

# The Role of Government in Developing Broadband

- An Incumbent 's Perspective -

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# Topics Covered

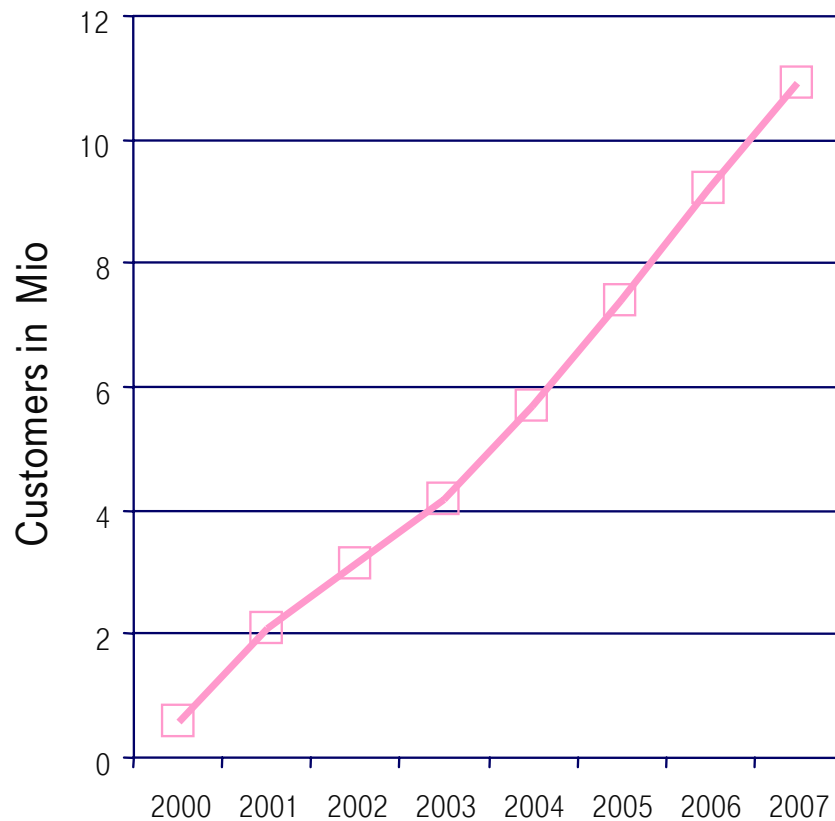
The Development of Brodband in Germany and its Prospects

The Need of Private and State Cooperation

Conclusions

# Bringing Broadband to the People: The Success Story of T-DSL

## Development of subscriber



### Reasons for the most successful product launch in DT 's history:

- Internet hype
- Marketing
- Attractive prices
- Sufficient bandwidth (768 kbit/s)
- Political support (e.g. T@School)

# Temporary Slowdown, but Turnaround Ahead

## Reasons for temporary stagnating growth rates:

- High ISDN-penetration (10 mio subscribers, 100% coverage)
- Price increases due to regulatory intervention (from 5 € to 17 € within 3 years)
- Slow development of mass relevant broadband content
- No cable take off because of fragmented markets

## Forecasts

- Government and Consultants see a potential of 20 mio broadband users in Germany for the year 2010
- Improved quality (up to 3 Mbit/s for the mass market)
- Active wholesale strategy of DT (Resale T-DSL was introduced in July)
- Growing supply and demand of German Broadband Content

# Specifics of the German Broadband Mass Market

## DSL is sold by network operators

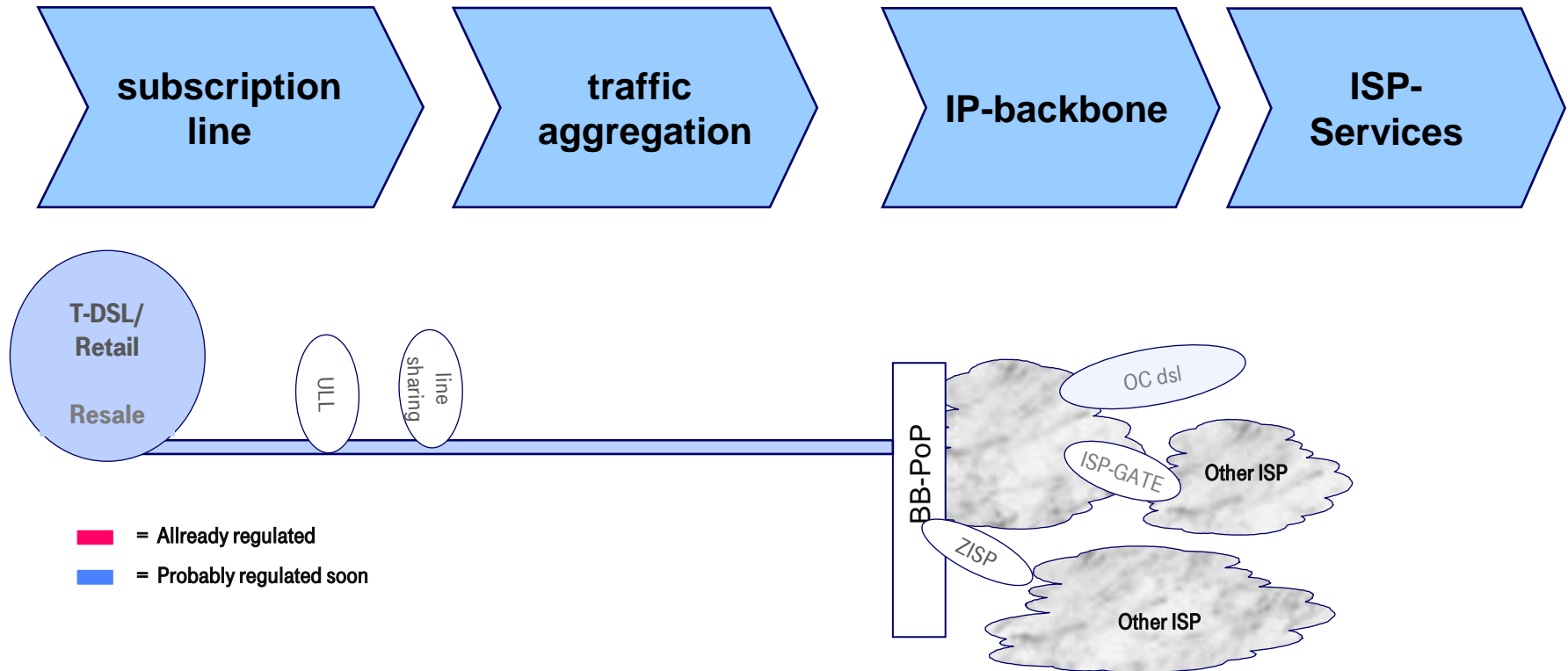
- „ISP by Call“: customers can choose between different ISPs
- ISP so far act as a sales channel for T-DSL

## DSL-competition is mainly ULL-based

- Most of the almost 2 Mio ULL are used for broadband
- Every second household can choose between different operators (strong competition on the country side, too)
- Quality (e.g. available bandwidth) is a main differentiator

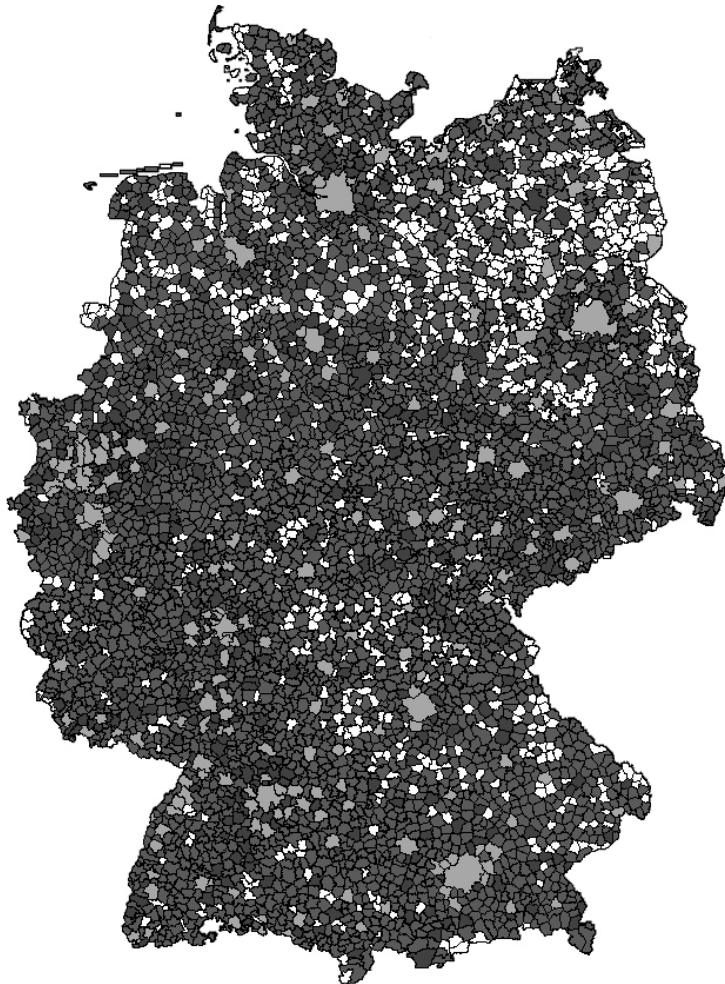
## The main part of the broadband network is IP, not ATM based

# Broadband Regulation in Germany is Among the Toughest, Because Most Prices are Cost Based



# Coverage: About 90 % of German Households Can Get Standard T-DSL

## The German „T-DSL Map“



Limits to additional xdsl-coverage:

1. Length of the copper wire
2. All fibre-loops of the 90s, not compatible with xDSL
3. Insufficient regional market potential

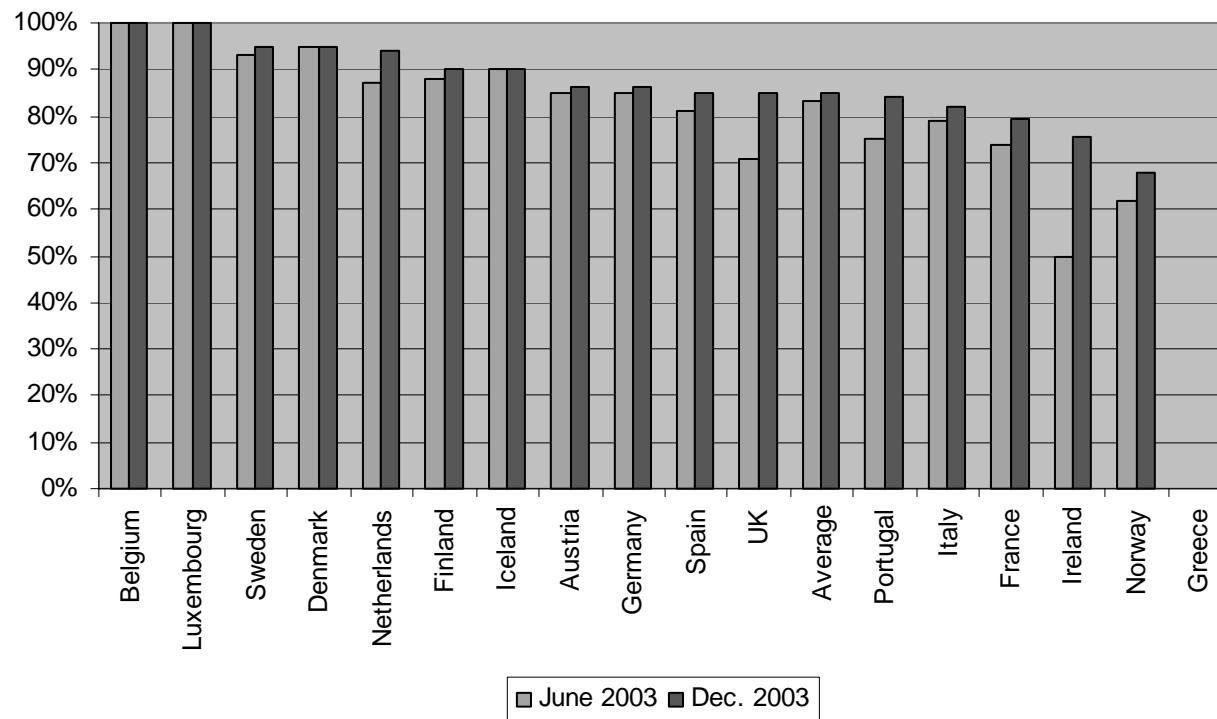
Of course, the three problems occur at the same time in certain regions!

# Alternative Technologies for a Better Broadband Coverage

<u>Cable</u>	-> fragmented market structure
<u>T-DSL via satellite</u>	-> 100% coverage, but inconvenient
<u>sDSL</u>	-> business product
<u>Mobile</u>	-> under construction
▪ UMTS	
▪ publicWLAN	
▪ WIMAX	
<u>Powerline</u>	-> ?

# Backup: Coverage in Germany is Good Compared to Similar Countries

## International Comparison of Broadband Coverage



# German „e-Federalism“ Has so far Failed to Be a Driver for Broadband Growth and Coverage

## eGovernment


- Many regional initiatives
- Mainly information services, limited supply of real public services

## eLearning

- Many local initiatives
- Focus on hardware, not on „net-working“

## eHealth

- Many regional projects are launched in a highly regulated and politicized health market
- Many highly sensitive issues (e.g. security) are still to be discussed



A lot of money spent,  
still limited acceptance  
without convincing vision

# The Development of Brodband in Germany and its Prospects

## The Need of Private and State Cooperation

### Conclusions

# Alternative Technologies Have to Be Tested to Optimize Coverage

## Problems:

- Cost explosion as xDSL coverage comes closer to complete coverage
- Free Rider Problem of investing and testing alternative technologies in an highly dynamic context

## Solutions:

- Regionally limited and subsidized tests of WIMAX etc.
- Regulatory relaxation for emerging markets

# Regulation is Always in Danger of Setting the Wrong Incentives for Innovation and Investment

## Problems:

- In a dynamic technological context the risk of innovation is not taken if the possibility of gaining additional market share is low
- „Consistency of regulation“ often leads a regulator to apply classical regulation to new markets and thereby destroying incentives to invest
- In the long term infrastructure makes the difference

## Solutions:

- Regulatory safeguards for innovations (similar to a patents)
- Regulatory safeguards for longterm infrastructure competition
- Different remedies for emerging markets if needed at all

# Public Broadband Services Have to Be Bundled in Order to Create a Push for Broadband Demand

## Problems:

- Political fragmentation does not lead to common standards
- Productivity and network advantages of broadband services are not deployed
- „Learning Broadband“ is delayed
- Critical mass for broadband services is delayed

## Solutions:

- Political coordination with common basic standards
- Political Organisation of „Competition for the Market“
- PPP that are able to induce a snowball effect

# Broadband as a Basis Infrastructure for Regional SME Should also Be Promoted Through an Joint Effort

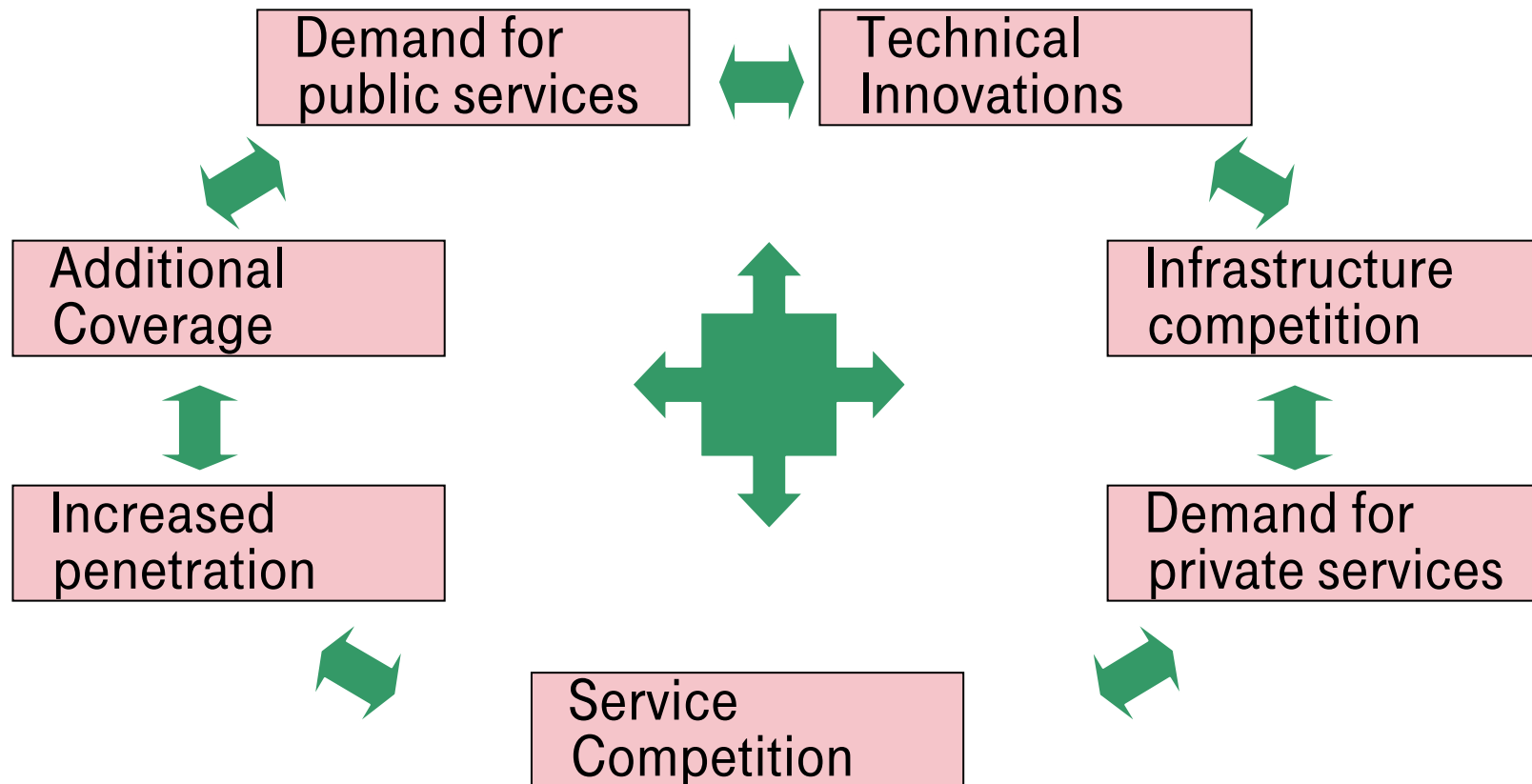
## Problems:

- Telecommunication-infrastructure is an important cost factor for SME. Attractive supply of broadband services can foster agglomeration tendencies
- Longterm financing of development projects is too risky
- Universal service obligations cannot meet the purposes of locational competition

## Solutions:

- Public funding is necessary for solving the initial financing issues
- PPP can help to signal a reliable and attractive environment to potential investors and help clustering
- But: At least in Germany subsidizing structural weak regions is already extensive.

# Because Market, Policy and Regulatory Issues are Correlated with Each other a „Masterplan“ Is Needed



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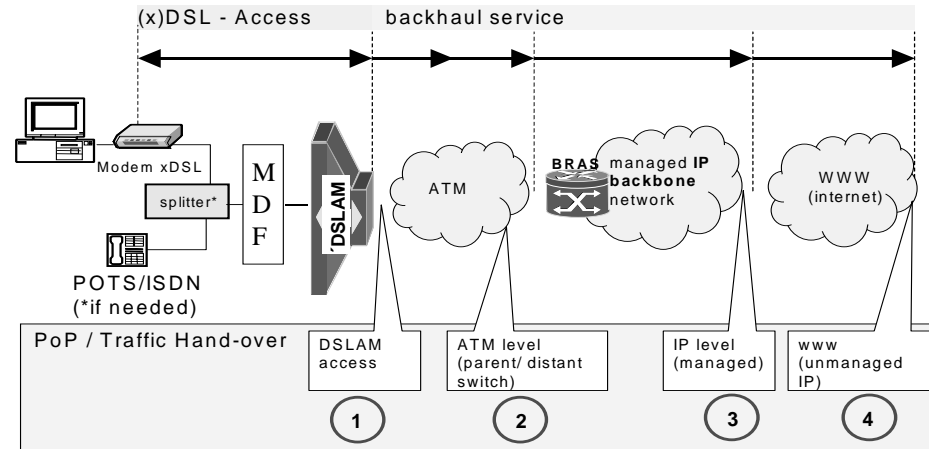
Conclusions

# Suggestions for Promoting Broadband

- When thinking about promoting broadband in rural areas specific national environments have to be taken into account
- Market, policy and regulatory issues have to be solved simultaneously
- The market cannot not solve the coverage and penetration problems completely by itself at this stage of broadband development.
- PPP (SME, eLearning, eGovernment) in order to accelerate technical progress and learning effects can have a significant impact on broadband in rural areas.
- Taken the dynamics of the environment into account, policy should allow for „institutional competition“ in order to induce a discovery procedure

# Backup: Different Network Topologies

EU-Standard



Deutschland

