FTTH COUNCIL EUROPE - PANORAMA

Markets at September 2019

Font: FTTH Council Europe Webinar – 2020

AGENDA

1. Study Background
2. General overview and main trends
3. Leading countries
4. European Ranking
5. Conclusion – Key outputs
6. FTTH in Rural Areas
7. Appendix

1 STUDY BACKGROUND

METHODOLOGY

- Mission on behalf of the FTTH Council Europe
- Provide a complete summary of the status of FTTH/B in Europe at September 2019

Actions

Scope

- Analysis of 39 countries;
- Data per player for FTTH/B and other fibre-based architectures;
- Key parameters study: technical, financial, business model, figures.

Bottom-up methodology

- Desk research;

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

Results

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

IMPORTANT DEFINITIONS

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 connection point of a single fibre service provider inside/outside 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.

2 GENERAL OVERVIEW AND MAIN TRENDS

FTTH/B figures as at September 2019

As at September 2019 in EU39*:

- 70.4 million FTTH/B subscribers
- Almost 172 million FTTH/B Homes passed

FTTH Council Europe scope at September 2019

39 countries covered

🟥 EU28 Countries

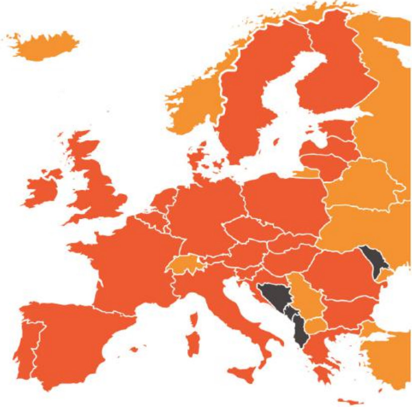
🟧 Countries under study

Take-up rate

EU28: 43.3%
EU39: 40.9%

Coverage rate

EU28: 39.4%
EU39: 49.9%



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

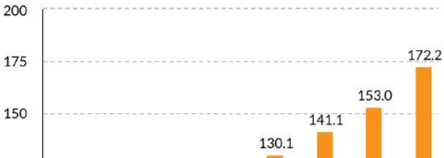
(2) Cyprus was replaced by North Macedonia at end-2012 because the FTTH/B market is much more developed in this country.

FTTH/B European market evolution (EU39)

In terms of Homes Passed and Subscribers (2012-2019)

Trends from 2012 to 2019

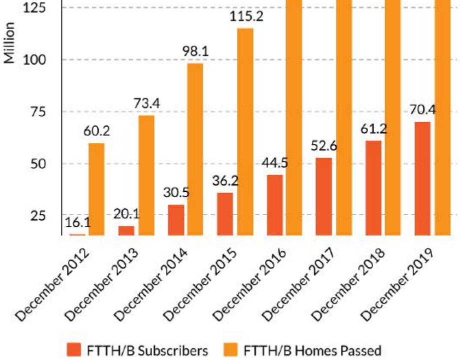
FTTH/B Subscribers



x 4.4

Homes Passed evolution

x 2.9



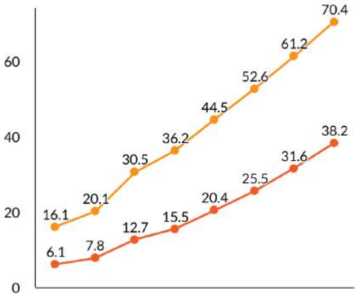
Source: IDATE for FTTH Council Europe

HISTORICAL DATA AND GROWING TRENDS (EU28/39)

- EU28 consolidated FTTH expansion over EU39 countries
- Around 51% of FTTH deployments performed inside EU28 countries (influnced by EU digital Agenda goals.

Evolution of FTTH/B Subscribers (million)

EU28/ EU39 comparison



Evolution of FTTH/B Homes Passed (million)

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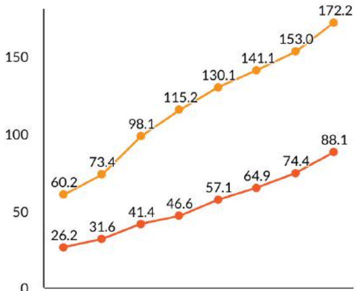


Source: IDATE for FTTH Council Europe

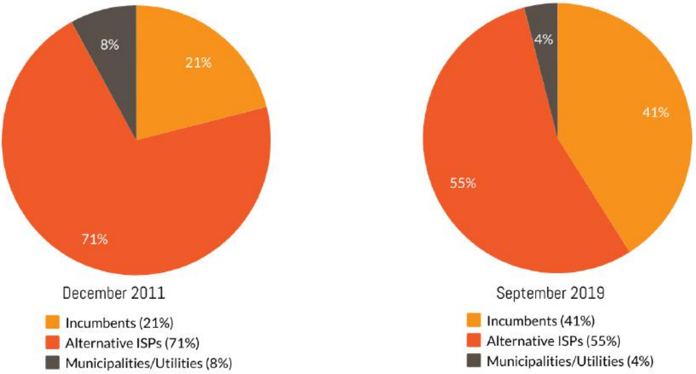
Source: IDATE for FTTH Council Europe

INCUMBEMENTS ARE COMMITED TO MIGRATE TOWARDS FTTH/B SOLUTIONS

- Analysis of around 400 FTTH/B projects in EU39 at September 2019.
- 41% of Homes are passed by incumbents. Will increase based on new incumbent strategies towards FTTH/B deployments.
- Municipalities, utilities and alternative ISPs cover many remote and isolated areas. Further enhanced with public funds and incentives.

Breakdown of FTTH/B Sockets deployed by type of player (%)

Data comparison between Dec. 2011 and Sept 2019



December 2011

September 2019

Source: IDATE for FTTH Council Europe

Breakdown in terms of FTTH/B sockets deployes

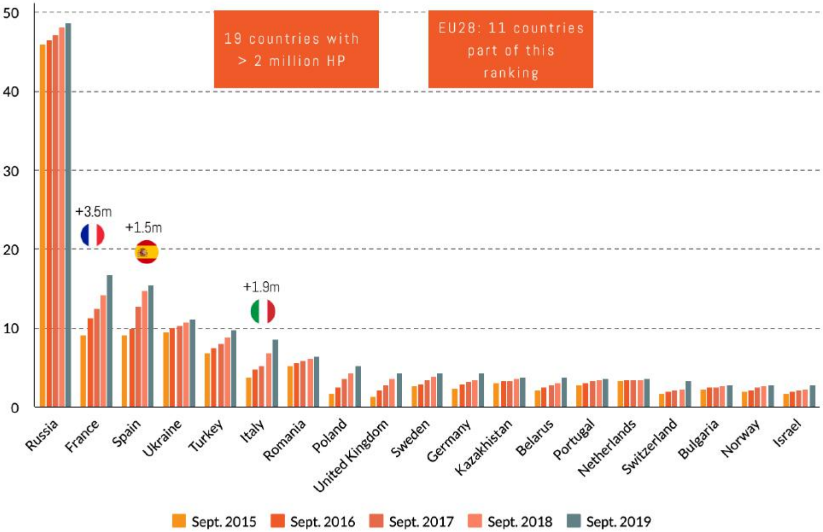
Top 5 European countries

1	2	3	4	5
74.750.000	53.592.000	49.670.000	11.240.000	11.150.000
Russia	France	Spain	Ukraine	Italy

3 LEADING COUNTRIES

GENERAL RANKING: FTTH/B HOMES PASSED

European ranking in terms of FTTH/B Homes passed over time (in million homes).
Data comparison between September 2015 and September 2019.



19 countries with > 2 million HP

EU28: 11 countries part of this ranking

5 fastest growing markets in Europe

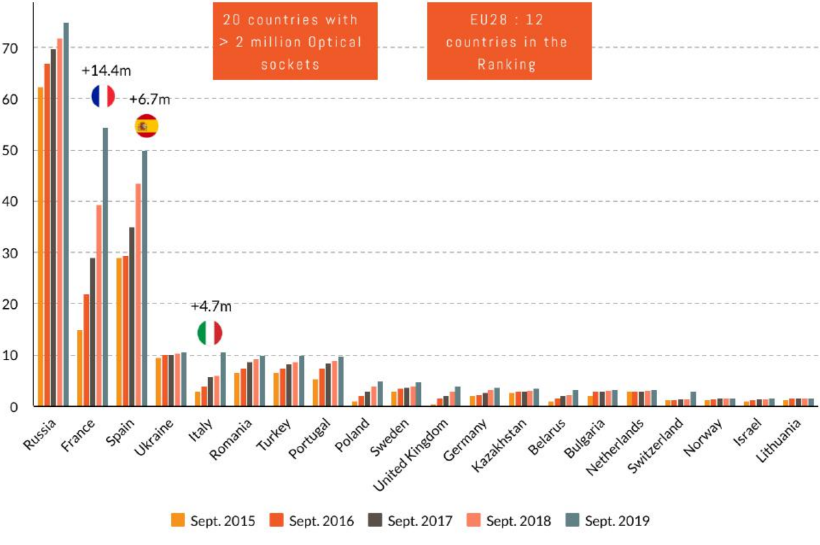
Data from September 2018 to September 2019 (in terms of FTTH/B Homes passed)

Belgium	Ireland	Switzerland	United Kingdom	Germany
+307%	+70.4%	+69.1%	+50.8%	+33.5%
+78k	+289k	+1.2m	+1.4m	+1.0m

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 September 2015 and September 2019.



20 countries with > 2 million Optical sockets

EU28 : 12 countries in the Ranking

5 fastest growing markets in Europe

Data from September 2018 to September 2019 (in terms of FTTH/B Sockets deployed)

+307%	+72.9%	+70.4%	+69.1%	+50.8%
+78k	+4.7m	+289k	+1.2m	+1.4m

Belgium Italy Ireland Switzerland United Kingdom

*FTTH/B Sockets Deployed: The connection point of a single fibre service provider inside/outside a premises. It is possible to have multiple sockets if the location is serviced by multiple FTTH network operators.

Source: IDATE for FTTH Council Europe

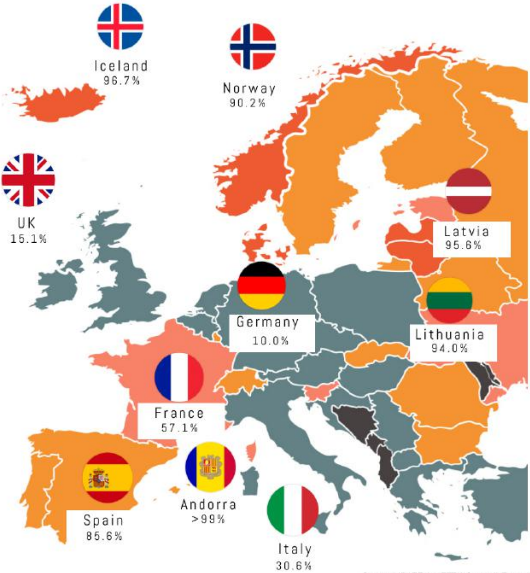
GENERAL RANKING: FTTH/B COVERAGE

FTTH/B coverage* as at September 2019

(*Homes passed / Households)

- 🟥 FTTH/B coverage > 90%
- 🟧 FTTH/B coverage 70-90%
- 🟥 FTTH/B coverage 50-70%
- ⬛ FTTH/B coverage < 50%

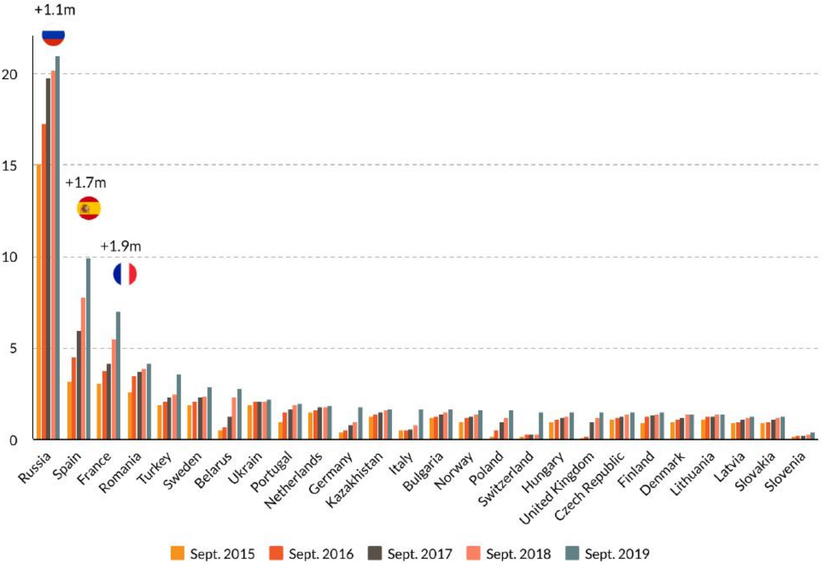
Coverage rate:
EU28: 39.4%
EU39:49.9%



Source: IDATE for FTTH Council Europe

GENERAL RANKING: FTTH/B SUBSCRIBERS

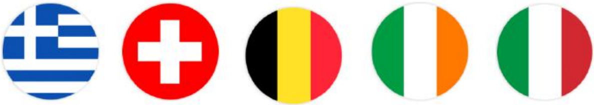
European ranking in terms of FTTH/B Subscriptions (million)
Data comparison between September 2015 and September 2019.



5 fastest growing markets in Europe

Data from September 2018 to September 2019 (in terms of FTTH/B Subscribers)

+285%	+176%	+111%	+93%	+45.3%
+23k	+538k	+13k	+70k	+346k



Greece Switzerland Belgium Ireland Italy

Source: IDATE for FTTH Council Europe

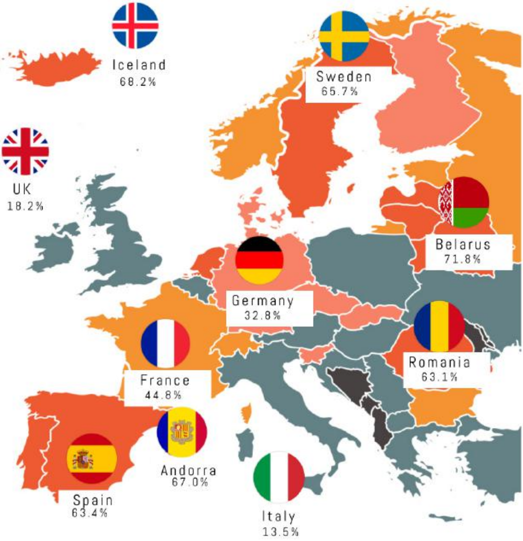
GENERAL RANKING: FTTH/B TAKE-UP

FTTH/B take-up* as at September 2019

(*Subscriptions passed / Homes Passed)

- ■ FTTH/B take-up > 50%
- ■ FTTH/B take-up 40-50%
- ■ FTTH/B coverage 30-40%
- ■ FTTH/B coverage < 30%

Take-up rate:
EU28: 43.3%
EU39:40.9%



Source: IDATE for FTTH Council Europe

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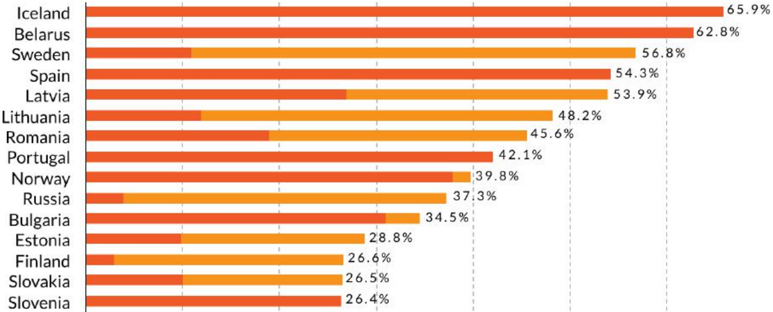
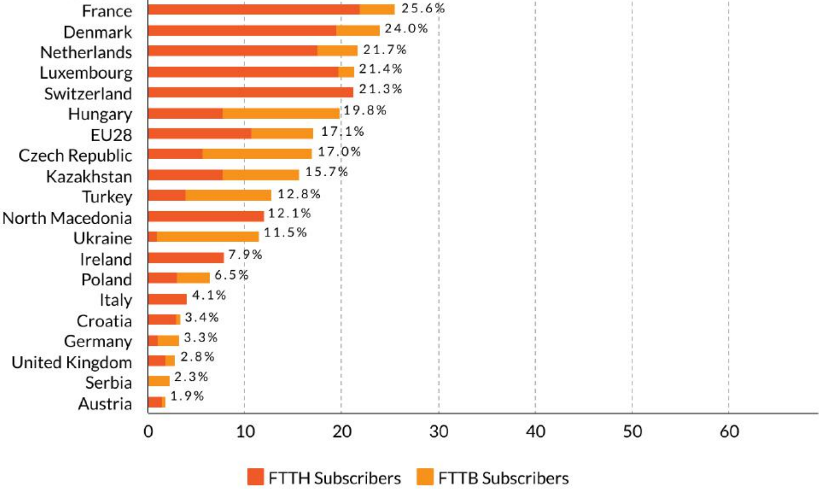
EUROPEAN RANKING

EUROPEAN RANKING AT SEPTEMBER 2019

Penetration rates of European countries at September 2019
(FTTH/B Subscriptions / Households)





- Includes countries of +200k Households in which FTTH/B subscribers represent at least 1% of total households (except Iceland falling short the 200k Households mark).

- 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).

Source: IDATE for FTTH Council Europe

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KEY CONCLUSIONS

INDICATORS AFFECTING THE FTTH ADOPTION

Positive criteria

Data and bandwidth continues to grow, more operators and governments are working towards future proofed FTTH deployments.

During 2019, more governments launch subsidy programmes to reach new FTTH areas, including rural regions.

More operators migrate towards FTTH, they are focusing on copper switch-off and cable migration towards full-fibre.

The trend of mutualized networks and network sharing agreements will accelerate FTTH deployments.

New initiatives defined by European governments to reach Digital Agenda goals by 2025.

INDICATORS AFFECTING THE FTTH ADOPTION

Negative impacts

FTTH investments delayed due to alternative technologies such as Cable (Docsis 3.1) and G.Fast.

AD

Misleading Fibre advertising suppresses demand.

Fixed-wireless and hybrid access becoming more common in isolated areas, thus delaying FTTH deployments. 5G deployments are now beginning, while high spectrum bands (26Ghz) could delay FTTH in some residential markets.

Some European countries with high speed broadband goals defined do not specify specific technology such as FTTH.

Lack of mass market applications to monetize FTTH deployments.

KEY CONCLUSIONS

Public Commitment

- Government now committed to work with all telecom actors: EC Digital Agenda implies subsidies & policy framework per country and promoted fibre expansion.
- Rural and isolated areas are now a clear target for fibre.

Regional Recap

- Pent Up Demand clear: Seeing large pent up demand (high connection rates) in regions that have recently started large FTTH rollouts (UK / Italy).
- EU28 moving forward towards FTTH/B: More implication from these countries deploy FTTH in areas not covered and also to migrate existing copper-based and cable-based towards fibre.
- EU39 more than 172 million homes with FTTH/B, now covering 50% of total Homes.
- Countries like Italy, Belgium, Ireland and Switzerland have experienced strong growth, homes passed up more than 30%, subscribers up more than 45%.

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

Data from September 2018 to September 2019

+3.5m	+1.9m	+1.5m
France	Italy	Spain

6 FTTH IN RURAL AREAS

EUROPE IS COMMITTED TO REACH NON DENSE AREAS WITH HIGH SPEED NETWORKS

Huge discrepancies between countries

Digital Agenda for Europe (DAE)

Gigabit Society: DAE seeks to achieve the best possible Internet connection for all EU citizens by 2025 (1 Gbps)

Goals for 2020:

- Provide an Internet connection of at least 30 Mbps to all Europeans.

- Guarantee 5G connectivity in at least one major city in each Member State by 2020

Goals for 2025:

- Provide a 1 Gbps connection to all socio-economic institutions

- Provide an Internet connection of at least 100 Mbps to all European households

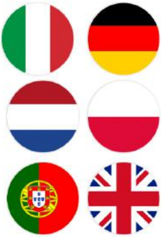
- Guarantee uninterrupted 5G coverage in all urban areas and on the main terrestrial transport corridors

Rural areas are part of these goals and stakeholders should be committed to deploy these networks, where full fibre is one the main options.

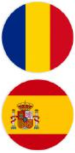
Strategies and technological approaches in each country under study

- 3 approaches to reach DAE targets:

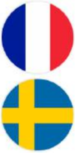
Technology-neutral



Intermediate approach



FTTH only



Rural FTTH in Europe

- 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).

Definition of Rural and Urban households are the same of the European Commission in order to be aligned with their definition. The goal is to provide a general overview of the evolution of rural FTTH deployments in Europe in order to seek improvement opportunities in each country under study.

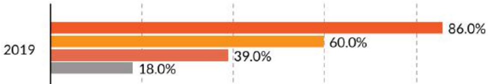
- FTTP (as used by the EC) refers to FTTH and FTTB connections.

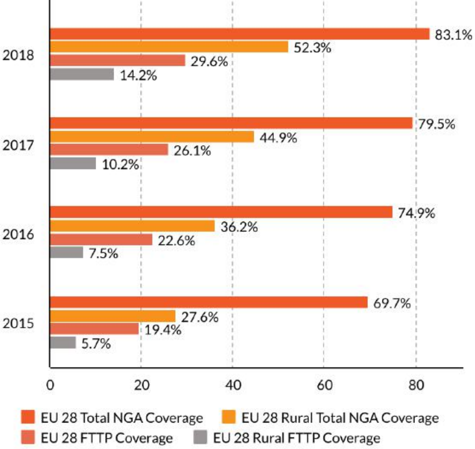
- Defining Household and Rural Areas: EC level definition of Rural areas exists with the proportion of NUTS3 (*) in an area with a density of inhabitants less than 100 hb/Km². The EU Commission estimates rural households based on the population data published annually by Eurostat and average household size figures also published by Eurostat annually for each country. This approach allows the EC to maintain a unified methodology across all of the study countries using one data source (NUTS: Nomenclature of Territorial Units for Statistics)
Many areas designated as Rural can contain higher density locations that can be served via FTTH in an economical way.

EUROPE IS COMMITTED TO REACH NON DENSE AREAS WITH HIGH SPEED NETWORKS

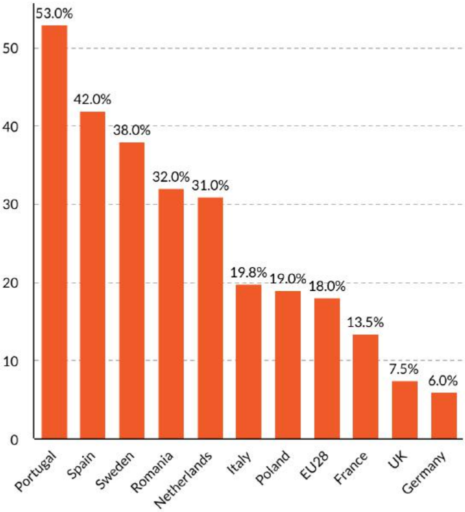
Huge discrepancies between countries

EU28 coverage evolution in terms of: Rural FTTP, Total FTTP, Rural NGA and Total NGA





Rural FTTP coverage, Countries under study vs EU28 (est. 2019)



Source: European Commission, Regulators, IDATE

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matching opportunities