ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

# Fibre investment and competition

ECTA

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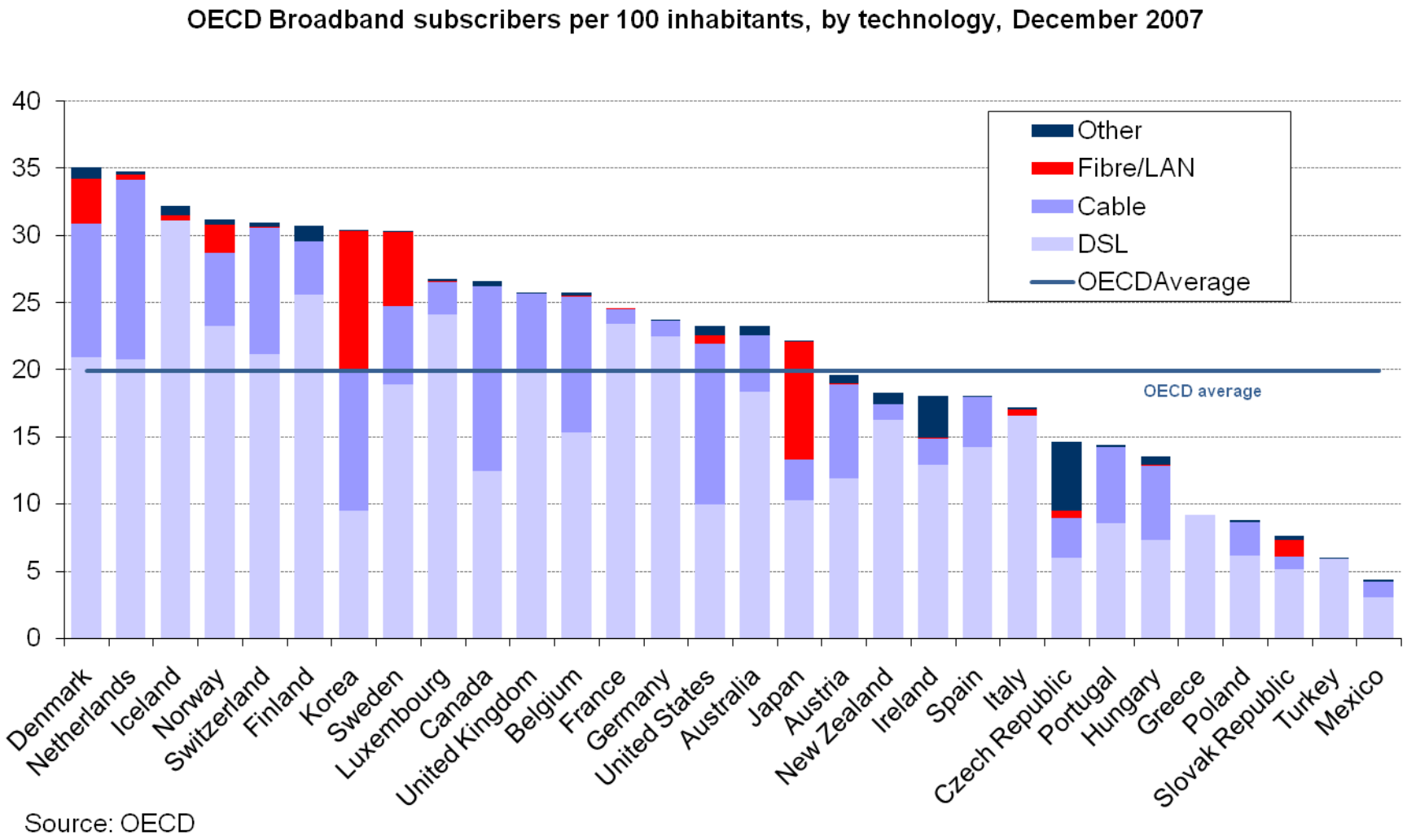
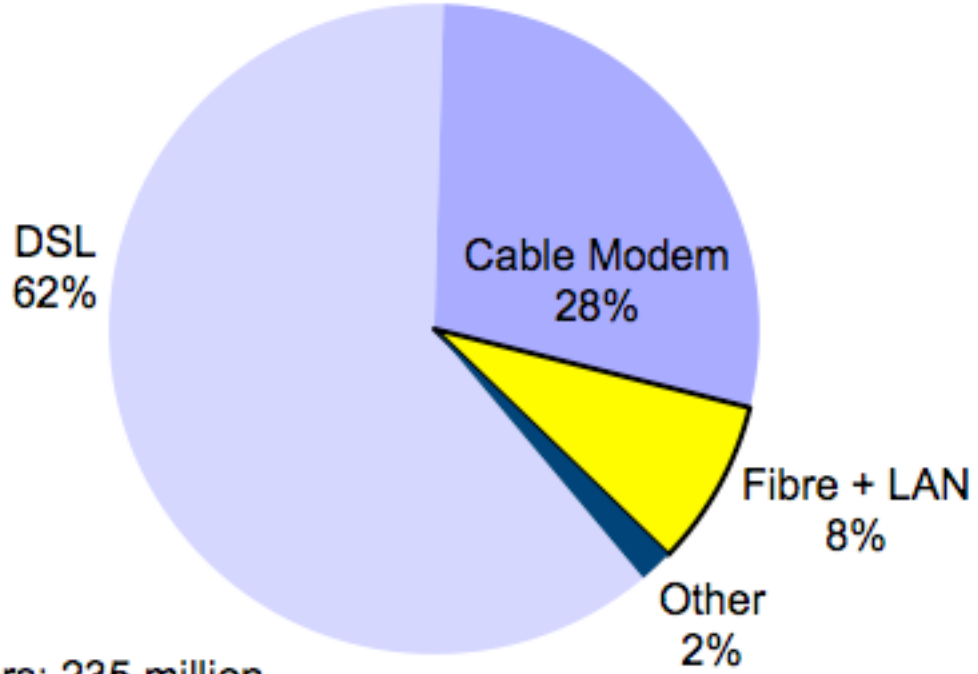
# Broadband penetration



# Fibre vs. other broadband technologies

**OECD Broadband subscriptions, by technology, December 2007**




Total subscribers: 235 million
*Source :* OECD

# Investment: The fibre premuim details

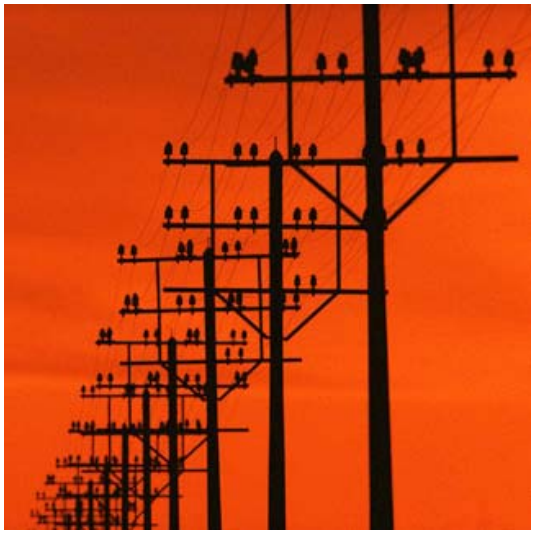
- 36% increase in nominal revenues for fibre
  - 12 EUR/month per subscriber
    - EUR 2500: 24 year write-off (i = 5%)
    - EUR 1000: 8.5 year write-off (i = 5%)
    - Must find ways to reduce passive infra costs

(↑) Transit/backhaul costs likely up

(↓) OPEX falls

# Reducing costs

- Use existing passive infrastructure
- Decore copper cables
- Lay conduit whenever possible

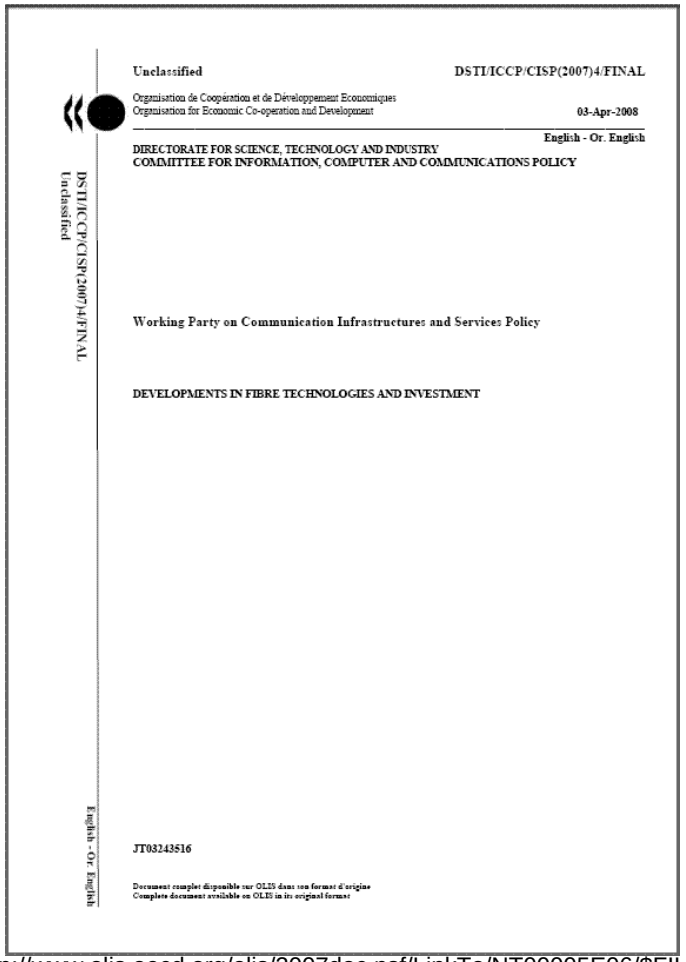


# Investment:

# Penetration ➔ Success

- OECD research shows that investment decisions will be very closely tied to expected penetration rates

- Most markets will not be able to sustain more than one new FTTH or VDSL operator



Unclassified DSTI/ICCP/CISP(2007)4/FINAL

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development 03-Apr-2008

English - Or. English

DIRECTORATE FOR SCIENCE, TECHNOLOGY AND INDUSTRY
COMMITTEE FOR INFORMATION, COMPUTER AND COMMUNICATIONS POLICY

DSTI/ICCP/CISP(2007)4/FINAL
Unclassified

Working Party on Communication Infrastructures and Services Policy

DEVELOPMENTS IN FIBRE TECHNOLOGIES AND INVESTMENT

English - Or. English

JT03243516

Document complet disponible sur OLIS dans son format d'origine
Complete document available on OLIS in its original format

http://www.olis.oecd.org/olis/2007doc.nsf/LinkTo/NT00005E06/$FILE/JT03243516.PDF

# NL business case: High penetration needed

| Penetration Rate | 15% | 25% | 33% | 50% | 75% | 100% | 50% at 5% profit | 50% at 7.5% profit |
|---|---|---|---|---|---|---|---|---|
| Triple Play | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Monthly charge Passive | 67,80 | 40,68 | 30,82 | 20,34 | 13,56 | 10,17 | 15,02 | 17,66 |
| Monthly charge Active | 19,44 | 17,94 | 17,43 | 16,91 | 16,42 | 16,28 | 14,83 | 15,85 |
| VAT 19% | 20,76 | 15,32 | 13,35 | 11,26 | 9,88 | 9,21 | 9,85 | 10,55 |
| Total | 130,00 | 95,94 | 83,60 | 70,50 | 61,86 | 57,66 | 61,70 | 66,06 |

- NL cable triple play offers – June ‘08
  - 800 kbit/s: EUR 39.95
  - 8 000 kbit/s: EUR 49.95
  - 16 000 kbit/s: EUR 64.95

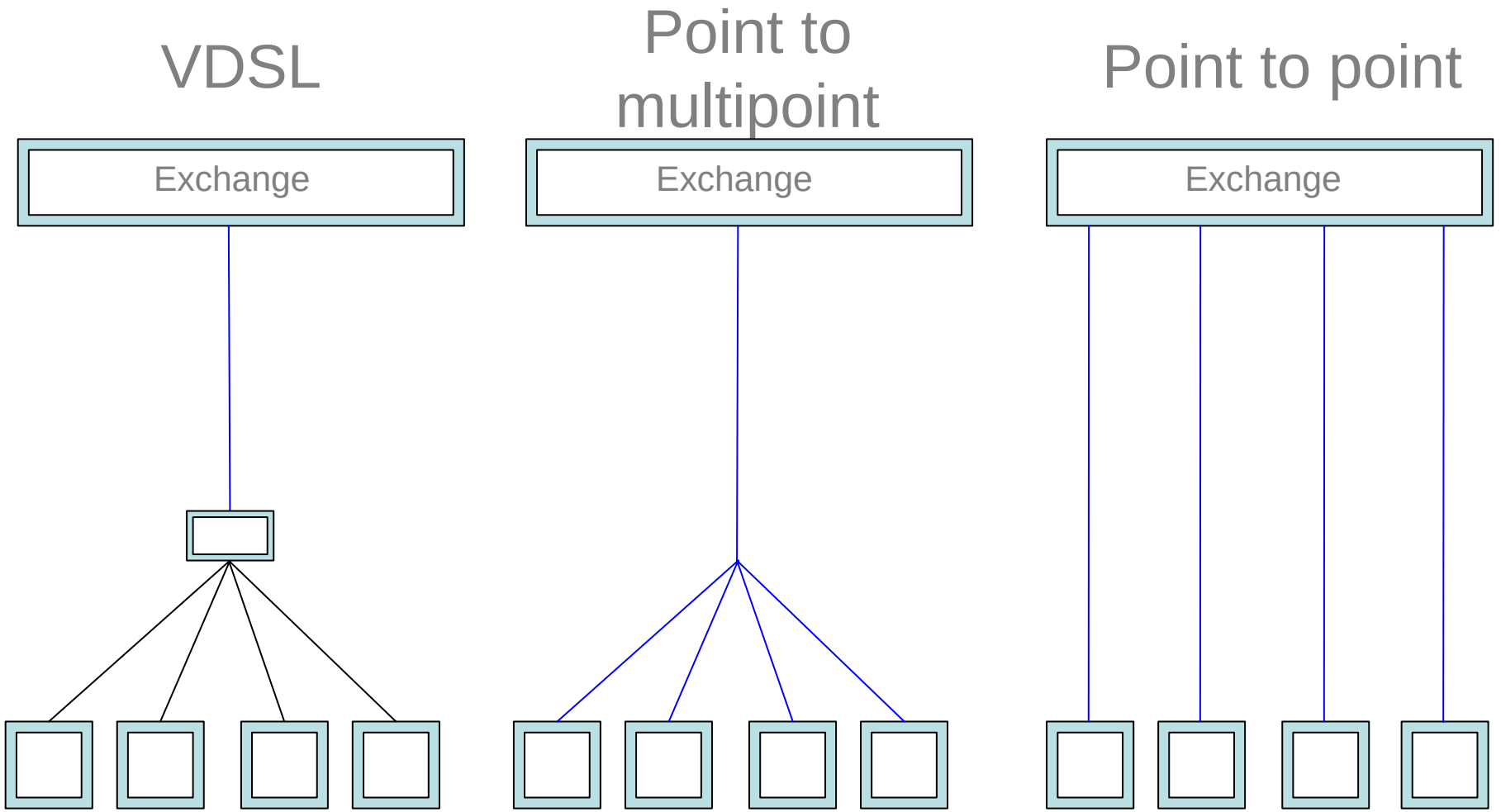
# Ultimate fibre goal

- Having one provider offering fibre-to-the-home Internet access is good
- But government policy needs to consider the ultimate goal:

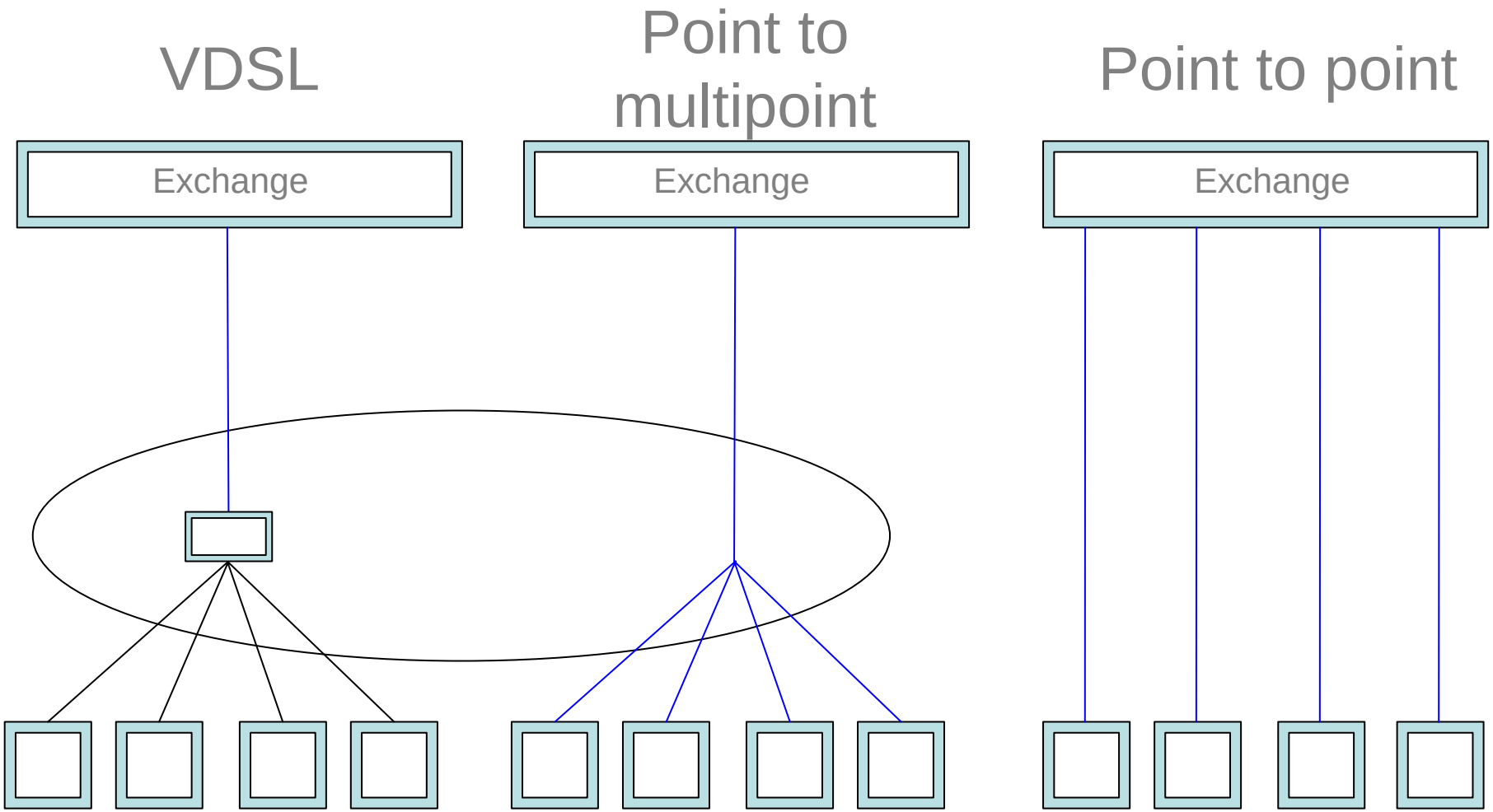
**Competitive fibre-to-the-home**

http://i.pbase.com/o3/24/598024/1/78189271.bxSxEGlu.asia0044copy.jpg

# Topology matters



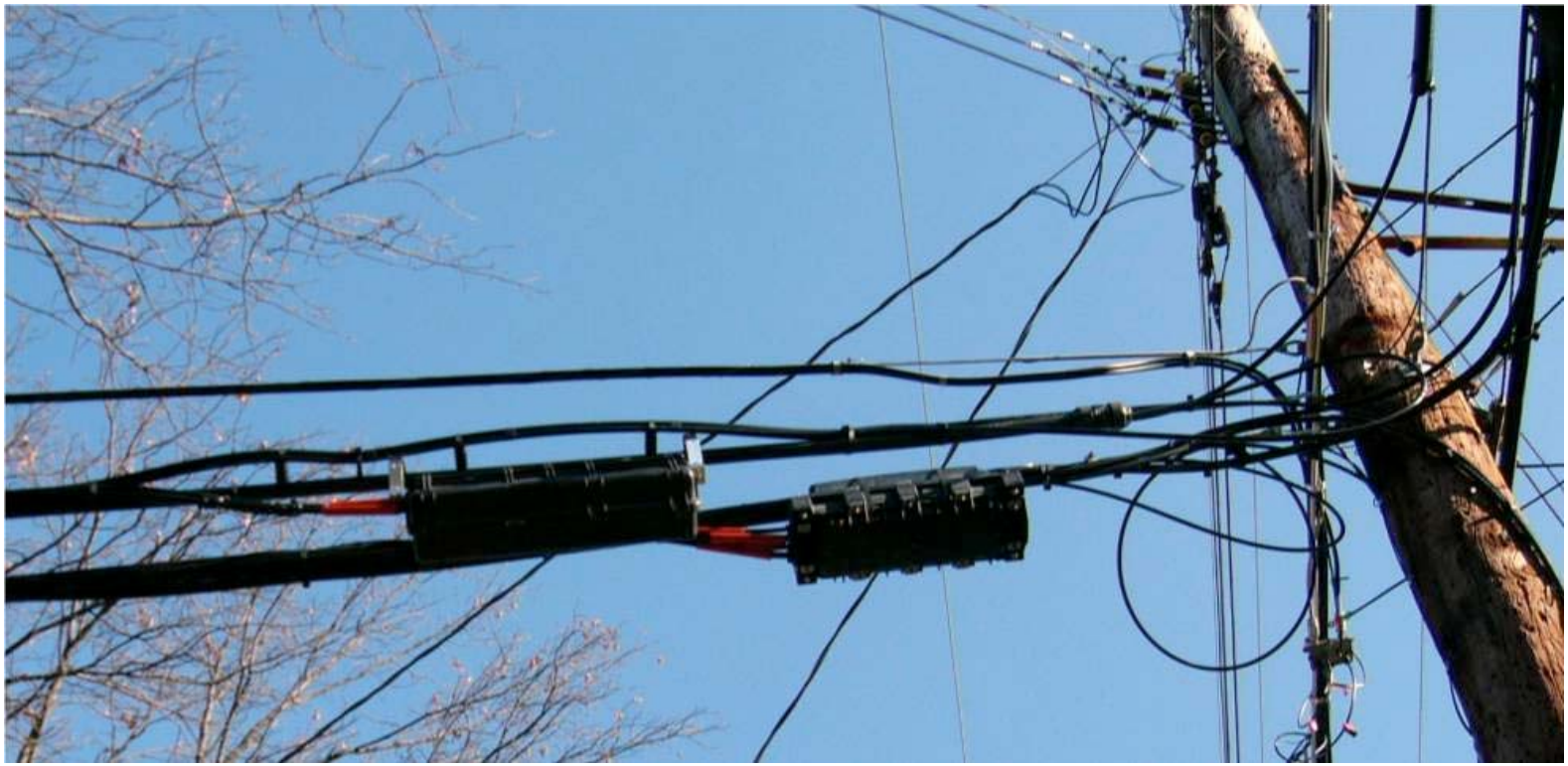
# Problem areas for competition



# VDSL issues

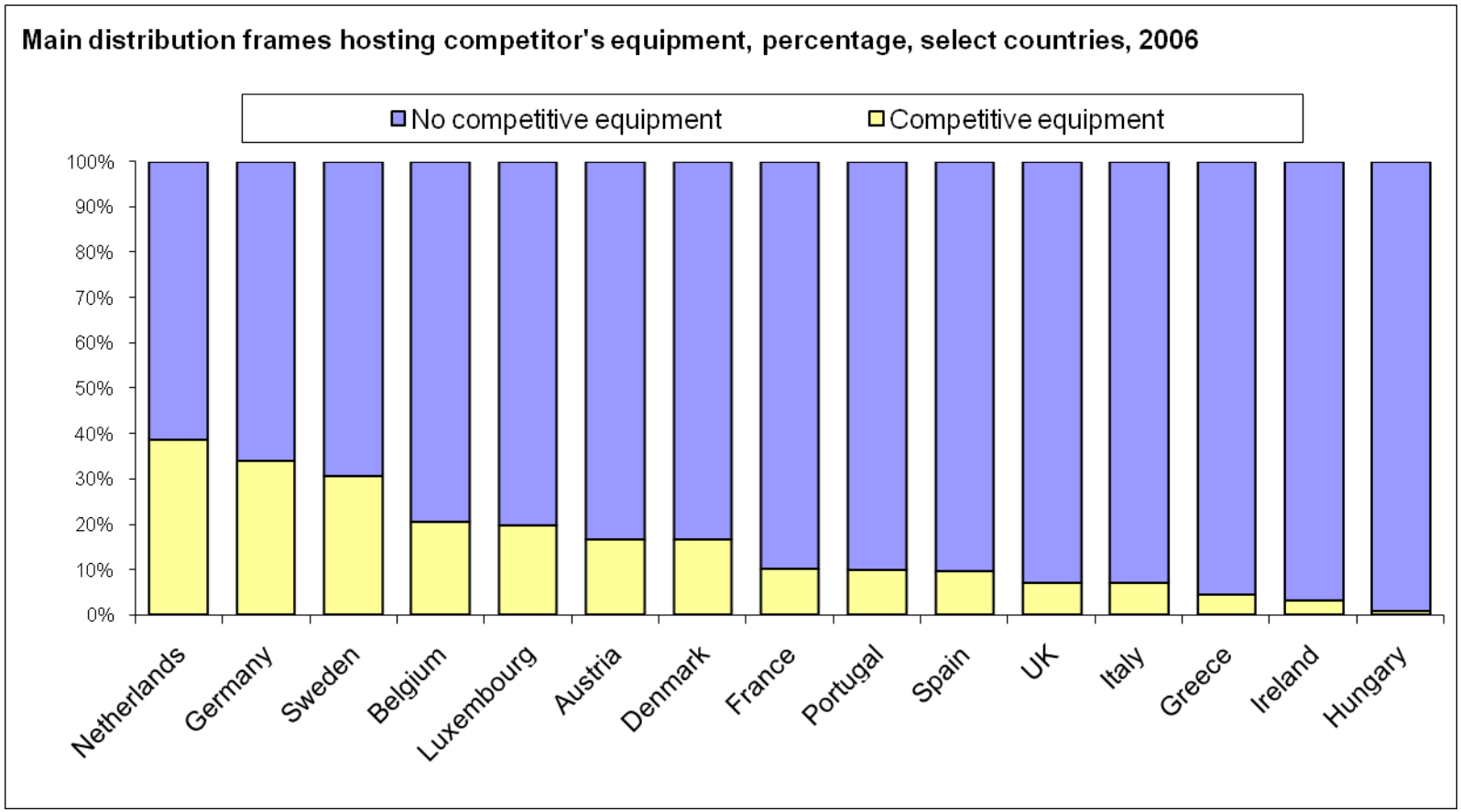
http://upload.wikimedia.org/wikipedia/commons/b/b3/Outdoor_DSLAM_Endstufe.JPG
http://www.dslreports.com/r0/download/1302704~e11f58b22ae7230711aac5e1d9b7d71a/ComcastAd.200.jpg

# Point to multipoint splice



http://www.broadbandsoho.com/Verizon_FTTP_Tutorial.htm

# VDSL/P2MP:
# What to expect at the cabinet/splice

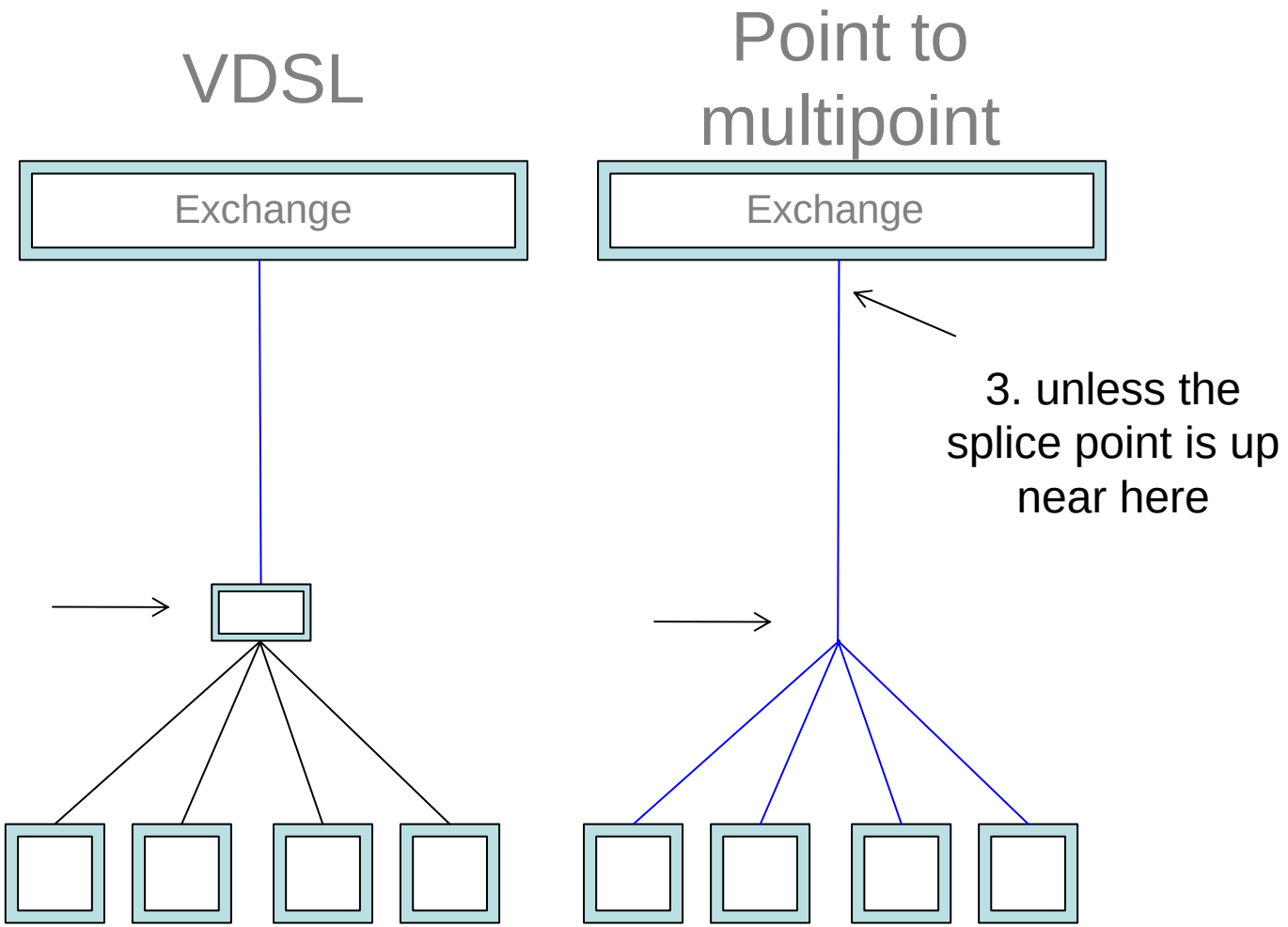



Source: ECTA

# Reality check

1. The exchange will likely remain the point for competitive access

2. Competitors can't economically reach and install here so they won't



# HFC (01)
# Location of the splice/split

Too few homes connected to expect competitive cabinets/colocation

# HFC: 02
# Location of the splice/split

Larger aggregation points means more chance of competitive colocation

# FTTH

## Location of the splice/split

Upgrading copper to fibre from the street cabinet/aggregator

# Innovation thrives when competitors take over lines

| Free (France) service offer | | |
|---|---|---|
| | **No unbundling** | **Unbundling** |
| Download (Mbit/s) | 10 | 28 |
| Upload (Mbit/s) | 1 | 1 |
| Telephone | Free, 70 countries | Free, 70 countries |
| Television | - | 200 channels |
| TV perso | - | Yes |
| Digital TV recorder | - | Yes |
| VoD | - | Yes |
| Radio | - | 50 digital channels |
| Price | EUR 29.90 + fixed line | EUR 29.90 |

Source: http://adsl.free.fr/offre/grille.pdf

# Current debates: wholesale access

- Bell Canada traffic shapes peer-to-peer traffic using deep packet inspection
- Bell Canada also applies the same traffic shaping to the connections of its wholesale customers

# Network separation

- Many areas will have only one fibre entering each home.
- Structural or functional separation is an option to ensure competitive access to the fibre in a non-discriminatory way at cost-based prices
- Could be private- or public-sector led
- Does not solve unbundling problem with P2MP and HFC.
- Again, topology matters

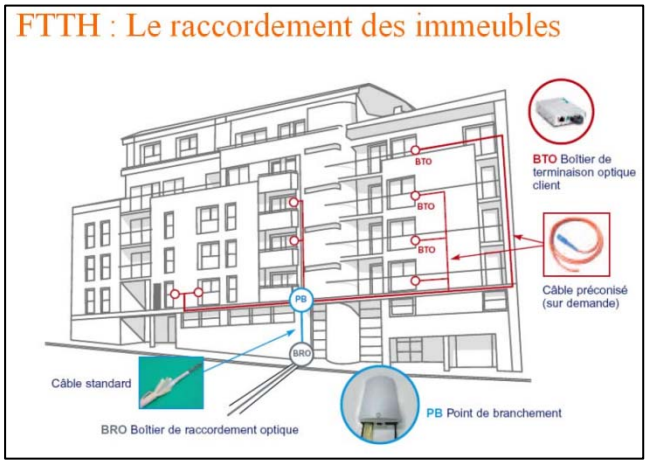
# Government: Barriers to entry

## Ducts

## Poles

## Rights of way

## Internal wiring



# Conclusions / key findings

- For fibre rollouts, it is the **topology**, not technology which matters most
- The success of business models depends on **penetration rates** but many markets will be unable to support more than one new rollout
- Operators must find ways to reduce **passive infrastructure** costs
- Most OECD countries rely on unbundling but point-to-multipoint topologies (VDSL & PON) **complicate the competitive access** model and may limit innovation in the market
- Individual lines to subscribers should be **aggregated** as much as possible to allow for physical competitive access
- When governments intervene they must seek to **improve competition** and operate under open-access rules

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# Thank you