Evolution to 3GSM: A Foundation for Future Broadband Growth in Africa

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INTRODUCTION

- GSM Association is the global trade association, that promotes, protects and enhances the interests of over 680 GSM operators in more than 213 countries and territories worldwide

- GSMA works closely with industry experts, standard organisations including ITU-T and ITU-R and GSM and operators, equipment manufactures and governments and RA on spectrum issues

- Focusing on the emerging markets to address issues of handset cost e.g. the $40-$30 low cost GSM handsets

- The world GSM users are over 1.5 billion, and significantly contribute to social and economic development, creating employment opportunities stimulating GDP

- GSM Africa is the GSMA Regional Interest Group representing operators interest in Africa

GSM Association RIGs

- **GSM Africa**
- **GSM India**
- **GSM Arab World**
- **GSM Latin America**
- **GSM Asia Pacific**
- **GSM North America**
- **GSM Central Asia**
- **GSM Russia**
- **GSM Europe**

World GSM Status : Q2-2006

World mobile subscriptions	Subscriber base Q2 2006	Penetration rate % Q2 2006
World Total	**2,422,495,331**	**37.34**
Africa	153,808,109	17.13
Americas	272,408,244	48.64
Asia Pacific	924,429,205	25.54
Europe-Eastern	301,108,905	74.37
Europe-Western	418,672,301	105.53
Middle East	112,345,895	38.41
USA/Canada	239,722,672	74.58

Source: Wireless Intelligence

Mobile Growth in Africa

- Africa mobile subscribers outnumber the fix lines by over 4:1

- The total GSM and has reached 153.8 million, over 115   operators

- The application is transforming the way Industries and Individuals perform business and go about their individual social lives in Africa, it is not a status symbol anymore

- In the top growth countries the mobile is growing by 50% per annum on average.

Mobile Growth in Africa

- A few examples where high growth has been achieved:-

  - ➢ South Africa   3 operators   33.7 million subs;
  - ➢ Nigeria   4 operators   26.9 million
  - ➢ Egypt   2 operators   14.3 million
  - ➢ Morocco   2 operators   13.1 million
  - ➢ Algeria   3 operators   11.8 million
  - ➢ Kenya   2 operators   5.8 million
  - ➢ DRC   5 operators   3.4 million
  - ➢ Ghana   3 operators   3.0 million
  - ➢ Cameroon   2 operators   2.6 million

Challenges to Mobile Growth

- Sparsely-spread population, spans of deserts and forests and rivers, lakes and islands creating barriers & increasing cost of infrastructure rollout

- Investment concentrated in areas with high returns at the expense of rural population characterized with poor access roads and lack of electric power supply

- Use of combination of terrestrial wireless technologies and satellite backhaul technologies is inevitable in Africa in order to effectively meet the rural population needs

- Need for attractive Universal Service Access Policies to provide broader economic benefits to stimulate extension and growth of services in rural Africa

Potential Benefits

- Rural coverage will increase the traffic flow from urban to rural Africa if appropriate interconnection policies and regulations are put in place.

- Internet Access and broadband services support   e-services such as e-education; e-health; e-business to foster economic and social developments in rural Africa

- Private-public partnership to drive the process with the enabling policy and political environment

- Great Opportunity exist for use of mobile to fill the broadband service gap for low cost voices and high speed data needs
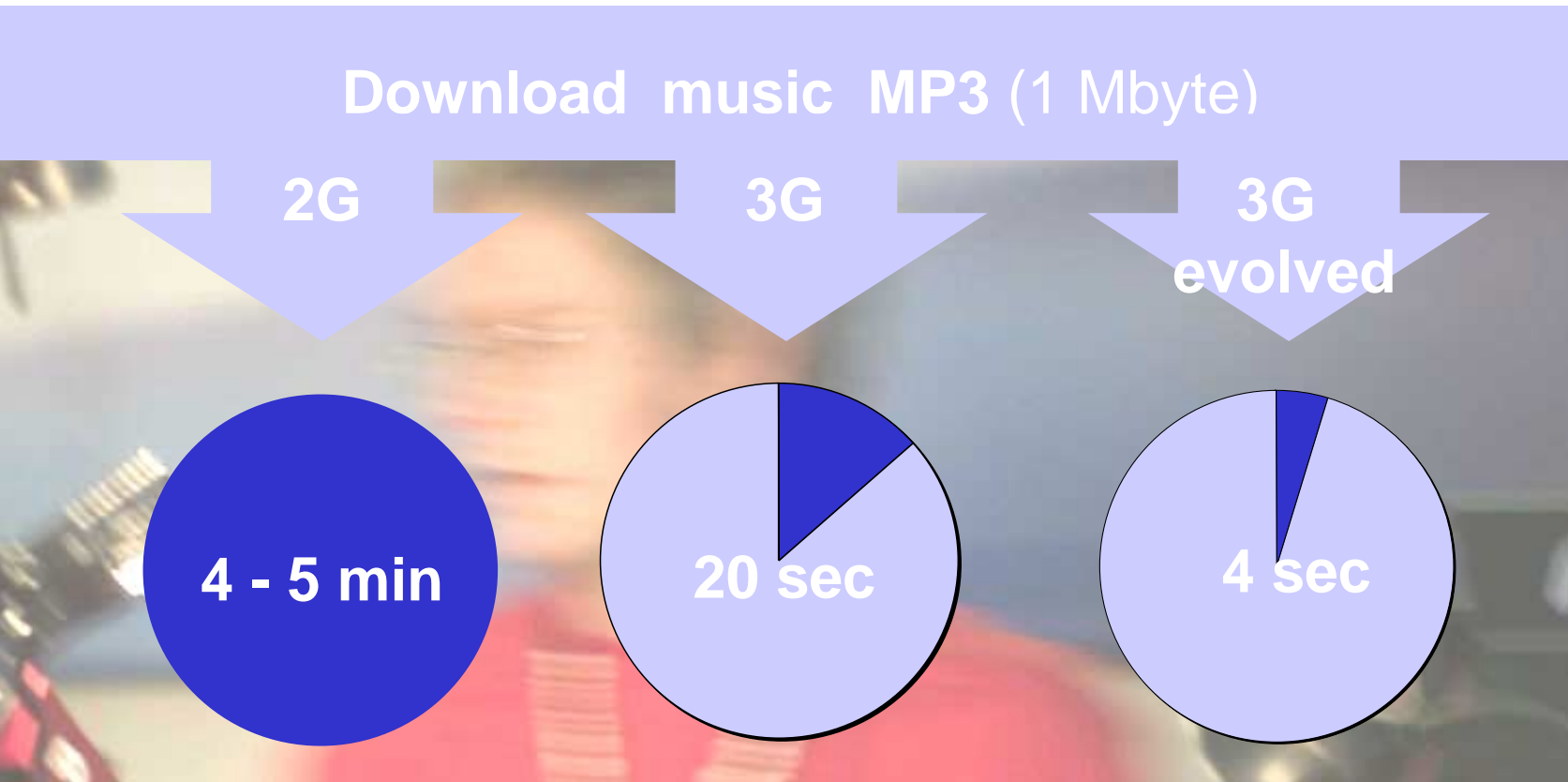
Technology Adaptability to Africa

- Users require technology that supports more voice and technology evolution that can deliver much faster data services

- Future of broadband, video or mobile TV services dependent on affordability for acquisition and usage for meaningful growth

- User assurance of improved applications delivered on a standardised and proven technology that is part of the GSM family currently used in Africa and globally

- A technology that leads to operators and users to enjoy benefits of economies of scale, quality and reliability of services

- With improved uplink and downlink speeds, person to person communications that share experiences such as video will grow

- # Consistent improvements to data speeds

Download music MP3 (1 Mbyte)

2G

3G

3G evolved

4 - 5 min

20 sec

4 sec

ITU-BDT REGIONAL SEMINAR ON BWA FOR RURAL AFRICA

- Data capacity is more than doubled within the current spectrum with 3GSM

- Spectral efficiency and latency means system utilisation which is far more cost effective

- The cost per bit of data reducing as the technology matures

- Interactive services having quicker response time and more enjoyable to users

- Services such as VoIP, IP based, MMS as video requires improved, voice quality, image quality and reliability, etc so as to be attractive to more users

- 3G services are part of an established and proven technology family – GSM and Integral part of W-CDMA

- Backwards and forward compatibility, assured and quality inherent from the GSM family standards

- The existing GSM networks with GPRS/EDGE form the seedbed for evolution to broadband services in Africa

- Vision of the future already mapped out as operators start the move towards HSDPA for progressive transition

- Fully standardised and assured solution supported globally, not individual solution

- Additional benefits of global roaming, security, authentication, billing and interworking due to the family approach

Rapid rollout for operators

- Software upgrades to existing infrastructure means a quick network rollout

- Scalability and latency puts evolved 3G operators achieve competitive advantage

- There is potential for increase in ARPU's as user demand for new services if the service providers can readily provide the services

- A significant number of operators in Africa already on the evolution path to 3GSM in a number of countries but mostly at planning and field trial stages

Policy and Regulatory Frameworks

- Need for enabling regulatory and policy frameworks in Africa for provision of GSM Services with evolving technology

- The regulatory environmental changes should taking into account the need for harmonisation of the critical aspects of effective and economical technological developments.

- Harmonisation of standards results in reduced costs of deployments thus the need for harmonised regional policies

- The move towards unified licensing regime, technology neutral license will facilitate avoiding high licensing entry cost, a potential barrier to rollout of broadband in the continent

Policy and Regulatory Frameworks

- Spectrum Management is key aspect for broad services and sustaining growth of mobile as technology evolves

- IMT-2000 and IMT-Advanced Spectrum is the foundation for 2/3GSM Evolution

- The GSM 900 and GSM 1800 protection to sustain the rapid growth of GSM in Africa: some operators surrendering spectrum as new entrants are licensed

- Coexistence of various technologies is inevitable but Interference results in call drops and loss of revenue , a very costly phenomenon that must be avoided at all cost

- It is important to note that without adequate spectrum the growth of mobile cannot be sustained and WBA cannot be achieved

CONCLUSION

- Smooth progressive technological evolution is fundamental factor for Broadband service uptake in Africa

- Policies and regulations are required to support creativity, innovation, growth and profitability for the service provision

- IMT-2000 and IMT-Advanced spectrum policies are a prerequisite to mobile growth and the uptake of broadband services in Africa

- The bottom-line strategy for Africa is reduced Capex and Opex costs, accessibility, availability, and affordability services

THANK YOU

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