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MAKING TELECENTRES WORK

By

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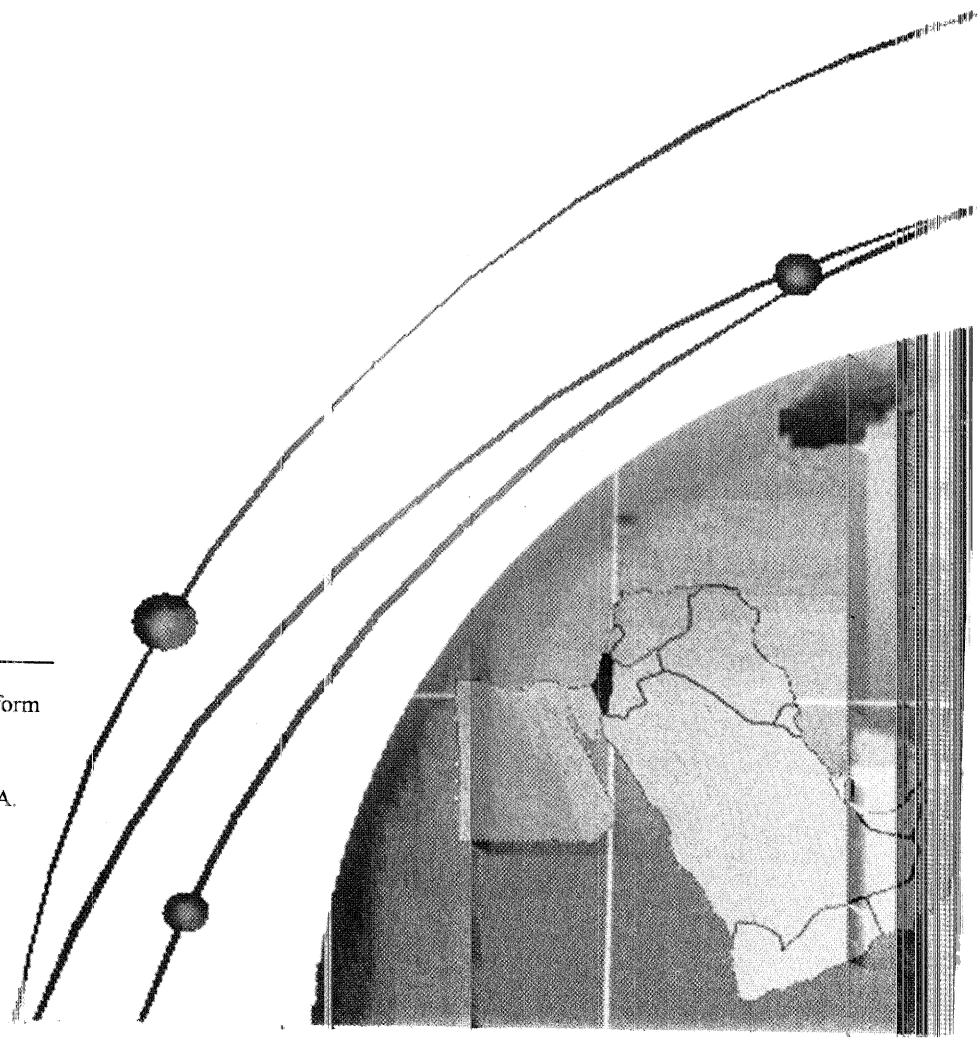

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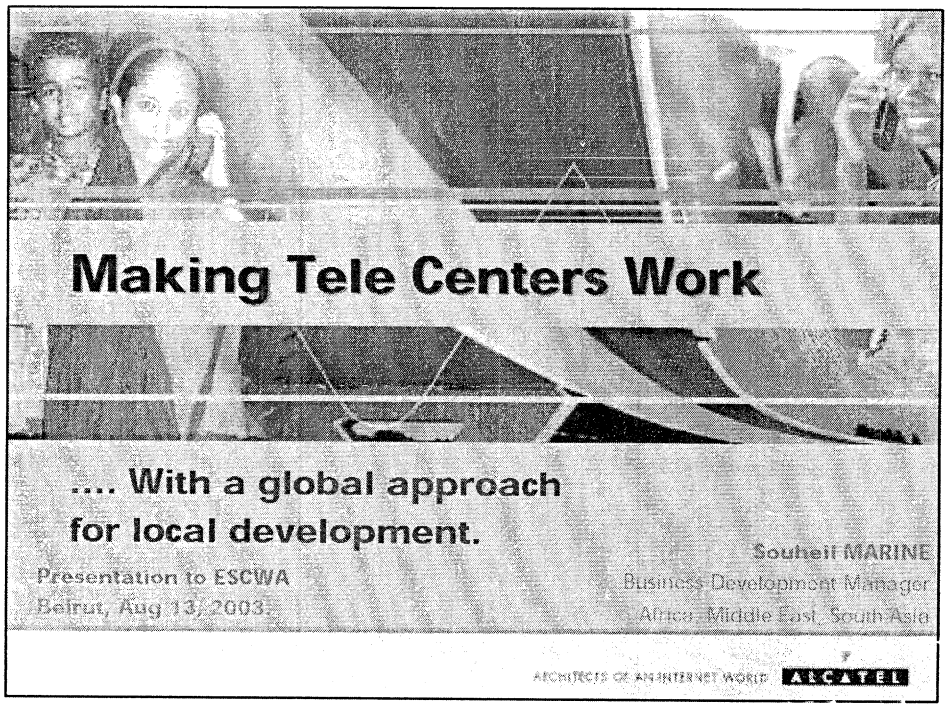

Presentation Outline

> **Success Conditions**

> Providing Useful Services

> Network Solutions

> The Deployment Project

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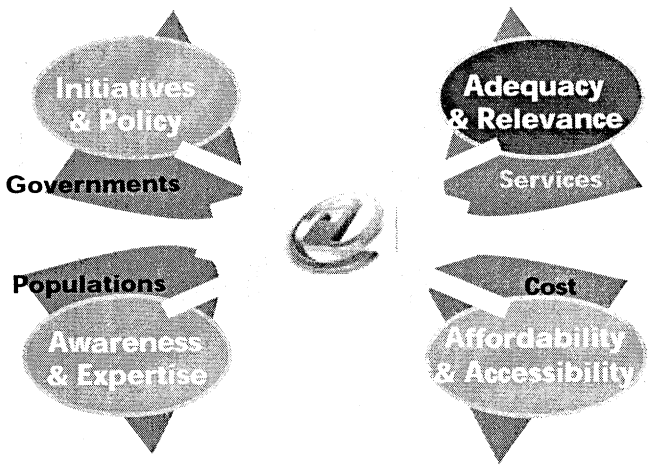
ICT Diffusion Critical Success Factors



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What Services can be offered by a Tele Center ?

- Telephony, Fax
- Office Services
- Internet
  - E-mail
  - Web Surfing, chat, ...
  - Added Value Services ?
- Training
- Business Environment

In urban or rural > tele center Internet represents ... rarely more than 5 to 10% of revenues ! Why ?

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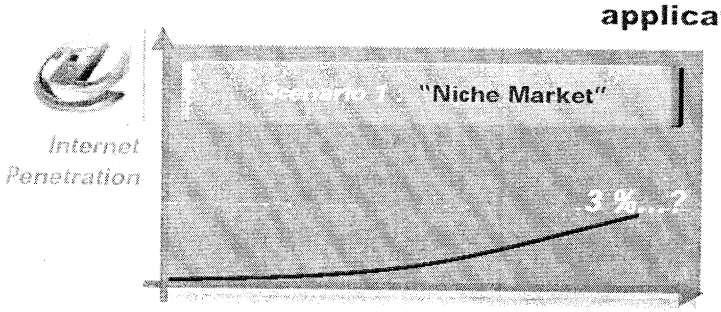
Internet for whom? and for what?

...merely **duplicating** industrialized world **usage & applications**



Worldwide Browsing
Tele-medicine & education
Global e-Commerce, ...

Content relevancy...?
Bandwidth requirement...?
Investment capability...?
Market size...?

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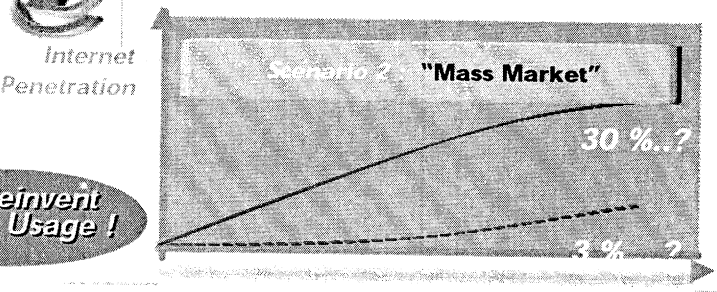
Internet as a local development driver ?

INTERNET, as Public Utility

Internet is seen
as a prime **Communication Tool**
offering **useful end-user services**
based on **local content**
via **Community Access**



... to Reinvent Internet Usage !

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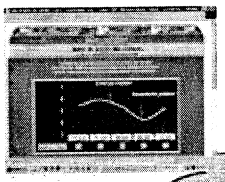
Infant Sanitary Prevention Service



Weight Data

Alerts

Internet

Weight Collection & Alerts

Sick children for Medical Visit (100 per month)

1500 «subscribed» Children

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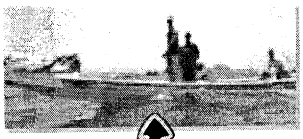
Improving Fishing Productivity & Safety

Fishing & Safety



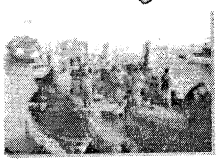
Job Offers

Internet

Fishermen

Transport Planning

Transport & Efficiency



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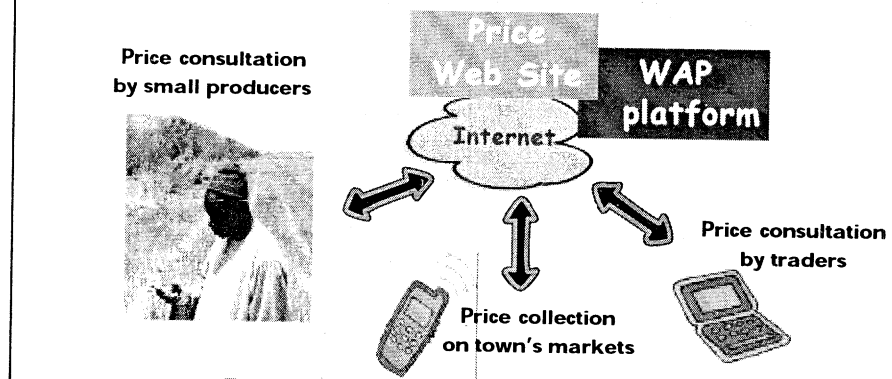
A "virtual" market place

Professional Tool to manage Food price on real time



The cost of the service is quickly paid back by the increase of producers' margins

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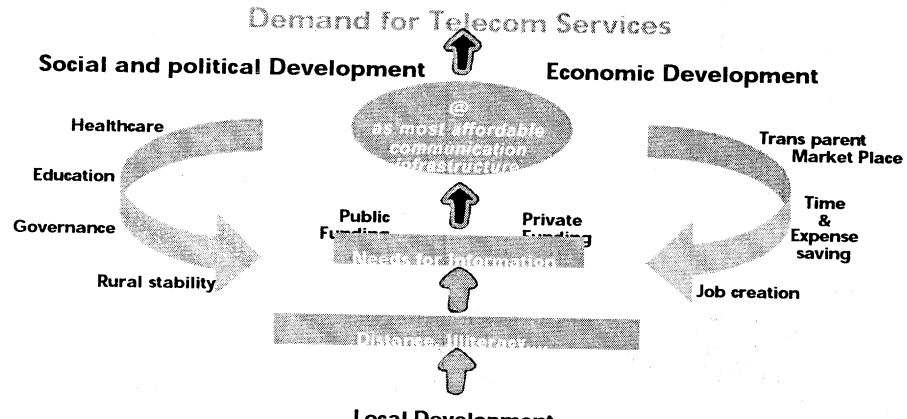
ICT-based Development Model
New virtuous cycles



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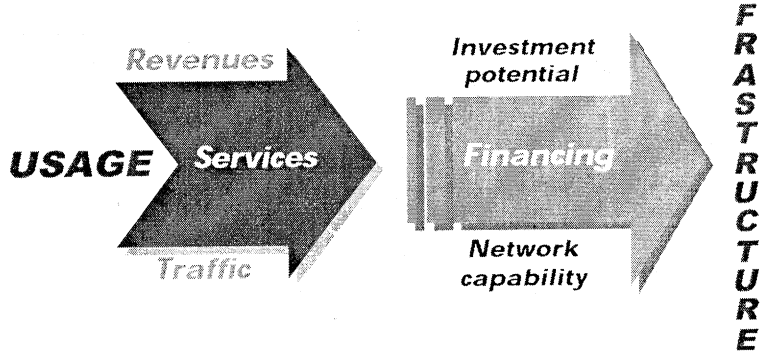
From usage to Infrastructure....

... to demonstrate investment pertinence



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Funding Universal Access

Demand is much Higher than Service Offer

Funding is the Cornerstone

Profitability and Sustainability must be proven !

... In association with...

Demand Solvency
Internet Added Value Services

Subsidies and Beneficiaries
Universal Service Funds

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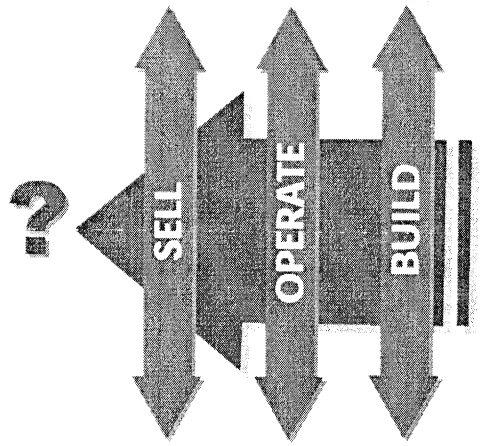
Who makes what?



- Tele Centers
- Networks Access & Transport
- Application Platform
- Services & Content

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Success Conditions

- Involve all local actors
- Develop local added value services
  - Local content
  - Proximity Services
- Start with an experimental phase and evaluate its results
- ... And build close partnerships for
  - Definition of service offer,
  - Setting up of Tele Centers and access means
  - Financing
  - Operation, maintenance and marketing

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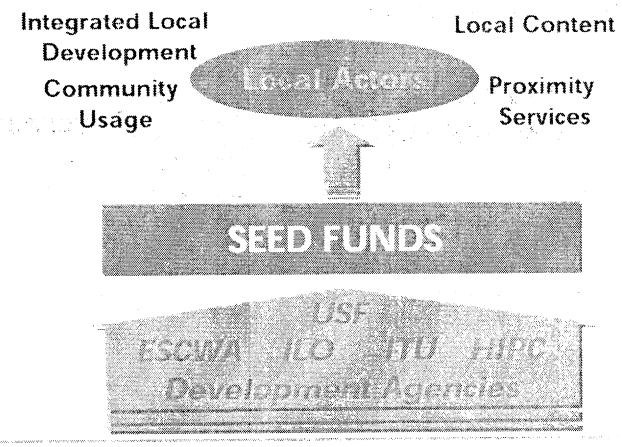
Supporting Innovation and Creation



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Presentation Outline

> Success Conditions

> **Providing Useful Services**

> Network Solutions

> The Deployment Project

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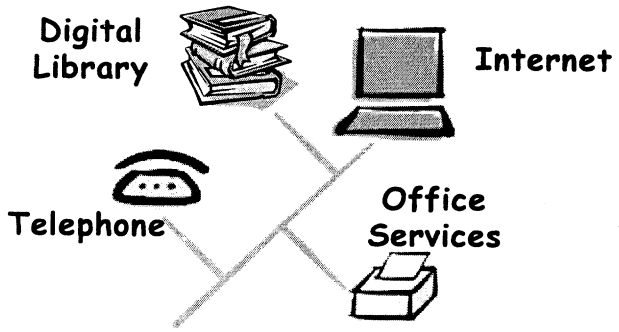
Community Tele Center Services

A **Community Tele Center** can offer a variety of services .....



... and assist persons who don't master the ICT tools or are even illiterate !...

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Users and Services

- **Types of potential users**
  - Institutional,
  - Professionals,
  - Civil Society (private, associations, NGO, ...)
- **Service Categories**
  - «Citizen» services; public usage
  - «Customer» services; private usage

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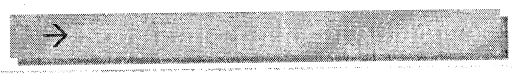
"Citizen" Services ....

> **Facilitate communication between Public Authorities and Citizens:**

- **Support governance** (e-government, social, education, ...)

> **Access via Internet to information**

- **administrative** (official information and local expression, registering, land register, education, ...)
- **practical** (community life, health, environment, transportation, ...)



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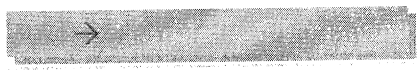
«Client» Services ....

> **Facilitate communication between economic actors (professionals) and with private persons**

- Satisfy essential population needs and development of the local life

> **Access via Internet to information :**

- **Commercial type e.commerce** (client-supplier marketplace, trading,...)
- **Daily practical information** (food supply, health, job offers, training, ...)



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> The Deployment Project

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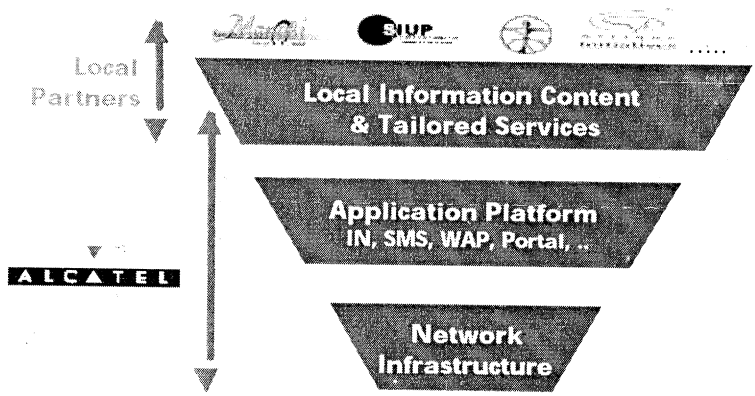
An end-to-end Offer offering locally-tailored services



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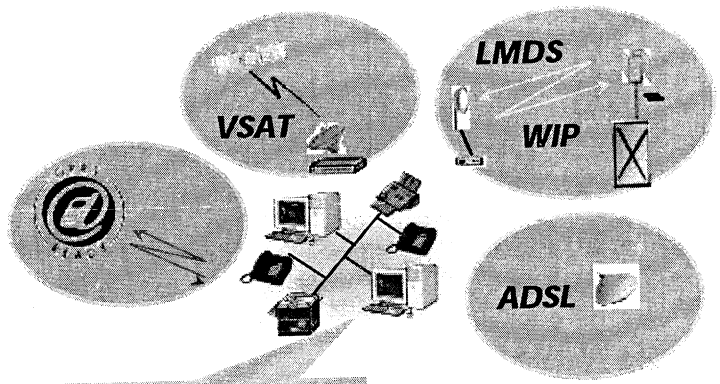
Broadband Access is needed to open up Rural areas



Tele Centers or SMME

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New Access Technologies : ADSL

«Broadband on existing copper wires»

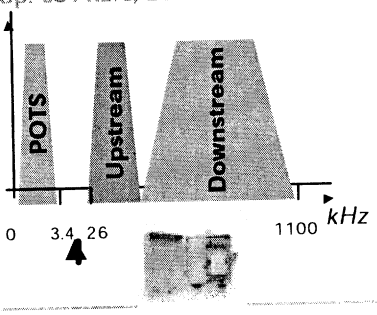
> **Applications**

- Telephony + Data
- Broadband Internet Access
- Permanent Link (Always On)
- Rapid deployment

> **Constraints**

- Non existent (or bad quality) copper wires
- Telecom connection
- Few Kilometers Range

Up: 768 Kb/s, Down: 8Mb/s
Up: 384 Kb/s, Down: 1.5 Mb/s



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New Access Technologies : LMDS

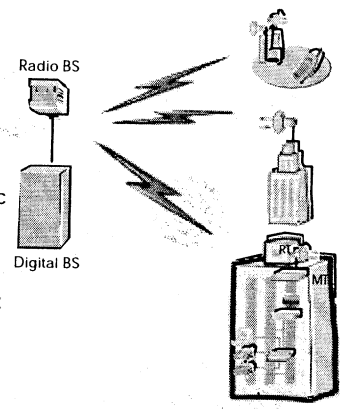
«Offering Broadband Services to enterprises»

> **Applications**

- **L**ocal Radio Loop
- **M**ulti-point: few tens of users per Base Station
- **D**istribution: up to 10 Mb/s, dynamic allocation
- **S**ystem: voice/data Broadband services, Packets and circuits
- Rapid and gradual deployment

> **Constraints**

- Radio Frequencies
- Range of 5 km at 24 GHz



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New Access Technologies :WIP (Wireless IP)

«Connecting Tele Centers and SMME»

> **Applications**

- Local Radio Loop
- Multi point: few tens of users per base station
- Terminal Bandwidth: up to 3 Mb/s
- Broadband Services: Native IP, Quality of Service
- Optimized Voice over IP
- Rapid and gradual deployment

> **Constraints**

- Radio Frequencies
- Range of 15 km at 3,5 Ghz

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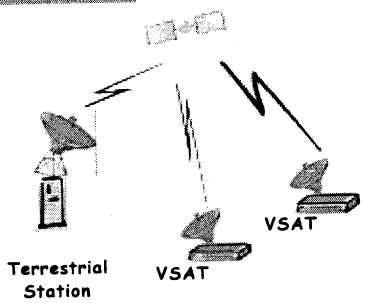
New Access Technologies : VSAT

«Connecting most isolated zones»

> **Applications**
- Bidirectional services
- Star or Meshed Network
- Telephony, fax, Voice over IP
- Data and Internet
- Video: TV, visio conference
- Rapid and gradual deployment

> **Constraints**
- Location of space segment
- Master station



down: up to 53 Mb/s
up: up to 384 Kb/s
Voice compression down to 8 Kb/s

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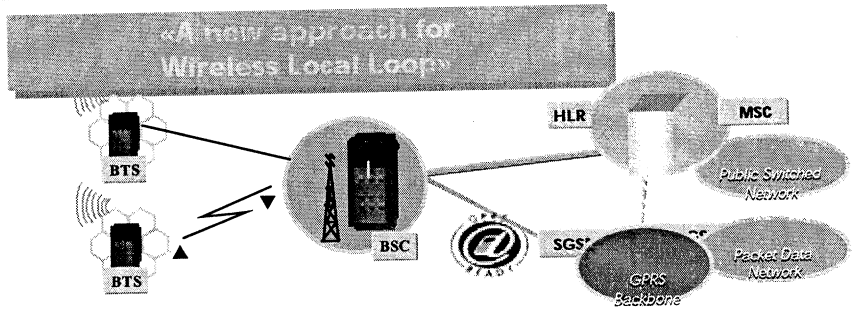
New Access Technologies : GSM/GPRS

«A new approach for Wireless Local Loop»



> **Applications**
- GSM Telephony and GPRS data
- «Intelligent Network» services
- Rapid and gradual deployment
- Simplified management

> **Constraints**
- License and frequencies attribution

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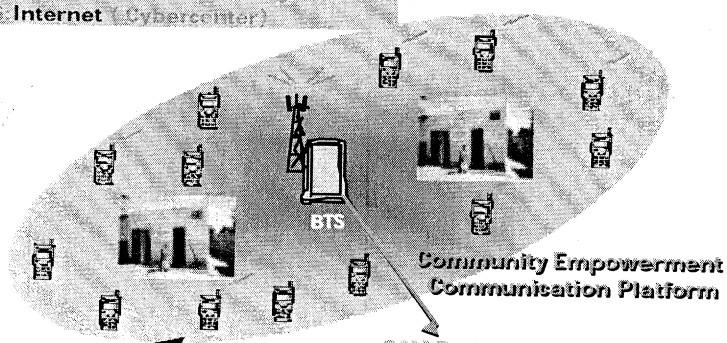
Community Universal Access Platform

Prepaid GSM with Restricted Mobility : **Phone**
Fixed GPRS **Internet** (Cybercenter)

- Community Services
- End user Assistance
- Central Battery load



Community Empowerment Communisation Platform

GSM Backbone Infrastructure "National Operator"

Local operator Local Community Funding

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Which access technology? .... As a function of usage type

Subscriber density / km²	
High	1000
Medium	100
Low	20
Very low	1

BASIC WIRELINE (Direct or Concentrated)

MULTISERVICE WIRELINE

GSM RESTRICTED MOBILITY

BROADBAND WLL

SATELLITE

Services: POTS, Fax, Dial-up Internet, ISDN, High Speed Data

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Other choice criteria ....
For an optimized technical solution

> **Cost of Ownership**
  - investment or capital cost (amortization)
  - operational cost

> **Business Plan**
  - [Revenues] - [Costs] = Profit
  - Cash Flow analysis and Return On Investment (ROI) time frame

As a function of strategic options
- **marketing**
- **deployment plan**
- **financing terms (debt service)**

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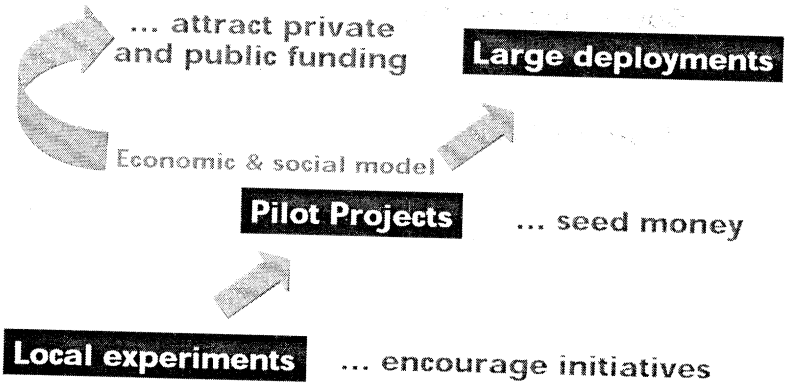
How to concretely go ahead?....



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An unavoidable step: the pilot project

- Observe and analyze the behavior and involvement of local players in front of new ICT services introduction
- Identify deployment requirements and relevancy of potential network solutions, based on innovative 'leapfrog" technologies
- Check market and economic positioning of offered services ("Business model")
- Define a methodology for wider network deployment and operation

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Some Essential Precautions ....

- **Consult and mobilize local actors (customary authorities, associations, NGO, ...)**
  - Mediation with local populations
  - Operational involvement to the project
- **Sensitize local population through information meetings**
  - Objectives and stakes
  - Access modalities and services interest
  - Local language

Guarantee the support of local actors and populations

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Potential participants to a pilot project

- **... Public parties** representing
  - Government (involved ministries)
  - Telecom Regulation Authority (if existing)
  - Regional or District Communities
  - Local Communities
- **... Private parties** representing
  - Networks and Services operators
  - Tele Centers Operators
  - Software companies developing applications and content
  - End-users representatives
    - Professional organizations
    - Associations, NGO, ...

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Main tasks of a pilot project (1)

- **Task No.1 : Prepare and Present the project and the network deployment and test**
  - Presenting the project to local actors and identification of potential partners
  - Definition of end-users services with a high involvement of local actors
  - Field study for implementation of telecom installations and associated infrastructures
  - Detailed design of the Pilot network architecture
  - Development of services and applications

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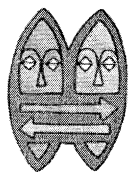
Example of Task 1
Definition of Internet Services in St. Louis (Sénégal)

- **Strong involvement of Young**
  - 38 students
  - 200 interviews

ISM

École d'Ingénieurs Sup'Média



- **What are your daily problems ?**
  - Health , notably children
  - Training and Employment
  - Fishing sector
  - Tourism

Initiatives

An innovative methodology ....

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Main tasks of a Pilot project (2)

> **Task No.2 : Deployment of the pilot network**

- Build the host infrastructures (buildings fitting out, antennas support, Pylons...)
- Delivery and Installation of Telecom equipment
- System and software integration
- Training of operational local actors
- Validation tests before service offering

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Main tasks of a Pilot project (3)

> **Task No.3 : Carrying out and follow up of tests**

- Assistance to technical management of the pilot network
- Assistance management and sales of services
- Analysis of end-users satisfaction
- Study of the Tele Center economic model
- Writing of final report (results and analysis)

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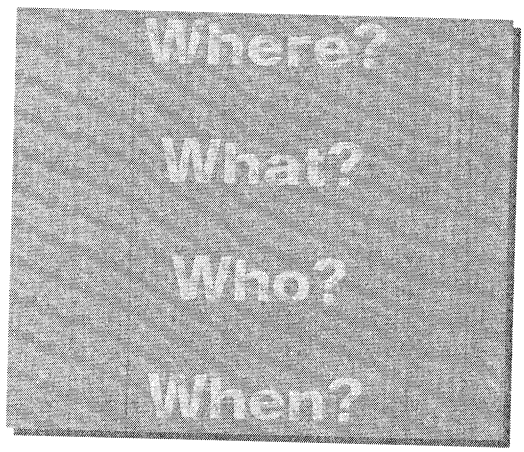
... and now ?



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For more information, please contact

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