CULLEN
INTERNATIONAL

Regulatory policies to foster NGA deployment in France, Germany, The Netherlands, Portugal and Spain

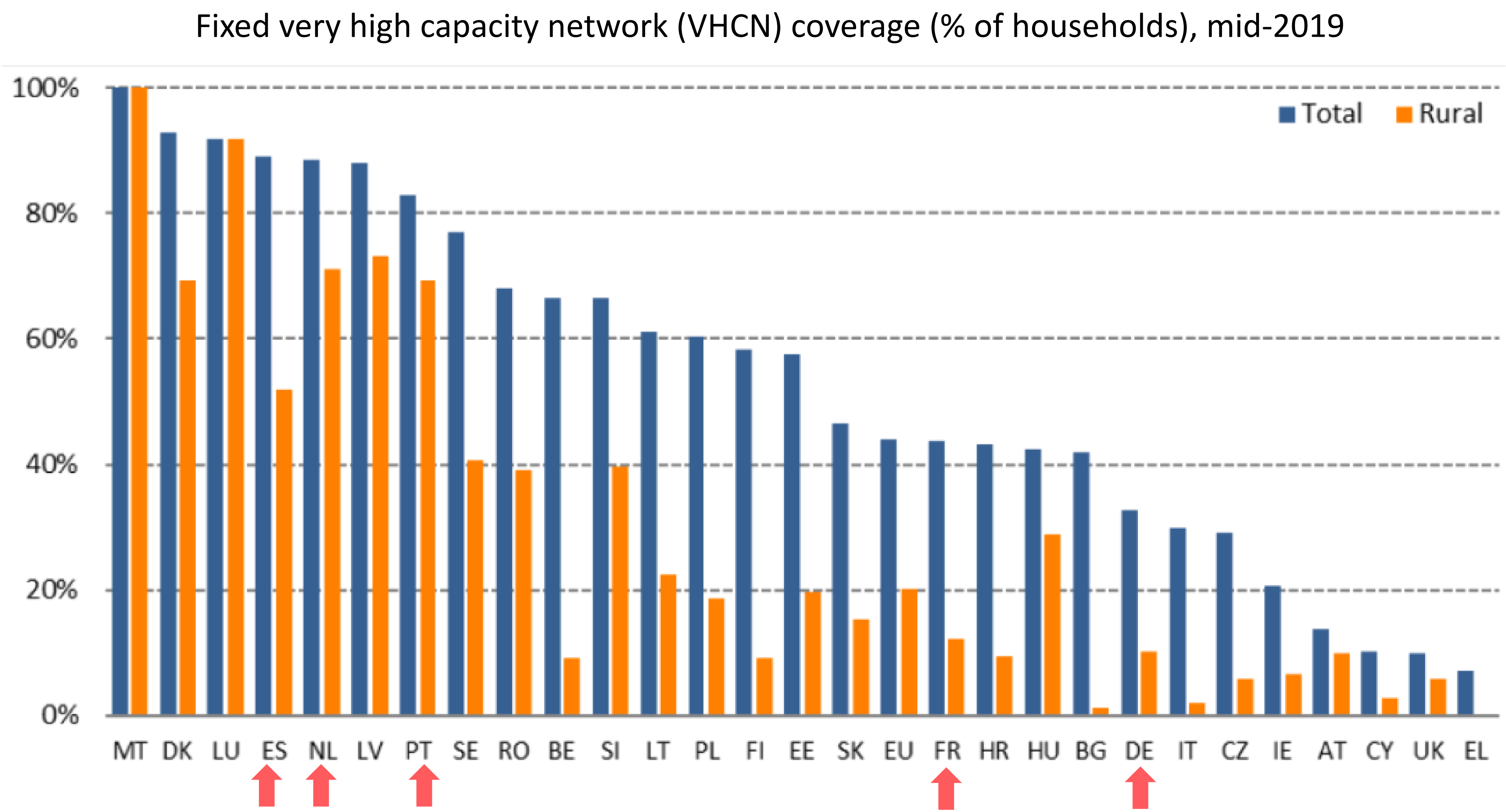
Organano di Vigilanza

Rome – 12 May 2021

Stefano De Luca and Veronica Bocarova

NGA coverage and take-up
based on DESI 2020

Digital Economic and Society Index (DESI) 2020



CULLEN INTERNATIONAL

Country	Main NGA type	Main drivers for competition			Equivalence
		Players with nationwide infrastructure	Co-investments	Regulatory focus	
FR	FTTH and cable			Infrastructure-based	EoI and EoO
DE	FTTC and cable			Service-based	EoO
NL	Cable, FTTC and FTTH			Service-based	EoI and EoO
PT	FTTH and cable			Infrastructure-based	EoI and EoO
ES	FTTH and cable			Infrastructure-based	EoO

CULLEN INTERNATIONAL

Country	Main regulatory approach to NGA access
FR	**SMP obligations**: • access to ducts and poles at cost-oriented prices **Symmetric regime**: • access to fibre terminating segment with co-investment in less densely populated areas
DE	**SMP obligations**: • regional IP bitstream subject to ex post price control only • layer 2 BSA at cost-oriented prices • long-term discounts scheme ('contingent model') permitted
NL	**SMP obligations**: • fibre unbundling for FTTH with a multi-year price cap • VULA for FTTC at commercially agreed prices
PT	**SMP obligations**: • access to ducts and poles at cost-oriented prices • no regulated access to FTTH **Symmetric regime**: • access to ducts and poles and in-building fibre
ES	**SMP obligations**: • access to ducts and poles at cost-oriented prices • no regulated access to FTTH until 2016 • since 2016 regulated access to VULA and BSA over FTTH only in non-competitive areas **Symmetric regime**: • access to in-building fibre

France – symmetric FTTH regulation & co-investment

Market context

- **Main NGA coverage (62% HH)**: FTTH (44% HH) and cable (27% HH)
- **NGA take-up (24.8%)**: mainly FTTH (20% of fixed broadband lines)

Main drivers for NGA deployment

- **Orange** with 46% HH FTTH, **SFR**'s cable & FTTH in urban areas, **Free** and **Bouygues Telecom** lower scale FTTH
- Regulatory-driven co-investments in less densely populated areas
- Public FTTH investment in undeserved areas
- Twofold regulatory framework

Regulatory approach

SMP obligations:

- access to ducts & poles at cost-oriented prices

Symmetric regime:

- access to FTTH terminating segment: in-building fibre in densely populated areas and aggregation points of min. 1000 lines in less densely populated areas
- no ex ante price control

Elements of equivalence

- **EoI**: ducts & poles access for SMP and symmertic access regulation for fibre terminating segment
- **EoO**: legacy copper-based products

CULLEN INTERNATIONAL

Germany – asymmetric regulation encouraging FTTC

Market context

- **NGA coverage (92% HH):** DT's nationwide FTTC (87% HH), cable (66% HH), FTTH (11%) HH
- **NGA take-up** (53% HH): FTTH <4% total lines
- **Local or regional FTTH/B deployments** by small ANOs (typically utilities)

Main drivers for NGA deployment

- DT's FTTC: short loops & limited duct infrastructure & restrictive permit policies
- NRA focus on access to DT's network
- public NGA investments in undeserved areas

Regulatory approach

SMP obligations:

- shifting from SLU to regional IP BSA and new layer 2 BSA (VULA)
- long-term discounts scheme 'contingent model'

Elements of equivalence

EoO: for all fixed access products

CULLEN INTERNATIONAL

The Netherlands – a tale of two networks

Market context

- **NGA coverage (98% HH):** FTTC (56% HH), FTTH (33% HH) & cable (98%)
- **NGA take-up**: cable (49%), FTTC (33%) and FTTH (19%)

Main drivers for NGA deployment

- KPN “incumbent” (FTTC and FTTH) and Vodafone Ziggo (cable)
- No ducts used – cable buried in the ground
- Regulatory focus on access to KPN network
- Attempt to regulate cable unsuccessful

Regulatory approach

SMP obligations:

- fibre unbundling for FTTH with a multi-year price cap
- VULA for FTTC at commercially agreed prices with long-term volume discounts

Elements of equivalence

- **EoI**: over FTTH
- **EoO**: over copper and FTTC

CULLEN INTERNATIONAL

Portugal - infrastructure competition and co-investment

Market context

- **NGA coverage (83% HH):** FTTH (77% HH) and cable (59% HH)
- **NGA take-up**: 61% HH (> 30 Mbps) and 56% HH (> 100 Mbps)

Main drivers for NGA deployment

- MEO, NOS and Vodafone nationwide infrastructure competition
- commercially driven co-investments
- public NGA investments in underserved areas

Regulatory approach

SMP obligations:

- cost-oriented access to ducts & poles
- no FTTH regulation and partial deregulation of copper BSA

Symmetric regime:

- access to ducts & poles and in-building wiring

Elements of equivalence

- **EoI**: ducts & poles access
- **EoO**: copper LLU

Spain – infrastructure competition and co-investment

Market context

- **NGA coverage (90% HH):** FTTH (90% HH) and cable (48.9% HH)
- **NGA take-up**: FTTH prevails (70% total residential broadband lines)

Main drivers for NGA deployment

- Nationwide infrastructure competition: Telefónica, Orange, Vodafone and MasMóvil
- Commercially-driven co-investment and sharing agreements
- Public investments in underserved areas

Regulatory approach

SMP obligations:
- Cost-oriented access to ducts & poles
- No FTTH regulation until 2016
- From 2016, regulated access to VULA and BSA over FTTH only in non-competitive areas

Symmetric regime:
- access to in-building wiring

Elements of equivalence

EoO: for all fixed access products

Models of separation and equivalence of treatment

Vertical integration and models of separation

European Law	Articles 77 & 78 EECC (functional and voluntary separation)
BEREC	**BEREC Guidance on functional separation 2011**
Academic research	M. Cave six degrees of separation (2006)

CULLEN INTERNATIONAL

Cullen International: three degrees of separation

Functional separation	physically separated staff, systems and processes
Legal separation	separate legal entity but under the same ownership; physically separated staff, systems and processes
Structural separation	separate legal entity, with different ownership

CULLEN
INTERNATIONAL

✓ Yes ✗ No ○ Past/project

Country	CZ	DK	IS	IRL	IT	PL	SE	UK	AUS	NZ
Separation applied at wholesale level?	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓
Functional				✓	✓	✓		○ 2005-2017 (Past)	○ 2012-2020 (Past)	○ 2008-2011 (Past)
Legal	✓	✓	✓		○ 2020 (Project)		○ 2008-2017 (Past)	✓		
Structural									✓	✓
Supervisory committee?	✗	✗	✓	✓	✓	✗	✗	✓	✗	○ 2008-2011 (Past)
Equivalence of access obligations	General non-discrimination	EoO	EoI	Both EoI and EoO	Both EoI and EoO	EoO	Both EoI and EoO	EoI	General non-discrimination	EoI

Functional separation

Italy (2008)
Project voluntary legal separation
notified to NRA (2020)

Poland (2009)

Ireland (2018)

Legal separation

Iceland (2007)

Czech Republic (2015)

United Kingdom (2017)

Denmark (2019)

Sweden – from legal separation to EoI

Wholesale division (2018)

Skanova established as a separate legal entity in 2008 in a voluntary move to pre-empt mandatory functional separation

On 1 Jan. 2018 Skanova reintegrated into Telia as part of its wholesale division

Elements of equivalence

EoO: legacy copper-based products

EoI: fibre-based products

Same KPIs to monitor compliance

Equality Access Board

Established in 2008 to monitor compliance with non-discrimination commitments

Ceased to exist in Jan. 2017, following EoI implementation

Provisioning & ordering

A single system implemented on 1 Dec. 2016: same product, price, information, ordering, billing and delivery systems for Telia and ANOs

CULLEN INTERNATIONAL

Italy – from functional to legal separation

FiberCop legal separation

- In Sep. 2020, project of voluntary legal separation notified to NRA
- In Oct. 2020, NRA carried out a preliminary assessment of the project, considering it "*not manifestly unreasonable*"
- In Dec. 2020, NRA published a public consultation on the project
- In April 2021, TIM, KKR and Fastweb executed the agreements for the creation of FiberCop

Elements of equivalence

EoI: LLU, SLU, VULA FTTH services
EoO: VULA FTTC, WLR, BSA

FiberCop perimeter

TIM's passive secondary network infrastructure (copper cabinets not included)

Co-investment offer

- In Jan, 2021, TIM proposed an offer according to art. 76 EECC under which FiberCop will build FTTH connections from TIM's street cabinets and subsequently grant access to any other willing co-investor
- In April 2021, NRA opened public consultation "market test" under art. 79 EECC

Country	VHCN co-investment model in Europe		
	Joint-venture	Reciprocal access	One-way access
CZ		✓	
FI	✓		
FR		✓	✓
DE	✓		✓
IE	✓		
NL			✓
PL	✓		
PT		✓	
ES	✓	✓	✓
CH	✓	✓	✓

Structural separation

New Zealand (2011)

Australia (2020)

Thank you!

stefano.de.luca@cullen-international.com

veronica@cullen-international.com