



TIM Group

Co-investment or wholesale-only: Which model will spur more incentives to invest?

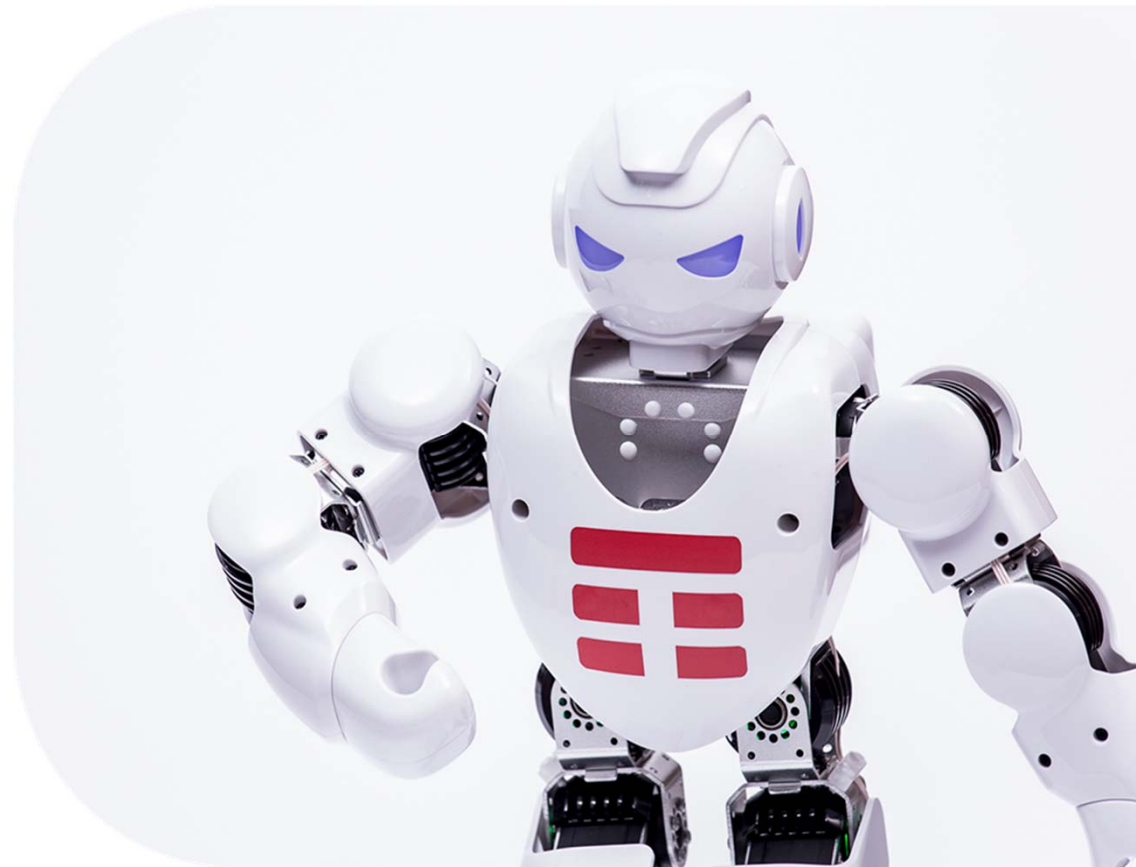
FSR Conference – Florence, 13 December 2019
***“The EECC and its impact on investment in very high
capacity networks (VHCN)”***

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Agenda

- **Motivations and regulatory treatment of wholesale-only and co-investment set by the EECC**
- Overview of retail competition and separation vs. co-investment experiences
- NBN (AU) and Chorus (NZ) case studies
- Lessons learnt



Definitions of wholesale only operators and co-investment offers set by the EECC

Wholesale-only undertaking (Art. 80 EECC)

- SMP undertaking which is **absent from any retail markets** for electronic communications services with the following characteristics:
 - all companies and business units within the undertaking, **all companies that are controlled** but not necessarily wholly owned **by the same ultimate owner**, and **any shareholder** capable of **exercising control** over the undertaking, only have activities, current and planned, in wholesale markets in the EU.
 - **not bound to deal** with a single and separate undertaking that is active in any retail market, because of an (either actual or de facto) **exclusive agreement**

Co-investment model (Art. 76 & Annex IV EECC)

- Commitments offered by a SMP undertaking to **open the deployment of a new VHC* network** to other providers by offering **co-ownership** or **long-term risk sharing** through **co-financing** or through **structural purchase agreements** under the following main conditions:
 - **public offer open** at **any moment** during the lifetime of the network to **any provider**;
 - co-investors allowed to **compete effectively** and sustainably in the long term **in downstream markets**
 - **access** seekers not participating in the co-investment can benefit from the same quality, speed, conditions and end-user reach available before the deployment, on the basis of **conditions preserving the incentives to participate in the co-investment**
 - (transparent and non- discriminatory terms, which reflect the **degrees of risk incurred by the respective co-investors** at different stages of the deployment and take into account the **competitive situation in retail markets**)

(*) Consisting of optical fibre elements up to the end-user premises or base station

The EECC stated comprehensive definitions for wholesale only operators and co-investment offers that are eligible for the regulatory benefits

Motivations and regulatory treatments set by the EECC

Wholesale-only model (para. 208 EECC)

- Beneficial for a **thriving wholesale** market, with **positive effects on retail competition** downstream.
- Business model **can be attractive to potential financial investors** (in less volatile infrastructure assets and with longer term perspectives)
- But **does not necessarily lead to effectively competitive retail** markets, and wholesale-only undertakings **can be designated as having SMP** in particular product and geographic markets.



- **Regulatory response less intrusive** than for vertically integrated undertakings, but **should preserve the possibility to introduce** obligations in relation to **fair and reasonable pricing** or non-discrimination and access

Co-investment model (para. 198 & 199 EECC)

- **Significant benefits** in terms of **pooling of costs and risks**, enabling also smaller-scale undertakings to invest on economically rational terms
- Thus promoting **sustainable, long-term competition, including in areas where infrastructure-based competition might not be efficient**
- Fair, reasonable and non-discriminatory co-investment offer provides an **opportunity to undertakings of different sizes and financial capacity** to become infrastructure co-investors



- The NRA should be able to **refrain from imposing obligations** if **at least one potential co-investor** has entered into a co-investment agreement



According to the EECC the Co-investment model expected to promote a more sustainable long-term competition than wholesale only model; as a consequence, more significant regulatory relief for SMP operators is envisaged

Wholesale-only vs Co-investment: key requirements and effects

	Wholesale-only	Co-investment
Access networks involved	<ul style="list-style-type: none"> Copper, mixed and fibre accesses (FTTH, FTTB, FTTC, Copper) 	<ul style="list-style-type: none"> FTTH, FTTB (in case of technical problems for the in-house wiring building) Optical fiber elements up to the base station (FTTC excluded by the co-investment scope)
Governance	<ul style="list-style-type: none"> Vertically “separate” company needed 	<ul style="list-style-type: none"> Vertical integration allowed Separate/not controlled company not requested
Requirements for regulatory benefits	<ul style="list-style-type: none"> All controlling, parent and subsidiary companies do not carry out retail activities 	<ul style="list-style-type: none"> Binding «open» co-investment commitments approved by the NRA (+ double lock EC/BEREC) At least 1 co-investment agreement
Regulatory impact for SMP operators	<ul style="list-style-type: none"> No cost-orientation for all copper and fiber access services 	<ul style="list-style-type: none"> No ex-ante obligations only for newly deployed fiber elements in the co-investment agreement
Effects on competition	<ul style="list-style-type: none"> Wholesale infrastructure monopoly/concentration and service-based retail competition in downstream retail markets 	<ul style="list-style-type: none"> Wholesale and retail facility-based competition, among vertically integrated operators



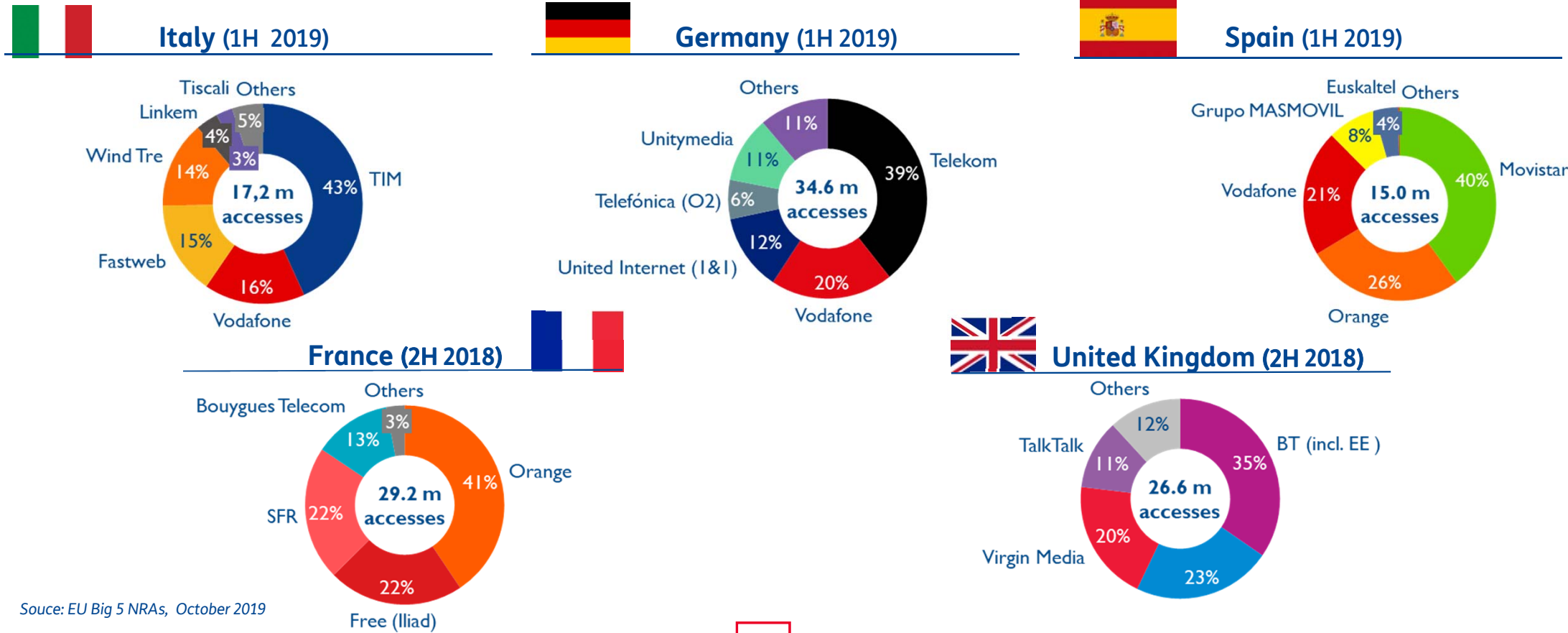
Less structural/governance constraints and more comprehensive effects on competition related to co-investment

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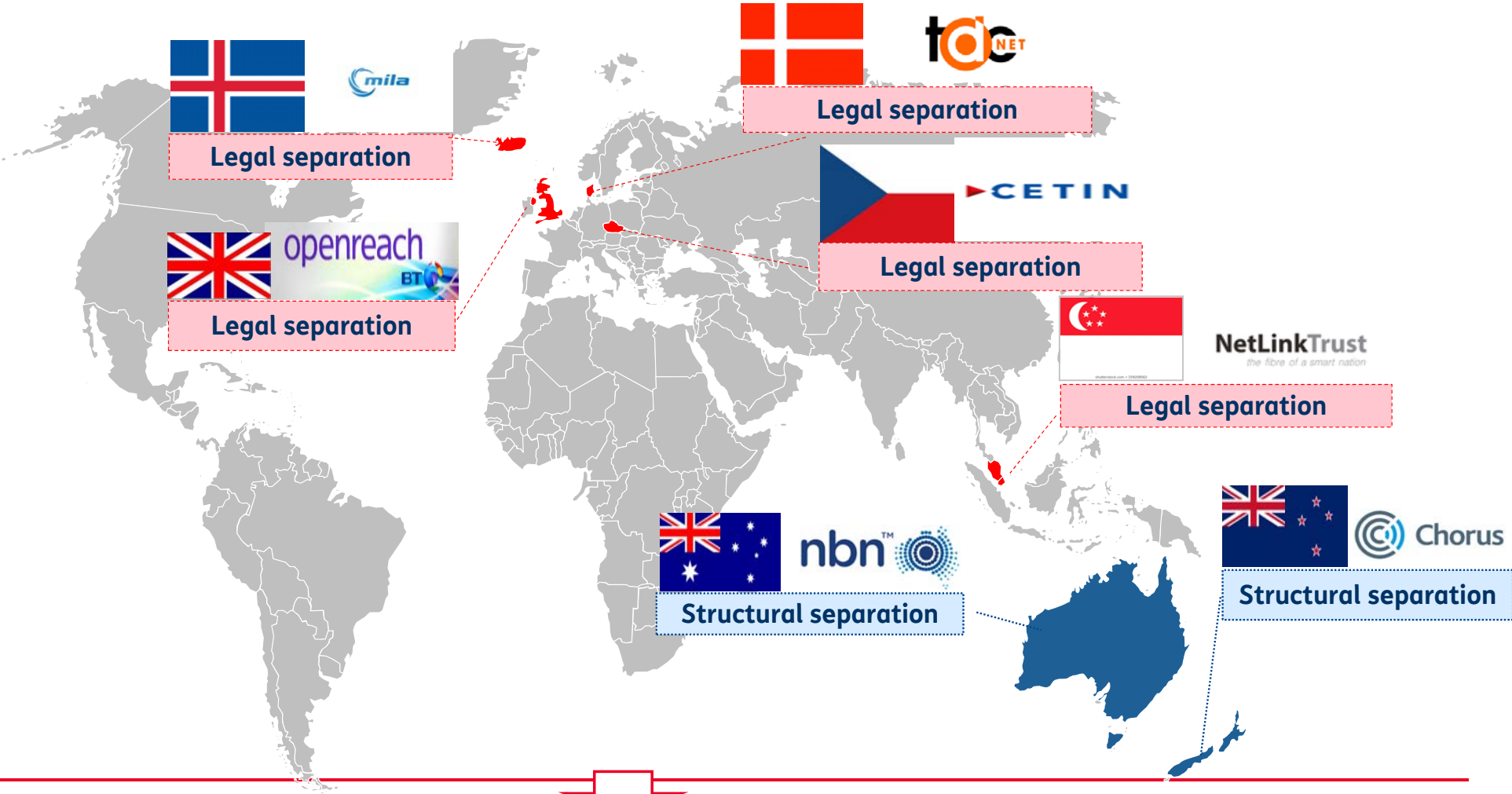


Retail fixed BB/UBB market structure in the EU Big 5



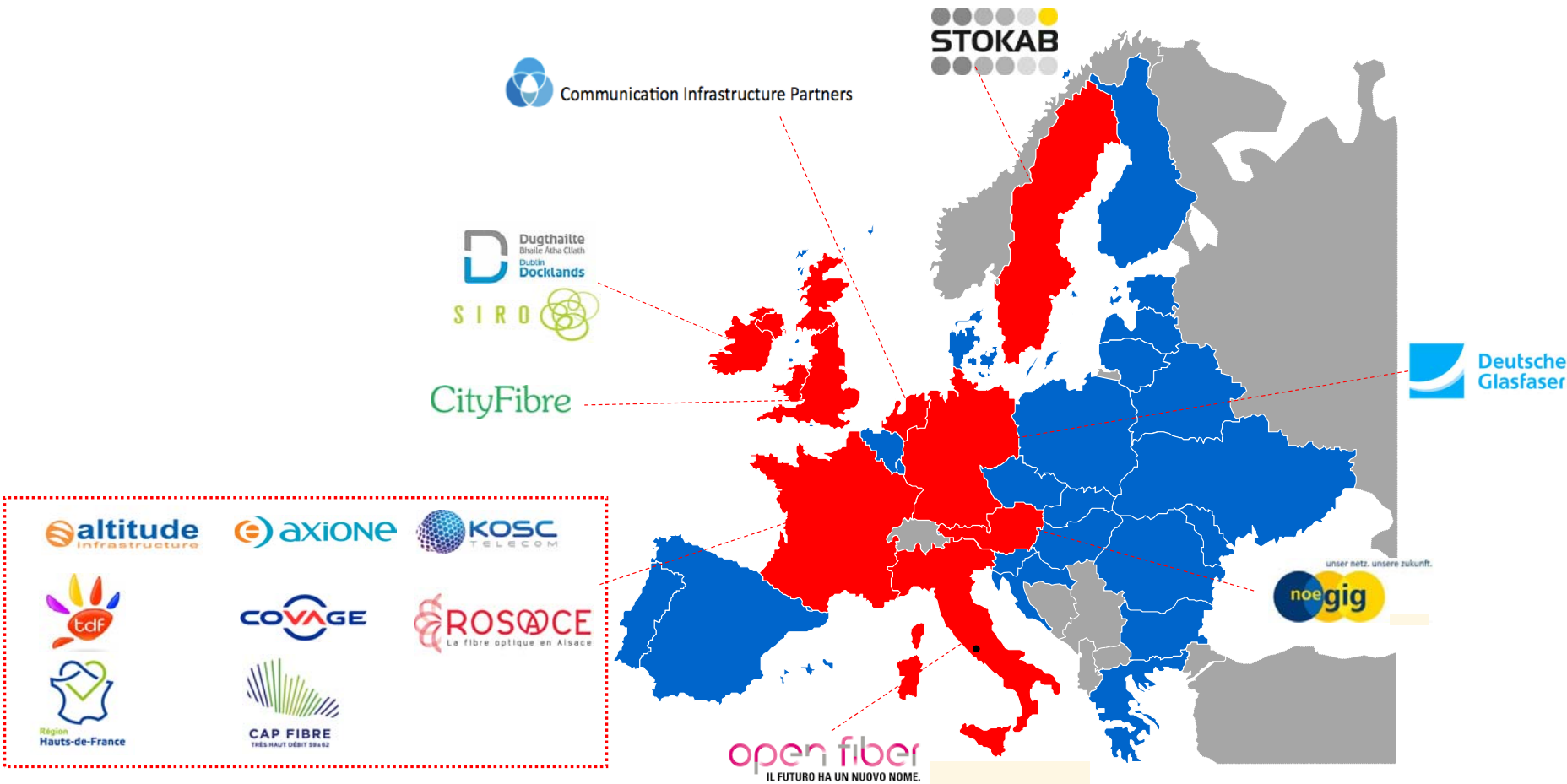
Effective competition of retail fixed markets already achieved since many years with vertically integrated operators
Vertically integrated operators and other access technologies reduce potential demand for wholesale only operators

Access Network Separation of historical operators: rarely wholesale only



Only two wholesale only providers born from national historic operators worldwide. No cases in the EU
Co-investment or Wholesale-only: the EECC and its impact on VHCN investment

Wholesale-only new-comers in the EU



Only small operators (private or public) with limited investment plans (max 500 € mln), except Open Fiber



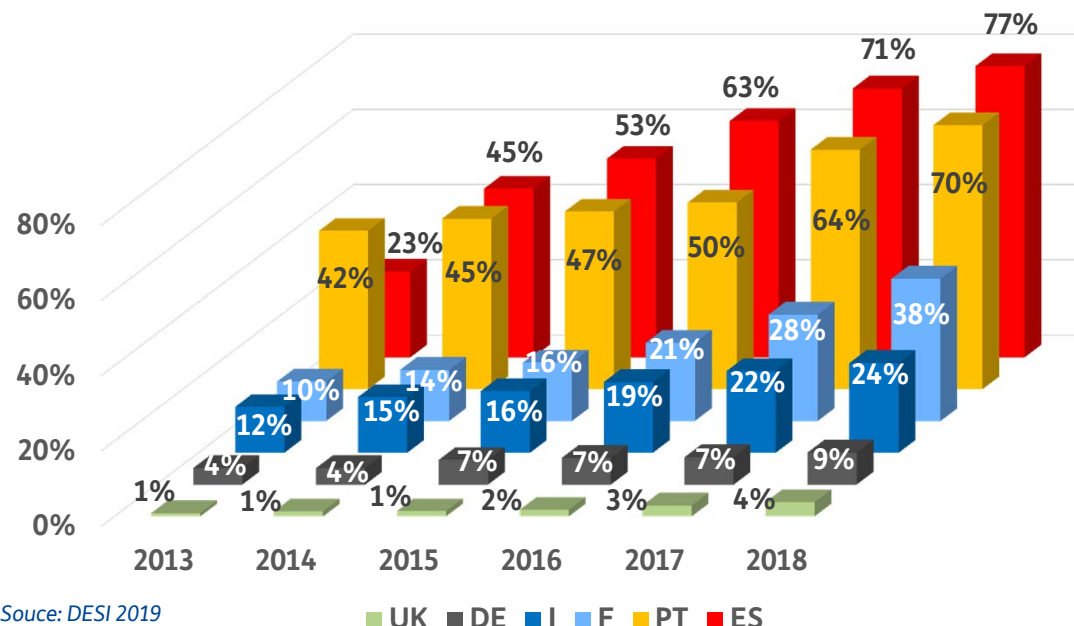
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Co-investment projects vs. FTTH coverage in the EU

Country	# Co-investment initiatives	Targeted premises (min-max)	Co-investment typologies
Spain	6	7% - 16%	4 CFO; 2 SD
Portugal	4	10% - 52%	4 SD
France	4	10% - 37%	1 SD; 3 CFO
Italy	1	12%	1 JD
Germany	4	4% - n.a.	2 CFO; 1 JD; 1 SD
UK	None	-	-

Source: Cullen International, October 2019

FTTH coverage



Source: DESI 2019

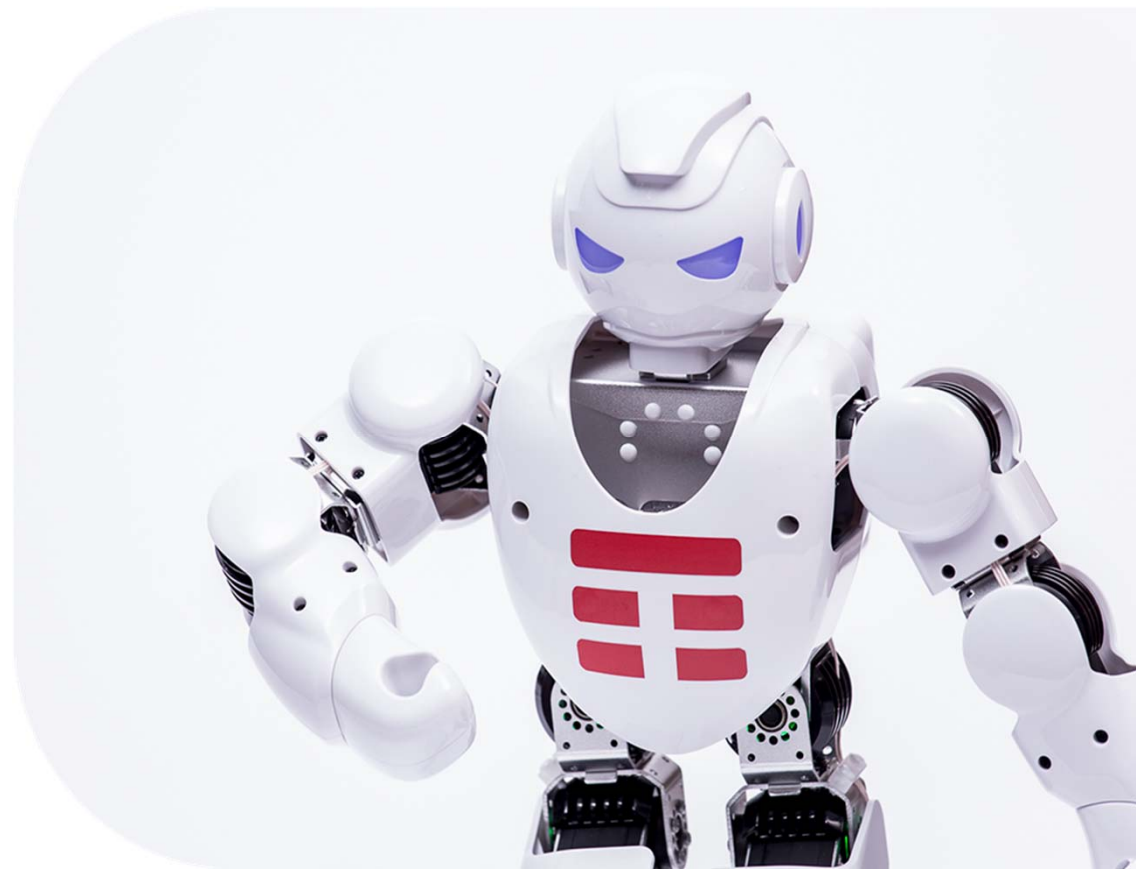
Main typologies of private co-investment initiatives across the EU:

- **Co-Financing Only (CFO):** one part deploys and the other parties make only a financial contribution
- **Separate Deployment (SD)** with reciprocal wholesale access: each co-investing party deploys a network but in separate areas, giving each other mutual wholesale access
- **Joint Deployment (JD):** co-investing parties set up a joint venture that deploys the network

Co-investment projects in Spain, Portugal and France look like one of the main drivers of high FTTH coverage

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Allocative benefits of vertically integration vs. vertical separation

Benefits of Vertical Integration	Rationale
<ul style="list-style-type: none"> Better coordination between network investment and retail service provision to end-users 	<ul style="list-style-type: none"> More efficient investments planning to meet and anticipate customers needs
<ul style="list-style-type: none"> Higher incentives to innovate and higher risk appetite for innovative investments 	<ul style="list-style-type: none"> Wholesale only model decouples network deployment investment risk from reward linked to retail demand
<ul style="list-style-type: none"> More effective control of network costs 	<ul style="list-style-type: none"> Lower risk of inefficient network deployments if retail “willingness to pay” is under control of vertically integrated operator
<ul style="list-style-type: none"> Higher competition amongst networks and wholesale offers 	<ul style="list-style-type: none"> Wholesale-only may send a monopoly signal to the market: network competition may diminish (not an issue in “white areas” but problematic in “black” and “grey” areas)
<ul style="list-style-type: none"> (Not a paradox) less risk of wholesale price increase 	<ul style="list-style-type: none"> Wholesale only carries the risk of “double marginalization” (higher wholesale price to finance inefficient network deployment may reduce retail margins and also increase retail market concentration)
<ul style="list-style-type: none"> Higher incentives for both wholesale and retail differentiation of products, quality and prices 	<ul style="list-style-type: none"> Infrastructure competition allows to exploit more competitive variables



Investment and price decision of regulated vertically integrated operators could be more socially efficient, because take into account both the wholesale and the retail side of the market

NBN (National Broadband Network - Australia)

2009
Creation of a state-owned wholesale-only monopoly

- The Australian Government decided to **forgo network competition** in exchange for **full FTTP coverage (93% + 7% satellite/wireless)** to be completed **by 2020**

Economic agreement NBN - Telstra

- **11 AUD billions** post-tax 2010 NPV at 10% discount rate (+ 0,8 AUD billions for Optus cable clients)
 - Long term lease of duct, trench, racks, exchange space (35 years + 10 +10) (5 AUD bln)
 - Migration of retail customer on NBN in covered areas within 18 months (4 AUD bln)
 - “Non-compete” commitment on fixed line for 20 years

2013
From “FTTP only” to “multi-technology mix”

- **Delays** in FTTP **roll out and take-up** and **huge investment** level vs. low revenues
- The new Government decided to modify the technology coverage mix and take ownership of Telstra’s necessary copper and HFC network element:
 - FTTP -> 20%; FTTC -> 38%; Cable -> 34%; FWA -> 5%; Satellite -> 3%

2019
Coverage and Take-up

- **Coverage: 89%** of premises (10.3 million)
- **Take up: 60%** of covered premises (6.2 million) but only **66% of them ≥ 50Mbps** (4.1 million)

Impacts on wholesale prices

- **Only fiber *bitstream* services** (No VULA) at **increasing prices** over past years
- Key speeds offered by **NBN (25, 50 and 100 Mbps)** **more expensive than Peers offers(*)**



Wholesale-only model has not granted FTTP development as expected, notwithstanding very high costs

Chorus (New Zealand)

2011
Structural separation from Telecom NZ and listing

- The Government made national **tender for UFB funding subject to separation of Telecom NZ**
- Telecom NZ separated into **Chorus** (fiber and copper access) and **Spark** (mobile access + retail) to bid for the UFB tender
- Government funded 3 local fiber companies and Chorus was awarded **70% of UFB funding**

2019
Coverage and Take-up

- **Coverage: 80%** of premises (1.7 million)
- **Take Up: 53%** of covered premises (0,9 million); of which 54% \geq 100Mbps (0.5 million); **only 6% at 1 Gbps** (0.06 million)

Impacts on wholesale prices

- **Only fiber *bitstream* services** (No VULA)
- Key speeds offered by **Chorus (50 and 100 Mbps)** **quite expensive** with respect to **Peers** offers (*)

Analysts see some threats for Chorus business case

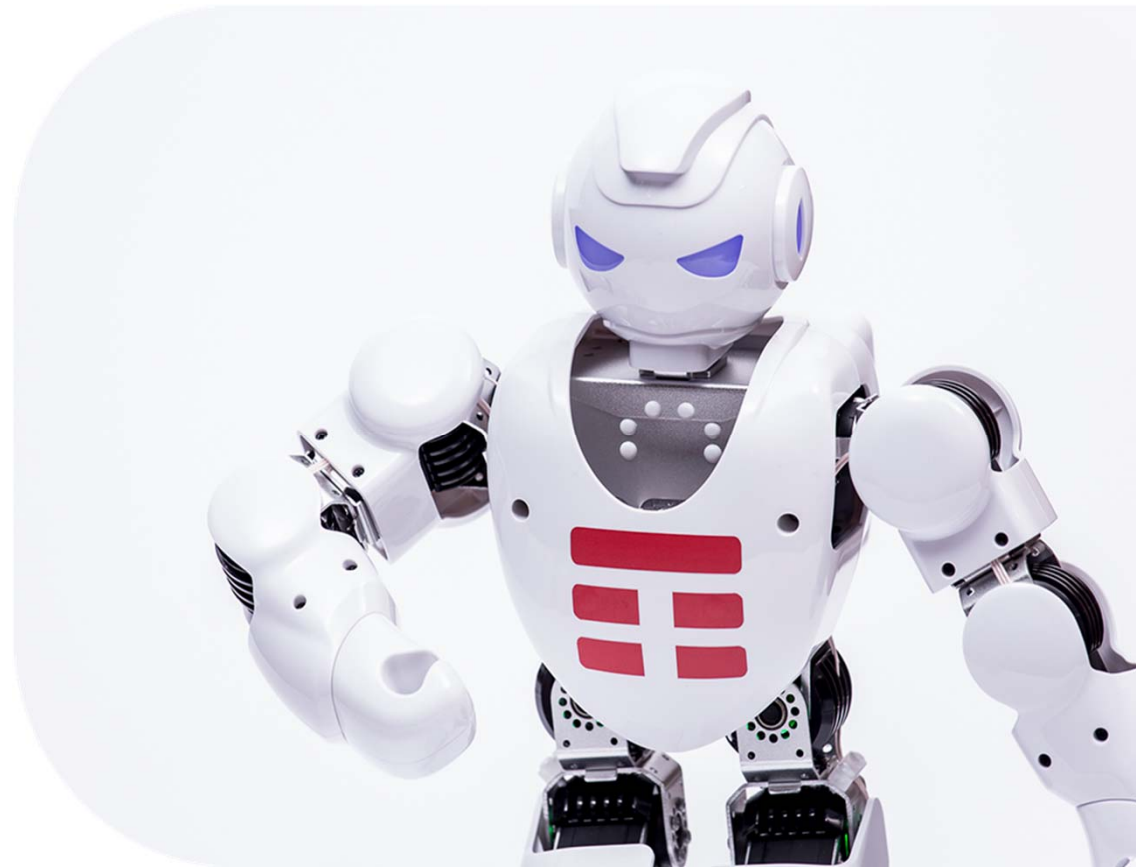
- **Spark set a 20% FWA target** for its customer base **by 2020**
- Spark and Vodafone NZ, the **main Chorus wholesale customers**, started **ambitious 5G plans**
- **Uncertain impact of RAB regulation from 2022** (methodology unclear, potential acceleration of **mobile substitution** (already **7% lines per year**) in case of further wholesale price increase)



Wholesale prices do not incentivise 1 Gbps FTTP demand. High risk of wholesale only bypass

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Lessons learnt



- No historical operators undertook **structural separation**
- No **national wholesale-only** operators (investment plans < 500 Euro mln), **exception for Italy** (Open Fiber)
- **Co-investment** projects amongst the **main drivers** for high **FTTH** coverage as in Spain, Portugal and France.



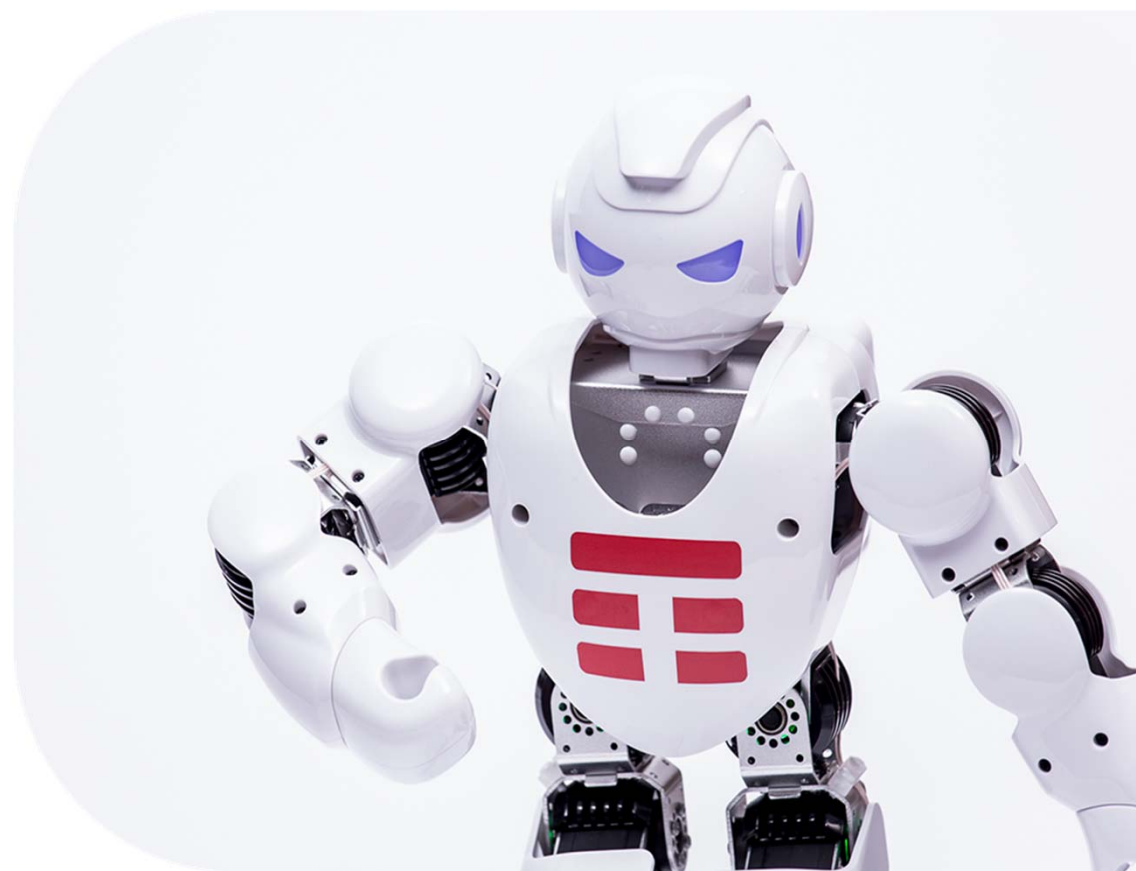
- **Risk of high costs for taxpayers in case of public wholesale only operators** (30-50 AUS billions)
- **Misalignment** between **network investments risk** and **demand return drivers**
 - Wholesale only operators have limited ability to drive take up
 - Capacity to improve net utilization in the hands of retail providers whose return depends on lowering wholesale prices and bypassing the net company where economic
- **Wholesale-only network “bypass” put pressure on reducing wholesale prices needed for funding huge investments**
 - Customer switch to mobile UBB increased by FWA and 5G and by high wholesale-only rates
 - Telstra AU can provide **mobile UBB (4G/5G, FWA)** to its fixed customers and re-enter fixed access from 2031
 - Spark NZ (and its competitors) have no constraint to rebuilding fiber backhaul or access
- **Competition objectives not achieved**
 - Retail competition hasn't been enhanced (consolidation around 2/3 large retail players, including Telstra and Spark)
 - Fixed wholesale/infrastructure competition held back



Difficult to say which model spurs more investments but a better question might be which model spurs more efficient and effective investments in a very dynamic technological and competitive setting.

Annex

- UBB wholesale price comparison for 25, 50 and 100 Mbps services provided by NBN and Chorus



25 Mbps



VULL = Virtual Unbundled Local Loop

At 25Mbps, Australia has the most expensive wholesale broadband pricing:

- ▶ 31% higher than the median FTTN price
- ▶ 93% higher than the lowest FTTN price (Netherlands)
- ▶ 14% higher than the median FTTH price
- ▶ 85% higher than lowest FTTH price (Singapore)
- ▶ Australia's pricing is 13% higher than the second ranked FTTN benchmark (New Zealand) and 14% higher than the second ranked FTTH benchmark
- ▶ Where unbundled services (VULL) are available, the pricing is substantially below Australia's 25Mbps bitstream pricing
 - ▶ While VULL requires RSPs to provide their own transport capacity from the local exchange, the cost of purchasing this capacity is generally low¹

1. See for example, Openreach backhaul pricing which would add approximately \$1-\$2 per service to the VULL price, depending on whether 1Gbps or 10Gbps links are used and the level of utilisation. See for example:

<https://www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=Ud86mbxvL06lwD7yUJAntfYYzAUBl8Ql5zsym4XtYtZ6rH4ZujnCs99HbIKJZPD9hXYmiiJxH6wrCQm97GZMyQ%3D%3D>

50Mbps



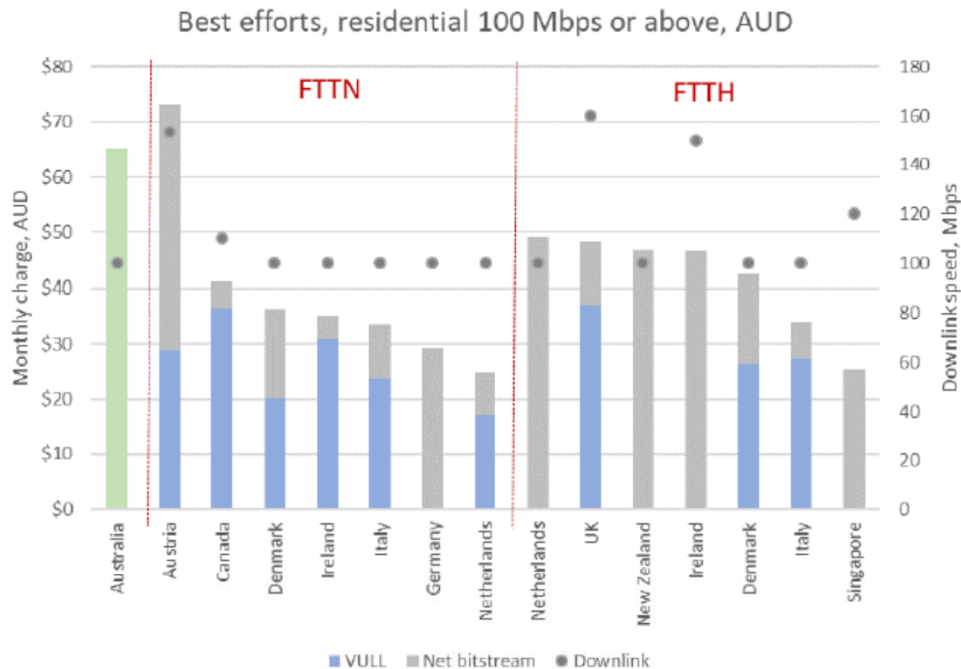
VULL = Virtual Unbundled Local Loop

Australia has the second most expensive wholesale broadband pricing at 50Mbps

- ▶ 28% above the median FTTN price
- ▶ 87% higher than the lowest 50Mbps FTTN price (Netherlands)
- ▶ Austria has the highest bitstream pricing but at this price point provides 80Mbps and has a VULL price 60% lower than Australia's bitstream price
- ▶ Australia's pricing is 8% above the median FTTH price and 85% higher than the lowest 50 Mbps benchmark FTTH price (Singapore which provides 100Mbps)

Australia's 50Mbps bitstream pricing is between 41% and 163% higher than VULL pricing in comparison countries

100Mbps



VULL = Virtual Unbundled Local Loop

- ▶ Australia has the second most expensive wholesale broadband pricing at 100Mbps
 - ▶ 85% above the median 100Mbps FTTN price
 - ▶ 163% higher than the lowest 100Mbps FTTN price (Netherlands)
 - ▶ Austria has the highest bitstream pricing but at this price point provides 150Mbps and has a VULL price 56% below Australia's bitstream price
 - ▶ Australia's price is 40% above the median 100Mbps FTTH price and 156% higher than the lowest FTTH price (Singapore)
- ▶ Australia's 100Mbps bitstream pricing is between 73% and 280% higher than VULL pricing in comparison countries