

Fiber Access Networks: Architectures, Business Models & Recent Industry Developments

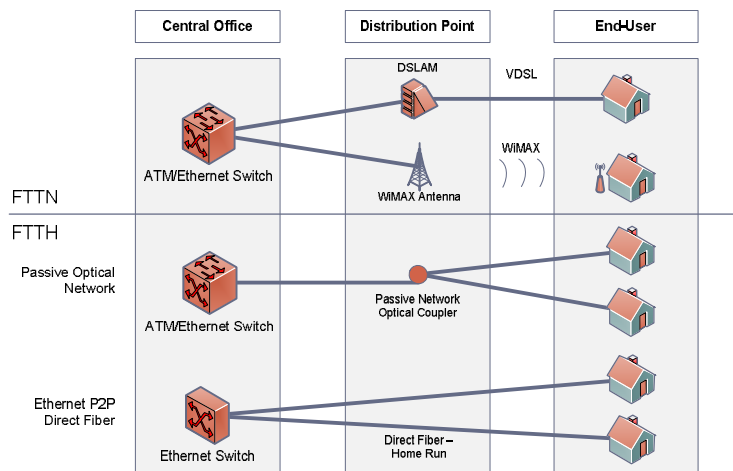
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Future of the Internet: New Technologies and
Business Opportunities
BCA – Kifissia Campus 19/9/2008



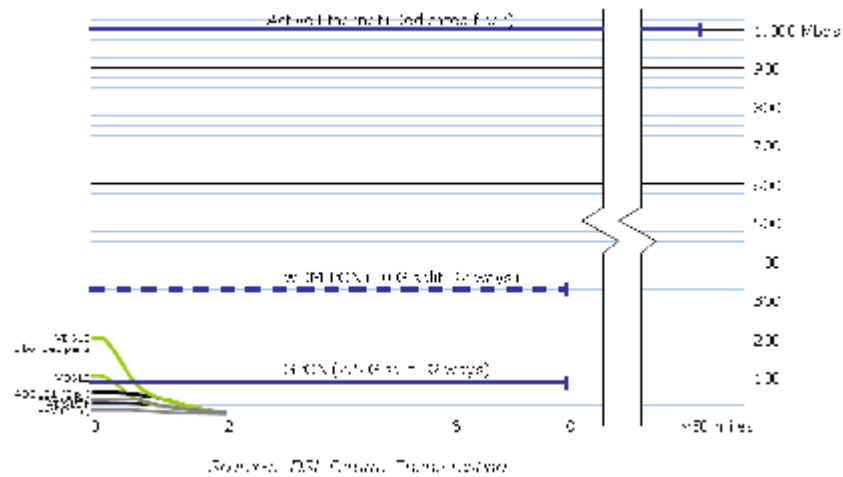
Fiber Access Networks (FTTx): Architectures & Technologies



How FTTx Speeds Compare to Existing xDSL Technologies



Rate/Reach for Fiber-based Broadband Access Technologies

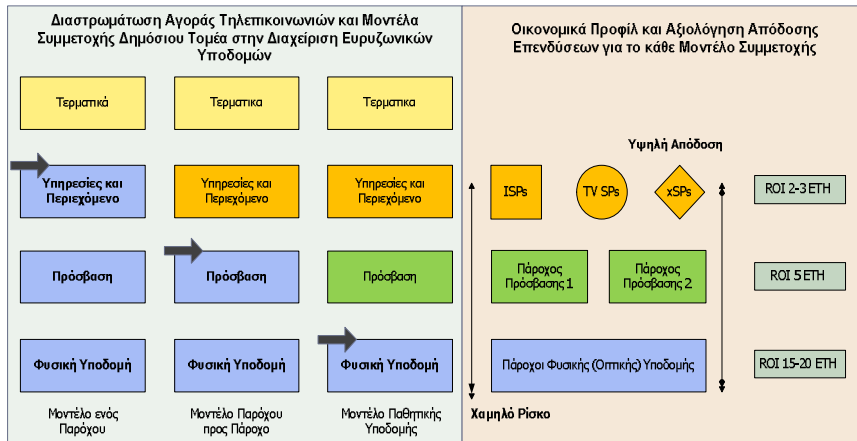


Fiber Access Networks: Costs and other Considerations



- | Cost Structure for Fiber Deployments:
 - | 40% labor and 60% equipment
- | Cost per household passed:
 - | Estimations vary from as low as 400 to as high as 2500 euros. 800 to 1500 euros is a more realistic range
- | Rights of ways
- | Building Entrance Permits, Access to Households
- | Existence of other Network Infrastructures
- | Installation Efficiencies

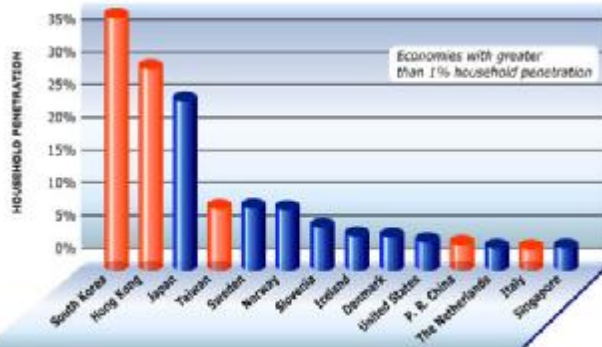
Fiber Access Networks: Business Models



International Developments: FTTH Global Rankings mid-2008



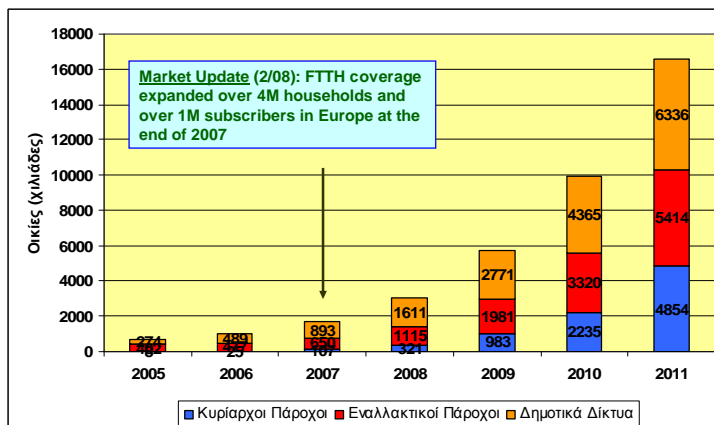
Economies with the Highest Penetration of Fiber-to-the-Home / Building+LAN



Mid-Year 2008 Ranking
Source: Fiber-to-the-Home Council
Jul 08

■ Economies where majority architecture is **Fiber-to-the-Home**
■ Economies where majority architecture is **Fiber-to-the-Building+LAN**

International Developments: FTTH Coverage Forecasts in Europe



Source: Heavy Reading: <http://www.heavyreading.com>

International Developments: Current Debates



- | PON vs. Direct Fiber
 - | US, Korea, Japan, Sweden, Netherlands
- | FTTH vs. FTTB vs. FTTC
 - | Incumbents vs. Alternative Operators
- | Open Access Networks vs. Facilities-based Competition
- | Splitting Ownership of Incumbent Business
 - | Functional/Structural Separation

Fiber Access Networks: Industry Related Developments in Greece



- | Mergers & Acquisitions & Bad Outcomes
 - | OTE Group, Wind & Tellas, HOL, Attika Telecommunications, Vodafone, Netone & Algonet, Lannet, Altec Telecoms, Teledome
- | Investments in Fiber Access and Core Networks
- | Government Funding

Government Funding: Support for Broadband Infrastructures



- | Various EU funded “Calls” to support broadband infrastructure deployments
 - | Call 93 & 145 – Development of Complementary Broadband Infrastructures in less developed areas of Greece
 - | Call 105 – Advanced Telecommunication Services for the Citizen
 - | Call 52 – e-Government for citizen’s services
 - | Call 157 – Financing private companies for the development of broadband access in rural Greece

Greek National Broadband Strategy



- | Announced on September 3rd by Minister of Communications
- | Deployment of Fiber Access Networks budgeted at 2.1bn euros
- | Country Coverage of 40% (approx 2M households passed)
- | Public-Private-Partnerships

Greece: Future Plans & Actions for Success



- | Universal Service Obligation
- | Involvement of Municipalities in Fiber Access Provision
- | Regulatory Framework for FTTx
- | Exploitation of Public Investments

Sources of Reference



- | <http://www.pcngreece.com>
- | <http://www.netmode.ntua.gr>
- | <http://broadbandprime.blogspot.com>