

## Infrastructures & Services, Strategies for Success

### Which Strategies & Services?

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## Infrastructures & Services, for What?

- Today's telecommunications infrastructures and services are mainly aimed to offer:

### **BROADBAND**

*"The ability to rapidly transfer large amounts of Video, Data, & Voice Information among fixed and/or mobile users"*

- It is not just a fashionable word, it will change our future and it will improve the quality of our lives (...if well used).

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## BB: a Need to Improve Our Life

- Broadband services are not a luxury: they can actually and positively change our economies and lifestyles
- A few examples:
  - Internet is largely underutilized without broadband
  - Millions of \$ are spent today in travels that in most cases could be avoided
  - Better and cheaper education could reach everybody
  - Large amount of information could be immediately available, if reachable in a decent time
  - Hospitals might exchange video, radiographs & other info in real time for consultation & mutual support
  - Business could be done on the move (...is that a real advantage?)

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## A Worldwide Need

- This need of BB is common everywhere, not only in the developed world. For example, recently, we at HNS had three problems to solve, from Africa:
  - Hospitals in the middle of remote regions, with a civil war going on, without proper BB communications links:
    - no real time consulting.
    - no possibility to send radiographs & other data to major centers for consultation.
    - no professional updating.
    - not even updated lists of drugs, etc.
  - Local radio re-broadcasting in remote sites, also with addition of local news.
    - Radios in local language are just a few in Africa, most of local people do not speak, for example, English or French or Portuguese or Swahili
  - Internet Access (& Voice over IP)
    - Internet today is the cheapest way of communicating with their dears for the immigrants in Europe. They cannot afford usual telecom tariffs

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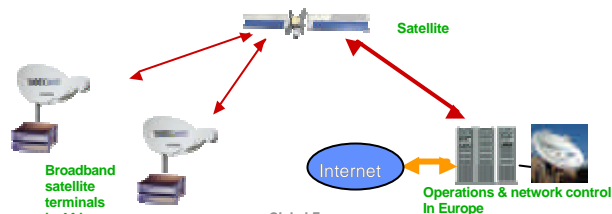
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## The Specific Solution



- A broadband, small, affordable, easy to install **two way satellite terminal (VSAT)** in a “star” network
- Today this network operates about 300 broadband satellite terminals, connecting villages in remote areas, local hospitals, local radios, including broadband Internet access (with voice) for residents



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## Broadband: Still a Long Way to Go



- **WWW = World Wide Waiting** is what we usually get, but even that already changed our lives. Its influence will increase with BB
  - Could you talk before from Rome to Brazil one hour for 3 Euro or less?
  - What if the entire world could be reached in videoconference, at a cost of a today's urban call, even on the move?
- However, we seem to have a gap in available technologies:
  - PC's today may easily have:
    - 3 GHz speed
    - 120+ GB hard disk
    - 1 MB+ Memory
    - Wireless Access, very enhanced video capability, etc.
  - Normally the BB we can find on the market to link them is:
    - A very few Mbps download speed
    - A very few 100 Kbps upload speed (what about attachments?)
- Or even much, much less than that, 56Kbps is still the norm...
- It is like driving a Ferrari on a country lane, but even this “fast” lane is not available everywhere!

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## Many Technologies, None Final



- Fiber is still too expensive to be installed anywhere
  - ♦ But, it offers plenty of speed both ways
- xDSL has interferences & distance issues
  - ♦ But, most of the existing copper network can be used
- Existing satellite in general lacks up-link speed and, today, networks must be mainly configured in a “star” to be affordable
  - ♦ But, it can reach almost any place in the world at a reasonable cost
- TV cable is not available everywhere and it lacks speed as well
  - ♦ But, where existing, it is possibly the cheapest broadband carrier for home
- Wireless requires bandwidth (although technology is improving the use of this scarce resource), expensive infrastructures and might not be well accepted in large amount, due the suspicion on electric pollution
  - ♦ But, it can supply BB to anybody in a given area, even on the move

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**Only a strategy assuming a combination of all technologies, to be adopted each one where better suited, can supply Broadband to all**

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