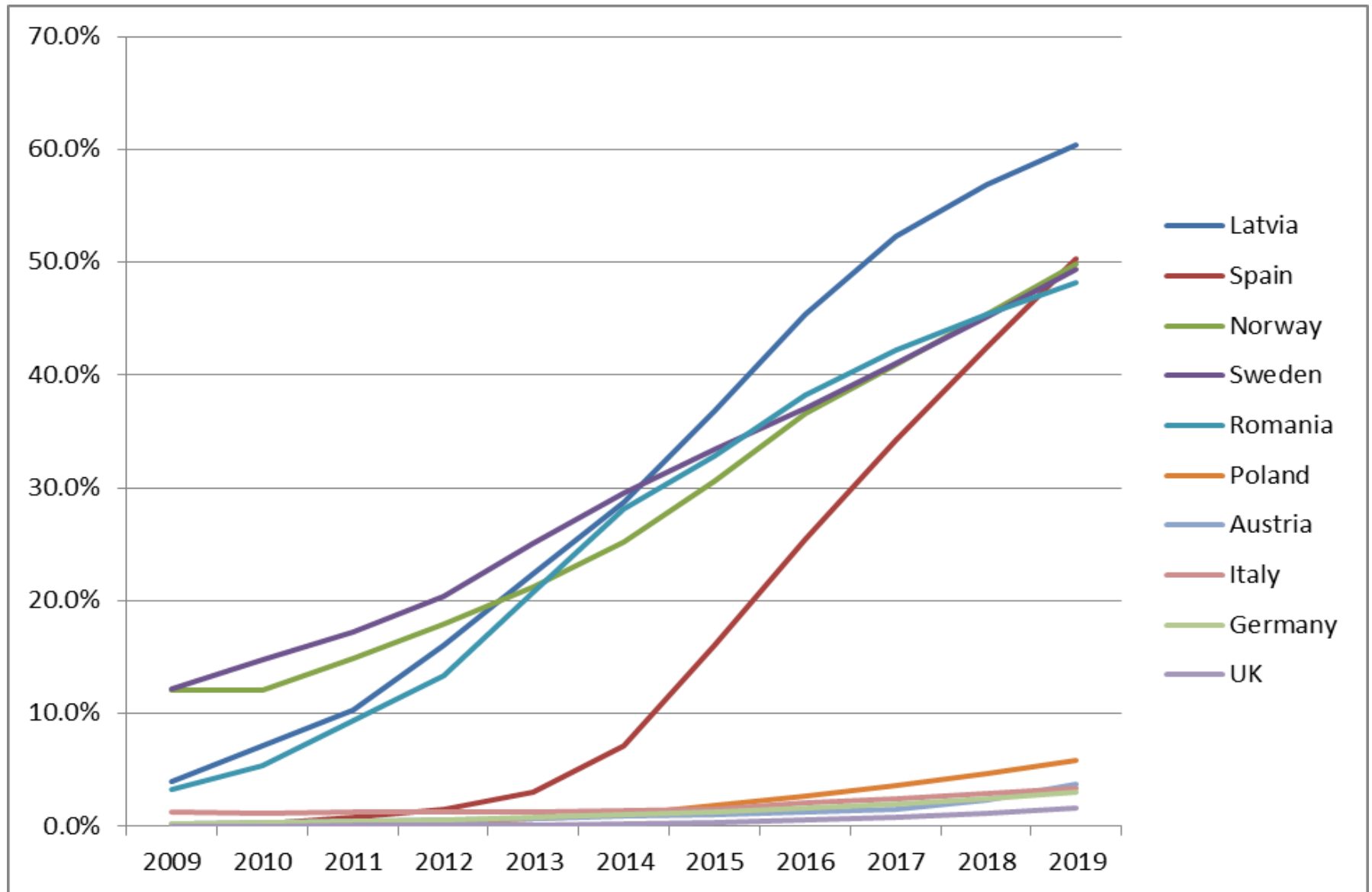


The Race to “FTTH Maturity”*



* Defined as 20 percent FTTH Household Penetration

A 10-Year Penetration Gap?



Summary

- Nearly 71 million households connected to FTTH or FTTB at the end of 2019, about 21% of all homes in the region
- In the EU, 36.4m homes connected, or 16.5% of all homes
- Three countries– Russia, Spain and France- will account for more than half the installed base
- The gap between the most and least penetrated will be very wide – at least ten years
- PON penetration is gradually rising; G.fast is emerging
- FTTH and FTTB evenly balanced, but shifting towards FTTH
- Market gradually shifting to ex-incumbents, but they will still account for less than half of installed FTTH lines at 2019
- Big differences from country to country will persist

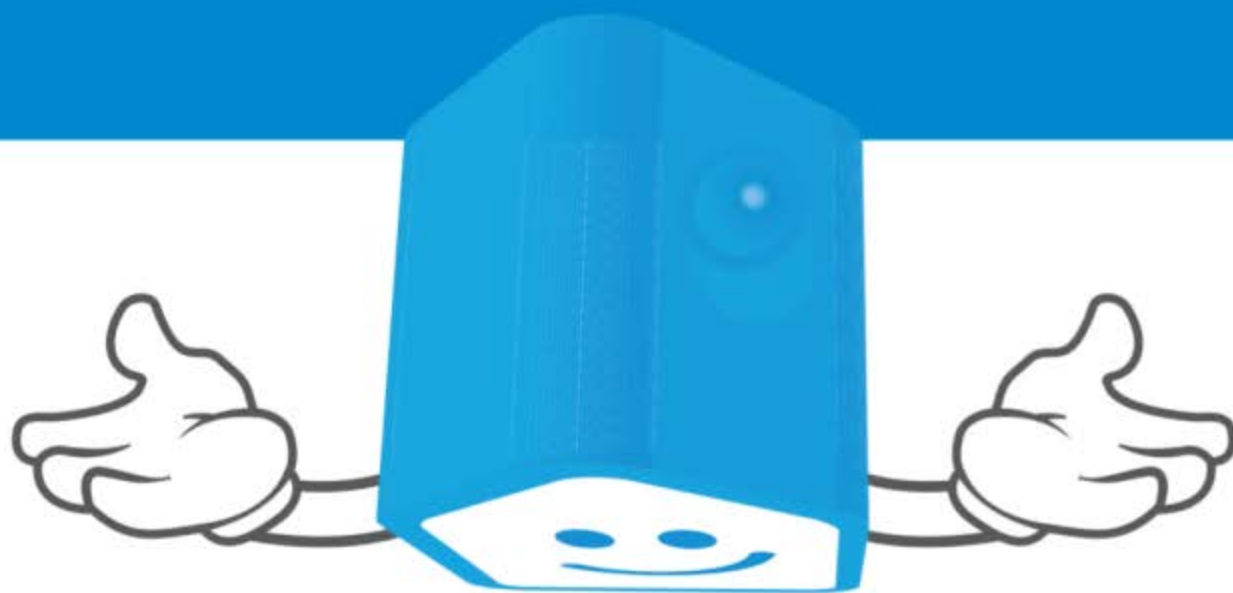
Appendix

Countries Covered in This Forecast

Individual Forecasts Created	Included in Aggregate Forecast
Western Europe	
Austria	Andorra
Denmark	Belgium
Finland	Cyprus
France	Greece
Germany	Iceland
Italy	Ireland
Netherlands	Israel
Norway	Luxembourg
Portugal	Malta
Spain	
Sweden	
Switzerland	
UK	
Eastern Europe	
Bulgaria	Armenia
Estonia	Azerbaijan
	Belarus
	Bosnia
	Croatia
Latvia	Czech Republic
Lithuania	Hungary
Poland	Kazakhstan
Romania	Macedonia
Russia	Moldova
Slovak Republic	Montenegro
Turkey	Serbia
	Ukraine

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QUESTIONS?



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