




Gemeente Amsterdam
Ontwikkelingsbedrijf

The Amsterdam fiber network

"working towards the Lisbon goals"



*Porto, oktober 26th, 2004
Dirk van der Woude,
project leader Citynet Amsterdam*



A title badly chosen?

- “Implementation Lisbon policy is a big failure.”

Romano Prodi, october 24, 2004



- The EU's reform agenda risks to become a "synonym for missed objectives and failed promises".
- The EU economy has fallen further behind the US in the past five years.

Wim Kok report to EC, november 2004





Fiber in the Netherlands

	Homes	Remarks
Eindhoven	2,000 (8,000)	Central government project, heavy funding (45 M€). Local follow up. Very delayed project, high brow discussions killed sweaty work.
Nuenen	7,800	Local project, central government funding. Local government proud, but hardly involved.
Rotterdam	4,000	(2004) Local project, network 100% owned municipality, exploitation private. Local government initiator, matchbroker
Utrecht/Soest/ Nijmegen/ Arnhem/Leiden	60,000	Housing corporation + builder/investor, triple play. € 50/month (VAT incl.): 10 Mb symmetric, 40 TV (analogue or digital), VoIP. Local governments hardly involved.
Amsterdam	40,000	Fiber-to-the-Meterbox, later more
The Hague, Tilburg, Deventer, Leeuwarden, etc.	hundreds	Different types of PPP's, different roles of (local government) <ul style="list-style-type: none">▪ Cityrings▪ Fttl for care- and/or education institutes▪ FttC, FttH



Almere FttH

- private-public partnership
- aug. 2004: pilot, 250 homes
- roll out 2004/2005: 8,000
- Triple play € 80/month (VAT incl.)
 - 10 Mb symmetric
 - 70 TV channels
 - telephone (VoIP)
- Role of government:
 - proces coordinator
 - small investor
 - political advocacy



But: greatest Dutch fiber success: rural!

- **Nuenen** (Noord-Brabant province, near Eindhoven (pop 35.000))
 - Rural / semi-urban part of the Netherlands
- **Fiber project of social housing corporation**
 - plus large investor
 - plus central government spend per household € 500 for connection
 - Contract open to 7,800 households
- **start july 1st, 2004**
 - august 31: 97% of households had signed contract
 - september: first connections live
 - december: roll out complete
- **price after 1st year appr. € 50/month (VAT incl.)**
 - triple play



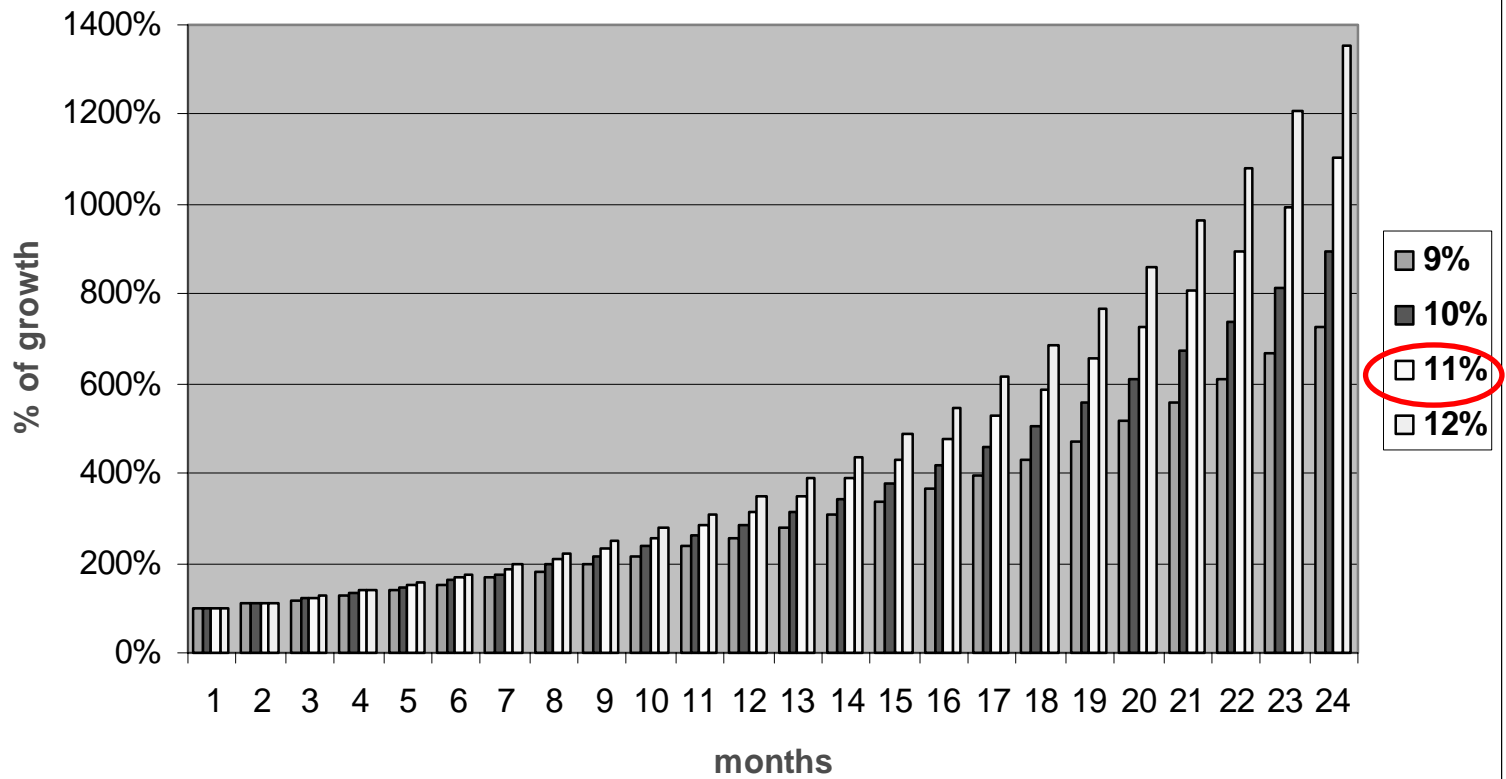
Aims & considerations local government

- Internet-penetration
 - Homes appr. 80%
 - Age: age 12 – 18 »95%
 - Midband-penetration: Amsterdam »55%
- Existing networks nearing technical end
 - **Amsterdam: memories of telephone crisis 1986/1987**
 - claims of upgradeability manifold – not implemented
 - f.e. high speed cable *pilot (!)* started only october 2004
- Roll out fiber will take 5 – 7 years
 - Little time left...
- No new digital divide
 - all meterboxes of Amsterdam connected
- Leaving existing vertical integration
 - maximum access for old & new providers delivering old & new services
- Open access for all service providers
 - Liberalized market at last



Users outpace existing capacities

Growth per month of data traffic Amsterdam Internet Exchange





Owners existing networks remain inactive

- Attractive cash flows copper & coax
 - why invest now?
- Few incentives towards innovation as admission threshold for new parties is high
- Fiber is the natural generic infrastructure
 - But it heralds the technical commercial end of existing infrastructures

NB: circumstances in the Netherlands

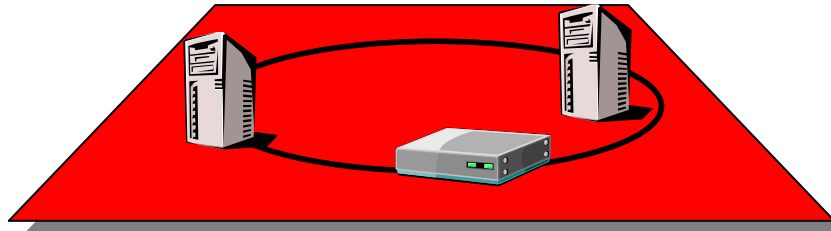


Amsterdams' three layers model

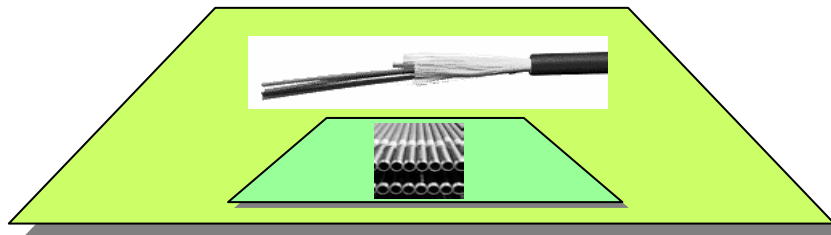
service providers
investor: market



active infrastructure
investor: market

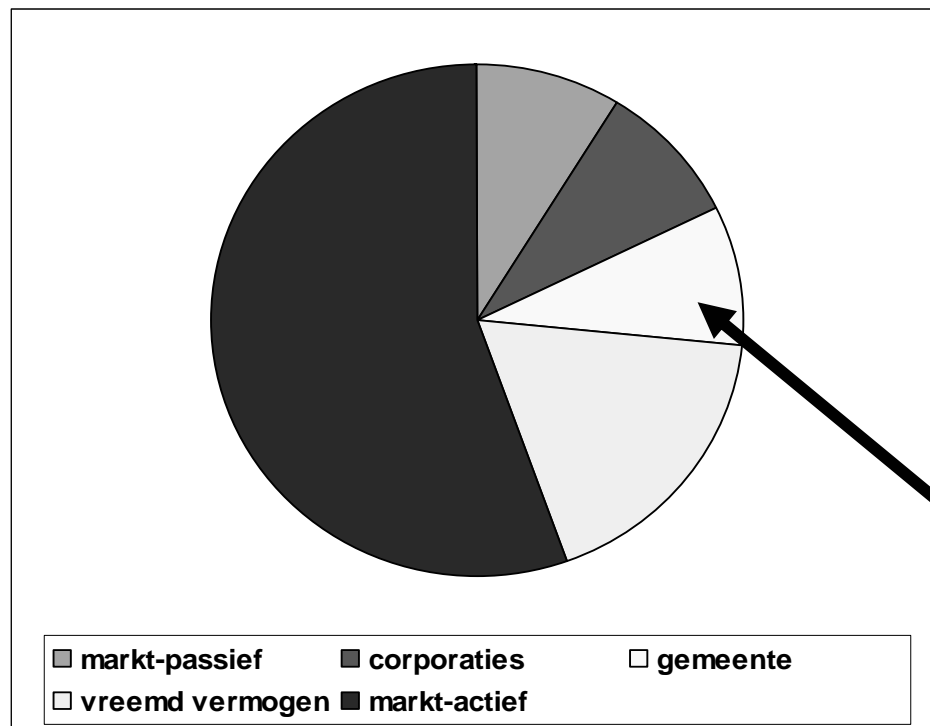


passive infrastructure
loan capital, private investors,
City of Amsterdam (20% total capital)





Financing the first 10% of the Amsterdam network



- **Passive layer 44 %**
 - Shareholders equity 60 % (risk bearing!)
 - Market 67 %
 - Municipal 33 % (limited!)
 - Loan capital 40 %
- **Active layer 56 %**
 - Market, risk bearing
 - No government guarantees or risks
- **Of total investment on 1st 40,000 meterboxes:**
 - 90 % market
 - 10 % local government
- **Leaving 410,000 meterboxes to be connected by market**



Not all bandwidth is equal

- “My tuned up scooter equals your Mercedes, both can drive 80 km/h and faster”

Quality aspects

- What bandwidth guarantees?
 - Consumer aDSL: 2,5 to 4%
 - 100% certainty at extra cost: 1024/512 kbps : € 560,- (incl. VAT)
- Symmetric bandwidth?
 - not available
 - so no service development



So what does one call broadband?

The Lisbon strategy aims at competition with US, South-East Asia. They're fiberizing - seems time that we get ourselves some new definitions!

A proposal from Amsterdam:

- Smallband: up to 512 Kb/s, asymmetric or symmetric
- Midband: up to 10 Mb/s, **asymmetric**
- Middle broadband: up to 10 Mb/s, **symmetric**
- Broadband: 10 Mb/s and more, **symmetric**

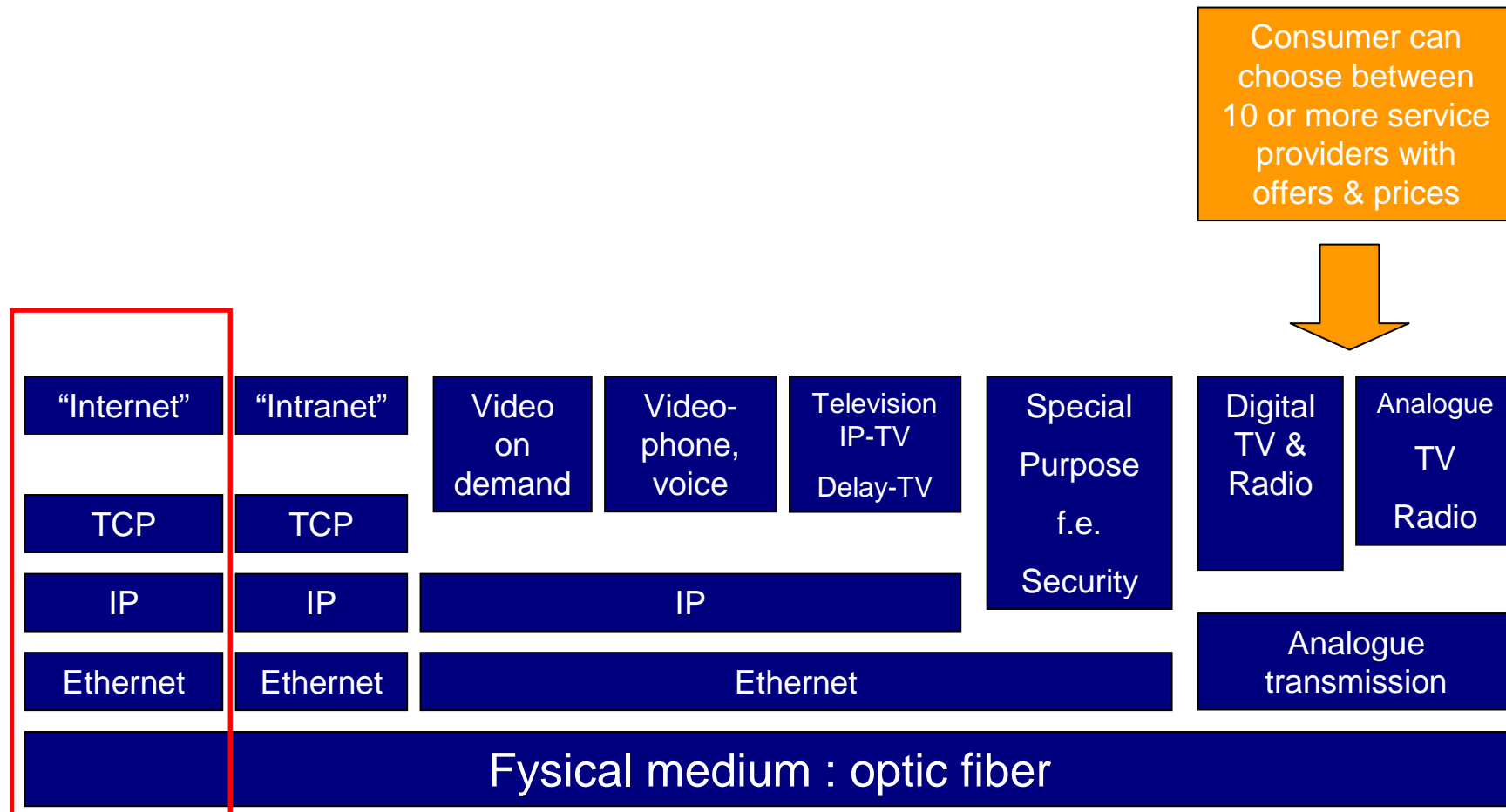


High-quality generic and open communication-infrastructure

- Future proof, robust towards innovation
- Everywhere & generic
- Low threshold accessibility
 - through scale and competition low consumer cost
- Open network, maximum room for competition
 - commercial services in actively free competition
 - as well as for social services
 - Citynet as a metropolitan intranet
- Room for innovation
 - competition as driving innovative force



Much more than Internet alone...





A network to give wings to competition

- The implementation of a truly open, ubiquitous, fiber optic based access network
- Always start from perspective of the end-user, not from backbone perspective
- Access network is the missing “First Mile”
- Use existing fiber/duct capacity where possible for backhaul and interconnect of POP locations
- The decision will be based on economical and operational criteria only



Freeing the network

- Maximize entrance for service- and content providers to offer services to customers and to develop new services for customers
 - With the lowest possible threshold or barrier
 - In an open market with a level playing field
 - Within economical, technological and practical limitations
 - Prevent vertical integration that will limit openness and free choice
- Unlock for everybody the cheap and abundant capacity of the fiber optic network within Amsterdam
 - Intranet/Citynet (on-net) bandwidth can be offered much cheaper than Internet (off-net) bandwidth
 - There is immediate demand for low-cost/flat fee services for direct everyday use, like Inexpensive flat fee two-way high quality video communication



Private-Public Partnership

- It includes optimizing the design, its engineering, the marketing, and business case
- A true partnership demands that only a limited number of non-negotiable objectives are set
- Includes acceptable business case for all parties involved
- The optimal solution will be fine tuned in a dialog with the market and with technology partners
- An integral (and confidential) blueprint has been developed
- A large amount of details have been investigated including trends, technological developments, designs, business models, marketing models, engineering issues, operational issues etc.



Truly open ubiquitous fiber access network

- Maximize the free choice of end-users in use of the network and in the selection of services, service-providers and content-providers
- With the lowest possible threshold or barrier
- Includes uses of the network for basic communication and peer-to-peer communication by end-users
- Within economical, technological and practical limitations
- Prevent vertical integration which will limit openness and free choice



Summing up: the role of government

Local

- Think ahead, develop vision end knowledge
 - Longer term than companies can or dare
- Act
 - Direct the match breaking process
 - Assemble and unite stakeholders
 - Organize first mile partners (care, education)
 - When necessary: invest (within 'Altmark' legal framework) in catalyzers
 - Especially when a ROI can be calculated within 5 years

National

- Develop a policy on dealing with a new natural monopoly
- In between control copper & coax alike

European

- Enforce & implement & **control** electronic communication legislation



Gemeente Amsterdam
Ontwikkelingsbedrijf

see you at www.citynet.nl

