



Second National Operator (SNO) Pre-Bidders' Conference

*Safari Park Hotel
NAIROBI – 17th MARCH 2004*

Restructuring of the Telecommunications Sector

Factors of change for restructuring

Riccardo Passerini, ITU



Factor of change for restructuring

Impact of new technologies

Impact of mobiles

Impact of Internet

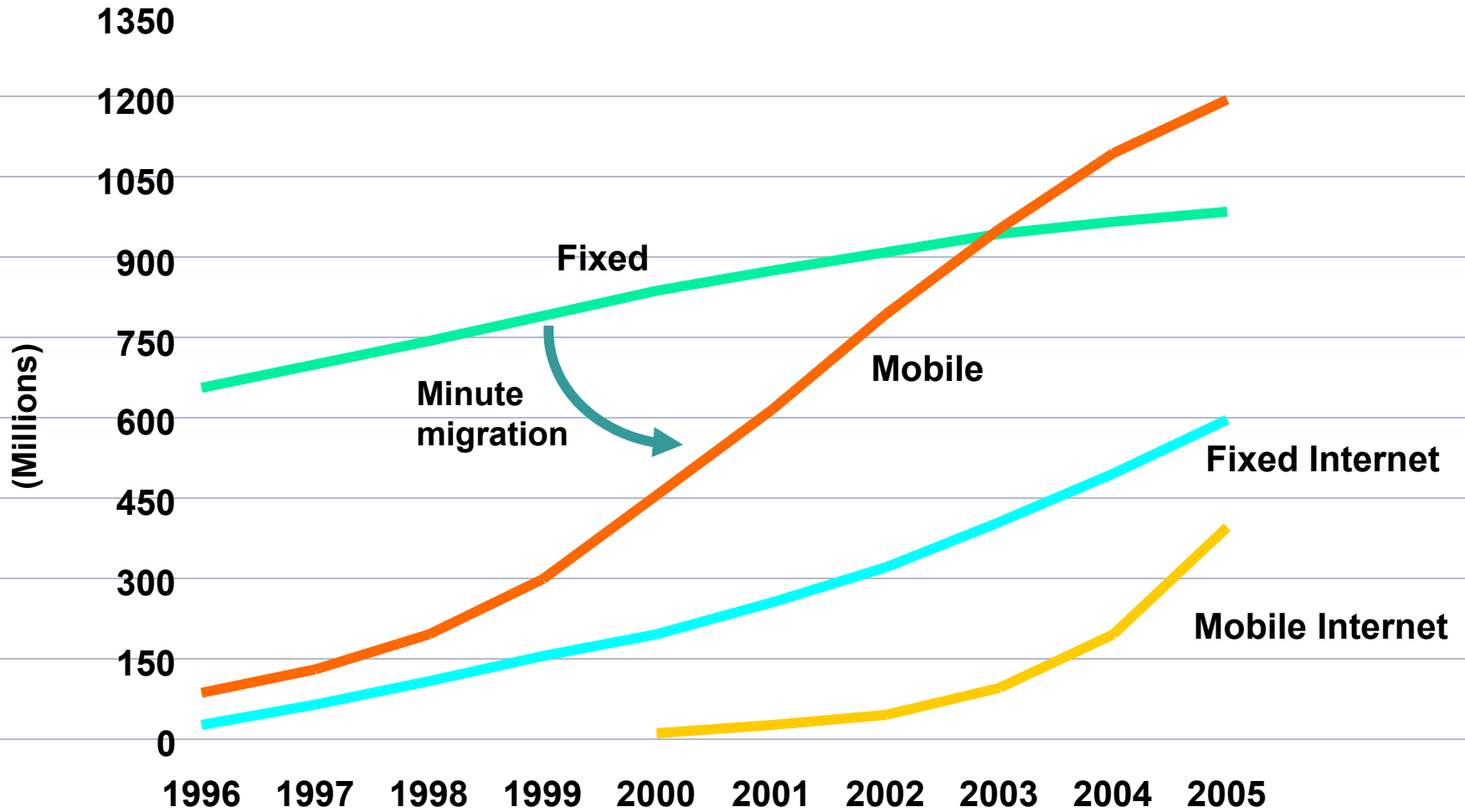
Digital economy

Networked society

Digital divide

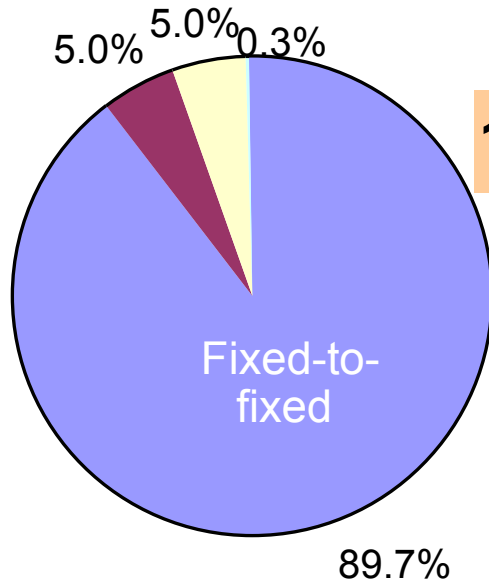


Subscriber Growth

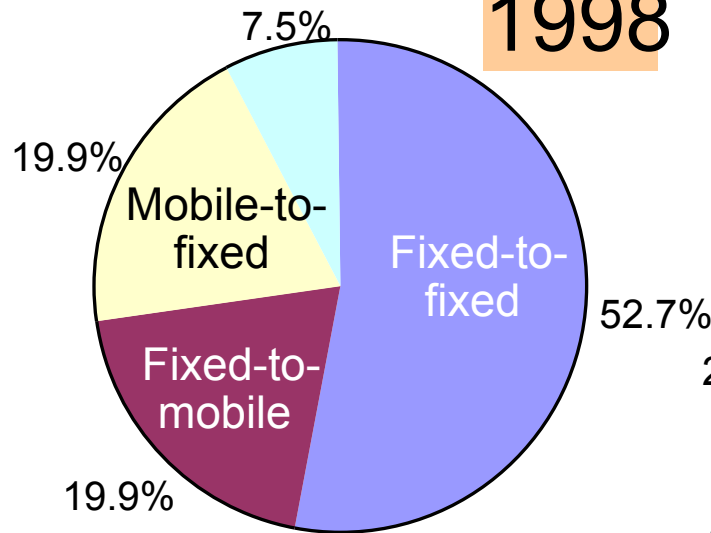




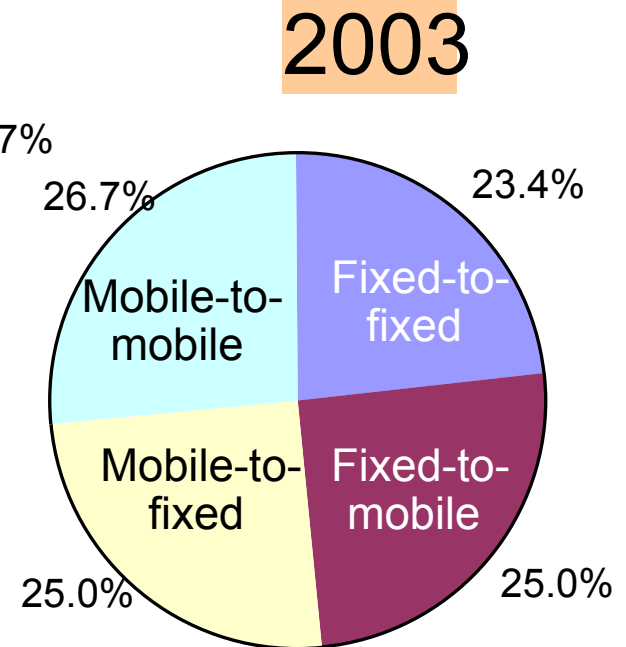
Calling opportunities worldwide



1993



1998

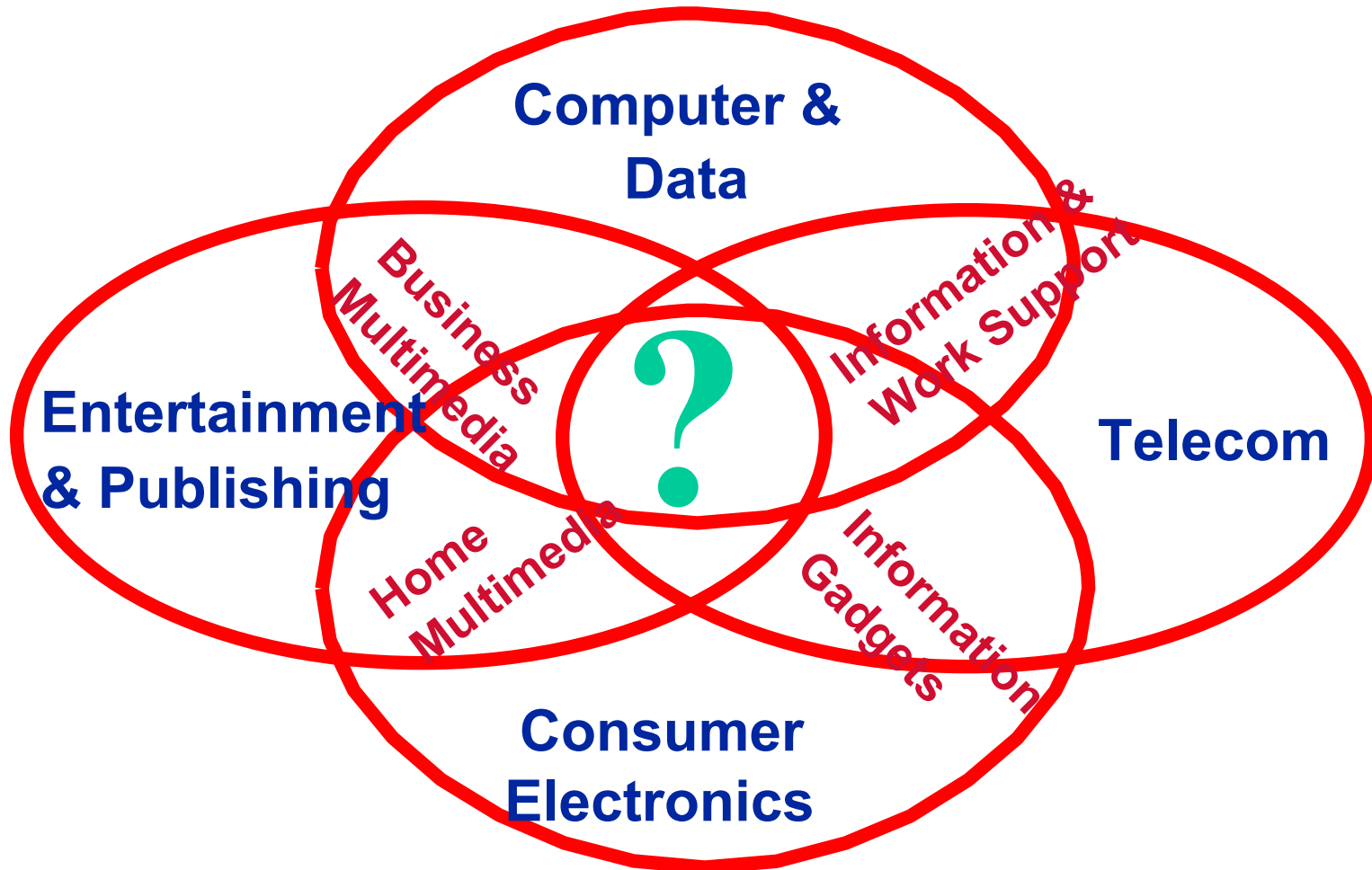


2003

Source: ITU Fixed-Mobile Interconnect website:
<http://www.itu.int/interconnect>



Convergence





Convergence

- The coming together of telecommunications, computing and broadcasting into information and communications technologies (ICT)
- Within telecom the convergence of voice and data and fixed and mobile services
- ICT uses same:
 - Technology used to code voice, data and video
 - Carrier for voice, data and video
- Expands the range and quality of services
- Requires broadband technologies
- Encourages the use of a single communications regulator



Paradigm Shift in Digital Economy

Shift from

- **Industrial society;**
- **Centralized control or regulation from regulators or monopolies in telecom;**
- **Significant market powers**

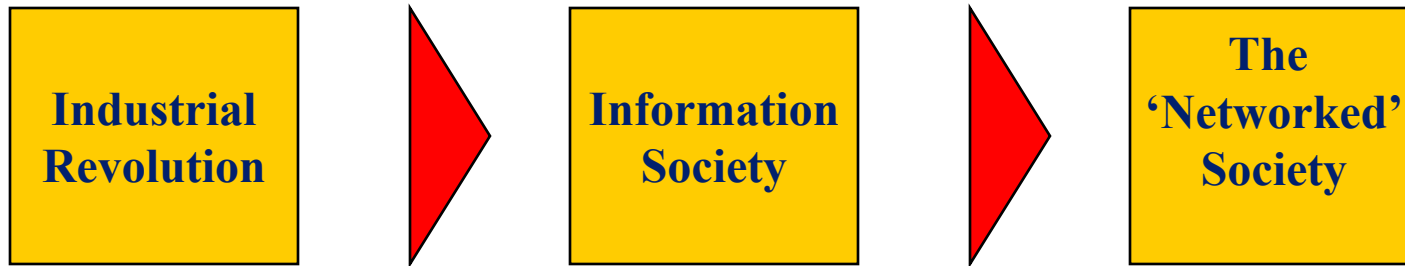


to

- **Information society with a knowledge-driven digital economy;**
- **Deregulated or privatized telecom; Industry-led self-regulation & power of individual users' fingertips over convergence of ICT, especially in the advent of Internet;**
- **Micro, small & medium-sized entrepreneurs esp. in the era of eBusiness or eCommerce; &**
- **Almost 'instant global village' connected by various technologies and services**



The emergence of the ‘networked’ society’



We are at the outset of a truly remarkable revolution where

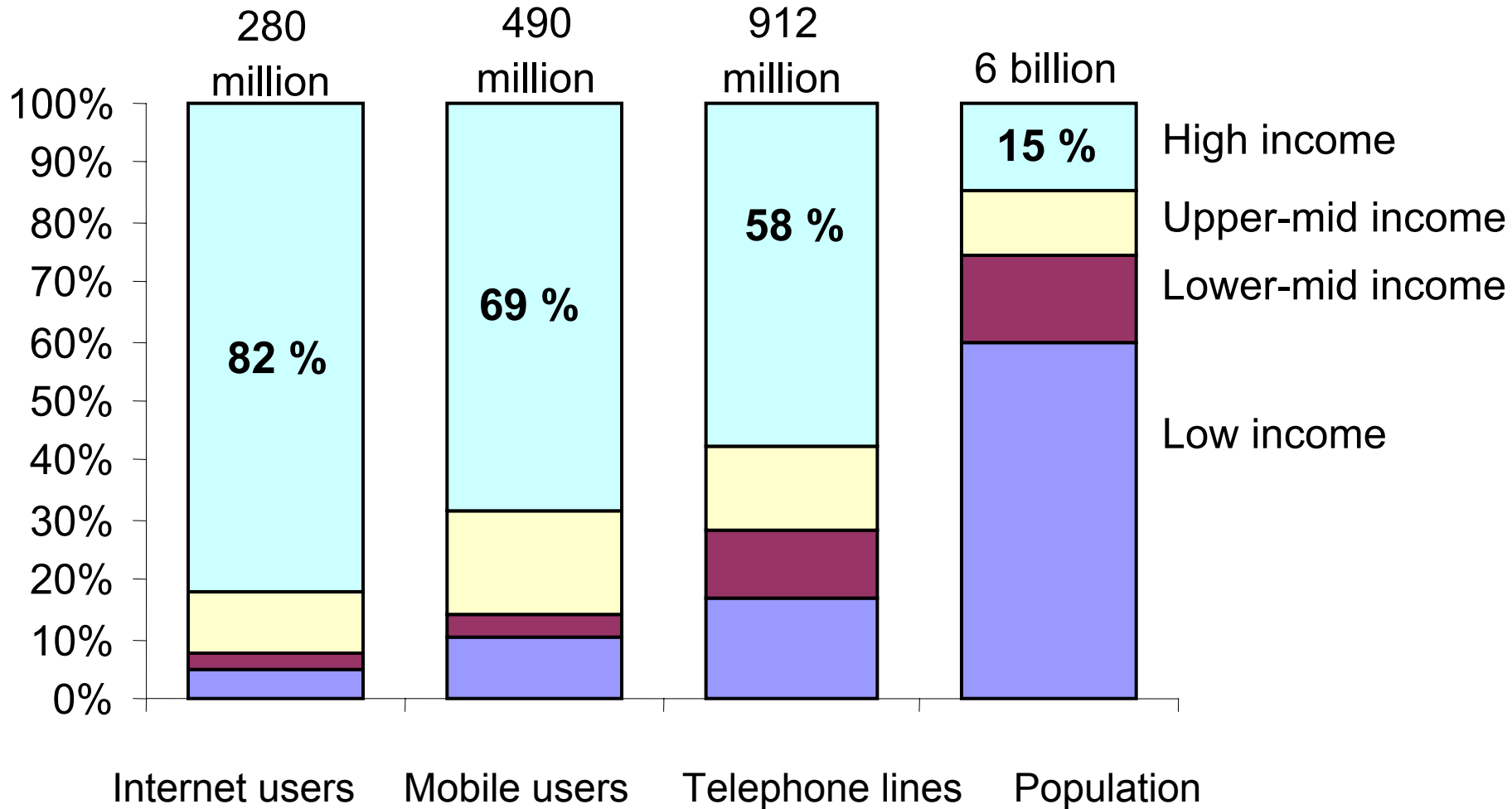
- **Anything that can be connected will be!**
- **Anything that can be digital will be!**
- **Anything that can become mobile will become!**

**Dismantling of traditional industry structures,
disaggregation of traditional business models,
a wealth of opportunities and considerable threats**



Digital divide = Telecoms divide

User distribution, by income group, Jan 2000



Source: ITU World Telecommunication Indicators Database.



The digital divide is shrinking, but also shifting

Share of low and lower-middle income countries in:

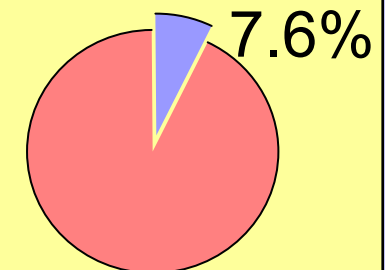
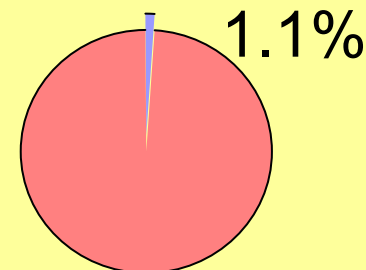
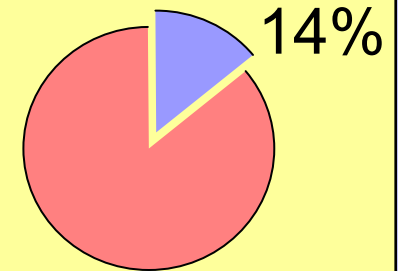
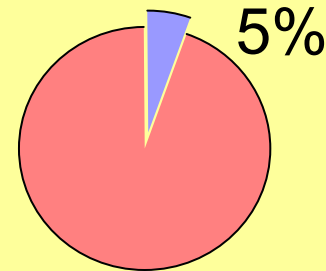
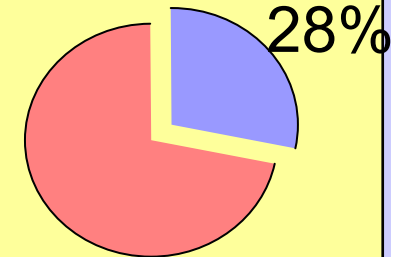
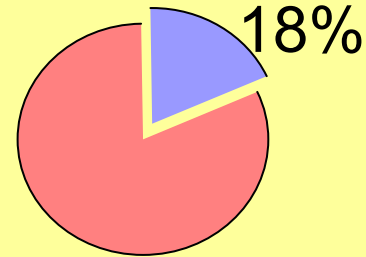
Telephone main lines

Mobile subscribers

Estimated Internet Users

Jan. 1995

Jan. 2000



Source: ITU World Telecommunication Indicators Database.



Second National Operator (SNO) Pre-Bidders' Conference

*Safari Park Hotel
NAIROBI – 17th MARCH 2004*

Restructuring of the Telecommunications Sector

**Objectives of the restructuring
of the telecommunications sector**



The growing importance of the telecommunication sector

Telecommunications are a crucial factor of efficiency for the administrations, public utilities and private companies.

- Synergy with computers for data processing,
- Faster information and better dialogue

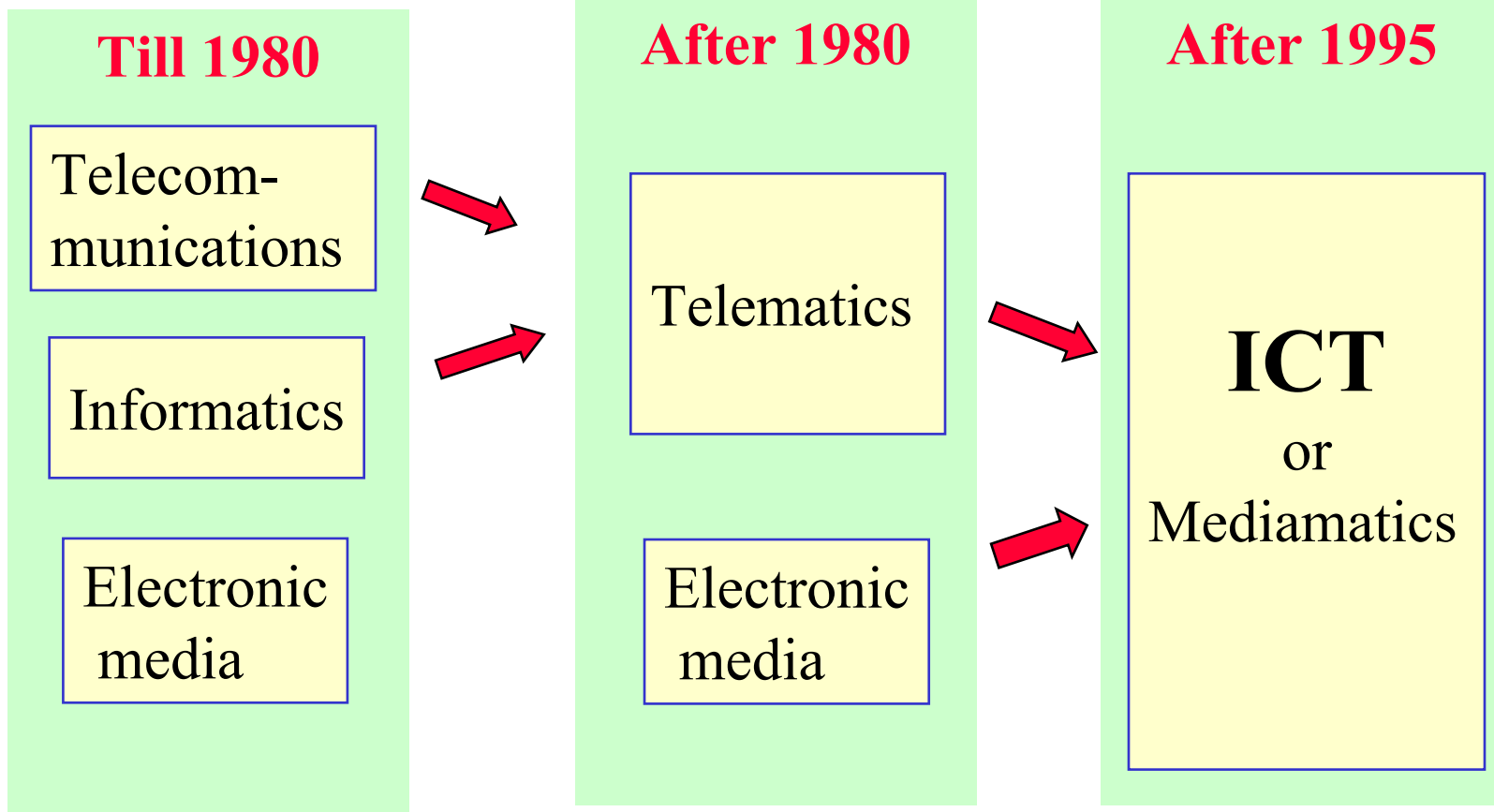
Telecommunications play a crucial role for increasing the competitiveness of enterprises:

- Better productivity and better services
- More jobs with added values with new services
- Less intermediary positions without added values



Results of convergence of ICT (Information and Communication Technology)

The telecommunications sector evolves in a broader « ICT » sector





Why restructuring: The past

- Telecoms Sector **used to be viewed as a Natural Monopoly** (due to large investments needed)
- **States considered it their responsibility** to provide telecoms service
- **Telecoms was not viewed as a business but rather a service**
- Hence emergence of Public Telecommunications Operators (PTO's) as State-Owned Enterprises (SOE's)



Why restructuring: Things have changed

- Governments **no longer put telecoms as their core activity** any more (whether willingly or forced by global and sectoral changes)
- Governments **have no capital for investment** in the sector. Have other competing priorities such as Health, Education, etc.
- Changing Industry Structure **from Monopoly to competition**
- **Need to attract Investment, Stimulate Innovation**
- **Acquire Technology**
- Failure of Monopolies to **meet social obligations**



Why restructuring: The reasons

- **Restructuring is necessary when monopolies are characterized by:**
 - **telecom is not central to governmental priorities**
 - **no capital for investment**
 - **poor network development**
 - **delay** for introducing new technologies and services
 - long waiting lists (**Unmet Demand**)
 - **poor technical and financial performances**
 - skill and technology shortag
 - **low productivity**



Shift from protectionist model to market access model

- telecom area of trade in which **non-state actors should be permitted**
- access to market non-discriminatory, level playing field and **end to cross-subsidisation**
- apply to telecom trade principles of **non-discriminatory market access; fair and effective competition;**
- **transparency in rates and regulations**
- **competition** between firms and countries in international services
- increased **foreign direct investment, strategic alliances and joint ventures**

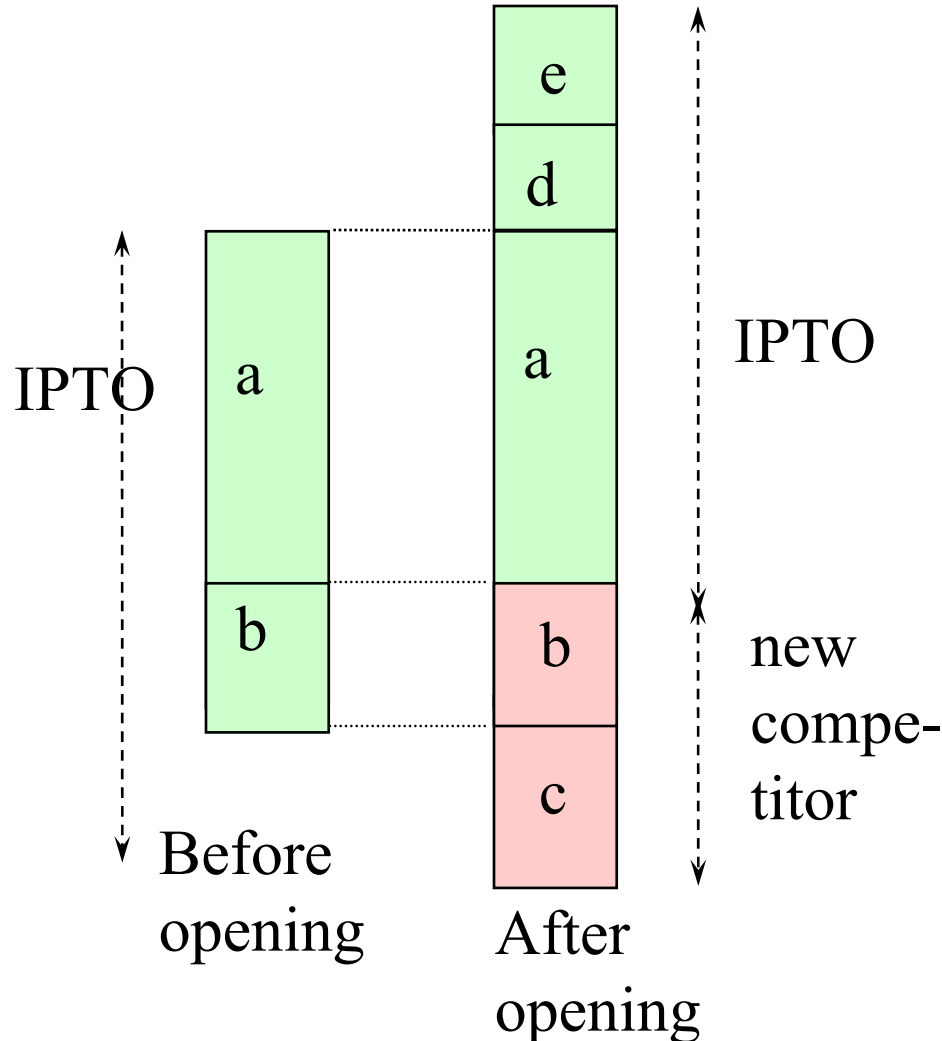


Objectives of the restructuring of the telecommunications sector

- **Attract financial resources** from international institutions and private investors in order to develop the network and services
- **Satisfy and Expand** the demand for a whole range of business and consumer services
- **Improve the welfare** of the population by increasing telephone penetration at affordable prices
- **Establish rules and conduct** of institutions and players in the telecoms market through Regulation
- **Improve the efficiency of the Incumbent Operator** and increase value to shareholders.
- **Improve the quality of service.**
- **Sharpen Business focus**
- **Withstand competition**



Risks and opportunities



- a = IPTO (incumbent public telecom operator) market share kept after opening
- b = IPTO market share lost after opening
- c = new market created by new competitor
- d = charge paid by new competitor to IPTO for using its network
- e = new market extension due to stimulation



International traffic :

Before restructuring

Monopoly environment

Telecoms = Public utility
Bilateral agreement between
administrations
Accounting rates stable

**Voice traffic dominant over
PSTN**

After restructuring

Competitive environment

Telecoms=Tradable services
Commercial relationships
between private companies
Costs based tariffs

**Emergence of IP, leased
lines, private networks**

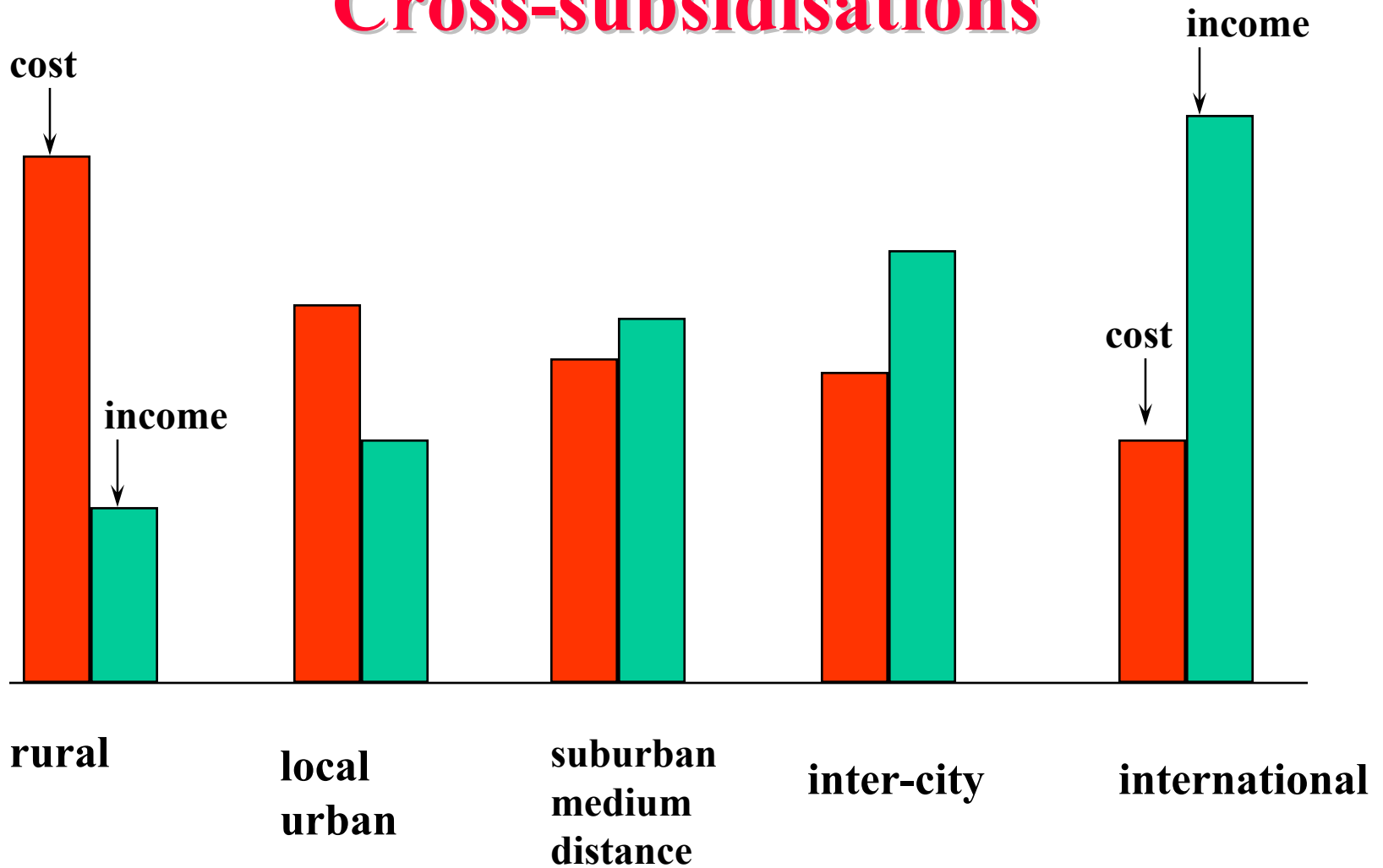


Disadvantages of Liberalisation

- **«cream skimming»** of most profitable segments market
- obligation to make profit detrimentally to some segments
 - **increasing tariff of local calls**
 - **postponing investment in rural areas**
- **more expenses for publicity, PR detrimental to investments**
- **loss of national sovereignty**
- **possible duplication of infrastructure investments**
- **foreign ownership, repatriation of profit**
- **customer confusion face to unclear price packages**



Cross-subsidisations





Privatisation

- Transfer of ownership of state enterprises to the private sector
- Distinguish from corporatisation (still state-owned)
- Global trends show rapid privatisation of PTOs
- Expected benefits:
 - Inflow of capital;
 - commercial management expertise;
 - and technological innovations
 - Rapid expansion of the network infrastructure



Privatization: Management controlled by Shareholders

- **No control from finance ministry** for which telecoms were not a priority for investments, but was a «cow milk»
- **Management under the pressure of financial results**
- **No obligation to support other ministries** and public organisations
-
- **No political constraints on the choice of suppliers**

Decisions are taken after considering their impact on the financial profitability for the owners of the company.



Privatization: Management becomes business oriented

Accounting system of private companies

Tax payment instead of political contributions

Ownership of buildings. Rights of way for cables

New Status for the staff

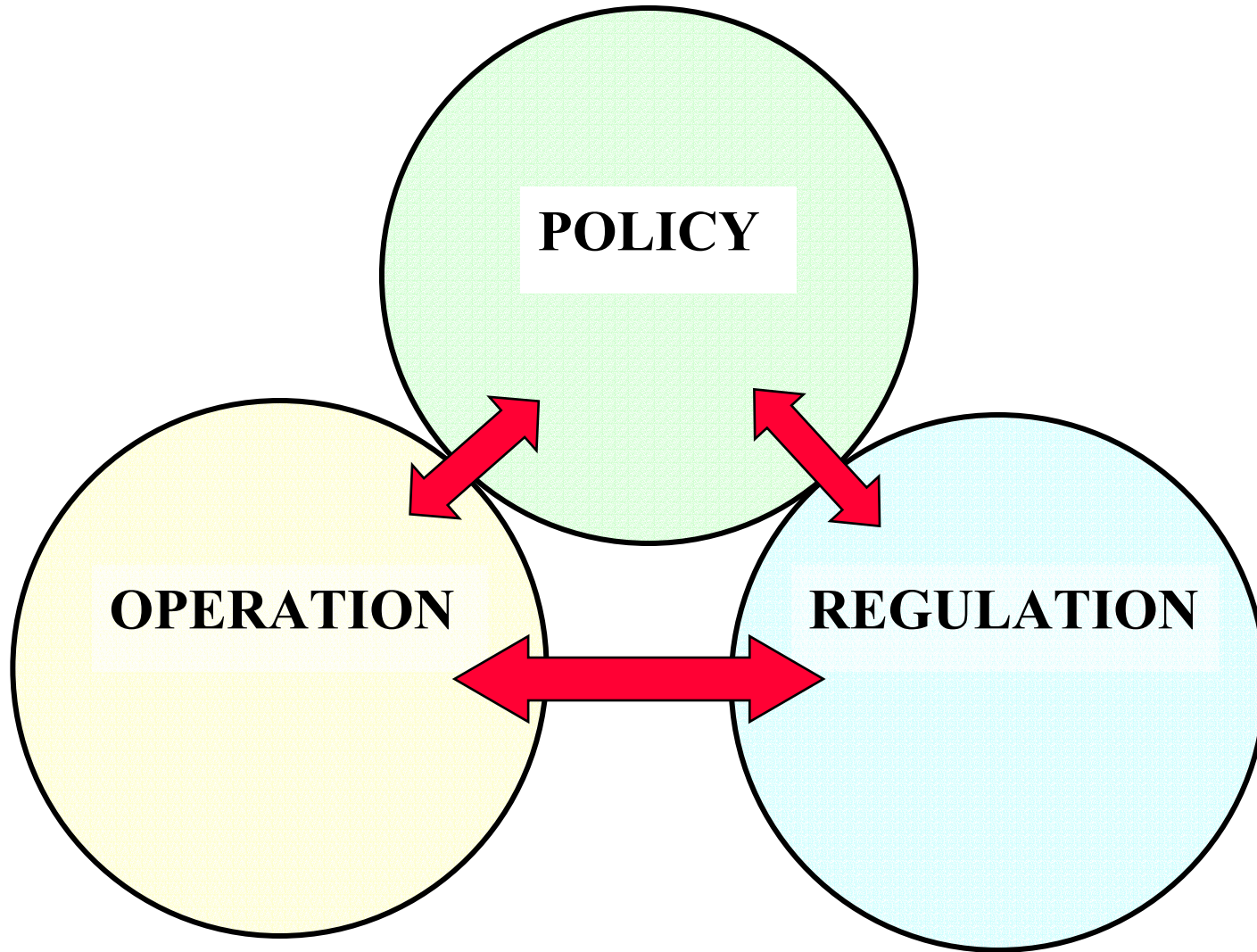
remuneration is based on achievements of functions and results instead of being based on administrative grade and seniority

Management style

Private managers are more familiar with risk and uncertainty when they have to take decisions; Customer orientation



Key activities in telecommunication sector





The main actors of the telecommunications sector

The policy maker : sets the goals and the mechanisms for the sector's development

The regulator : is the instrument to implement the policy

The networks operators : operate the infrastructure and provide basic and essential services; contradictory interests between the incumbent operator and the new entrants

The service suppliers: provide an increasing range of services, with the convergence of ICT and media



Second National Operator (SNO) Pre-Bidders' Conference

*Safari Park Hotel
NAIROBI – 17th MARCH 2004*

Restructuring of the Telecommunications Sector

Global trends of regulatory framework



What Is the Global Trend of Regulatory Frameworks Over Decades ?

2000 & beyond

**Convergence of regulations & institutions
in computing, broadcasting, & telecom**

By 1999: some 80 countries

**separating regulatory function from policy-making
with competition safeguard**

1980s-1990s: many

**separating operational function
by liberalization or privatization**

Until 1970s: most

**state monopoly for
all functions in telecom**



The state of the world-wide market

- Increasing competition
 - **Around two-thirds of telecom subscribers now have a choice of operator**
 - More than 99 per cent of mobile and Internet subscribers now have a choice of operator
- Dominantly private-ownership
 - **19 out of top 20 top public telecom operators are partially or fully private-owned**
 - Of the top 20 mobile operators, 16 are fully-private, 3 are partially private, 1 is state-owned



SECTOR STRUCTURE

- THERE ARE DIFFERENT FORMS OF SECTOR STRUCTURES IN OPERATION IN THE WORLD. NAMELY:
 - MONOPOLY
 - DUOPOLY
 - COMPETITIVE



FOUR WORDS SUM UP TODAY'S TELECOMMUNICATIONS MARKET:

- ✓ **PRIVATE;**
- ✓ **COMPETITIVE;**
- ✓ **MOBILE**
- &**
- ✓ **GLOBAL**

WTDR, ITU 2002



PRIVATE

- By beginning of 2002, more than ½ the countries had partially privatised their incumbent operators
- In Africa Privatised incumbent Operators are 40% (Americas 74%, Asia 53%)
- More Privatisation plans had to be put off in 2001 due to market conditions. **An additional 20 more countries in Africa announced plans to privatise their incumbents.** If these went through, the number of privatised incumbents would push up to about 80%
- **Clearly, the days of wholly state-owned fixed operators are over**



COMPETITION?

- Competition has increased (especially in Mobile, Internet and International long distance market segments)
- **1992 – There were 200 Mobile operators around the world. By end 2001, there were over 600.**
- 1/3 of the countries had 3 or more operators
- More than 100 Mobile Networks in Africa by 2001



MOBILE?

- The Missing Link
- Telecoms delivered through radio waves, not just fixed line
- People can now be reached anywhere
- Reachability enhanced by Satellite



GLOBAL?

- Mobile penetration not heavily dependent on income; it is helping eliminate waiting lists
- **Global Operations – Big International companies are now operating everywhere. In Africa, examples are Vodaphone, Telkom Malaysia, Deutsche Telekom. (participants to give examples in own countries)**
- Strategic Investors: MTN, Telecel, Econet, MSI
- A borderless world, borderless services, borderless companies, borderless technologies



GLOBAL? ...

- **WTO:** Inclusion of Telecommunications (1994); Commitments under GATS (1997) towards liberalising telecommunications and setting of timetable.
- **Global Services:** Mobile roaming, global, satellite systems, calling cards. (In 2002 GSM customers could use mobile phones on 482 networks in 174 countries)



UK CASE STUDY

- **B.T & Mercury 1982**
- **Exclusivity up to 1990**
- **During exclusivity, only 7m new fixed lines added (Average Annual Investment – US\$ 3.5 Billion)**
- **During the 90's, after exclusivity – 10 m new lines added (Average Annual Investment – US\$ 8 Billion)**



COMPETITION

COMPETITION IS NOW A GLOBAL PHENOMENON, ACROSS REGIONS, COUNTRIES AND SERVICES.

AFRICA HAS BEEN AFFECTED AND POSITIVELY SO.

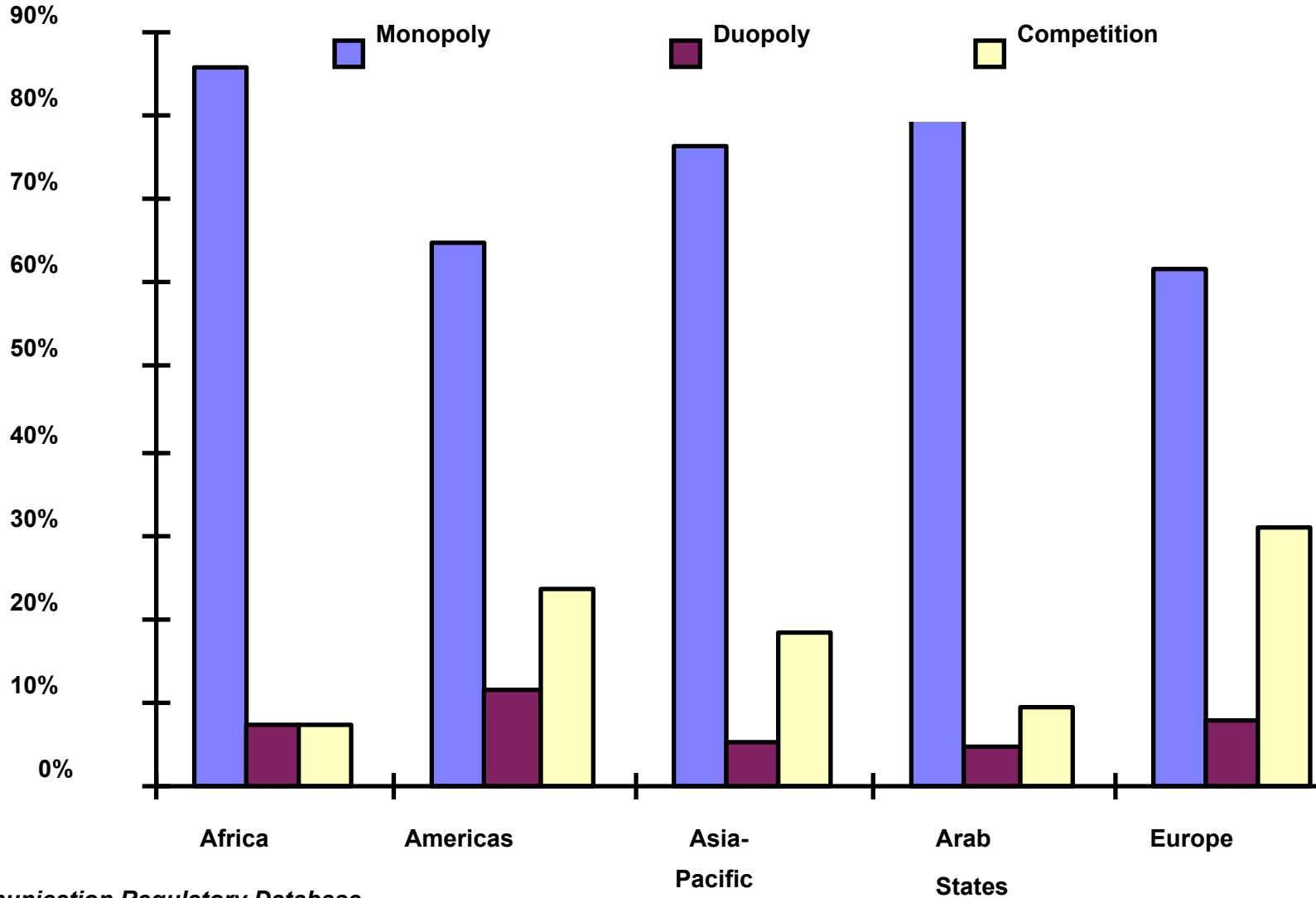
For Example, THE CONTINENT HAS REGISTERED THE HIGHEST GROWTH IN THE MOBILE MARKET.

The following tables highlight these trends:



More and more countries are allowing competition on the telcoms market as the statistics below show

Degree of competition in basic services

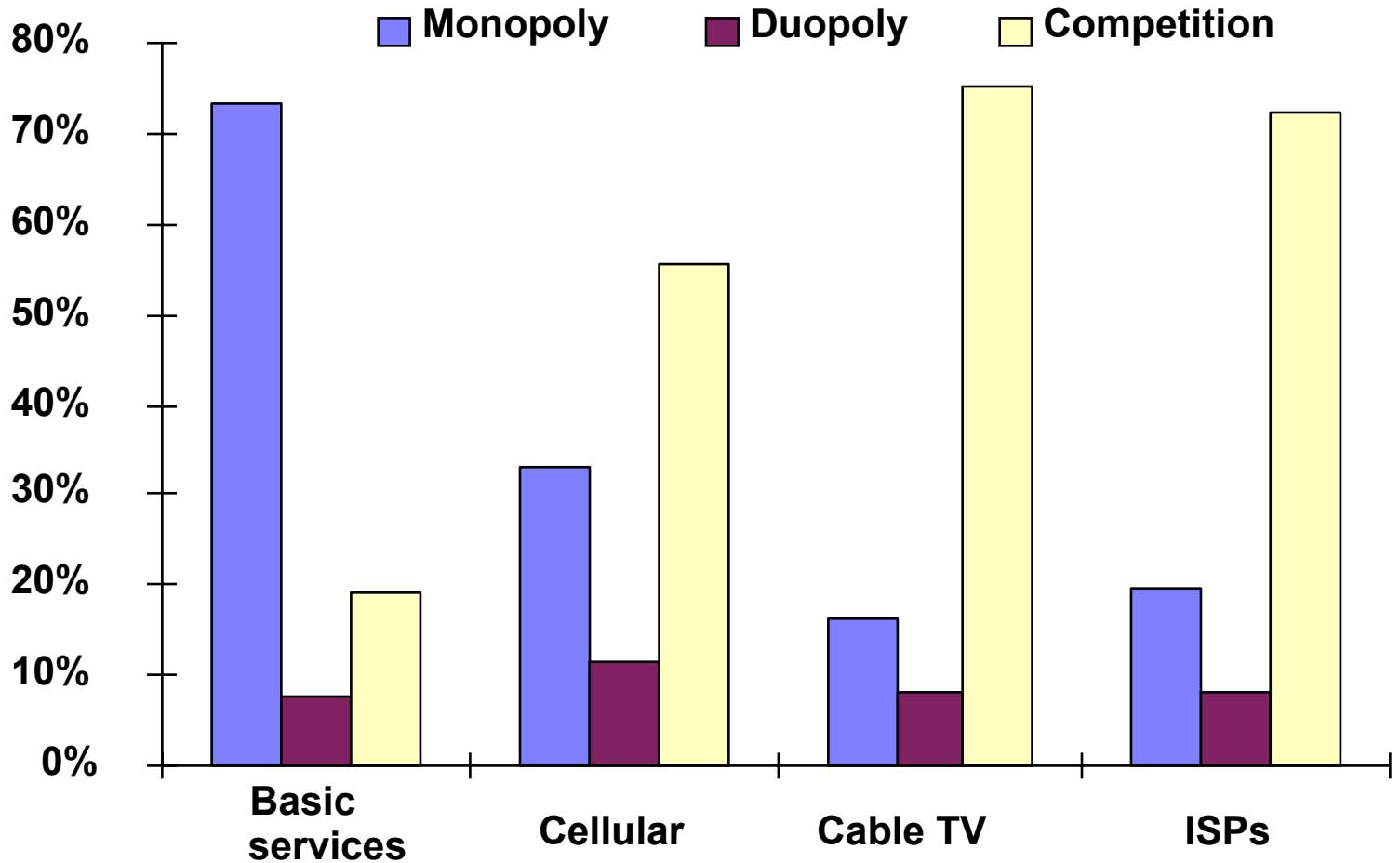


Source: ITU Telecommunication Regulatory Database.



Competition has been the norm in many services of telecoms outside basic services. but even in basic services, competition is creeping in

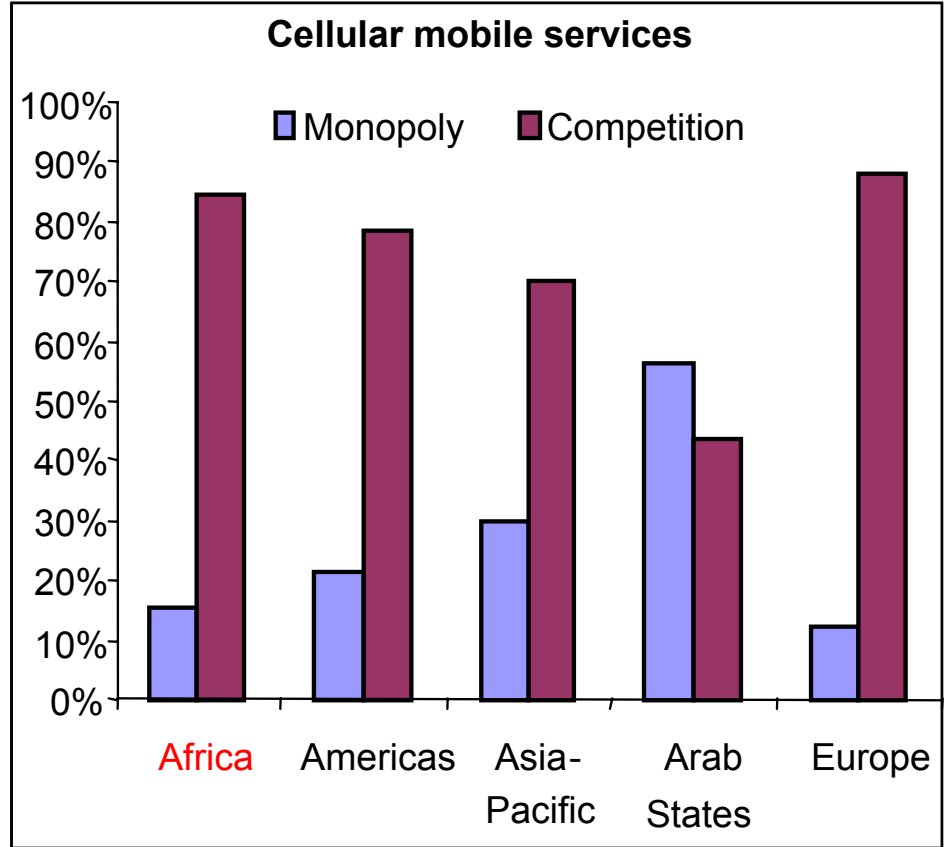
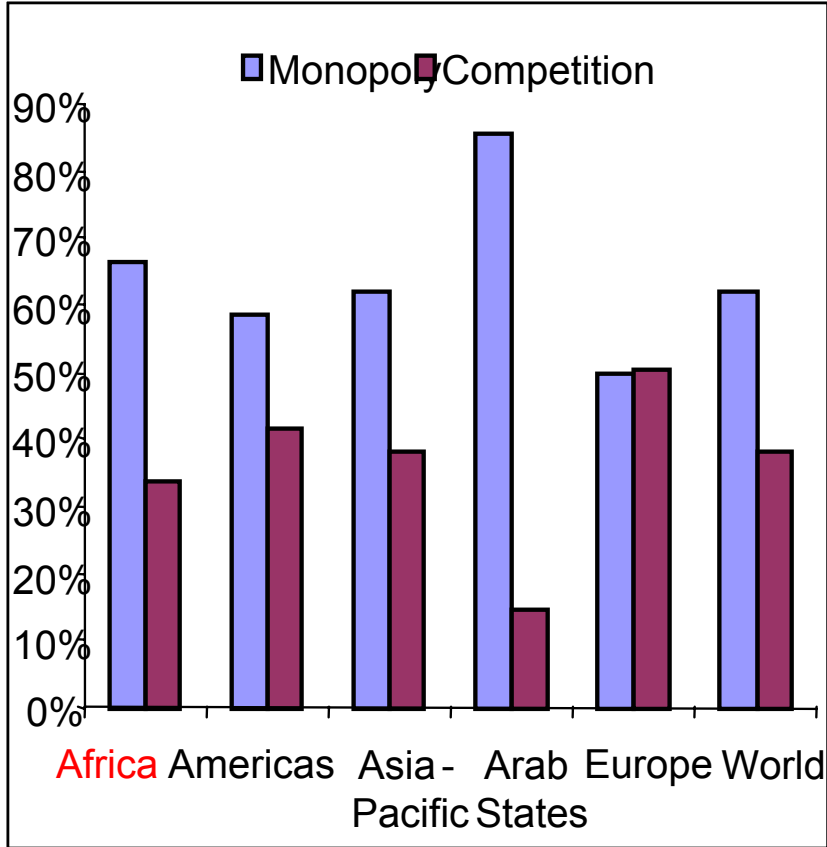
Degree of competition by service



Source: ITU Telecommunication Regulatory Database.

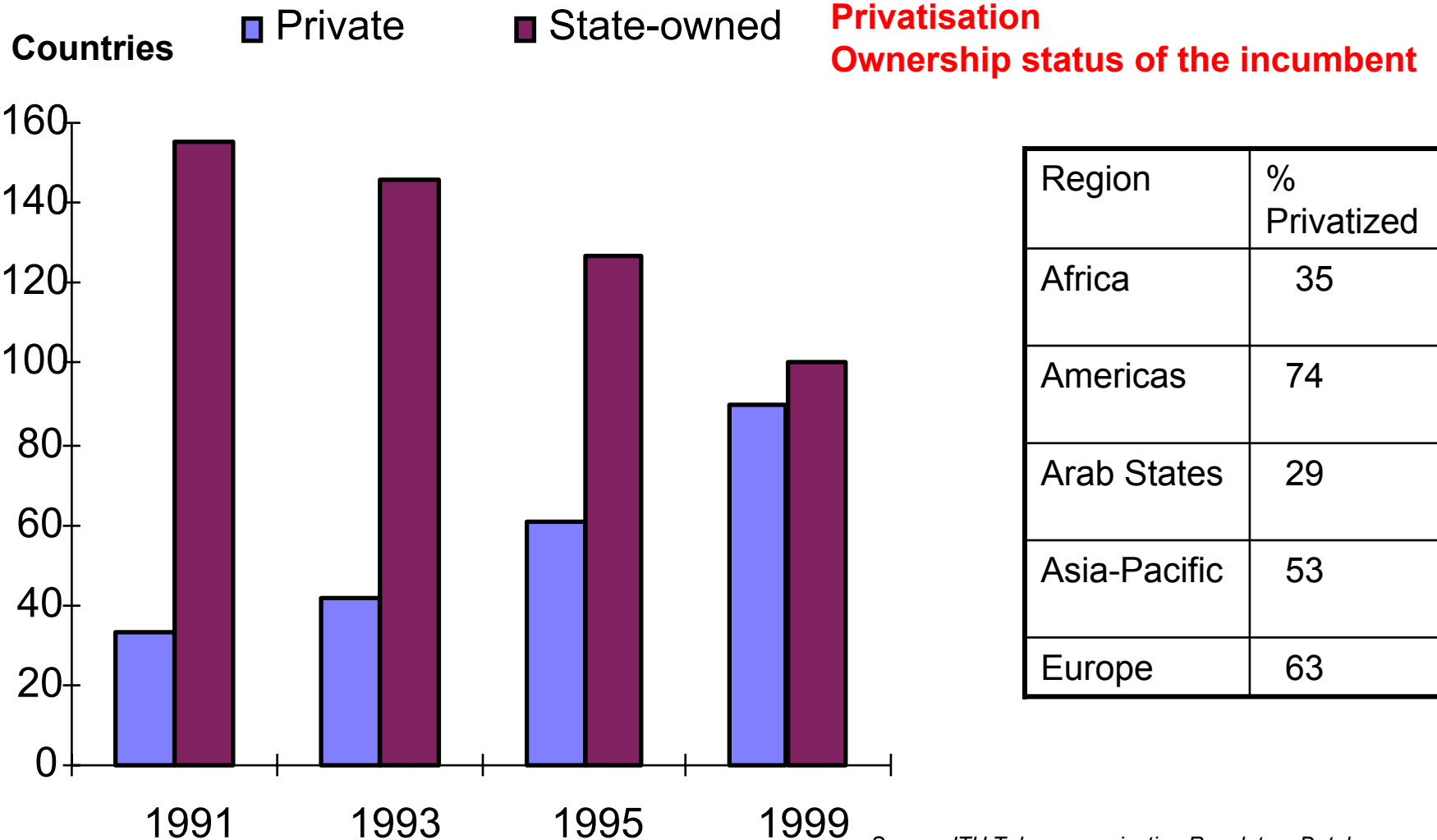


COMPETITION HAS ALSO BEEN GROWING IN AFRICA AND QUITE RAPIDY IN MOBILE





Ownership patterns are also changing as governments privatise their incumbent operators to gain full advantage of the benefits of restructuring



Region	% Privatized
Africa	35
Americas	74
Arab States	29
Asia-Pacific	53
Europe	63

Source: ITU Telecommunication Regulatory Database.



CONCLUSION

- ✓ **Liberalising the Telecom Sector** has become a reality of today's world. The fact that it is being enshrined in the WTO reinforces this reality.
- ✓ **Those who accept this fact** and proceed to implement privatisation stand a chance of doing so on their own terms. Procrastination, hesitation and lack of political will on the part of leadership may in the end prove costly.



Second National Operator (SNO) Pre-Bidders' Conference

*Safari Park Hotel
NAIROBI – 17th MARCH 2004*

Restructuring of the Telecommunications Sector

Challenges



What to do: List of actions

1. Set standards
2. License carriers
3. Regulate prices
4. Monitor quality of service
5. Approve carriers construction and capital plans
6. Interconnection terms
7. Type approval of customer equipment
8. User complains

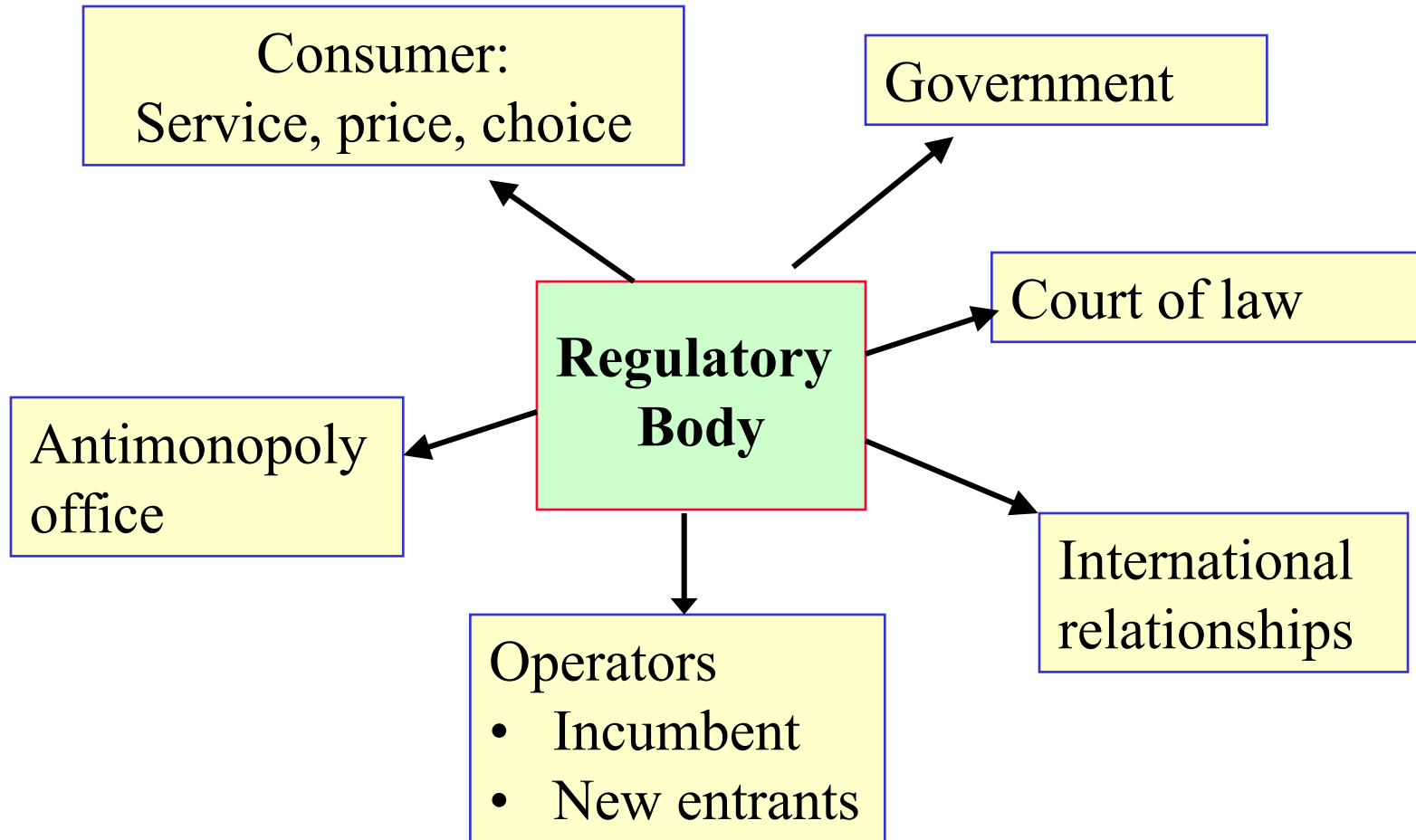


Principles of regulation

- **Detailed sectoral rules should be imposed only where necessary**
- The need for rules should be assessed using the standard framework of competition authorities, weighting up the state of competition and the advantages/disadvantages of intervention
- **Rules should not be applied where objectives can be achieved by market forces.**



Regulatory relationships





New Challenges

- **Create an enabling regulatory environment for ICT investment**
 - **Licensing**
 - **Interconnection** (technical and regulatory aspects)
 - **Numbering Plan**
 - **Number Portability and Carrier Selection**
 - **Tariff Regulation**
 - **Universal Service Obligation (USO)**
- **Privatization of the SOO's (State Owned Operators)**



Licensing

Licenses to be granted by the Minister or by the Regulator

Licensing conditions

Key obligations could include

- Universal service obligations
- Interconnection with networks of other operators
- Terms and conditions of providing service
- Prohibition against discrimination in providing service



Objectives of Licensing: a regulatory tool

- To control use of a valuable (or scarce) national resource (e.g., frequencies)
- To ensure access to a valuable public service (other examples, water, electricity, etc.)
- **To ensure that monopoly or dominant players (which have traditionally been protected) do not abuse their monopoly or dominant positions** (issues such as requirements for interconnection often make general competition rules and regulators inappropriate in the telecommunications industry)
- **To promote competition and consumer benefits**
- **To promote network expansion**



Issuing Licenses

It is recommended to allocate licences by competitive bidding (**Beauty Contest**), rather than direct allocation or lottery.

The selection criteria must be clear and fair, and should include

- **Technical expertise**
- **Financial strengt**
- **Performance indicators**



Comparative applications

- **Comparative applications** :the independent regulator considers applications in comparison to one another with regard to the published selection criteria and chooses the best of the applicants (also referred to as ‘**beauty contest**’)
 - **Draw-backs** – costly in terms of money and other resources, **a lengthy process**, a subjective process and likely to be reviewed in the courts, **requires an experienced and strong regulator to consider applications competently and without undue influence by any of the interested parties**
 - **Positives** – if done properly, the **BEST applicant will be awarded the license**



Numbering

- Why is it important?
 - Industry growth - running out of numbers
 - Rights
 - equal treatment for new entrants
 - consumer/user demand
- Numbers as a valuable resource
- Access to numbers can be a barrier to entry, limitation on service development and network inefficiency.
- Effective regulation can overcome these hurdles through optimising use of the resource



Numbering

- **Country codes**
 - ITU and standards
- **National numbering**
 - National significant number (NSN)
 - Subscriber number (SN)
- **Numbering planning**
 - Numbering scheme/plan means the uses assigned to NDCs and the rules for SNs within NDCs



Regulator and Numbering

- Why should the regulator be involved?
 - **national numbering plan is a national resource**
 - should be managed in the overall national interest
 - in a competitive environment the regulator as a disinterested party should ensure that this happens
- Regulator resolve conflicts such as:
 - **the incumbent operator being unlikely to share numbering resources fairly with new competitors**
 - network operators may want to use number for branding their services in conflict with users who want a simple, uniform scheme



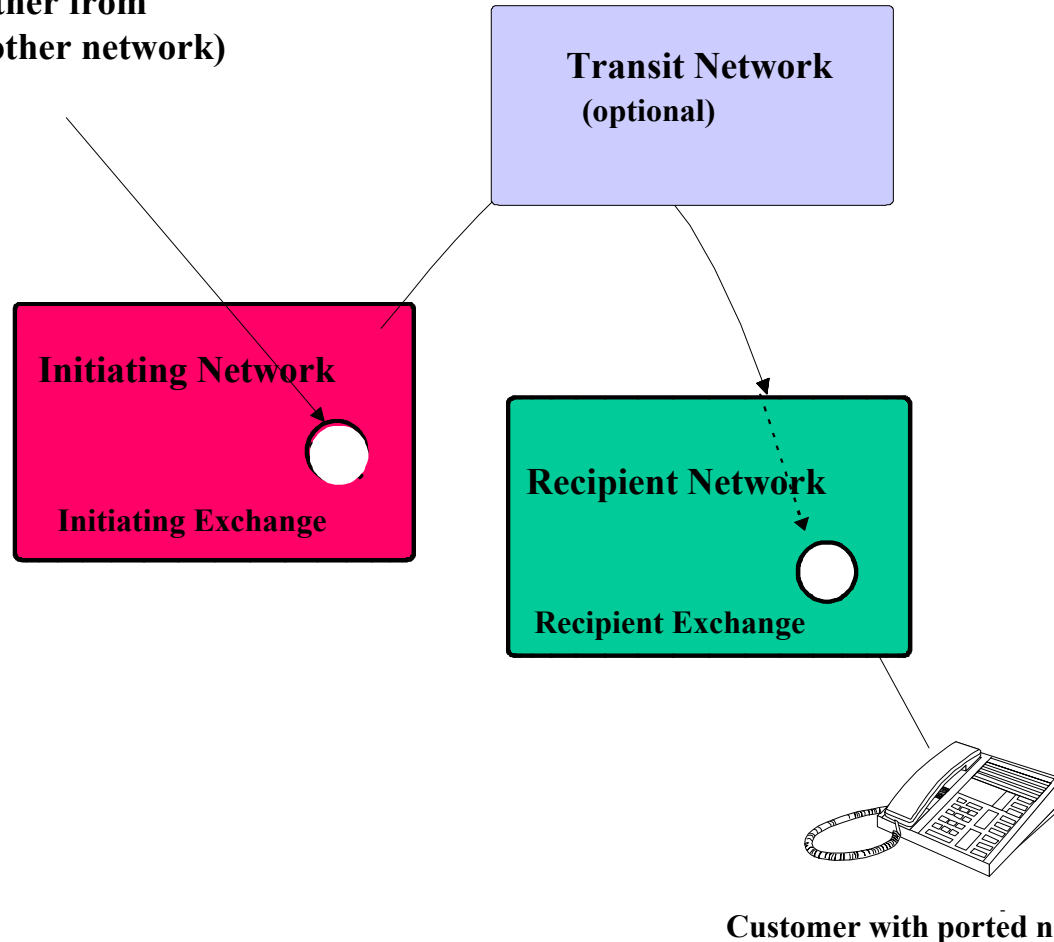
Number Portability (NP)

- A user can migrate from his network (Donor) to another network (Recipient) maintaining the same subscriber number
- Different methods can be used to perform NP



Number Portability: Conceptual framework for incoming calls

Incoming call (either from customer line or other network)



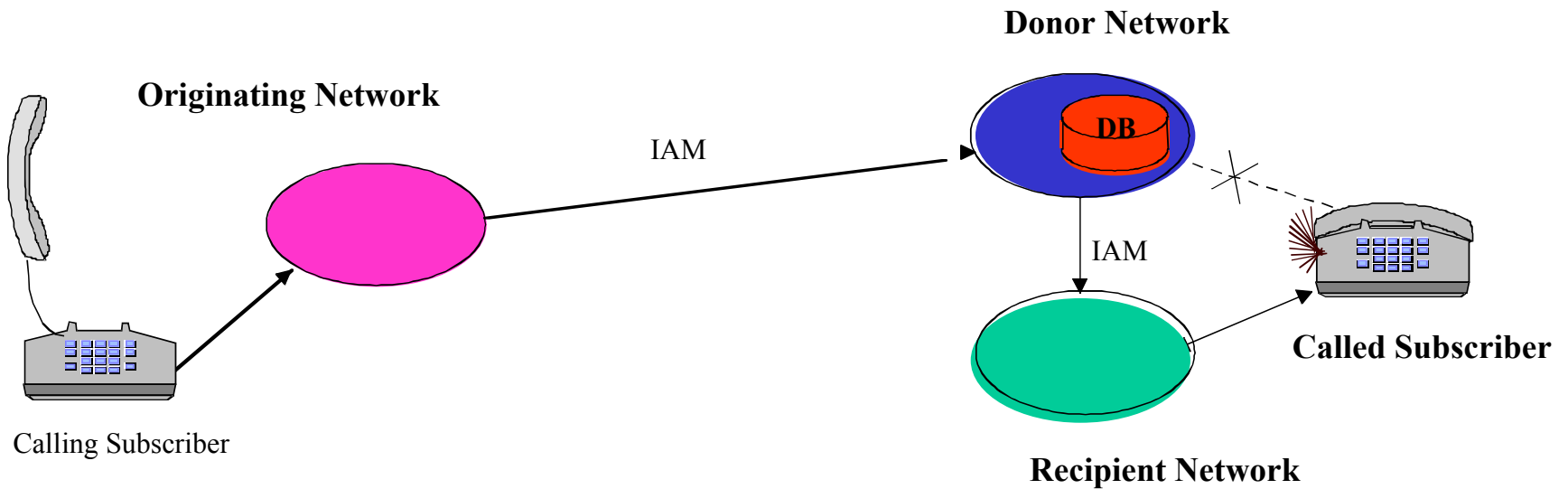


Number Portability: Onward routing

- **Onward Routing:** Performed by the **Donor** network on per **Call Forward basis**, used when the number of ported numbers is not too high (**first phase of NP implementation**)
- **The Donor Network** (normally the former monopoly one) is maintaining the **DB** of the ported numbers. The new entrants are paying the **incumbent for the service**
- Administrative procedures to be agreed between the **Operators**



Number Portability methods: Call re-routed from Donor Network (onward routing principles)



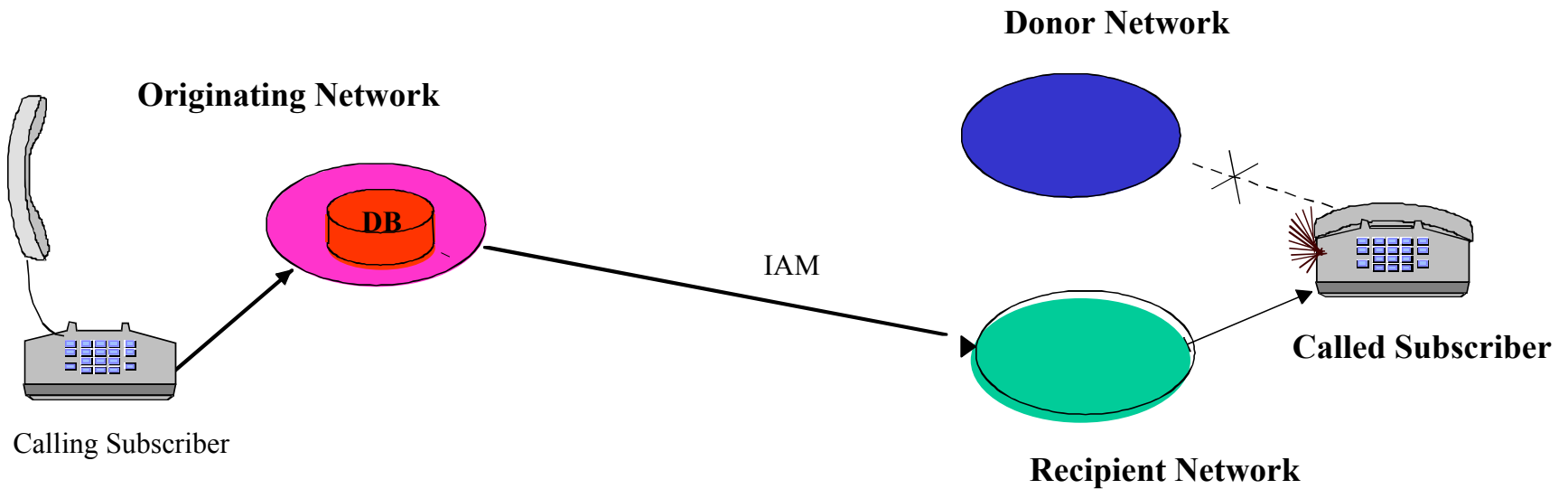


Number Portability: All call query

- **All call query:** Performed by the network Originating the call (**final phase of the NP implementation**)
- **Any network is maintaining the DB of the ported numbers.**
- **The Authority (outsourcing?) is maintaining a reference DB** to whom the DB's of the operators are referring (connected?) in order to updated the list of the ported numbers



Number Portability methods: Call re-routed from Originating Network (All call query routing principles)



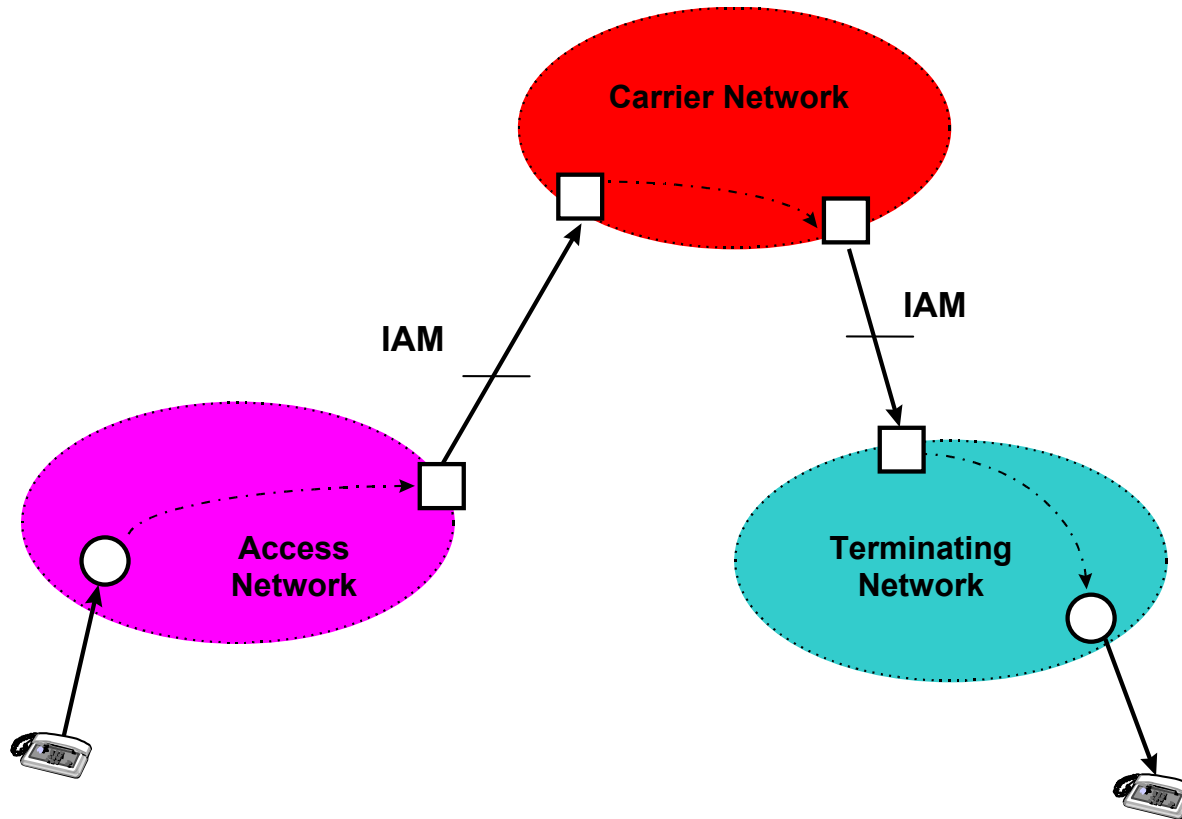


Carrier Selection

- **The Carrier Selection (Easy Access)** service enables the user to use a different Carrier Network from the one he subscribes to directly (Access Network) for Long (Local?) Distance calls, by selecting the carrier identification code 10XY(Z) before the figures relating to the desired destination.
- **The Carrier Pre-selection** service enables the user to access the same facility as the previous one without any particular procedure at the selection stage.



Carrier Selection





Universal Service Obligation:

- Access to a defined minimum service to all users at affordable price
- Universal Service Obligation (USO) :
Obligation placed upon one or more operators to provide Universal Service
- Aim: To ensure that benefits of increased competition are passed on to the users



Why universal service?

- Telecommunications as a right
- Economic development
- Close gap between haves and have nots



Why universal service?

- Telecommunications as a right
- Economic development
- Close gap between haves and have nots



Goals of universal service obligations

- Service vs access
 - Service – service actually provide to the home/office
 - Access – access to communications within a certain distance



Goals of universal service obligations

- Basic vs other services
 - Voice telephony
 - Internet access



Service obligations

- Geography
- Population
- Sustainability



Funds – who pays?

- Government
- Licensees
- Auction proceeds
- Other, e.g, non-profit or international funds



Funds - who gets subsidies?

- Subsidies to licensees
 - Should they get them?
 - How does one decide how much of a subsidy to give licensees?
- How to combine USO with competition?
 - Cross-subsidy and cost sharing among operators?
 - Access Deficit Charge, ADC)
 - Subsidy to Operators offering basic services in remote area at most convenient price



Funds - who gets subsidies?

- Subsidies to others
 - Individuals
 - Schools
 - Libraries
 - Hospitals

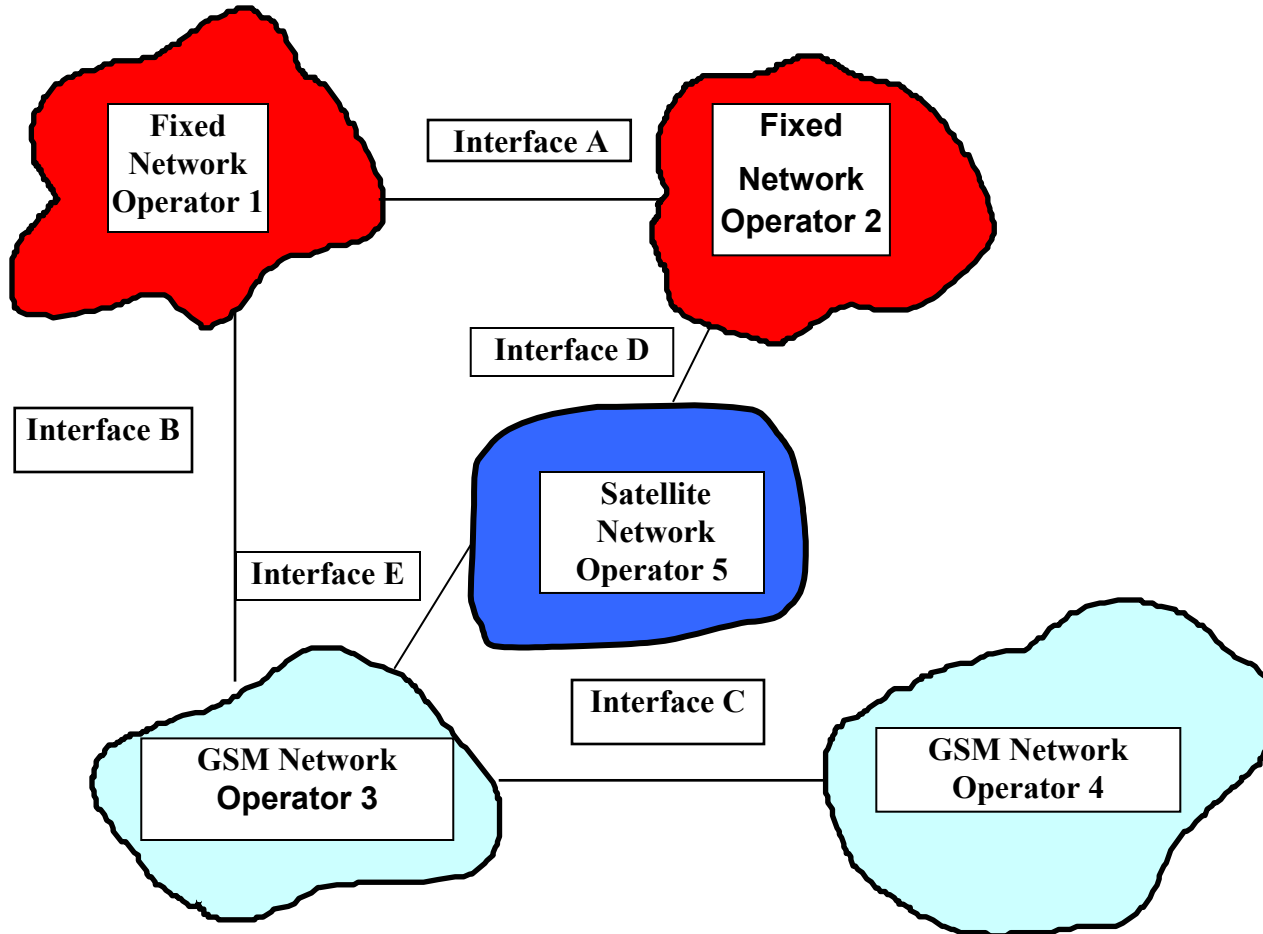


Creative solutions to universal services

- Poland, where rural cooperatives are able to build out networks in such areas and sell them to the monopolist
- South Africa, where the latest proposed amendments to the telecommunications legislation provide for the licensing of small businesses to provide telecommunication services in areas where teledensity is low
- Franchising by licensees

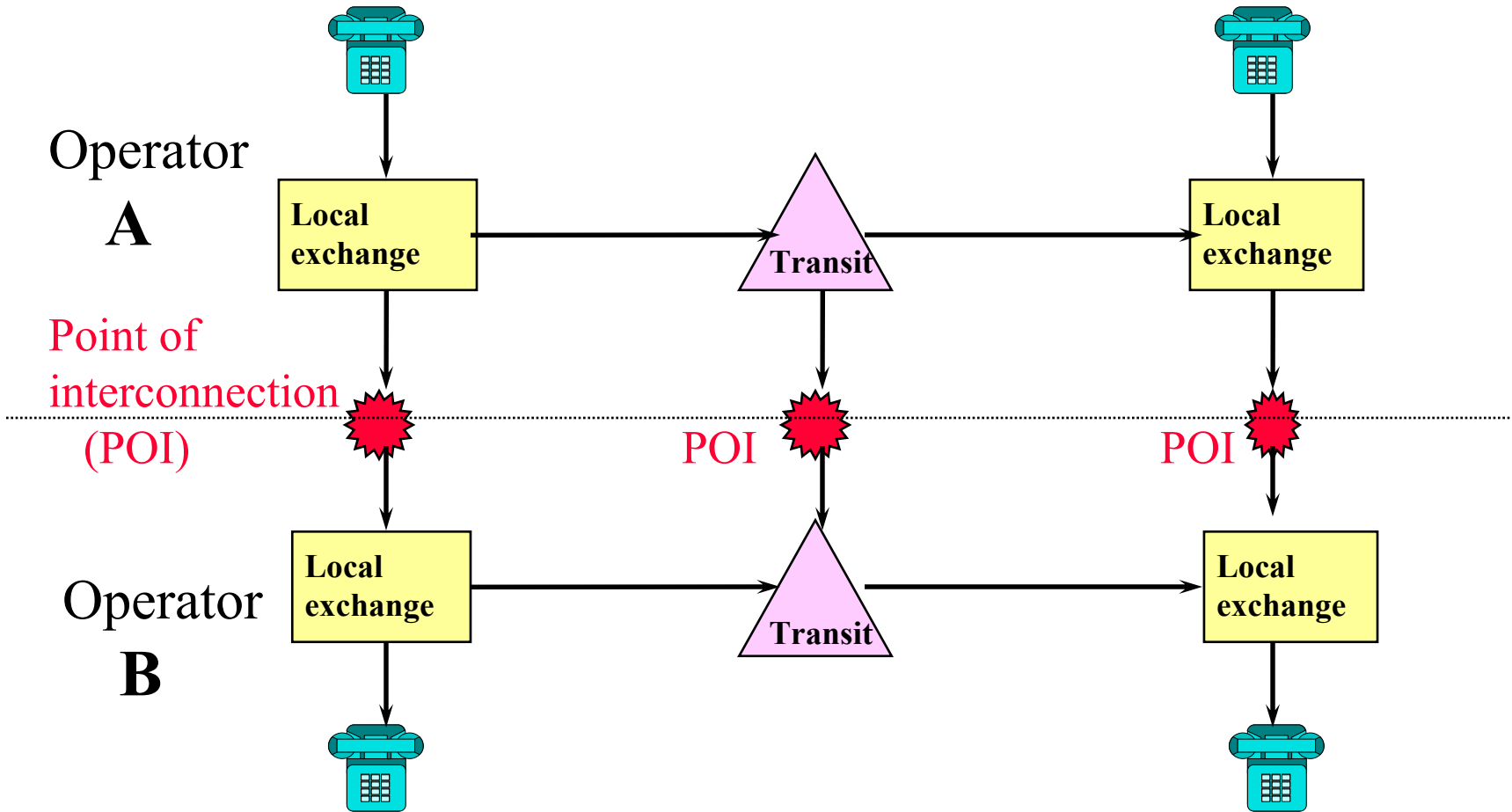


Interconnection of different networks



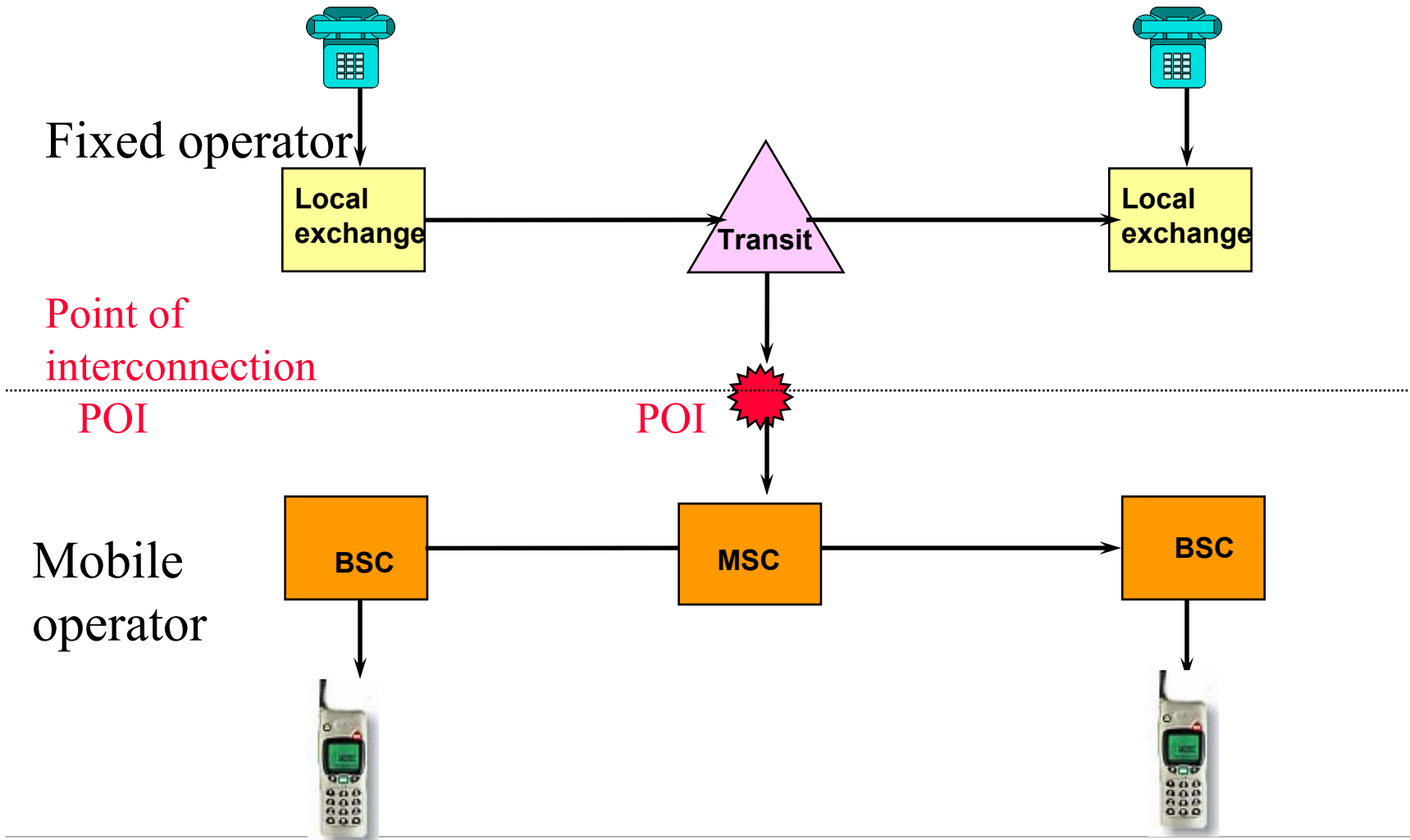


Interconnection



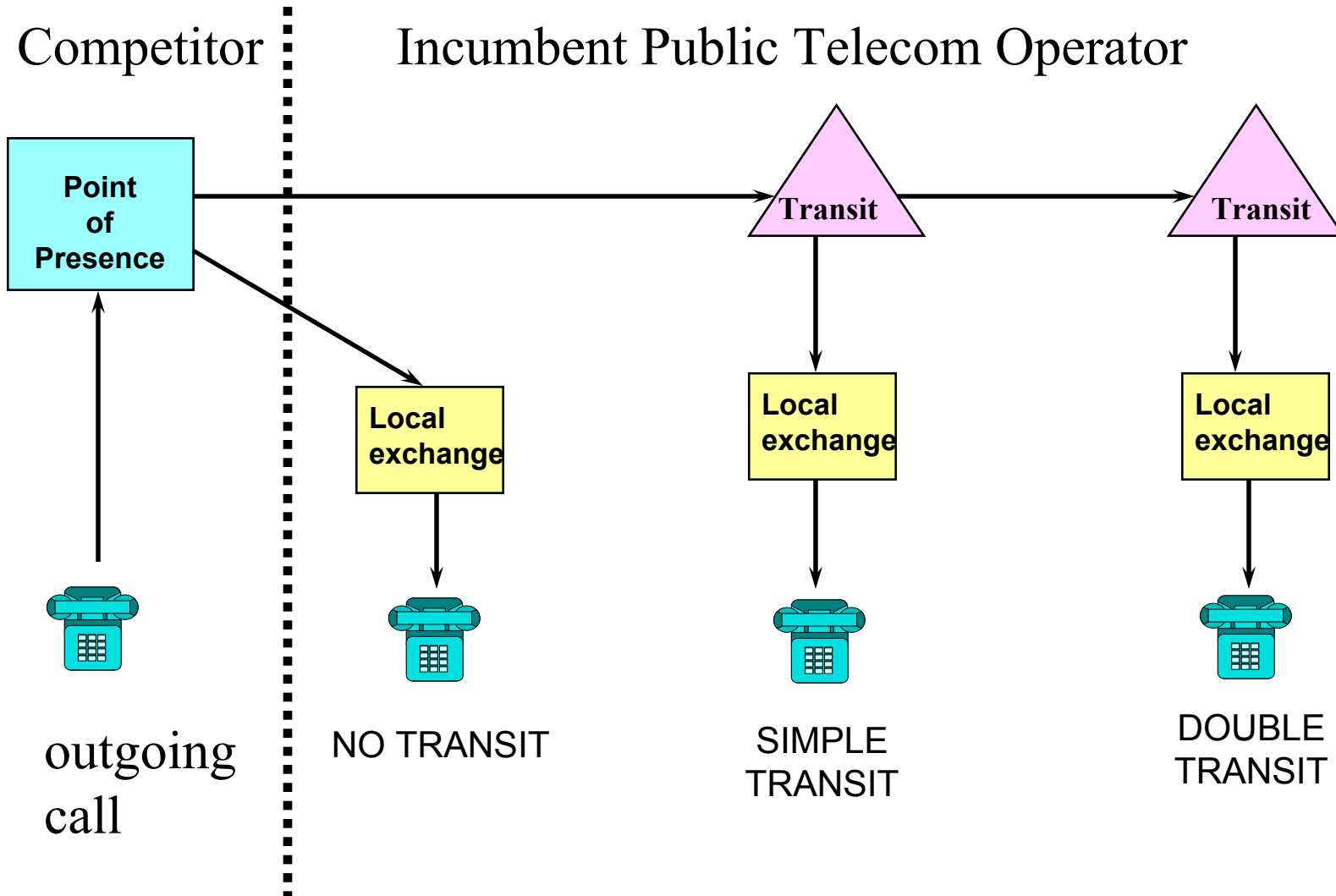


Interconnection between a fixed operator and a mobile operator





Types of routing for interconnection





Interconnection

- Enables customers connected to different networks to communicate:
 - Guarantees total network **connectivity**
(any calling party reaches any called party)
 - Ensures service **interoperability**.
(good functioning of any regular service between the calling party and the called party)
- Expands choices available to telecommunication users.



Importance

- “Regulators around the globe consider interconnection to be the single most important issue in the development of a competitive market place for telecommunication services.”
 - - ITU, Trends in Telecommunication Reform 2000.
- “Cornerstone of Competition”
 - Melody



Interconnection policy

Objectives of interconnection policy

- Allow customers to communicate with customers connected to different networks
- Ensure full network connectivity (interoperability)
- Meet the needs of customers through competing interconnected networks (larger choice of providers)
- Contribute to the efficiency of the economy
- Provide fair competition
- Create conditions for investments

No investment without effective interconnection



Legal issues on interconnection

- Incumbent PTO and major PTO **can not refuse any request** of interconnection without autorisation from the Regulatory Authority
- The Regulatory Authority ensures that all reasonable requests of interconnection by new entrants are satisfied in a **reasonable time.**
- **Technical and commercial terms of interconnection are defined in agreements** and contracts between the relevant parties, subject to the agreement of the Regulatory Authority.
- The Regulatory Authority is used as a referee in case of difficulties to find an agreement between the concerned parties.



Requirements of new entrants

- A reasonable interconnection **charge tariff**
- Choice of **points of interconnection**
- **Technical standards and appropriate interfaces**
- Allocation of numbers in the **numbering plan**
- **Protection of information**
- **Non-discrimination** in the areas of quality of service and price
- Reasonable **delay and deployment** of interconnection services



Concept of significant market power

This concept represents an evolution of the incumbent operator concept. **A significant market power is any operator that holds a significant market share (generally above the 15-25 per cent mark).**

A new entrant may become a significant market power after a few years, and be subject to the same constraints as the incumbent operator regarding the interconnection issue.

Examples: Cable Wireless in the UK; Cégétel in France.



Non-discrimination requirement

Significant market power A is prohibited from granting new entrant B more advantageous conditions than new entrant C. Contractual terms must be identical in order to prevent any new entrant from being placed at a disadvantage.

Significant market powers must give new entrants all of the advantages that they themselves offer to their subsidiaries or to their own units (Reciprocity). This is the most sensitive point to implement. Problems of network saturation or inefficient capacity may be used as a pretext to block a competitor. Penalties should be envisaged for significant market powers that fail to provide requested capacities in a timely manner.



Ex Ante versus *Ex Post* approach

Ex post: Directives and role of the regulatory authority kept to a minimum.

Excessive intervention of the regulatory authority and excessively detailed directives are considered to be a source of unjustified constraints. It is preferable to allow significant market powers and new entrants to negotiate freely, and for intervention to be limited to cases where conflicts arise. Telecommunication sector treated like any other commercial regulations.

Ex ante: Directives and role of the regulatory authority strengthened

It is preferable for problems to be anticipated and the rights and obligations of the various players involved to be specified. Intervention may go as far as setting thresholds for interconnection charges and specifying technical parameters. Unbundling is an example of *ex ante* constraints.



Cost-oriented tariffs

This is a universally accepted principle, for services offered to customers and for interconnection charges.

Cost modelling methods are intensely debated (LRIC).

The underlying principle is to **enable the significant market power to generate a reasonable profit without passing on unjustified charges** (planning errors, overdimensioning, or activities not required for production of the service segment in question).



Role of the regulatory authority in the area of interconnection

- Operational implementation of the regulatory framework
- Enforcement of rights and obligations of all operators
- Establish deadlines for various stages of the negotiations
- Validation of the dominant operator's interconnection catalogue (RIO)
- Recommendation of cost calculation methods (LRIC)
- Identification of access deficits (ADC)
- Enforcement of compliance with universal service obligations (USO)
- Arbitration in disputes between operators



Consequences of inadequate interconnection policy

- Higher than necessary costs of services to customers as a result of **unjustified charges**
- **Technical problems** in terms of interoperability and end-to-end quality of service
- **Delays** in service activation or interoperability
- **Absence of certain facilities** (number portability, feasibility of certain new services).

These consequences inevitably have adverse effects on the country's economy, whence the concern of the major international organizations.



WTO recommendations

Interconnection with significant market powers must be assured:

- At any technically feasible point in the network
- In a timely manner
- In non-discriminatory, transparent terms
- With unbundling of interconnections offered, to avoid unnecessary components
- At non-standard points if the requesting party defrays the costs involved.

Significant market powers must publish an “**interconnection catalogue**” (RIO) describing approval procedures and conditions under which they make interconnection available.



Example of interconnection rates

Rate per minute, in cents of US\$, full cost or peak time

	France	Spain	UK	Sweden	Denmark				
no transit.....	1.28	.....	1.8	....	0.9	....	1.98	....	2.1
simple transit.....	2.5	.....	3.1	....	1.32	....	2.52	....	3.38
double transit	3.4	.....	5.0	....	1.98	....	3.48	....	4.0



Examples of best practices in interconnection rates

Rates per minute in EUR cents, peak rate hours

	1998		1999	
	Min.	Max.	Min.	Max.
Local	0.6	1.0	0.5	1.0
Single transit	0.9	1.8	0.8	1.6
Double transit	1.5	2.6	1.5	2.3



Payments between operators in Europe

Peak hours

Country	Type of interconnection	Incumbent operator's share	Alternative operator's share
Germany (1)	Indirect	50% ↔ 80%	50% ↔ 20%
Belgium	Direct	69%	31%
Denmark (2)	Indirect	29%	71%
Spain	Direct	57%	43%
France	Direct	84%	16%
	Indirect	72%	28%
Italy	Direct	42%	58%
	Indirect transit local	63%	37%
Netherlands	Direct	83%	17%
Average	Direct	67%	33%
	Indirect	57%	43% - IC



Payments Between Operators in Europe

Off-Peak Hours

Country	Type of interconnection	Incumbent operator's share	Alternative operator's share
Germany	Indirect	Range: 32% ↔ 54%	Range: 46% ; 68% -
Belgium	Direct	62%	38%
Denmark	Indirect	33%	67%
Spain	Direct	25%	75%
France	Direct	68%	32%
	Indirect	19%	81%
Italy	Direct	32%	68%
	Indirect transit local	81%	19%
Netherlands	Direct	74%	26%
Average	Direct	52%	48%
	Indirect	44%	56%



Conclusion

There are three essential factors in the success of an interconnection policy:

- **Establishment of a legal and regulatory system enabling competition to emerge**
- Strong, autonomous regulatory authority to enforce rules of good conduct
- All operators must establish an accounting and management control system attesting that charges and interconnection revenue have been determined in the best interest of everyone.



Thank You