



Interest of Telecom Satellite



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ICT and the Digital Divide:

- ◆ Many regions in the world suffer from a **lack of connectivity, especially in Developing countries**: isolation of population, low growth, no communication means, no commercial or cultural exchange....
- ◆ Those concerned regions, on the other hand, have a **very young population** which needs to be educated, cured, informed and trained to better participate in their country's development
- ◆ Infrastructures and skills (teachers, universities, hospitals, administrations...) are **not sufficient nor easily accessible** for most of people, as territories are very large, with sometimes quite a low density, and a weak financial investment power

ICT for Capacity building: a Huge potential

- ◆ ICT and satellite solutions provide a unique answer to this problematic, as it offers performing and reliable communication means that can **support most of the activities of the population, the institutions and the governments.**
- ◆ A strong effort shall be put on the setting up of pilots and demonstration **to raise awareness on the huge richness and potential of development** brought by ICT's advanced applications, combined with satellite technologies

General overview

- ◆ The **Applications Domains / Thematic and Departmental fields**: Most of the activities at local, regional, national and international scales can be efficiently enhanced and supported by advanced applications offered by ICT:

- **e-Community**

- Includes **e-Education, e-Government, e-Inclusion, e-Economy**: as it meets the same categories of concerns : to inform, communicate, educate, train, sensibly citizens, at any skill level, all along the people's life and according to their specific needs or situation

- **e-Health**

- Includes **Medical Training, Medical Tele-Assistance, Tele-Diagnostic** [Tele-Staff (between radiologist, anesthetist, ...), **Second Opinion** (Tele-expertise)], **Home Services** and **prevention**: as it allows medical expertise being shared and accessible from anywhere at anytime, allows saving redundant costs and ensures a better quality of care

- **e-Risk**

- Includes **e-security and all phases of Crisis management**: warning/alert, response, Mitigation: offering new working tools, optimised efficiency for the organisation of the rescue and its follow-up

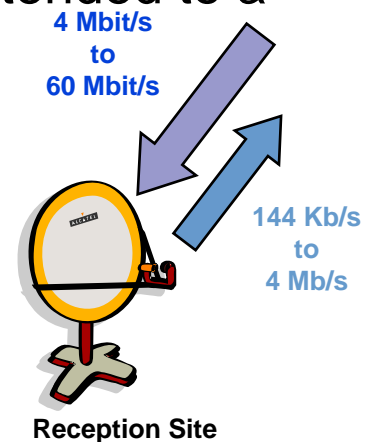
General overview

- ◆ The **Services and Applications** which are the real targets to be studied for a long-term development and use: definition of needed functions and interface
- ◆ The **Actors and their respective roles**: from requirements up to daily usage
- ◆ The **Technologies** including Telecom Satellites

Interest of Satellites

◆ Satellite main characteristics :

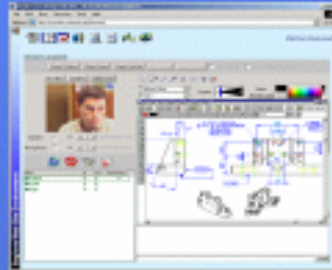
- ❑ **Wide coverage** ... with 1 or more satellites...up to worldwide connectivity
- ❑ **High bandwidth** => high volumes and best quality of the content, better interaction => optimised Usage
- ❑ **Quality of Services and Security**
- ❑ Satellite eases the “**test&deploy approach**” : Small pilots, once successfully connected and active, can easily be extended to a significant number of additional sites



Interest of Satellites

- ◆ Satellite homogenises **connectivity and interoperability** : It offers a unique answer to communicate from anywhere with anyone, as it allows combining satellite systems with heterogeneous existing facilities and networks:
 - In the same working session, users with different technologies may interact the one with the others:
 - 2-ways satellite + 1-way satellite with terrestrial return link + only 1-way satellite + only Terrestrial= one unique live session
- ◆ Satellite can provide a **wide range of Applications**,
 - **Content distribution**
 - **Web based working/learning**
 - **From low to High-Quality Streaming (Live or Recorded)**
 - **Videoconferencing**
 - **Virtual classrooms and Collaborative Work**

What does an “end-to-end application solution” mean ?



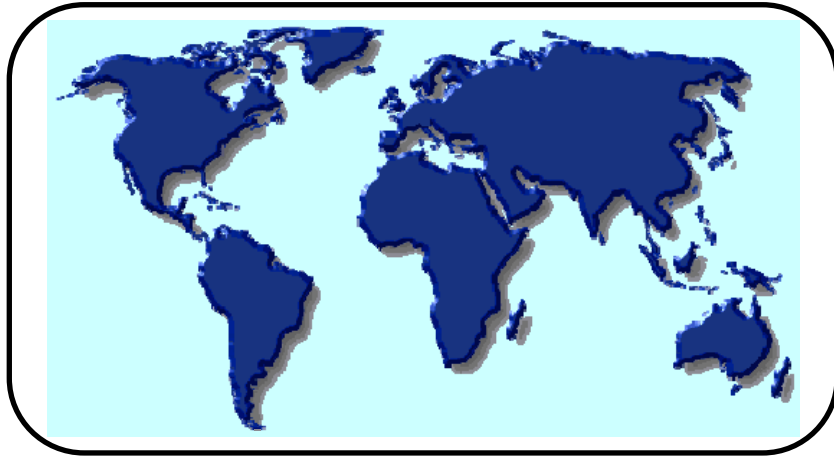
Application Solution



- User Reats
- Custom Reats
- Design
- Provision
- Deliver
- Integrate
- Validate
- Train
- Tele-Maintenance
- Support

- Why telecommunications by Satellite ?

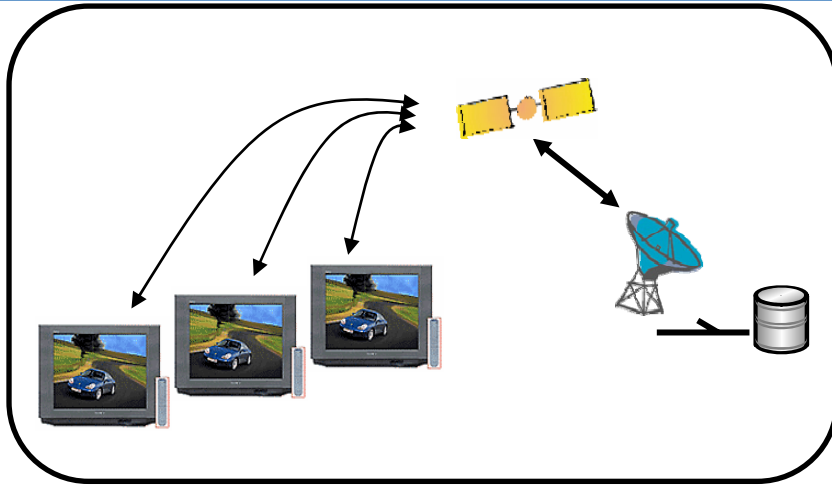
Why telecommunications by satellite ?



◆ Geographic coverage

- ◆ Thanks to the satellite, any client site under the coverage:
 - ☒ may be connected to any other site
 - ☒ benefits immediately from all the set of applications hosted by the services platform
- ◆ The satellite is the only available communication link
 - ☒ in all the isolated areas, far away from cities

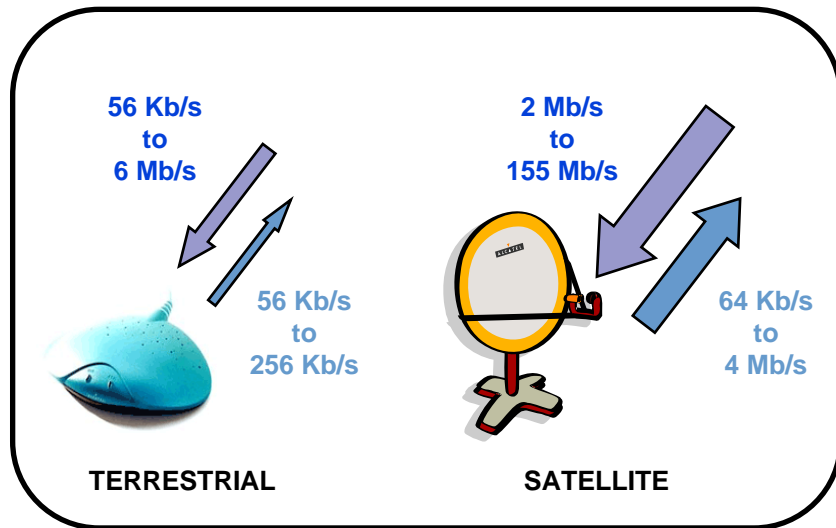
Why telecommunications by satellite ?



Guaranteed QoS & Multicast technology

- ◆ By opposition to usual terrestrial networks working in best-effort mode, using the satellite enables to
 - 📄 permanently guaranty the Quality of Service for each application, especially for very critical videoconferencing or collaborative sessions
 - 📄 optimise the bandwidth usage and hence the cost

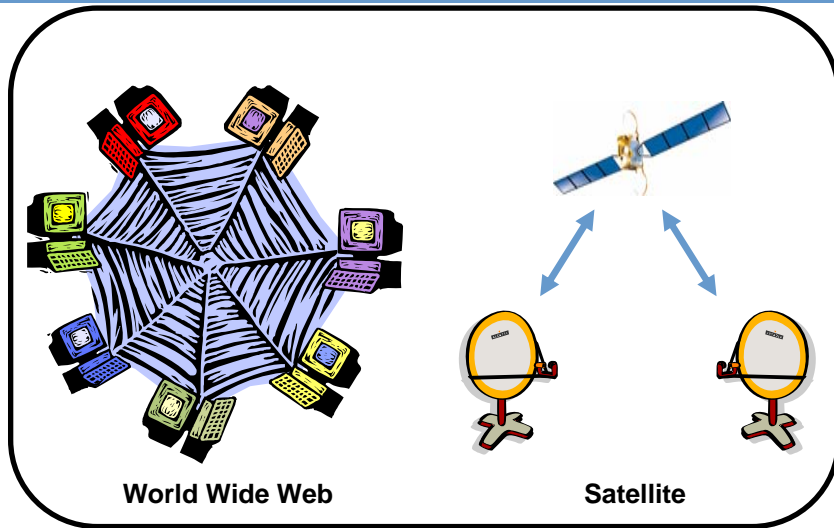
Why telecommunications by satellite ?



◆ Interactivity with high speed

- ◆ Surpassing usual terrestrial networks, satellite enables to
 - 📄 provide all the end-users with interactive application as videoconferencing and collaborative working everywhere
 - 📄 bring broad band connections everywhere required
 - ☑ for receiving and/or transmitting high quality audio and video (video capture from the field)
 - ☑ as well as for huge size data transfer (professional data exchange, professional databases interconnection)

Why telecommunications by satellite ?



◆ Robustness & Confidentiality

- ◆ By opposition to usual terrestrial networks, using the satellite enables to
 - ☐ provide robust and reliable communications permanently
 - ☐ ensure confidentiality of communications and secured multi-points connections