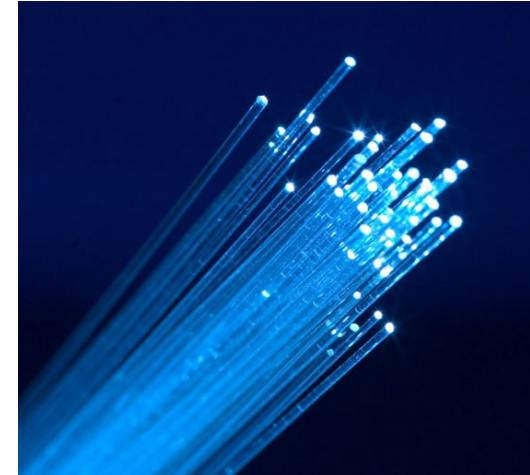


# telenor



*Defending broadband market shares in a highly competitive market. Introduction of FTTH in Norway.*

FTTH Council, 28th of February 2008

Bjørn Netland  
Director, Broadband Network development  
Telenor Norway  
[bjorn.netland@telenor.com](mailto:bjorn.netland@telenor.com)

# Telenor highlights

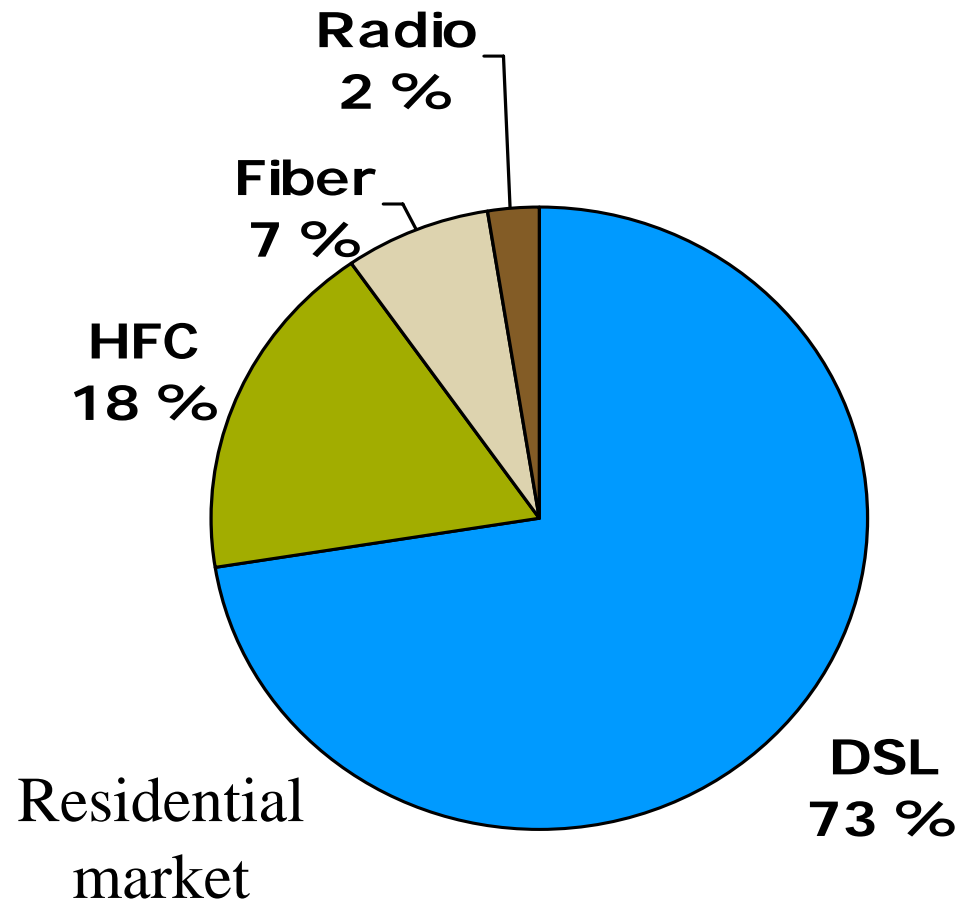
- 143 million mobile subscribers, 6th largest mobile operator in the world.
  - 2,2 million mobile subscribers in Norway (4,1 Mill. Nordic)
- Telecom and broadcast operations in the Nordic region:
  - Approximately 1.700.000 broadband customers
    - No. of xDSL customers: 1.380.000 (633' in Norway)
    - No. of LAN/fiber customers: 183.000 (Sweden)
    - No. of CTV internet customers: 127.000
  - Approximately 1.640.000 TV customers
    - No. of CTV customers: 705.000
    - No. of DTH customers: 932.000
  - Approximately 1.900.000 Telephony customers

A high number of potential n play customers



# Broadband subscriptions by technology in Norway

- still dominated by DSL

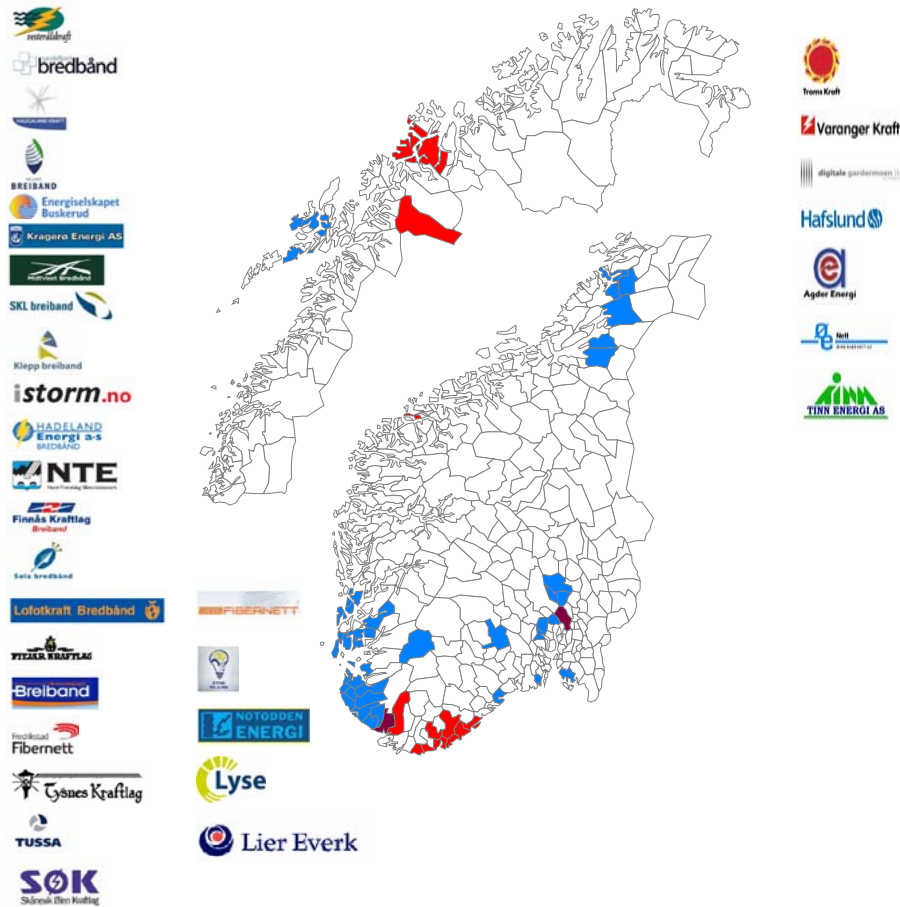


However, 3 play is a new game...

# Utility companies invest heavily in fiber - 100.000 customers in 2007 (EOY)

## Electrical power companies offering fiber/3P

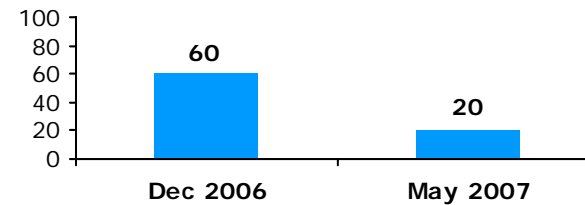
■ Closed access networks
 ■ Open access networks



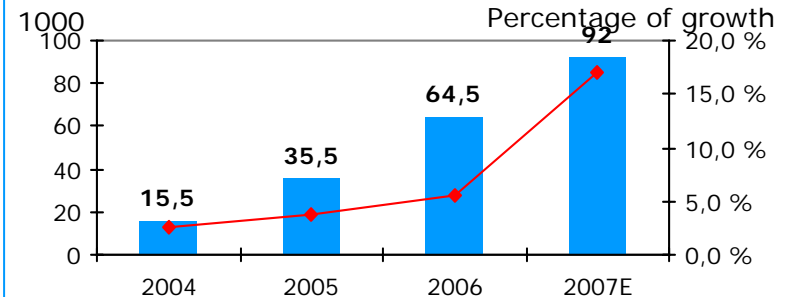
## Heavy investments in fiber by electrical power companies

LYSE and partners have invested approximately 250 Million Euros

## Significant BB market share loss in fiber areas



## Broadband customers –fiber



# Sales concept - fiber operators

- Door to door sales
- Local information meetings
- Focus on FIBER as the future
- Focus on "Now or never"
- Request 60% take rate before roll-out
- Mark properties that has signed up for fiber with sticks:  
"Fiber installed"



**New sales concept must be developed**



# FTTH/3P: Threat and opportunity

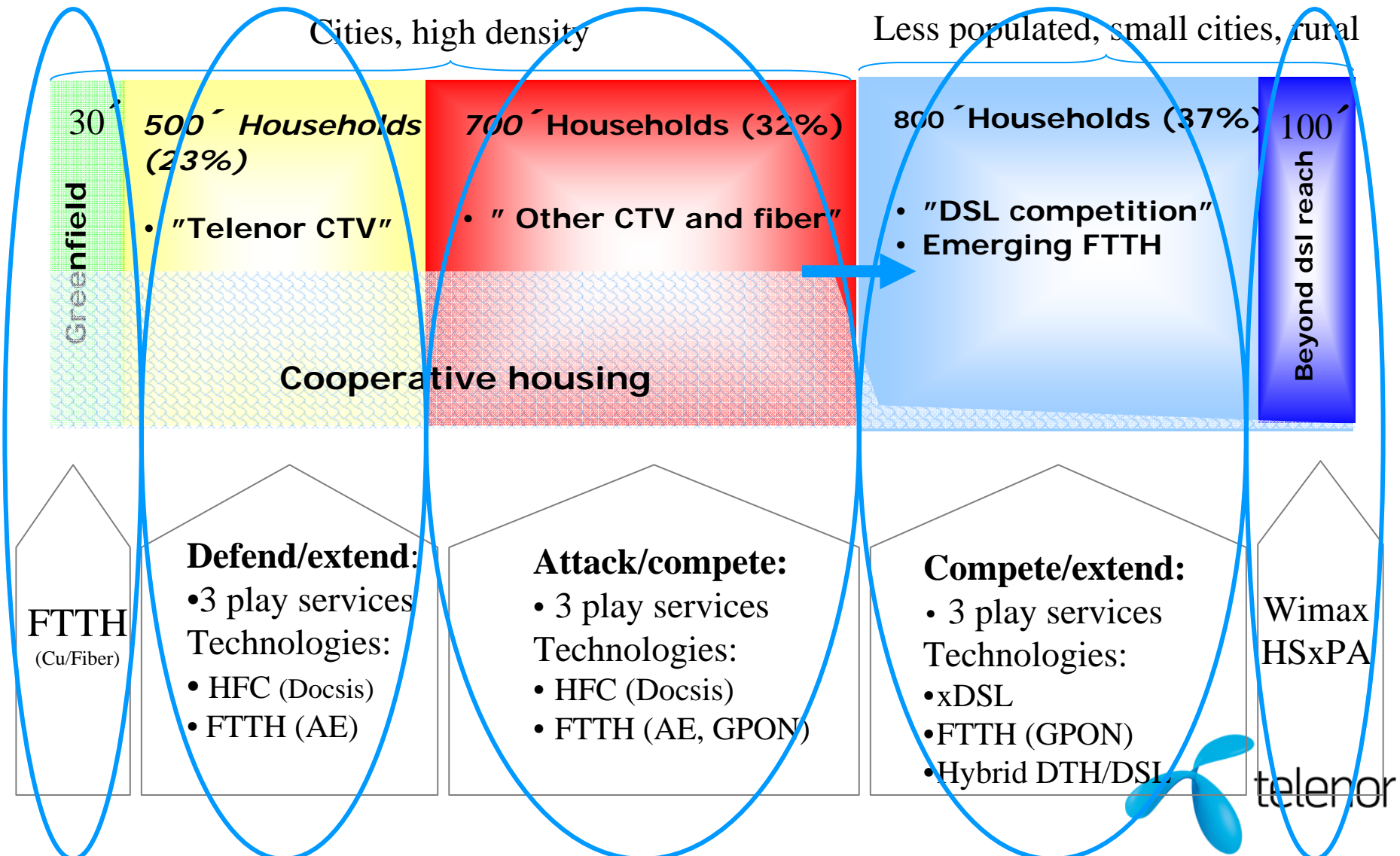
- Utility companies and CTV companies will invest heavily in fiber and upgraded cable during next 3-5 years
- Telenor losing broadband and fixed voice revenue due to 3P success
- Very low churn making win-back difficult
- Increase ARPU on 3P

**Window of  
opportunity for  
Telenor fiber next  
3-5 years**

**FTTH is needed to compete in important market segments**

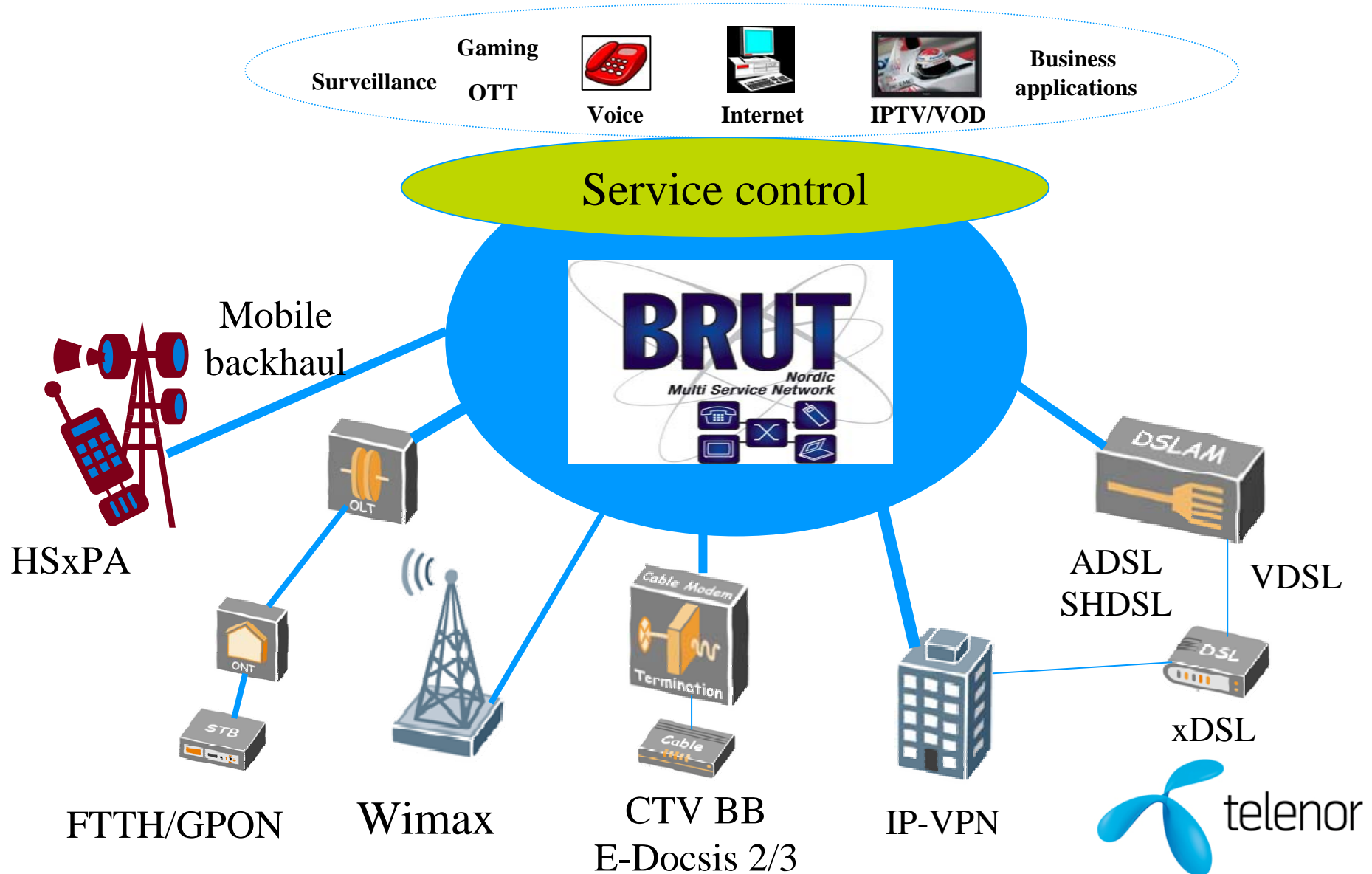
# One size doesn't fit them all

- different challenges per market segment





Utilize common solutions, processes and resources

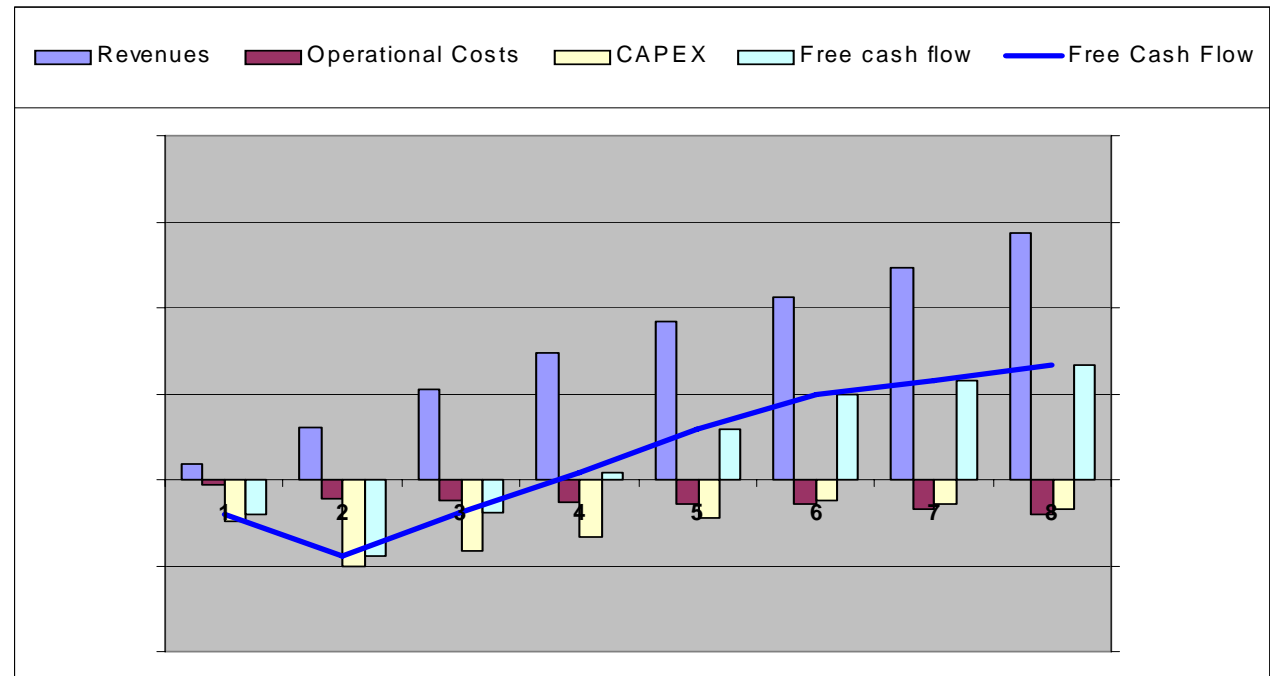




# Business case for FTTH - case study

## Key assumptions:

- High take rate (80-90%)
- CAPEX: 1500-2500 Euro (per customer)
- Revenue: 100 Euro/month (typical figures for 3P)



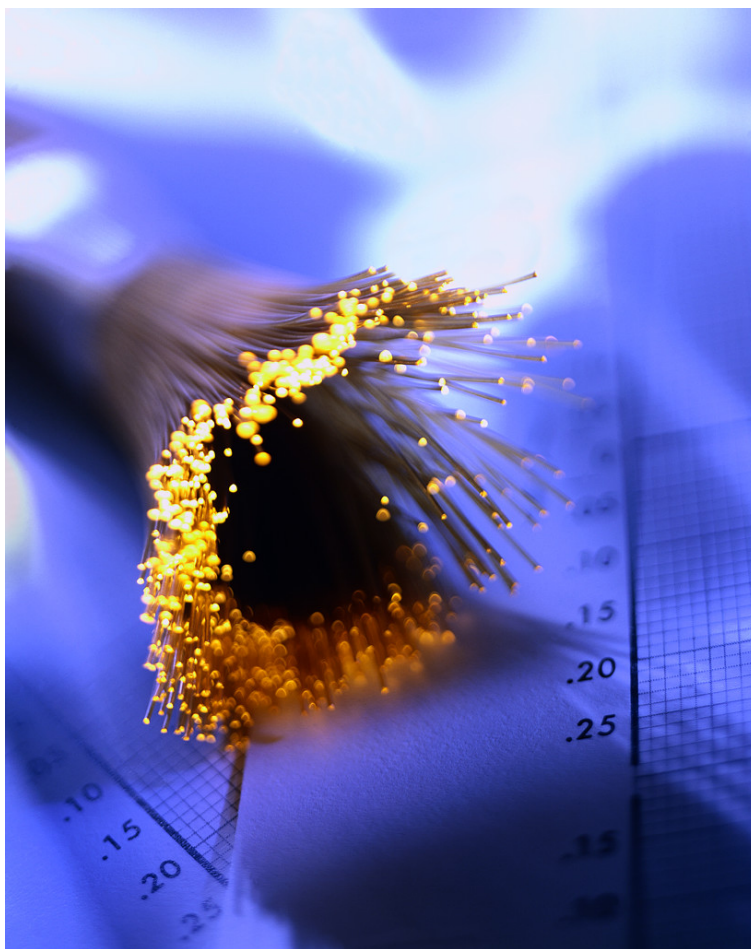
Break even after 4 years, positive pay back after 6-7 years

# Telenor has a balanced infrastructure strategy

- Upgrade DSL infrastructure with fiber nodes and Ethernet DSLAMs
  - Migration from ATM to Ethernet DSLAMs
  - VDSL to be introduced gradually.
- 3 play on HFC solutions in existing areas (co-operative housing)
  - Introduction of EuroDocsis 3.0 (Coax)
  - FTTH based solutions (AE)
- Selected FTTH (GPON based) roll-out
  - Pilots already “up and running”
  - Utilize existing hybrid cu/fiber (Greenfield) – installed from 2005
  - Commercial roll out planned in 2008



**Balanced strategy – FTTH must be part of the access portfolio**



Merci beaucoup de votre attention!

