

# Foundations for Utility Regulation in Africa

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# The telecommunications sector

## **Traditional:**

Network: Fixed copper, radio

Intelligence: Mechanical switch,

Services: Analogue, voice, fax

Market structure: monopoly by PTO's

Self regulation

# Changes

- Analogue ————— Digital compression
- Large mainframes ————— Miniaturization
- Mechanical/Electric ————— Packet- switching
- Separate technologies \
- Separate services ————— Convergence
- Fixed ————— Mobility
- Monopoly ————— Competition

# Telecommunications Sector

## Modern:

- Networks: Wireless, mobile, satellite,
- Intelligence: Software, packet switching
- Services: All features (compressed voice, data, video, internet)
- Market: Duopoly, public-private, private companies
- Institutional regulation

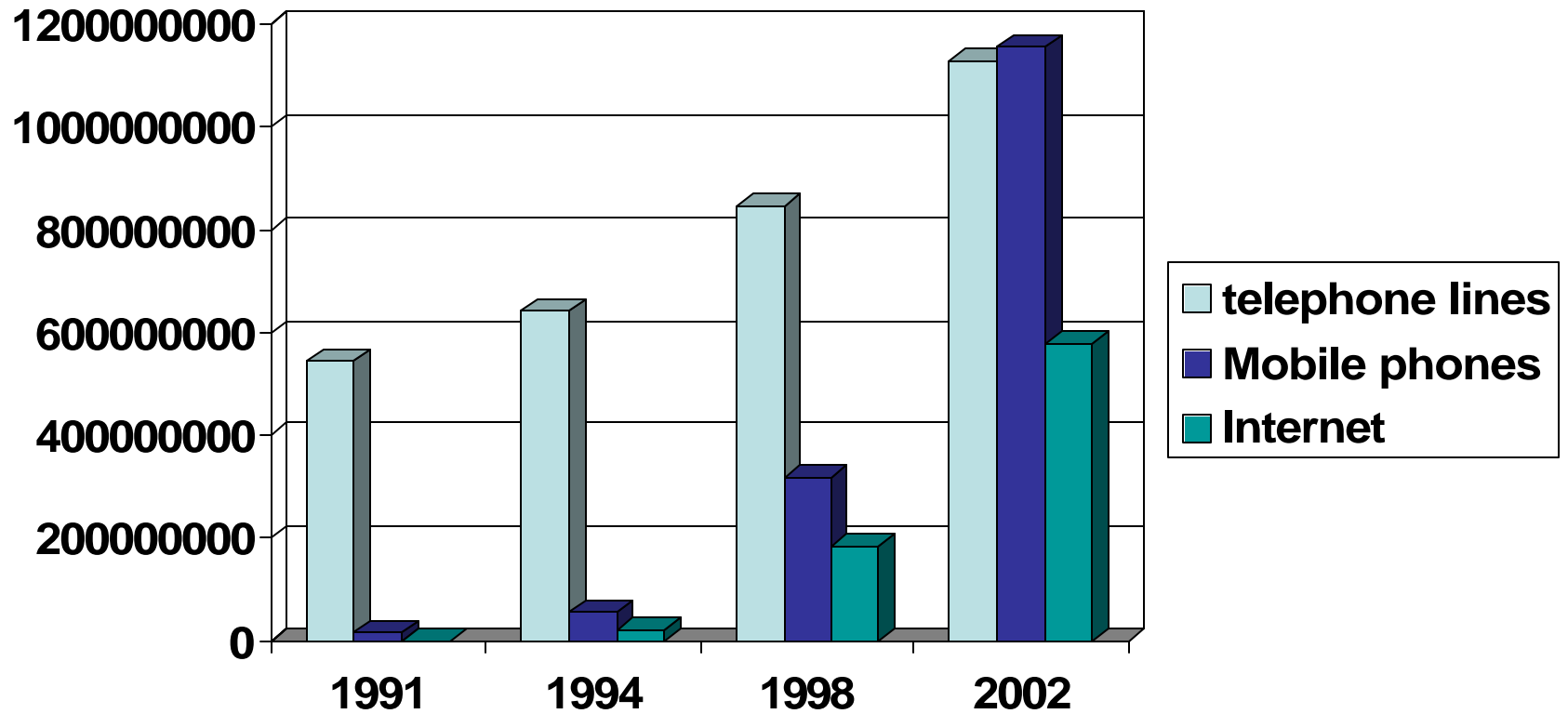
# Competition levels

- Terminal (Computer, mobile, telephone)
- Network layers (international, national and local loops, private networks)
- Services (email...2G,3G)
- Software
- Content
- Micro-chips
- Rise in retail service (ISP's)

# Trends

- Wireless growth (2 billion subscribers?) and increase in mobile revenue
- Support for GSM highest
- Drop in fixed line revenues
- Acute increase in internet demand and supply in developed countries
- Slow support for 3G

# Trends



Collated from the ITU 2003

# Regulation

- Terminal (type approval) .....minimal
- Interconnection.....max
- Network layers.....high rivalry –max
- Services.....minimal
- Software.....minimal
- Content.....max
- Micro-chips.....nonexistent
- Scarce resources.....max
- Anti-competition law.....max
- Quality of service.....max
- Prices.....max

