The German Telecommunications Market in 2000/01

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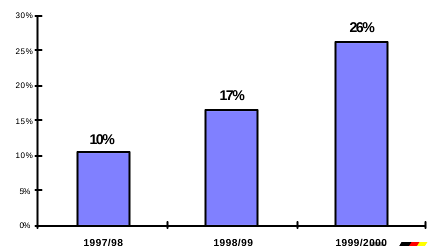
Major Trends in Telecommunications in the Year 2000

- Dynamic growth is continuing
- The competitive environment is flourishing
- The local loop bottleneck has not yet been eliminated

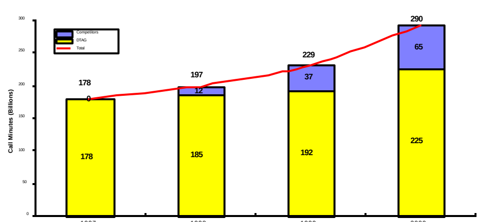
1. Dynamic Growth is continuing

Dynamic growth in the telecoms markets is continuing unabated. Innovative products and services are driving up customer levels and volumes.

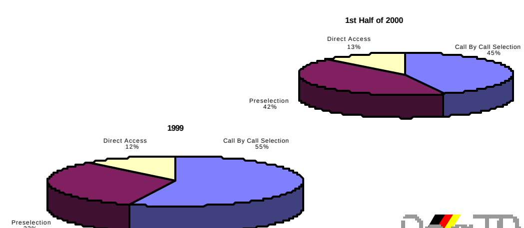
Annual Growth Rates in Fixed Network Traffic



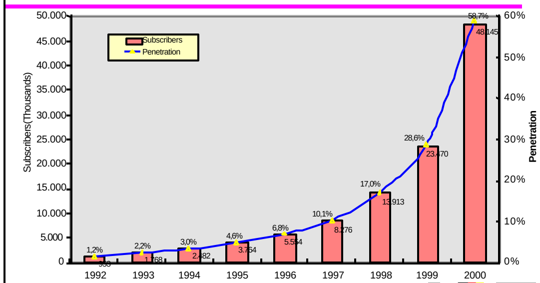
Call Minutes 1997-2000



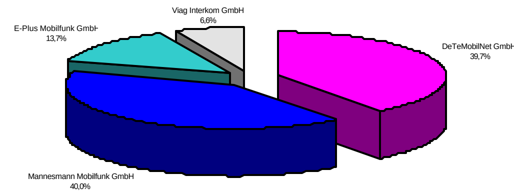
Customer Access to Alternative Operators



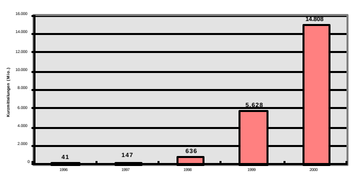
Mobile Subscribers and Penetration



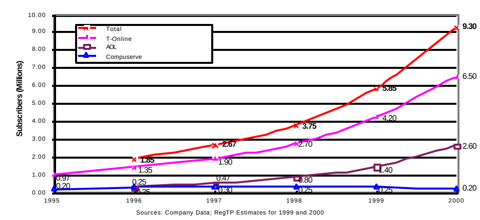
Mobile Operators` Shares of Total Subscriber Base (End 2000)



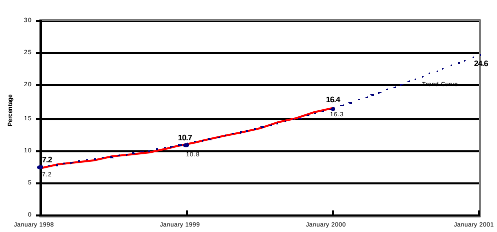
Development of Short Message Services



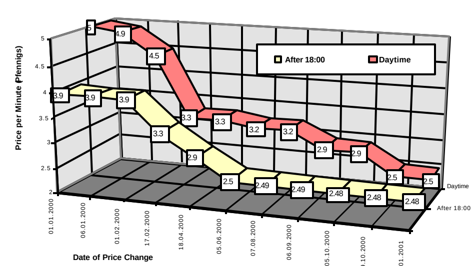
Internet Subscriber Growth



Percentage of Homes with Internet Access



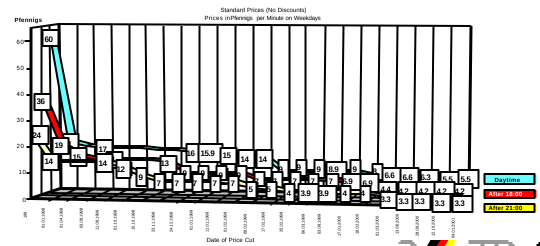
Minimum Prices for Pay-As-You-Go Internet Access



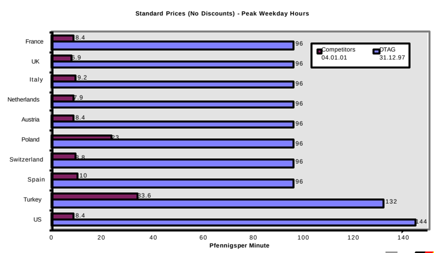
2. The Competitive Environment is flourishing

The work of the Regulatory Authority to spur competition and open the markets is now bearing fruit. Lower prices, more jobs and the promotion of technical innovation are benefiting the economy as a whole.

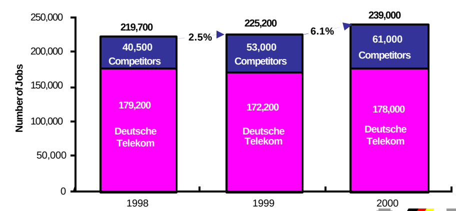
Minimum Prices for Fixed National Calls using Call-by-Call Selection



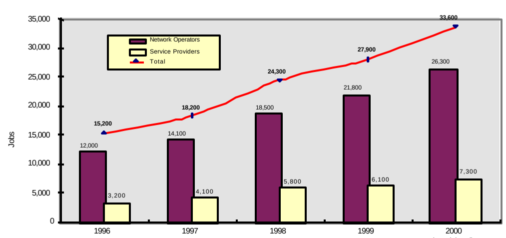
Prices for International Calls to 10 Major Destinations



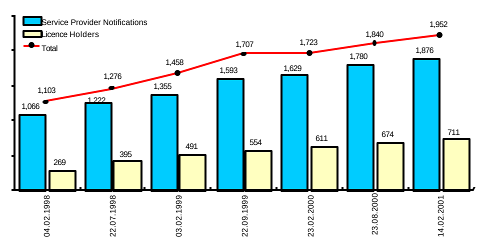
Job Trends in the Telecommunications Market



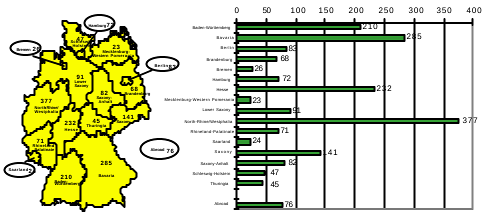
Job Trends in the Mobile Market



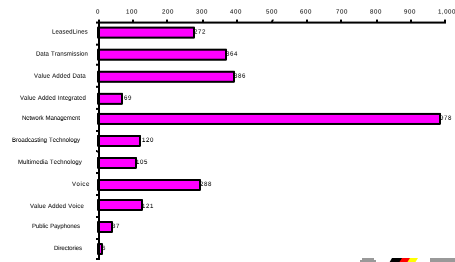
Growth in the Number of Telecommunications Service Providers



Regional Breakdown of Telecommunications Service Providers

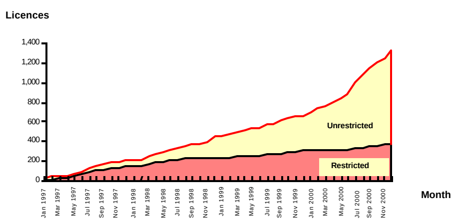


Fixed Telecommunications Services



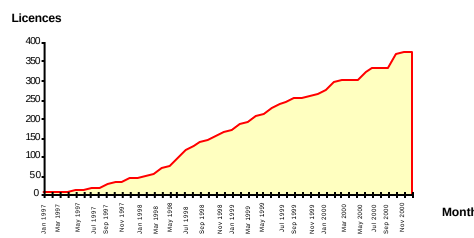
Licences Class 3

Total number of licences granted (modifications included), excluding broadcasting licences

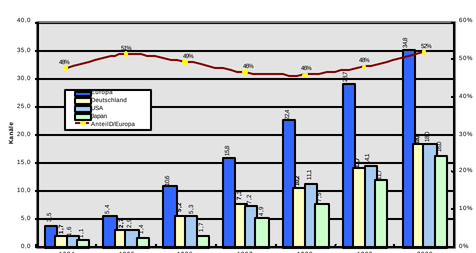


Licences Class 4

Total number of licences granted (modifications included)



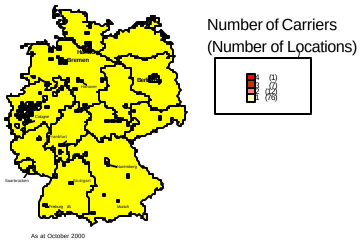
Development of ISDN-Channels - International Comparison -



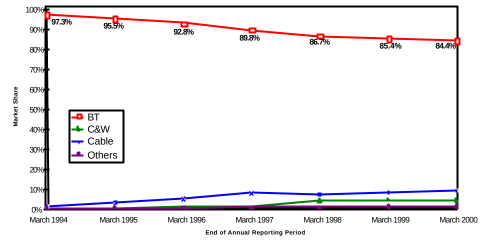
3. The Local Loop Bottleneck has not yet been eliminated

Regrettably, however, the real bottleneck is the local loop, where competition is still largely undeveloped. This area will therefore require the Regulatory Authority's special attention in the months ahead

Number of Alternative Carriers in Cities with more than 50,000 Inhabitants



BT´s Market Shares of Telephone Lines in the UK



Sources: Market Information 1994/95 to 1998/99, Oftel, January 2000; Market Information Update, Oftel, July 2000

Latest Reg TP-Decisions to foster LL Competition

- Unbundled Local Loop Prices lowered
- Basic Conditions of Line-Sharing pronounced
- Resale in the Local Loop allowed

UMTS is on its Way

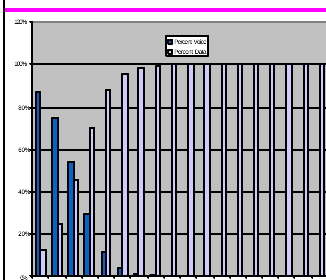
After the UMTS auction has ended, the winning companies aim is to built up their networks and to develop value added services as fast as possible.

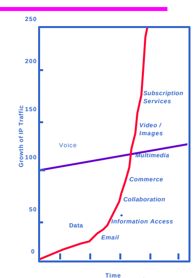
The UMTS – `Prediction´

„For many people all over the world, mobile phones may be their first point of access to the Internet. The mobile has the potential to emerge as the largest ever engine for Internet subscribers.“

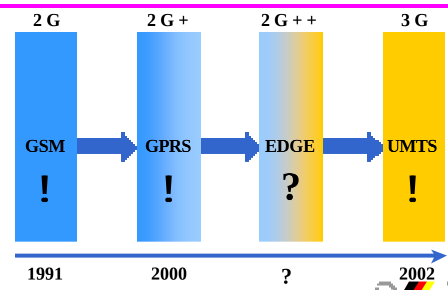
Andersen Consulting, eEurope 2000

Evolution (I): Changes in the Relation of Voice and Data





Evolution (II): Mobile Communications in Germany



M-Business Areas

Mobile Enter-tainment	Mobile Commerce	Mobile Information	Mobile Communi-cation	Mobile Support	Mobile Employee Services
Games Music Video Lotteries	Banking Shopping Auctions Ticketing	Common Sports Travels Finance	E-Mail Voice Chat Telemetry	Medicine Passport Member Services Loyality Programmes	Mobile Office Car Management Workflow Cordination

Business to Consumer ⟷ Business to Business

Evolution (III): The „Mobile“ Value Chain Changes

GSM	Access - Network	Transport - Network	Service - Providing	Sales and Distribution
	70% „Technical“ Area 40%		30% „Business“ Area 60%	
UMTS	Access - Network	Transport - Network	Service - Providing	Sales and Distribution

Future Player in Mobile Communications