# Ultra broadband
# the dutch perspective

Presentation by Chris Fonteijn
Chairman Independent Post and Telecommunications Authority (OPTA)

For ARCEP – 13 October 2008

OPTA

# The Dutch broadband landscape

- Network rollout – Cable & DSL
  - almost 100% ADSL coverage, of which 65% ADSL2+
  - more than 95% Cable coverage
- Broadband penetration – almost every internet user
  - 78% of households use broadband service
- FttH – new entrance in the broadband arena
  - approx. 2% of households

OPTA

# Broadband development
# some historic perspective

| | Copper network | Cable network |
|---|---|---|
| 2000 | Introduction of ADSL (1Mb) | Introduction Docsis (512 kb) |
| 2003 | Start of DVB-T* | |
| 2004 | | Digital TV (on cable) |
| 2005 | Introduction ADSL2+ (20Mb) | VoIP (on cable) |
| | Introduction IPTV | |
| | Introduction FttH (Reggefiber) | |
| | VoIP (on DSL) | |
| | DVB-T* (KPN) | |
| 2008 | Pilot VDSL2 (30 Mb) | Introduction Docsis 3.0 (120 Mb) |
| | FttH (KPN) | |

** Wireless digital TV service*

OPTA

# Convergance of networks

- Networks migrate towards multi-service networks
  - (interactive) TV, Telephony, Internet-Access
- Copper-access is limited in its capacity to deliver ultrabroadband services (e.g. HDTV, …)
- Fibre-access and Cable (coax-access) are capable of delivering these ultrabroadband services

# Ultra-broadband is available in NL

- Fibre to the Home (FttH)- Point-to-Point Ethernet
  - No limit to speed
- Cable (Docsis 3.0) + Digital TV
  - Broadband Internet: 120 Mb
- But…..not yet on large scale
- Question: what will boost large scale roll-out of ultra broadband?
  - Demand or competition?
  - Or both?

OPTA

# Competition and innovation

- Competition has always drove innovation and investments in high broadband services in NL
  - Via open access model on copper network (ULL)

    in combination with
  - competition on cable network services
- Large penetration of broadband access will lead to more broadband application and services (in the value chain)
- Finally broadband becomes a basic need for most customers and legacy networks (lower speeds) will not be interesting for most customers.
- Technology innovations lead to continuously increasing the broadband capacity.
- No winner takes it all scenario, but there seems more focus on FttH (than on FttC) to replace ULL-based services.
- Continously investments in NGN are crucial for competition-scenario.

# OPTA's approach on NGN investments

- Regulate Passive Fibre Access (ODF Access), and no regulation for WBA (over fibre)

- Create longer term certainty about tariff regulation
  - Considering "Policy Rules for NGN Access tariff regulation"

- Create possibilities for current infra-investors to transfer towards fibre-based services
  - Transition arrangement ULL
  - Cable resale option

# Conclusions

- Network competition (with open access) is best case scenario for innovation and investments in ultrabroadband services
- Cable and Fibre Access networks seems to become the new competing access networks
- Continously investments in NGN are crucial

- The challenge for regulators is to stimulate investments in (ultra broadband - NGN) infrastructure but also preserve the existing network competition with open access.

OPTA