

Keeping pace with technological developments and their impact on regulation

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Overview

- Technology roadmaps
 - ◀ Market research
 - ◀ Benchmarking
- Competence building
- Involvement of Academia
- Setting up of regulator-industry-stakeholder institutions



2

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Technology Roadmaps

- ◀ Dramatic changes in technology have taken place since design of the liberal regulatory framework in the 90s – and is ongoing
- ◀ Criteria for detection of major technological trends:
 - Bandwidth/ capacity
 - Cost
 - Scalability
 - Flexibility
 - Mobility
 - Innovativeness



Technology Roadmaps:Major Technological trends

| | Bandwidth | Cost | Scalability | Flexibility | Mobility | Innovativeness |
|--------------------|-----------|------|-------------|-------------|----------|----------------|
| IP | | X | X | X | | |
| Mobile | | X | | X | X | |
| NGAN | X | X | | X | | |
| Convergence | | X | | X | | X |



Technology Roadmaps: Benchmarking vs LRAIC

- ◀ LRAIC has a tendency to increase access 'costs' for alternative operators above the regulated market price
- ◀ Benchmarking as check
 - Price development in other countries: level & trend
 - Prices in the national LRAIC-model compared with model results in other countries: level & trend
 - Price effect of introduction of LRAIC



Market research

-EU Market surveys – Ex.: Denmark

| Market | Real competition | SMP Suppliers |
|--|------------------|--|
| Retail | | |
| 1. Fixed subscription, private | No | TDC |
| 2. Fixed, business | No | TDC |
| 3. Domestic traffic, private customers | No | TDC |
| 4. International traffic, private | No | TDC |
| 5. Domestic traffic, business | No | - |
| 6. International traffic, business | Yes | - |
| 7. Minimum basket of fixed circuits | No | TDC |
| Wholesale | | |
| 8. Fixed access | No | TDC |
| 9. Fixed termination | No | Consorte, Colt, TDC, Tele2, TeliaSonera og Sonofon |
| 10. Transport | No | TDC |
| 11. Ubundled access | No | TDC |
| 12. Broadband access | No | TDC |
| 13. Terminating segments of fixed circuits | No | TDC |
| 14. Backbone segments of fixed circuits | No | TDC |
| 15. Mobile access | Yes | - |
| 16. Mobile termination | No | TDC, Tele2, TeliaSonera, Sonofon og 3 |
| 17. International roaming | Yes | |
| 18. Radio- & TV transmission services | ? | |



Competence building

- ◀ Courses and focused workshops to update and upgrade competencies
 - Informed knowledge: Relate with academia/ industry of below
 - 'The ICT Regulation Toolkit'



7

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Involvement of Academia

- ◀ Independent analysis
- ◀ Second opinions
- ◀ Advisory Boards



8

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Setting up of regulator-industry-stakeholder institutions

Idea: To enable & facilitate the regulatory process

- ◀ Development of Community of Interests
- ◀ Technology Task Forces
- ◀ Link with other government agencies
- ◀ Institutions for Public Hearings
 - Response mechanisms
 - ◀ Meetings
 - ◀ ICT: Interactive web

