FTTH/B in Rural Areas

EU27+UK September 2021

FTTH COUNCIL EUROPE

With thanks to IDATE DIGIWORLD

Full fibre for a digital and sustainable Europe

AGENDA

1. Study Background
2. General overview and main trends
3. Key conclusions

1. Study Background

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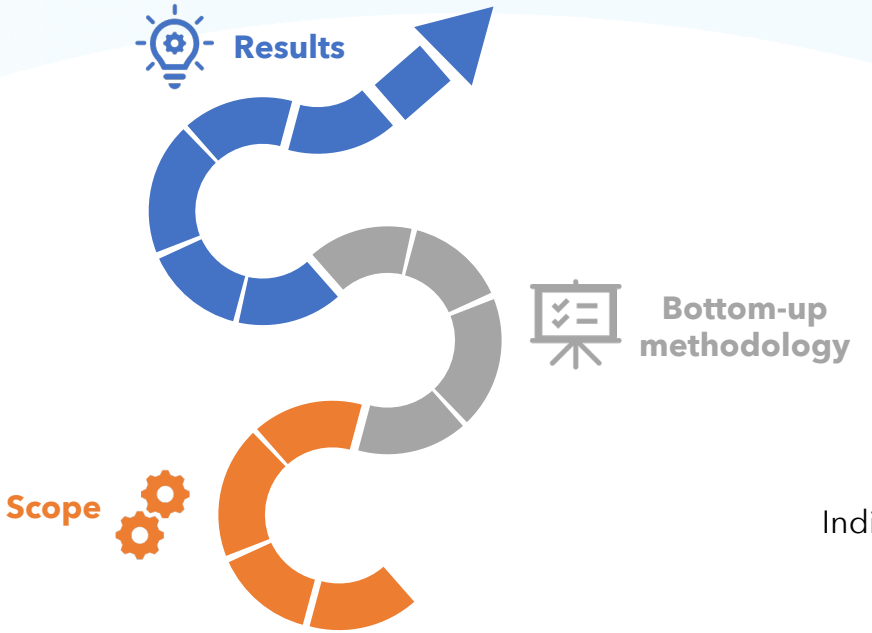
Methodology

- Mission on behalf of the **FTTH Council Europe**
  - Provide a general overview of the goals, actions and results of FTTH deployments in rural areas in selected EU countries

- 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
- Interview with authorities
- Information exchange with FTTH Council Europe members



Both quantitative and qualitative data

Monography of the FTTH deployed in rural areas for each country under study based on:
- Regulatory Goals
- Actions implemented
- Budget (if available)
- Results

Individual analysis of 27 EU countries + UK : September 2021

Important definitions

Rural Areas

The EU classification of territorial units, abbreviated NUTS (Nomenclature of Territorial Units for Statistics) subdivides the EU territory into regions at 3 different levels.

NUTS level 3 regions can be classified as 'Rural' with a population density below 150 inhabitants per km2. Many areas designated as Rural can contain higher density locations that can be served via FTTH in an economical way.

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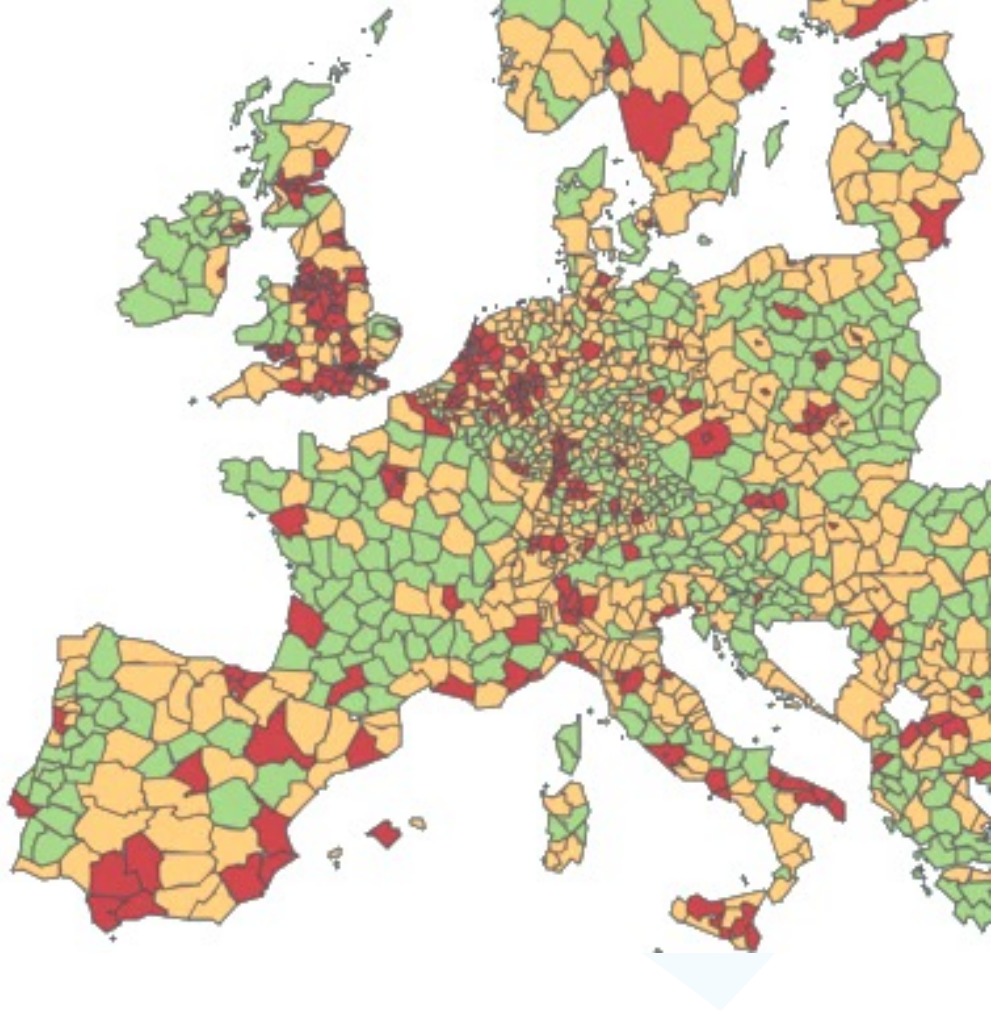
FTTH / FTTB

- "Fiber to the Home" (FTTH) is defined as an access network architecture in which the connection to the subscriber's Premises is Optical Fiber. The fiber optic communications path is terminated on or inside the Premises for the purpose of carrying communication services to a single subscriber.
- "Fiber to the Building" (FTTB) is defined as an access network architecture in which the fiber optic communications path is terminated within the building for the purpose of carrying communication services for a single building with potentially multiple subscribers.

NGA

Next Generation Access includes the following technologies: FTTH, FTTB, Cable Docsis 3.0, VDSL and other superfast broadband (at least 30 Mbps download)



Detailed Urban-rural typology by NUTS3 regions

- Predominantly urban regions
- Intermediate regions
- Predominantly rural regions

2. Overview at the European level

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Connecting rural Europe with full-fibre

EC guidelines for broadband and per-country approach

Digital Agenda for Europe - main objectives for the years to come

The European Commission's policy framework encourages both private and public investments in ultrafast broadband connectivity and has implemented ambitious targets via "Gigabit Society 2025" as well as the "Digital Compass 2030" strategies.

Key targets included in the "Gigabit Society 2025" programme:

- Provide a 1 Gbps connection to all socio-economic institutions
- Provide an Internet connection of at least 100 Mbps to all European households
- Guarantee uninterrupted 5G coverage in all urban areas and on the main terrestrial transport corridors

"Digital Compass 2030" announced in 2021 also set goals related to broadband coverage to encourage the full digitalization of Europe by 2030. The ambition is that by 2030:

- All European households are covered by a Gigabit network, and
- All populated areas are covered by 5G.

FTTH-ONLY APPROACH	INTERMEDIATE APPROACH	TECHNOLOGY-NEUTRAL
National authorities have promoted and encouraged the use of Fibre-to-the-Home solutions to provide broadband connectivity	Countries where FTTH is massively deployed even though national authorities did not implement a clear and specific strategy towards full-fibre solutions	National authorities have not imposed any specific technological solution when it comes to delivering broadband connectivity for end-users

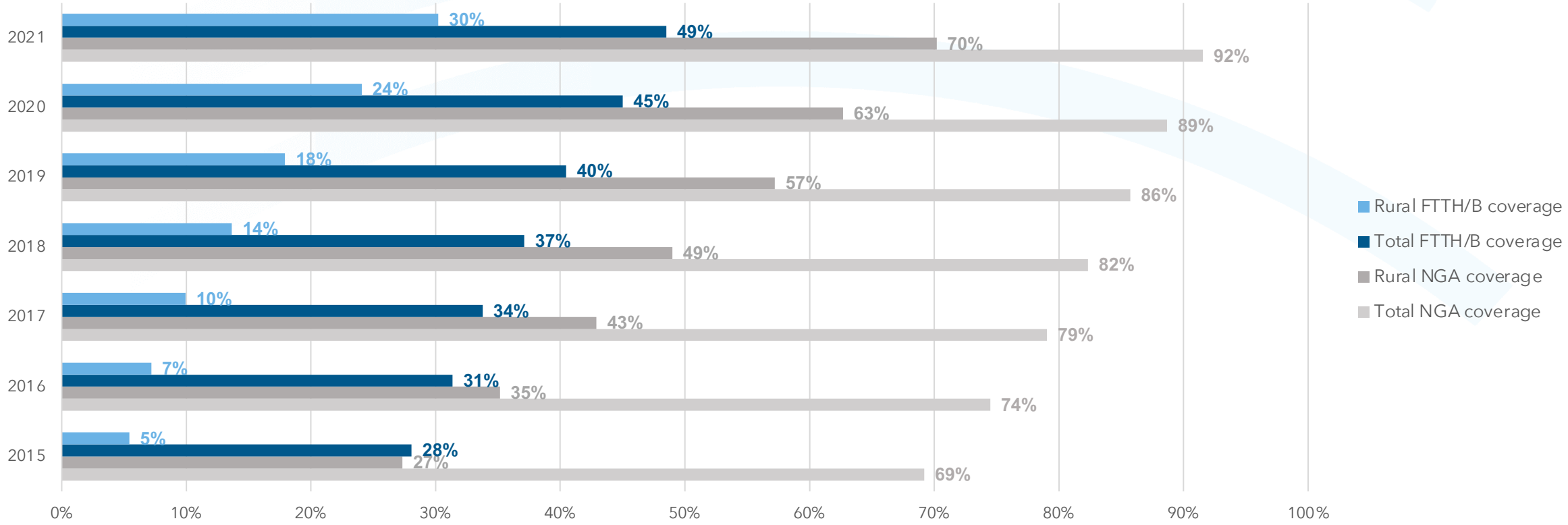
Strategies and technological approaches

* Country under study: EU27 + UK

Connecting rural Europe with full-fibre

More than 2/3 of rural households with NGA access; About 1/3 of rural households with FTTH/B access

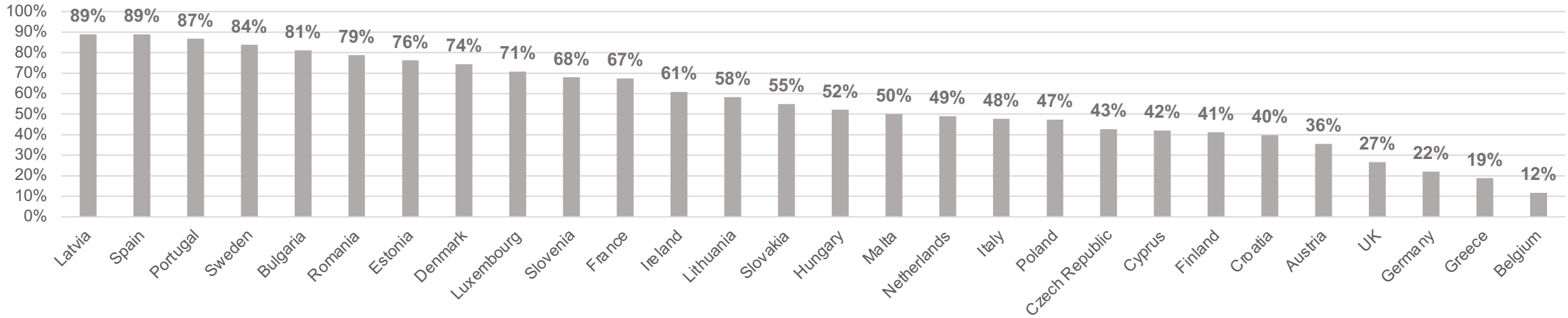
Evolution in rural/total broadband coverage (FTTH/B and NGA), 2015-2021
EU27+UK



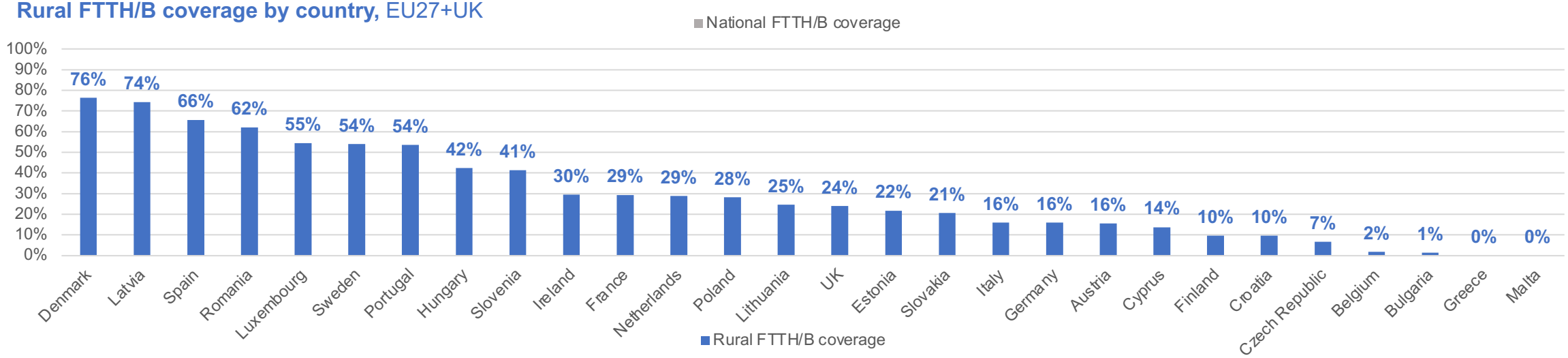
Connecting rural Europe with full-fibre

Ranking of national and rural FTTH/B coverage in EU27+UK

National FTTH/B coverage by country, EU27+UK



Rural FTTH/B coverage by country, EU27+UK

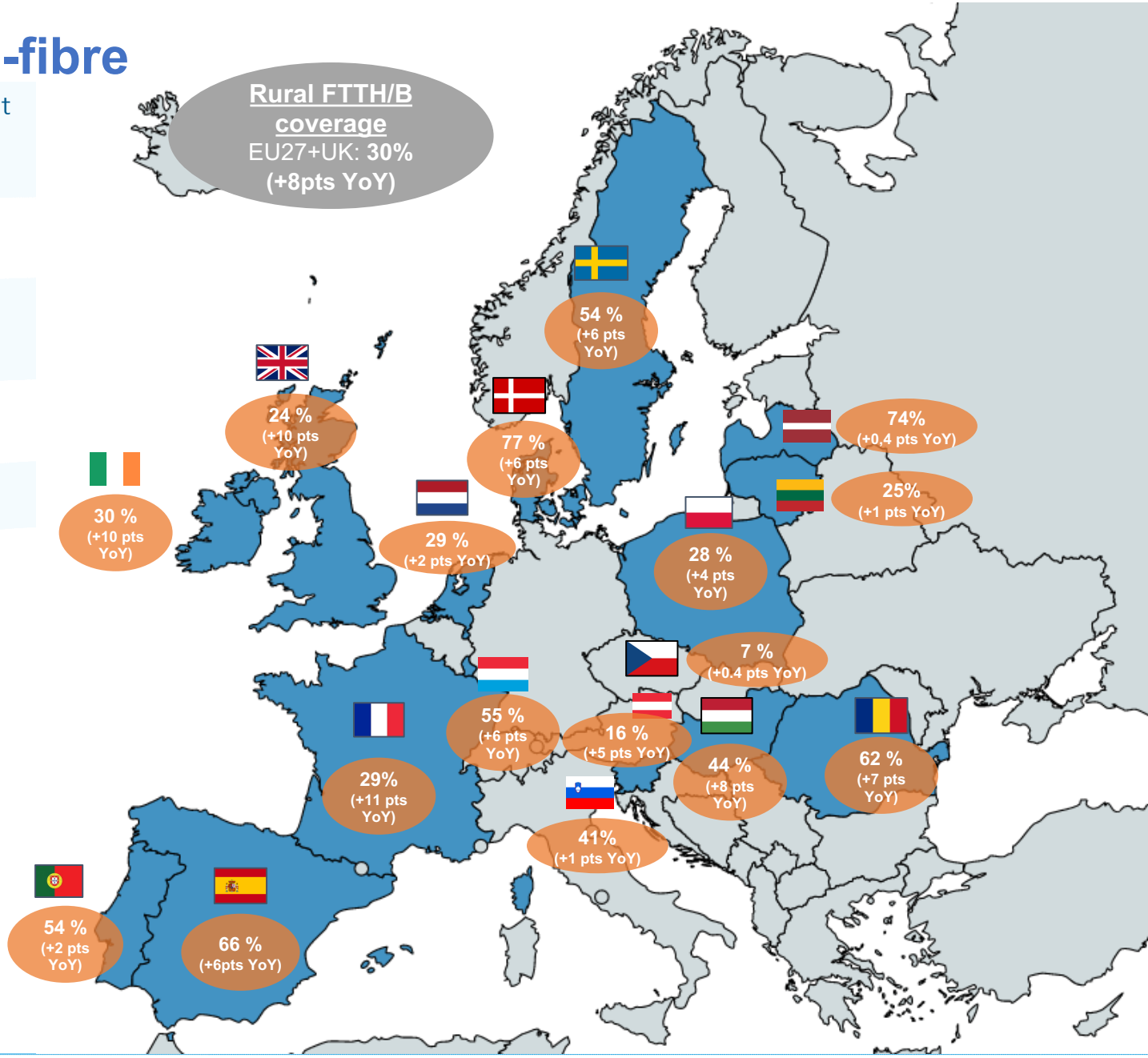


Source: European Commission, Regulators, IDATE

Connecting rural Europe with full-fibre

- FTTH/B progressively implemented in non-dense areas, but at a very different pace among European countries

Country (Top15)	EU27+UK ranking	Rural FTTH/B Coverage (2021)	Rural FTTH/B Coverage (2015)
Denmark	#1	77%	46%
Latvia	#2	74%	67%
Spain	#3	66%	6%
Romania	#4	62%	25%
Luxembourg	#5	55%	29%
Sweden	#6	54%	14%
Portugal	#7	54%	15%
Hungary	#8	42%	4%
Slovenia	#9	41%	22%
Ireland	#10	30%	0%
France	#11	29%	2%
Netherlands	#12	29%	18%
Poland	#13	28%	4%
Lithuania	#14	25%	16%
UK	#15	24%	1%



3. Conclusions

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Conclusions

1 Increasing FTTH footprint in rural areas

- Full-fibre connectivity is now a clear priority carried out by both national authorities and players across Europe. The impacts of COVID crisis reinforced the key role played by reliable and robust networks such as FTTH/B to reduce the digital gap and sustain growing data demand.
- At the end of 2021, while around 45% of European households (EU27+UK) is covered by FTTH/B networks, only 30% of rural inhabitants can enjoy capabilities offered by full-fibre connectivity (+6pts YoY).

2 Several ways to progress

- Ambitious DAE targets for 2025 and 2030 are driving full-fibre connectivity growth in both urban and rural areas and will aid in the creation of a unified "Digital Society" across Europe.
- Immediate action should be oriented towards the full consideration of these rural regions to eliminate "white spots". An aggressive promotion and an intensified support (subsidies, public-private partnerships, etc.) of rural deployments should be carried out to reach every European premise with high-speed fibre-based broadband connectivity.

3 Key challenges to come

- Many European countries have adopted a technology-neutral approach, with FTTH/B progressing but still lagging behind compared to other copper or cable-based solutions (UK, Germany, Italy).
- While many broadband deployments in non-dense areas have been utilizing wireless technologies, this is now beginning to change as projects re-orientate around the adoption of full FTTH networks. With Gigabit broadband fast becoming the new standard - this should be supported to meet the goals of the DAE across all of Europe.

Thank you for your attention!

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