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The Space Contribution to Digital divide and to e-Inclusion and e-Accessibility

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Content

- Elements of context :
The E.C. Digital Divide Forum Report (DDF) and the i2010 initiative
- Need for a new generation of satellite system,
- The relevant satellite solutions for providing fixed and mobile broadband services,
- Some Recommendations

Elements of context

- Bridging the “Digital divide” is still one of the highest priority of the political decision makers.
- Multiple conferences and forums have called for the political willingness to develop a strategy and a concrete Action Plan to overcome the Digital divide.
- Infrastructure, Access, and a Regulatory and Policy Framework are also among the top agenda items of the World Summit on Information Society (WSIS).
- The recent European initiative for the Information Society i2010 (see COM(2005) 229), framed the broadband territorial digital divide into the wider framework of e-Inclusion.

The E.C. “Digital Divide Forum Report: Broadband Access And Public Support In Under-Served Areas” (1/3)

1. The recent and new strategic framework for the European Information Society “i2010 – A European Information Society for growth and employment” places particular emphasis on tackling the issues of both geographical coverage of broadband and the social and economic digital divide.
2. This Digital Divide Forum (DDF) report, issued on the 15th July 2005, analyses the territorial broadband digital divide in Europe and possible EU initiatives to bridge this gap.

The E.C. “Digital Divide Forum Report: Broadband Access And Public Support In Under-Served Areas” (2/3)

The Digital Divide Forum (DDF) Report:

- The [Digital Divide Forum Report](#) follows the request by the White Paper on Space to set up a Forum on the broadband digital divide within the framework of eEurope. The concept of “digital divide” within the scope of the White Paper on Space and of this document, refers to the gap between “have” and “have-nots” in terms of broadband access.

The DDF report relies on:

- EC-ESA report: “Technical assistance in bridging the “digital divide”: A Cost benefit Analysis for Broadband connectivity in Europe” (Pricewaterhouse Coopers: 6-10-2004)
- eEurope Advisory Group, Second Section Recommendations: “[Work Group No.1: Digital Divide and Broadband Territorial Coverage, Written Recommendations](#)”, 29 June 2004
- EC Study: “[Alternatives for extending broadband coverage to under-served EU regions, in the context of the Digital Divide Forum](#)” (October 2004)

The E.C. "Digital Divide Forum Report: Broadband Access And Public Support In Under-Served Areas" (3/3)

The key issues identified are:

- **Remote and rural regions are less well served:** In January 2005 broadband was available to more than 90% of EU15/EEA-urban population but only to 62% of its rural population.
- **Coverage is progressing fast but some areas will suffer delays or be excluded altogether from broadband rollout:** recent study estimates that at least 4.7 million would be broadband users will be excluded by commercial rollout in 2013 in the EU25. Under these circumstances, public intervention may be considered desirable or necessary.

The possibilities for EU level action include:

- Use of structural funds and public-private partnerships
- Exchange of best practices and reinforced monitoring
- **A pan-European initiative for very sparsely populated areas to ensure coverage by satellite.** The Commission services support the idea of demand aggregation as a means of helping to reduce the costs of user equipments in the context of satellite solutions in areas where satellite is considered to be the only practicable solution for broadband delivery.

Need for further appropriate actions

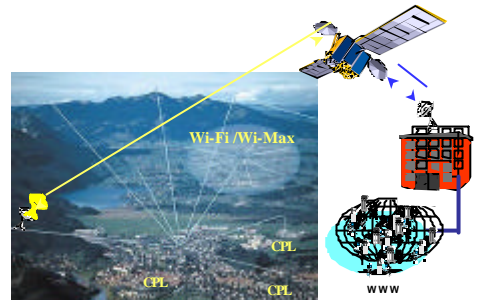
- **To provide broadband access to the most remote and rural parts of The Union is mandatory for obvious social and economical reasons,**
- **A satellite based solution is recognized as the relevant solution for rural and remote areas,**
- **A new architecture satellite system is able to offer a really competitive set of services,**
- **The satellite system is perfectly suited for aggregation of the demand at EU level and providing simultaneously services to the remote area located everywhere in European Union. Dedicated action is needed to aggregate the demand.**
- **A public private partnership initiative may be the key**

Satellite Offer for High Speed Internet Access and fixed and mobile Broadband Services

- **Hybridation of existing broadband satellite with Wi-Fi/Wi-Max and/or PLC,**
- **New generation architecture fixed services satellite systems using multispot coverage and Ka band,**
- **For mobile services: S-DMB an hybrid satellite/terrestrial system**

Architecture based on hybridation of Satellite with Wi-Fi / Wi-Max and/or PLC.

Concept of a shared satellite broadband access infrastructure



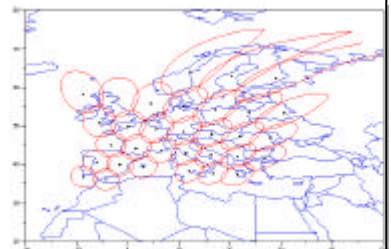
New generation architecture satellite systems using multispot coverage and Ka band,

The French Agora initiative:

- **Main objective: Aiming at the cheapest broadband satellite telecommunication services offer over Europe then worldwide**
- **AGORA acronym stands for "Affordable and Guaranteed Offers for Rural Areas" in English and "Accès Garanti et Optimisé pour les Régions et l'Aménagement du Territoire" in French**

Agora: Example of European multibeam coverage

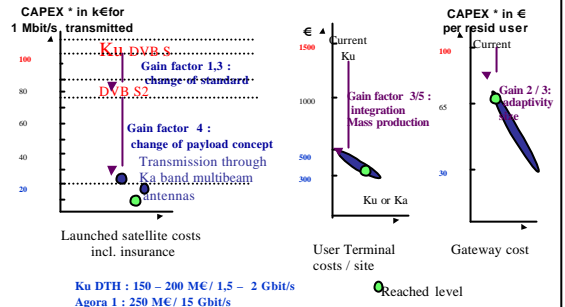
- Typical European coverage
- 32 to 40 spots of 0.65°



The key technical features behind Agora's competitiveness

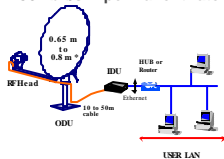
- Europe coverage with 40 high gain spot beams instead of large unique coverage of today broadcast satellites
- Use of Ka Frequency Band
- Adoption of new adaptive DVB S2/DVB RCS transmission standard
- Optimisation of satellite architecture and channelisation
- This combination allows both satellite increase throughput by a factor of 15 and channel cost reduction by a factor of 10
- Development of low cost (< 300 €) user terminals for the mass market

Economical objectives of Agora initiative

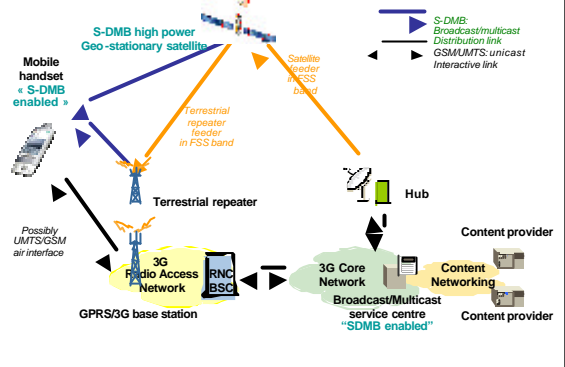


Typical broadband access services offered

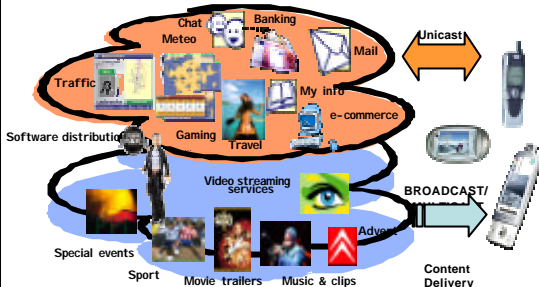
- For professionals (SME), local communities and access points:
2 Mbit/s : 1 Mbit/s permanent rate of 200kbit/s
- For tele-workers (Small office home office- Soho):
1024 kbit/s : 512 kbit/s permanent rate of 25kbit/s
- For residential:
512 kbit/s : 256 kbit/s permanent rate of 12,5kbit/s



Mobile TV through an hybrid satellite/terrestrial : S-DMB



S-DMB typical applications – Broadcast/Multicast services, with a natural complement with unicast mobile networks applications



Some Recommendations

Taking example on the Galileo European initiative and in close relationship with national broadband strategies:

- Develop the relevant mechanism in order to aggregate under-served demand,
- Investigate and set up a public private partnership implying the value added chain actors to develop and deploy a pan-European initiative that may bring satellite services at low price to those communities where satellite is the only available option,
- Rely on national and European Space Agencies to make this initiative a success and a model for other regions around the world



**THANK YOU FOR YOUR
ATTENTION**

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