2G – 3G Migration/evolution: **Special needs of Operators, Regulators and Users in Developing Countries -**

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INTRODUCTION

the World Telecommunication Development Conference (WTDC) held at Istanbul (Turkey) from the 18th to the 27th of march 2002 noted the importance of a smooth transition of existing mobile networks to IMT-2000.

the WTDC thus charged the SG2 (ITU-D) of the required studies (Res. 43).

- **IMT-2000 is also a key topic in the second program of the WTDC-02 (technologies and telecommunications networks development);**
- **Some developing countries have started thinking about strategies for transition 2G-3G;**
- **Strategies must take into account the needs of users, operators and regulators**

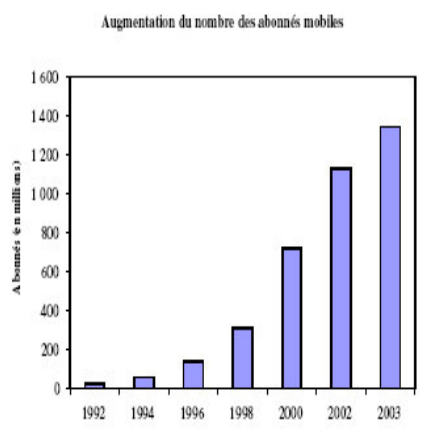
Some indicators in developing countries

- More than 80% of the overall population leave in the developing world;
- Low standard of living;
- Low incomes (< $ 600/inhab/year);
- The economy is primarily agricultural;
- Young population (more than 50% less than 35 years old)

Some indicators in developing countries

- Areas with low population density;
- Rural exodus phenomenon;
- Lack of ICT infrastructure;
- Nelson Mandela said that the Manhattan island has more phone lines than the whole Africa;
- Investments are not very profitable in rural areas;
- Very low teledensity;
- A very difficult access of the populations to information,educational and medical resources

Market evolution

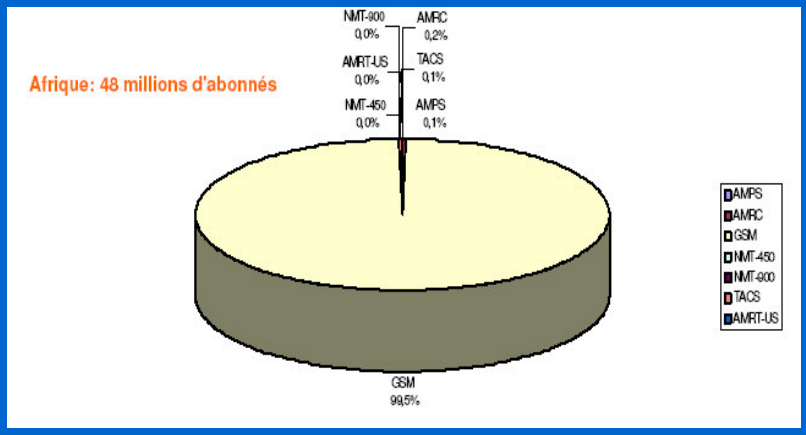


•In the previous decade, important mobile telecommunications networks of 1 and 2G have been built around the world;

•The number of subscribers rises from 205 millions in 1997 to more than 1.3 billions in 2003.

Source: EMC world cellular database, 2003

Market evolution (case of Africa)



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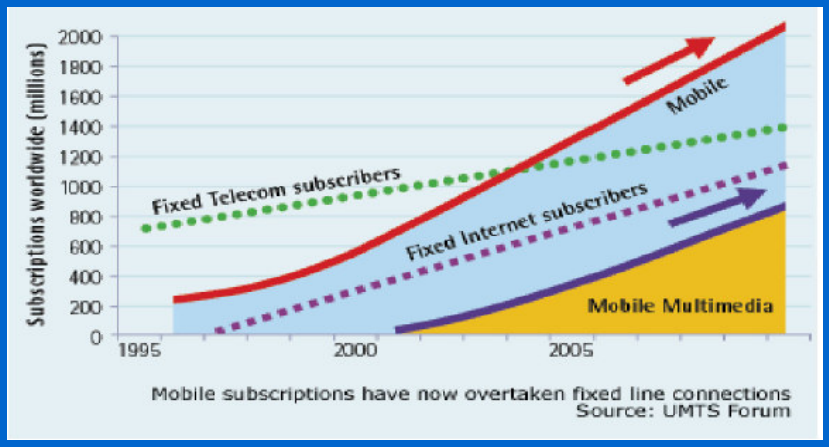
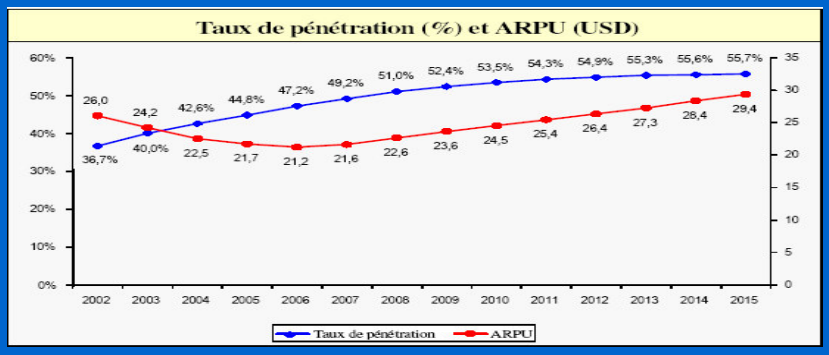
Market evolution



Market evolution



A very small part of the income is used for communication services

IMT-2000: vision of the developing countries

- **Recommendation ITU-R M.819-2:**

"IMT-2000 to satisfy the needs of the developing countries"

✓ **Ensure, by the means of the IMT-2000, in the urban and rural zones, cheaper services with quality and high safety closed to what we have in fixed networks.**

✓ **IMT-2000 thus must be a cheap mean for the universal access**

Special needs of operators

- Transition costs should be minimized as much as possible because vast majority of population has little discretionary budget for telecommunications entertainment.
- Recovery of evolution/migration capital expenditure (CAPEX) and operating (OPEX) costs.
- Some operators may provide fixed wireless access for IMT-2000 services in urban areas.

Special needs of operators

- The goal for coverage for IMT-2000 systems, which will be realized over time, should be co-terminus with existing pre-IMT-2000 systems.
- Time frame for transition from existing "mobile"/"fixed" towards IMT-2000. Operators should have maximum flexibility in determining and finalizing the transition.
- Role of government subsidy for infrastructure and/or advanced applications (not for infrastructure but for affordability of services by all including universal service obligations).

Special needs of operators

- Access to appropriate frequency bands and adequate spectrum is required.
- Use of frequencies below 600 MHz and allocation of future frequency bands as per WRC/WARC may be advantageous in providing cost-efficient coverage.
- Use of harmonized IMT-2000 bands decreases equipment costs and facilitates worldwide roaming.

Special needs of operators

- Good conditions for use of spectrum (licensing/roaming/coverage/other operator obligations/).
- Sharing of (radio/network) resources for rapid rollout and coverage (VNO,Virtual Network Operator) can be encouraged to facilitate speedy deployment of new technologies and lower the costs to operators.
- Low entry fees would reduce the entry cost of service provider;

Special needs of regulators

- Capitalize on experience of developed countries on
- ✓ license awarding method,
- ✓ license conditions,
- ✓ license fees,
- ✓ number of licenses.

Special needs of users

- User affordability for services and terminals.
- Ease of use and convenience of terminals.
- Use of IMT-2000 for education in remote villages, rural economic development, access to Internet at affordable price. Training of users on wireless data applications.
- Users want to use their usual terminals when travelling.
- Roaming is facilitated by low prices and by the availability of compatible technologies/terminals in foreign countries.

Conclusion

- IMT-2000 can offer an opportunity for reducing the digital divide between developing and developed worlds;
- Necessity to take into account the specificities of the developing countries;
- Important to meet special needs of the operators, regulators and users
  - Flexibility and low investment for operators
  - Good and clear vision for regulators;
  - Low cost services and compatibles technologies for end-users.