

FTTH Council Europe

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www.ftthcouncil.eu

FTTH Council Europe

The Organisation

- Founded in 2004, non-profit organisation
- More than 100 members
- Members: manufacturers, construction & engineering companies, NPO, academia

The Vision

- The vision of the FTTH Council Europe is a sustainable future enabled by Fibre to the Home

The Mission

- The mission of the FTTH Council Europe is to accelerate the FTTH adoption by all broadband stakeholders through education and promotion in order to enhance the quality of life, contribute to a better environment and increased competitiveness.

FTTH Worldwide June 2009

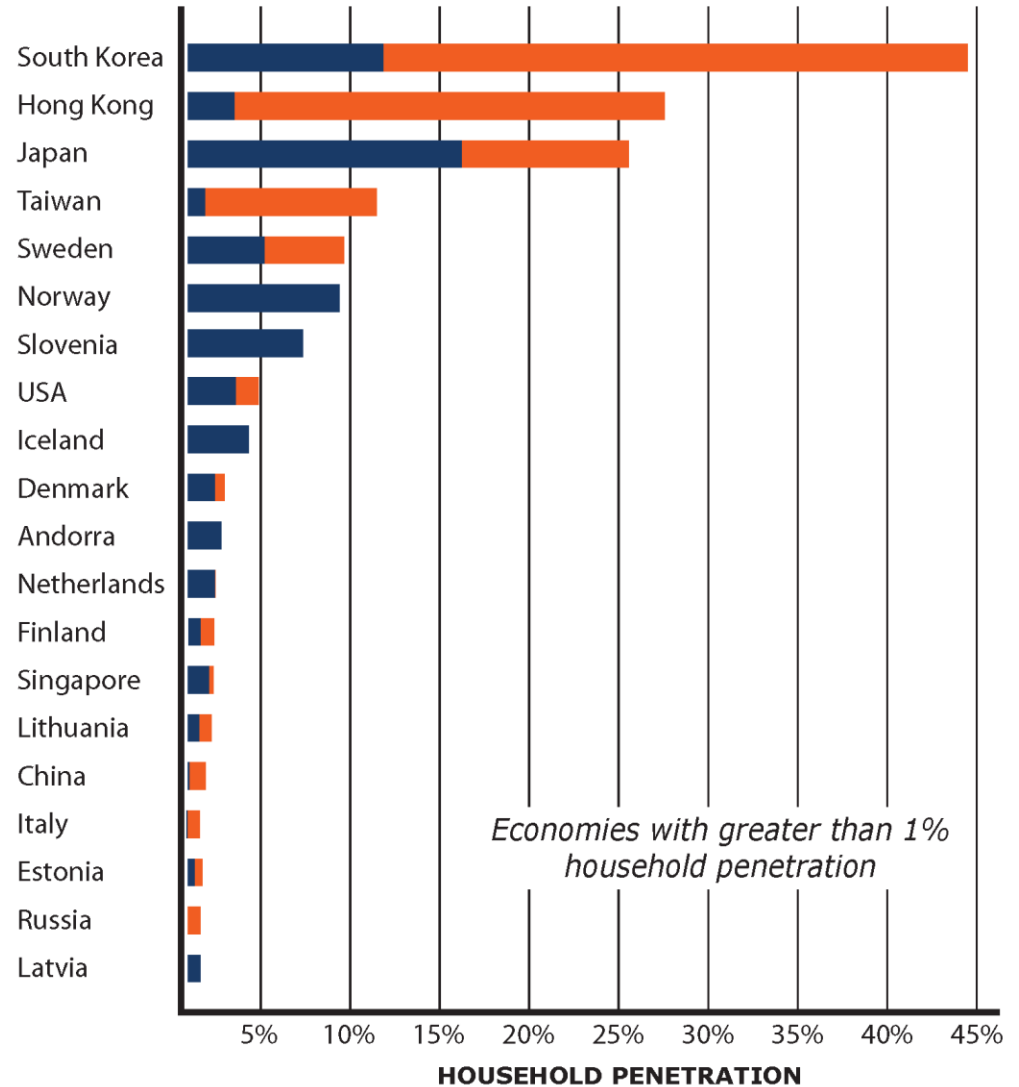


...and FTTH continues to **grow**

Global FTTH/FTTB Ranking

- 13 European economies in the Global Ranking
- But big economies like Germany, France, UK etc. are missing
- If European Union would be seen as one economy (like USA) then only 0.6% penetration and no mentioning in Global Ranking

Economies with the Highest Penetration of Fiber-to-the-Home / Building+LAN



Year-End 2008 Ranking

Source: Fiber-to-the-Home Council
Feb 09

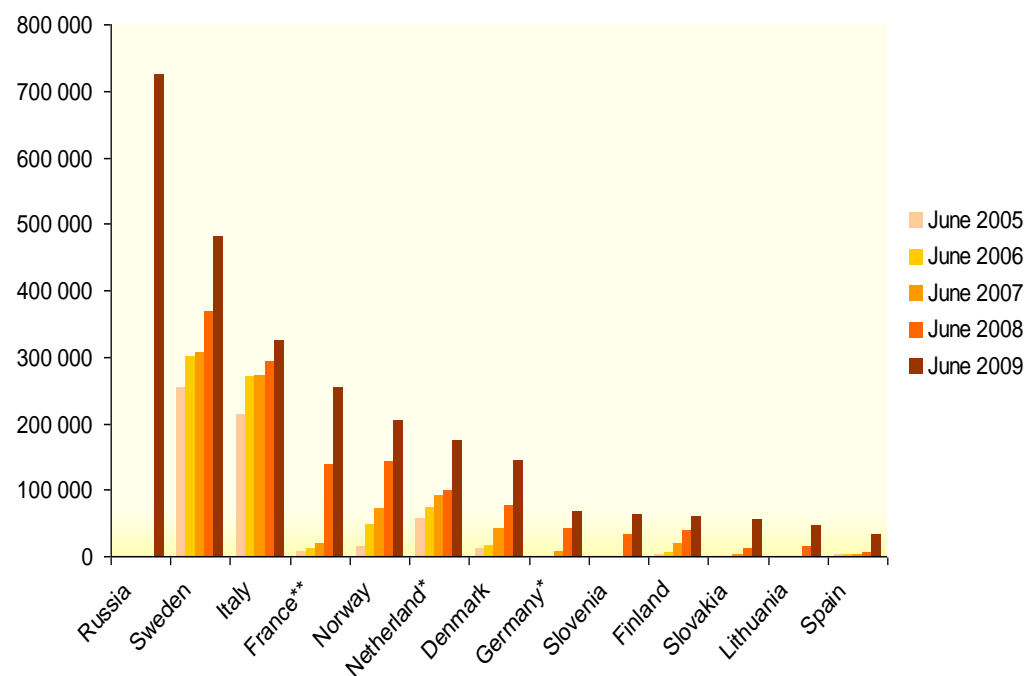
(blue) Fiber-to-the-Home Subscribers
(orange) Fiber-to-the-Building + LAN subscribers

FTTH in Europe

Status June 2009

- 2.0 Mio. subscribers, 13 Mio. homes passed (excluding Russia)
- 3/4 of subscribers in just 6 countries
- 241 projects in Europe; Majority of projects are driven by municipalities and utility companies

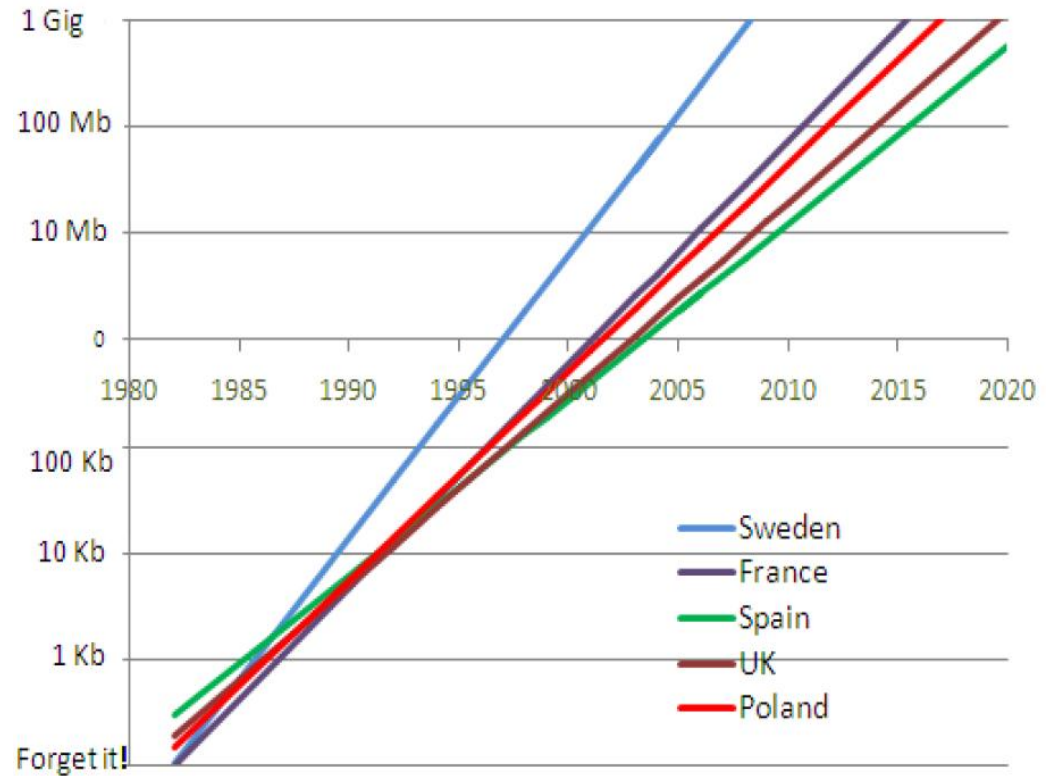
Evolution of FTTH/B subscribers in Europe (1)



Source: FTTH-Council Europe/IDATE 2009

The need for fiber

- Access bitrate demand continues to grow exponentially
- Bitrate demand is driven by both sustainable throughput and latency requirements
- Bitrates of 100 Mbit/s and above can only be provided by fiber
- True broadband access will be synonymous with FTTH



Source: Broadband Bandwidth Study, FTTH Council Europe/Ventura

Pricing of Broadband and FTTH

FTTH Council Europe & Yankee Group

Overall analysis of strategies

- Throughout the study it became apparent that **three different strategies** were at play on the market. These strategies drive **different approaches to services**:

The **broadband utility strategy** focuses on the access. They aim to provide high quality reliable internet access to as many customers as possible.

Often Witnessed In:

Local/municipal projects
Utility led projects
Altnets

The **expand and cash-in strategy** consists in a wide network deployment with little service added value until a critical mass of customers is met.

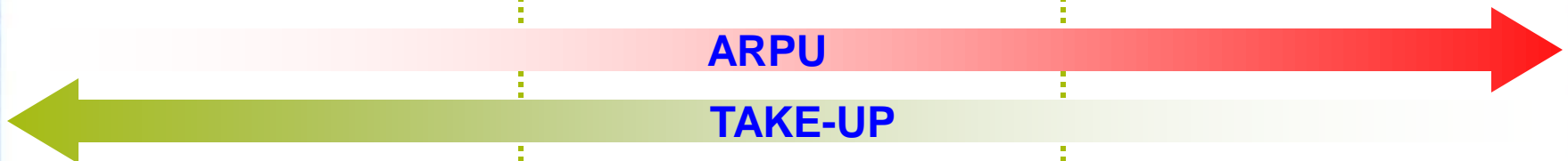
Often Witnessed In:

Local Operators
Altnets
Cable Operators

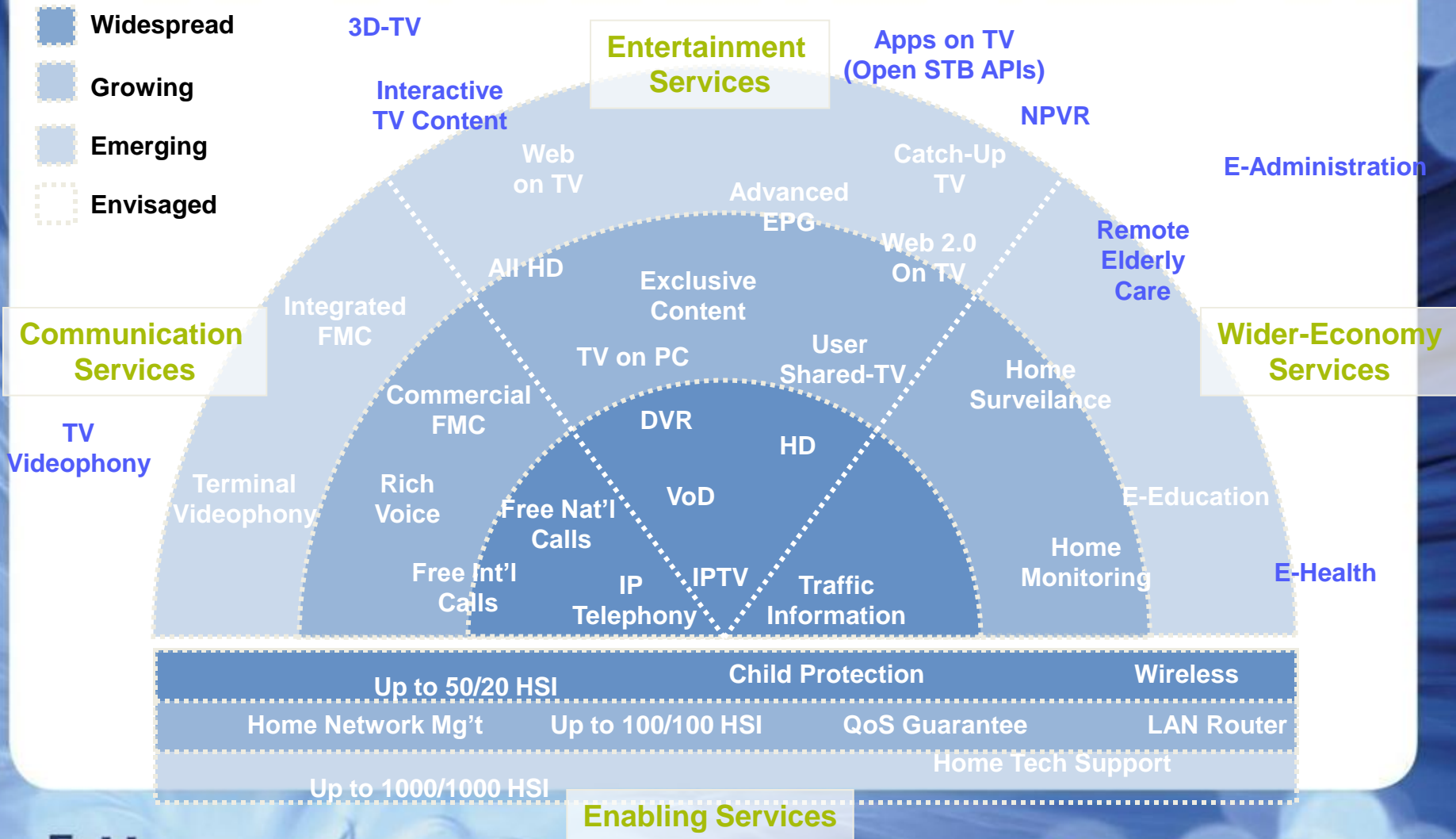
The **keep it premium strategy** aims for sexy NGA services at premium prices, to address a small customer base without cannibalising existing revenues.

Often Witnessed In:

Incumbents
Cable Operators
Low competition countries/areas



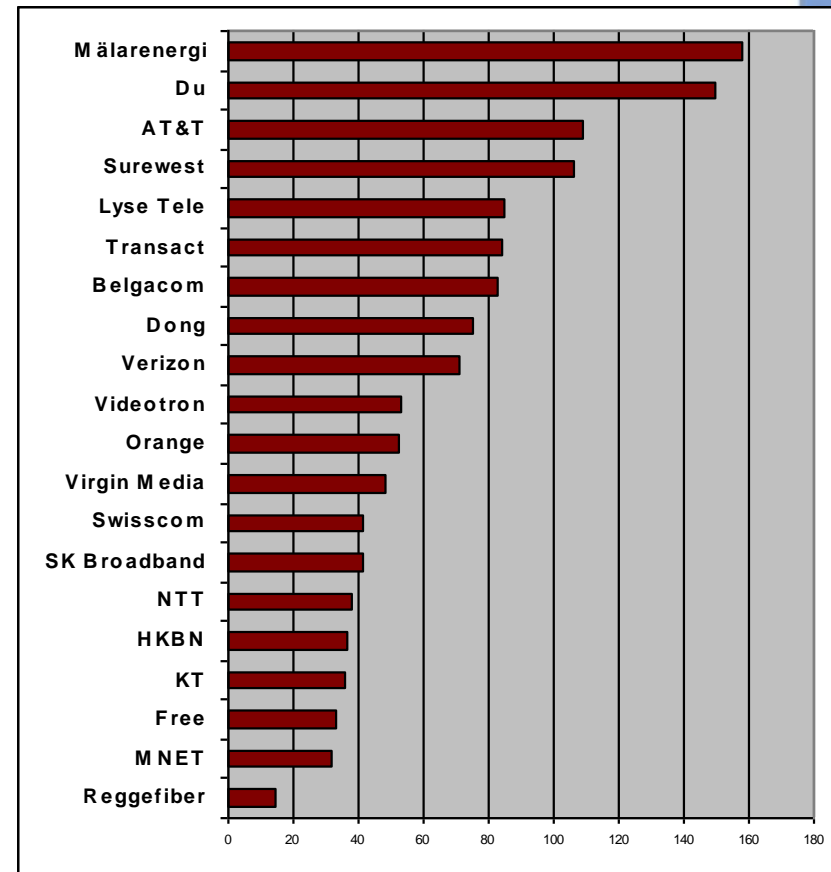
Service portfolio overview



Pricing (broadband)

- When comparing prices, projects with **high set-up fees** tend to be penalized even if the prices examined are done so over a two year period.
- Generally, North American prices tend to be higher than European prices, which tend to be higher than APAC prices.
- There is a tendency for BB utilities to have **lower prices** although set-up fees can again offset this (Mälarenergi and Dong)
- Unsurprisingly, competitive intensity in a given country tends to drive prices down.

Price Comparison for Broadband (~30/30)
(Normalised USD)



Broadband: as close to 30/30 as possible

Pricing Differences are Huge

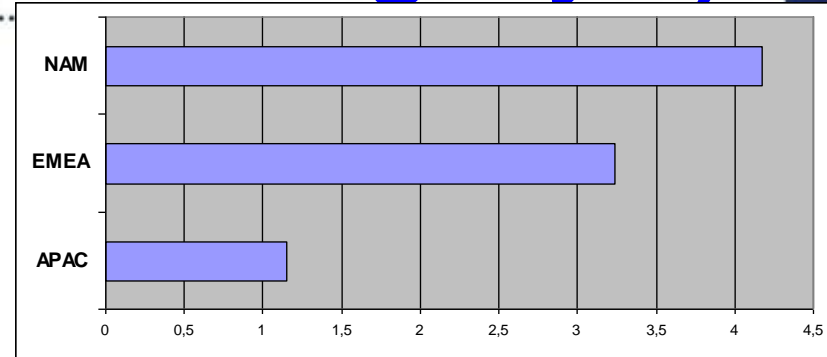
- Prices difference in Europe (examples):
- Netherlands:
 - KPN: 100/6 MBps package with premium triple play: EUR 110,--
 - OnsNet: 100/100 MBps internet only: EUR 32,50
- Portugal:
 - PT: 100/10 MBps package with premium triple play: EUR 64,90
 - Soneacom: 100/10 MBps package with premium triple play: EUR 64,90
 - ZON: 100/6 MBps package with premium triple play: EUR 64,90

Pricing (downloaded megabyte)

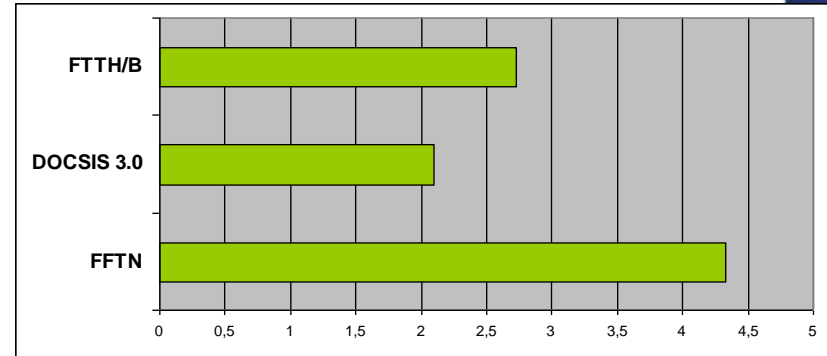
- North American prices per Mbps are the highest, and Asia-Pacific are the lowest.
- FTTH prices are the highest while FTTH/B and DOCSIS 3.0 prices are comparable.
- Operators following Premium strategies are the highest priced. Utility and Cash-In have comparable prices
 - The exception is Mälarenergi whose business model loads up-front costs and therefore skews the average.

Prices per Mbps download (Normalised USD)

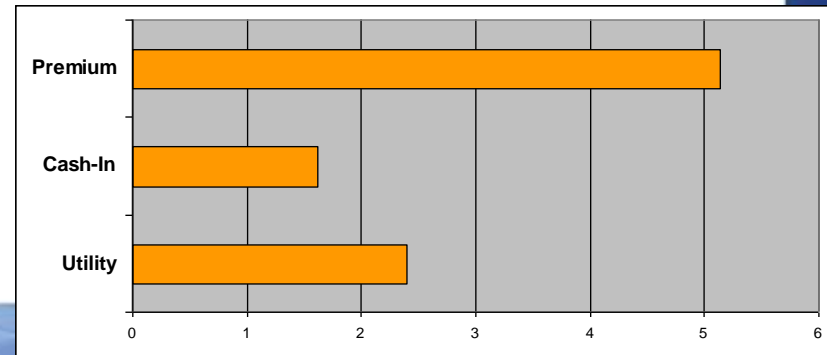
By Geography



By Technology



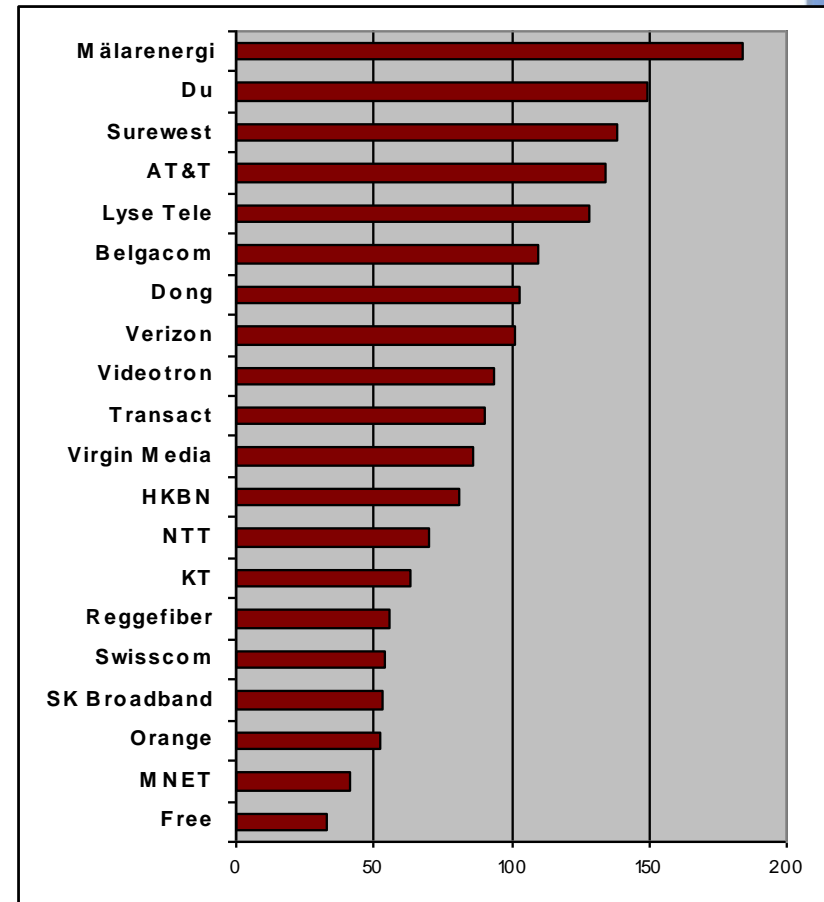
By Strategy



Pricing (triple play)

- Triple play pricing is slightly less dispersed than broadband pricing.
- Bundled-only offers (Free, Orange) or bundles with significant discounts (SK Broadband) tend to be better priced.
- Overall, North America tends to be the most expensive again and APAC the cheapest.
- Technology choices seem to have less of an impact on triple play prices than they have on broadband prices.

Price Comparison for Triple Play
(Normalised USD)



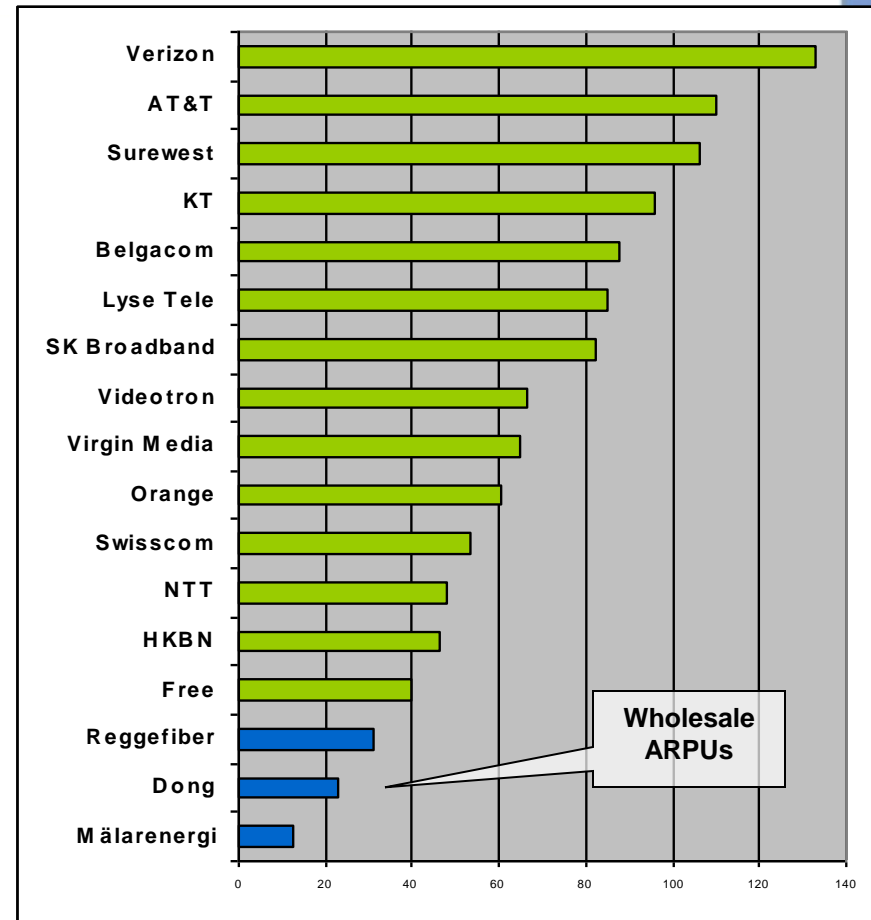
Broadband: as close to 30/30 as possible
TV: basic package (when available)
Telephony: basic subscription

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ARPU

- ARPU of the access line varies considerably, even putting aside the fact that pure wholesale operations have lower ARPUs by definition.
- Again, US service providers have considerably higher ARPUs than in the rest of the world.
- For most SPs that have both legacy broadband and NGA, ARPUs are significantly higher (20-30% on average) even with service offerings that are not necessarily considerably different.
- Unsurprisingly, SPs with “utility broadband” strategies have lower ARPUs than those with more service oriented strategies.

ARPU through broadband access
(Normalised USD)



Sources: Official releases, primary interviews, YG estimates
Missing: Du, M-NET & Transact

Economic considerations and service strategies

- FTTH deployment payback ranges from 6 years to ~20 years.
 - Large Incumbent: « *The FTTH product will be profitable in 2010.* »
- A number of fiber projects have already broken even (Lyse, HKBN, Mälarenergi)
- For most altnets, the key driver to adoption and also the **most profitable service is broadband**. TV tends to be low margin because of rights issues and Telephony is a low attractiveness service.
 - Altnet: « *TV is expensive to set-up and the rights are very expensive, especially for “small” operations like ourselves.* »
- For most incumbents, the key driver to adoption is HDTV and the key revenue generator is legacy voice.
 - Incumbent: « *In the absence of significant penetration of IP Telephony, our most profitable product remains PSTN, but we believe that will diminish over time, hence the need to develop today the revenue generators of tomorrow.* »
- Free estimates that its FTTH product will ultimately generate **over 70% gross margin**. HKBN currently generates around 30% and has a **long term goal of 45%**.

Key Learnings

Economics & Business Model

- A number of FTTH operations are **already profitable**
- Service prices **vary widely** across geographies
- NGA ARPUs are **reliably 30+% above DSL ARPUs**
- Broadband in itself is a **profitable product** (in fact, the most profitable for many players)

Usage & Network Impacts

- FTTH users currently **use 5 to 10 times as much access line capacity as DSL users**
- FTTH-only operations **tend to be net contributors of traffic to the wider internet**
- **Peering and transit dynamics are evolving driven by NGA**

Services & Innovation

- Most service portfolios are currently designed to drive adoption
- HD is a key driver for adoption and the target for service providers is to **deliver 2+ simultaneous HD streams**
- The **SoHo market is underserved with NGA** service offers and seems to be a disregarded low-hanging fruit
- **Video communications are seen as a crucial service and enabler of wider-economy services, but are still underdeveloped**

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Thank you for your attention!

