European Satellite Operators Association

# Affordable Satellite Solutions for Africa

Aarti Holla-Maini
Secretary General
European Satellite Operators Association
"ESOA"

Brussels, 20th September 2005

aholla@esoa.net
www.esoa.net

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# ESOA

- Association based in Brussels
- Represents interests of European satellite operators
- 11 full members, 3 supporting members (Arianespace/ EADS Astrium/ ISB)

telespazio una Società Finmeccanica
SES GLOBAL
inmarsat Total Communications Network™
EURASIASAT International Satellite Operator
EUROPE*STAR POWERFUL CONNECTIONS
hispasat acercando culturas
EADS SPACE SERVICES
NEWskies SATELLITES
telenor
HELLAS SAT
SIRIUS SATELLITE SYSTEM

***Mission:***

- 'To work with key [European] organisations including the European Commission, Parliament, Council, the European Space Agency and other relevant international organisations *to create the political, industrial and regulatory environments necessary to deliver vital communications services to citizens across the globe*'

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# The Nature of Satellites

*WHAT ARE SATELLITES?*

- A Communications Infrastructure with *Natural Advantages*:
  - Ubiquitous coverage with one main piece of infrastructure
  - Can deliver the same data (e.g. TV, radio, etc) to many people at the same time
  - Don't require a physical connection to enable reception
  - Existing capacity for faster solutions
  - Are not disabled by natural disasters

- For a continent such as Africa which has limited telecommunications infrastructure in place, the cost-effectiveness of a satellite connectivity solution is not in dispute

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# The African Market

- Considered an *important market* by major satellite operators
- In recent years *more dedicated satellites launched to serve Africa* while other SatOps have incorporated beams to cover Africa
- Market has also seen increased uptake of mobile satellite terminals by SME's and for oil/ mining (exploration)
- Mainly *TELECOMMUNICATIONS* services being offered (data/ voice/ internet/ mobile/ video broadcasting/ backhaul to GSM networks)

- Traditionally a "C Band" (low frequency) market: weak signal requiring large, expensive infrastructure
- Today SatOps are taking more risk offering new "Ku Band" (higher frequency) services: can be supplied at lower cost
- Higher power C Band services are also being offered: allows new entrants to offer voice/ data/ video services at lower cost

- In next 2 years two new African satellite market players will emerge (Nigcomsat 1 and RascomStar QAF 1)

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# Examples of SatComs in Africa

*SMALL SCALE COMMERCIAL PROJECT*:

- Dutch company producing flowers was looking for locations in which to grow them – considered Ethiopia – lack of communications was a problem, but all they needed was email, no complex data requirements. A small transportable semi-fixed satellite terminal provided this vital Comms link without needing installation of expensive infrastructure.

- Satellite was instrumental in enabling a business which generated immediate local employment for 200 people
- Satellite related cost: a couple of terminals at ca. €350 each + airtime

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# Examples of SatComs in Africa

*E-LEARNING PILOT PROJECT*:

- ESOA Member selected to partner with a consortium providing education and training content to 12 rural schools in South Africa.
  - 12 schools will have very basic and inexpensive computers which can connect via satellite to a central information storing server in Cape Town
  - Initiative came following similar pilot project running in the UK which was noticed by the South African government
  - Funded under a UK PPP - part UK government funds and part private sponsorship

- Developing teachers and education leadership using cost-effective E-learning tools via satellite

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# Potential Uses of SatComs in Africa

*TELE-MEDICINE*:

- Mobile satellite terminals could be used by emergency workers/ doctors to establish a fast link back to a large medical centre/ hospital to assist with difficult diagnoses & provide critical information
  - An ESOA member ran a pilot project co-funded by the ITU where a local health centre was equipped so that it could communicate with a larger hospital
  - Welcomed and appreciated while in place, but after pilot project ended, no willingness or funds found to continue

- Strong public initiative is required to implement such a solution which addresses a very clear public policy/ need: health

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# Potential Uses of SatComs in Africa

*E-COMMERCE*:

- Local IT/ Communications centres supporting small communities with telephony and data access
- Dedicated cyber-points in village centres, or
- Mobile terminals which can be brought to local businesses regularly while sharing rental cost between users

- BUT: selling space capacity often involves a complex chain of players

- Any initiative would require governments to provide starter funding & a means of sustaining the initiative

*Satellite Operator*
sells wholesale airtime

↕

*Distribution Partner*
bills the airtime

↕

*Service Provider/ Commercial re-seller*
supplies
*Local re-sellers*

↕

*User*

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# Obstacles to the Delivery of Affordable Satellite Services

FIXED SATELLITE OPERATORS SELL TO *LARGER OPERATORS* AND *NEW ENTREPRENEURS*:

These customers have different characteristics:

- Larger Operators can afford to pay premium rates
- Entrepreneurs in Africa (those who may be innovative and invest in useful projects):
  - Have ***Limited Capital & Poor Business Planning*** so that they cannot generate enough revenue to pay for space segment
  - Are ***Unwilling to Pool Resources with Other Entrepreneurs*** so that they cannot generate economies of scale/ create a more sustainable business

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# Obstacles to the Delivery of Affordable Satellite Services

*FINANCIAL ISSUES:*

- *Local Funding unavailable or difficult to access*:
  - Funds available in most countries but not necessarily accessible for use in under-served regions. SatOps are offering lower prices in the region but no local funding mechanisms to enable entrepreneurs willing to deploy telecoms infrastructure in these regions

*EDUCATION AND TRAINING ISSUES:*

- *Lack of Human Resources and training*:
  - Lack of education available for business/ regulatory management as well for managing information systems/ communications engineering so telecoms companies invest heavily (e.g. expensive expats) to run businesses

- *Lack of know-how and R&D in Communications technologies*:
  - Lack of knowledge results in African investors choosing expensive or out-dated technology solutions

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# Obstacles to the Delivery of Affordable Satellite Services

*REGULATORY ISSUES:*

- *Lack of Competition*:
  - In some countries e.g. South Africa/ Ethiopia governments prevent competition in the market for satellite services, so that SatOps are forced to work with few companies resulting in higher prices for the end-user

- *High tariffs in export/import*:
  - Import/ export tariffs and local administrative complex procedures prevent an open access to market for terminals

- *Licensing Requirements*:
  - There is a requirement to have a license in each African country – an operator wishing to supply services across the African continent must apply and pay for a license in more than 50 countries. The European model of mutual recognition of licenses or free circulation of terminals would make it quicker and easier for African consumers to get satellite services
  - Licenses can be very expensive: In Nigeria a VSAT license costs $80,000 for a domestic license and $500,000 for a domestic and international license

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# What can the EU do to help?

- ***SUSTAINABILITY CONCERNS***:
  Literacy/ education/ learning and practical training/ know-how for locals is vital to make contributions having lasting effect:
  *Need tenders to assist solutions in these specific areas, such as the South African initiative*

- ***FINANCIAL CONCERNS***:
  Available funds are short in supply:
  *Need tenders for solutions/ pilot projects in specific areas where public support is crucial until economies/ sustainability develop: e.g. telemedicine, and for solutions that will not happen without public start-up finance but which could kick-start a change for locals: e.g. cyber-points* (such as in Southern India where local sellers have been able to expand their tiny businesses to other areas with similar connectivity initiatives)

- ***REGULATORY/ MARKET ACCESS OBSTACLES***:
  *Assist in establishing a continuous dialogue in specific fora (may need to be created) between European industry players/ regulators & African counterparts*
  (e.g. West African Telecoms Regulators Assembly - WATRA)
  Problem example: Local people may not broadcast their own local information which prevents market development

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*The Economist's Perspective on what is The Digital Divide:*

*… a nice picture!*