

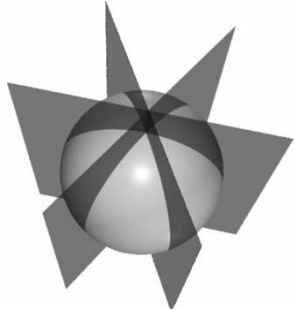
**As TIC como forma de acelerar a recuperação económica: promover o desenvolvimento regional e otimizar a utilização dos fundos estruturais**

**Conferência SFERA, Algarve 2009**

A banda larga como forma de acelerar o crescimento das regiões mais isoladas: casos de estudo e iniciativas europeias

Julián Seseña

**Rose**  
vision

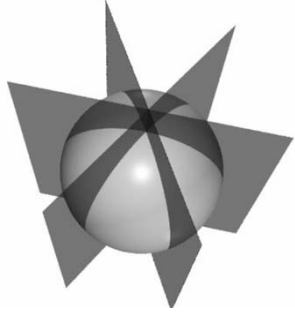


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# Os casos de estudo do projecto SFERA

- Case study is the concrete framework to actually achieve SFERA objectives in supporting regions for the utilization of Structural Funds to develop new opportunities of growth through ICT R&D investments.

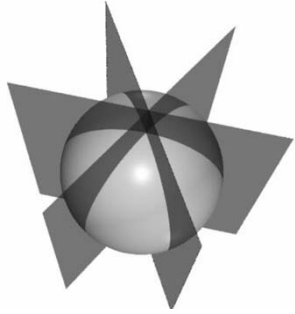
• Thanks to the case study SFERA should be able to transfer to regions relevant knowledge (advices, expertise, technical background knowledge, etc.), compilation of work performed by EC DGs (Regio, INFISO, RTD,...), past experience and outcomes of projects performed by regions.



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# Pontos de partida

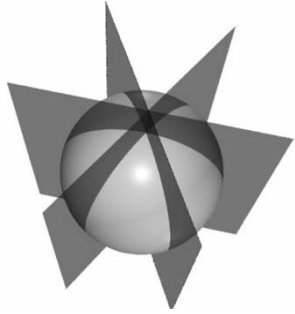
- The starting point of case study activity is to understand actual needs of Regions and local authorities.
- We set out several preliminary criteria for selecting case study:
  - Location of case study in the different countries that participate in SFERA
  - Relationship with ICT adoption by regions, particularly through the use of ICT benchmarking indicators data as collected in WP1 (SFERA or sources such as Transform project)
  - Strong involvement and support of regional/national Authorities (existing SF project or proposals, ...)
  - High potential for ICT solutions, R&D in Future Networks and satellite based ICT technologies



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## Casos analisados (I)

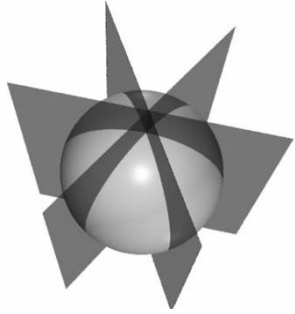
- **Case study 1:** in the field of energy and regional policy for energy efficiency and renewable resources. Relies on an interregional Structural Funds initiative supported by a group of Regions under the leadership of Flevoland region (The Netherland) - Astrium
- **Case study 2:** how satellite based ICT solution and future internet services could fit the needs of Midi-Pyrénées region (France) for a sustainable development of Pyrénées mountain area. Closely linked to an interregional project proposal (France –Spain-Andorra INTERREG IV program) submitted by Midi-Pyrénées region - Astrium



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## Casos analizados (II)

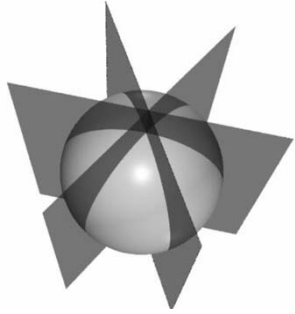
- **Case study 3:** switching the terrestrial television platform from analog to digital technology with the objective to help Cantabria and Asturias Spanish regions to use Structural Funds for fostering the deployment of a DTT satellite-based network that can assure 100% coverage for remote rural regions – Rose
- **Case study 4:** the experience of Castilla La Mancha region in deploying the hybrid wireless technologies to provide broadband access in rural areas and to investigate the conditions for any other European region to follow the successful example of Telecom Castilla-La Mancha - TCLM



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## Casos analisados (III)

- **Case study 5:** help the evolution of research structure in Emilia-Romagna region (LARIA Labs) into more integrated and complex structure (ENVIREN) dedicated to developing new knowledge and technologies for environmental monitoring. That may generate new businesses from advanced services offered by using sat/wireless communications – ASTER
- **Case study 6:** to improve the current digital divide for SME's in the mountainous and rural areas of the Region of the Autonomous Province of Bolzano in Italy. Analyses if the technical solution is a valid and time saving way to improve the conditions for innovation in SMEs. Also highlights research opportunities for the integration of the proposed satellite services into a coherent networking framework for the region - ASTRA

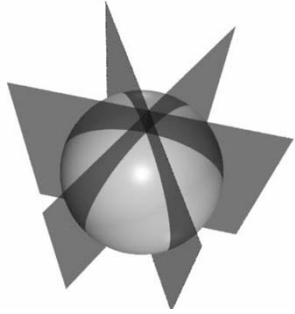


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## Casos analisados (IV)

- **Case study 7:** address the needs of Hungarian State (e-health Minister) to improve the medical level of emergency attendance by using new ICT and internet technologies and network to facilitate the transmission and access to medical data - ISVZ
- **Case study 8:** collaboration with Romanian Minister of Telecommunication in the framework of Knowledge Economy Project (KEP), to foster the participation of knowledge-disadvantaged communities in the society and economy, providing a coherent set of interventions to tackle market failures in knowledge-disadvantaged communities who would otherwise not get access to broadband technology in the foreseeable future - ARIES





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# O caso de estudo de Castilla La Mancha: Broadband through Hybrid Network

## *Case study scope*

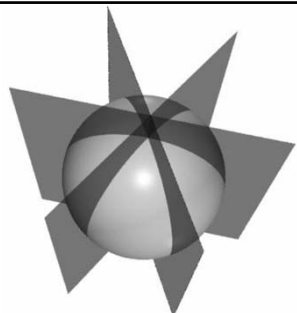
This case study analyses the feasibility of the implementation of hybrid use of technologies, through an intelligent combination of satellite and terrestrial ones, as the most economic mechanism to provide services to users in rural regions:

- Reach health care, education, businesses and residents, so that all of them can benefit from broadband applications.
- Develop new ways of doing business with broadband that will allow companies, institutions and governments to become more efficient by lowering costs and improving productivity.

## *Case study objective*

The key objective is to show how to set up the conditions for any other European Region to be able to benchmark against the successful example of Telecom Castilla-La Mancha in deploying hybrid networks in an effort to achieve the deployment of advanced, affordable broadband services into un-served and underserved areas of Castilla-La Mancha region, through sound investment in new infrastructure that will serve the needs of the region today and in the future.





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# Dados relevantes da região de Castilla-La Mancha (I)



79.461 Km<sup>2</sup> (15.7 % of the surface of Spain): **Vast Area**

2.043.100 Inhabitants: representing **4.2% of the population of Spain,**

25,7 Inhab/km<sup>2</sup>: **the least populated region of Spain,**

919 Municipalities: representing 11,3% of the municipalities of Spain,

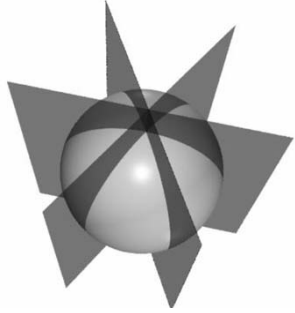
Agriculture and breeding are the most important activities of the region

Generates 3,4% of the national GDP

Distribution of the GDP: Agriculture 11,64%; Industry 14,95%; Energy 3,44%; Construction 10,06%; Services 49,78%

124.170 Enterprises (mainly SMEs): representing 3,92% of the Spanish companies .

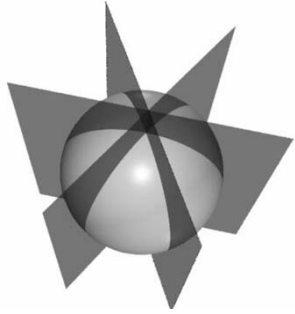
1000 educational centres with 318.000 students and one higher education university with 30.632 students



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## Dados relevantes da região de Castilla-La Mancha (II)

- **CLM region appears in the official statistics of telecom penetration in Spain in the lower ranking:** the ratio of Internet users is below 20% while the ratio of Internet users from homes is below 10%. Broadband connections from home are below 2%.
- Broadband access numbers:
  - Cable: Deployment in towns over 30000 habitants
  - 3G Mobile Services: Coverage of large, low populated areas; Low market demand of services
  - About 1.600 villages: out of these, only 400 are to be covered by wired terrestrial broadband infrastructures. The rest has to be served by any kind of wireless technologies: Satellite-based solutions; Wireless telecom networks
  - 20% of the population requiring wireless solutions

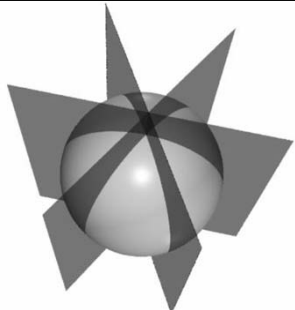


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# Soluções para um rápido acesso à internet nas zonas rurais

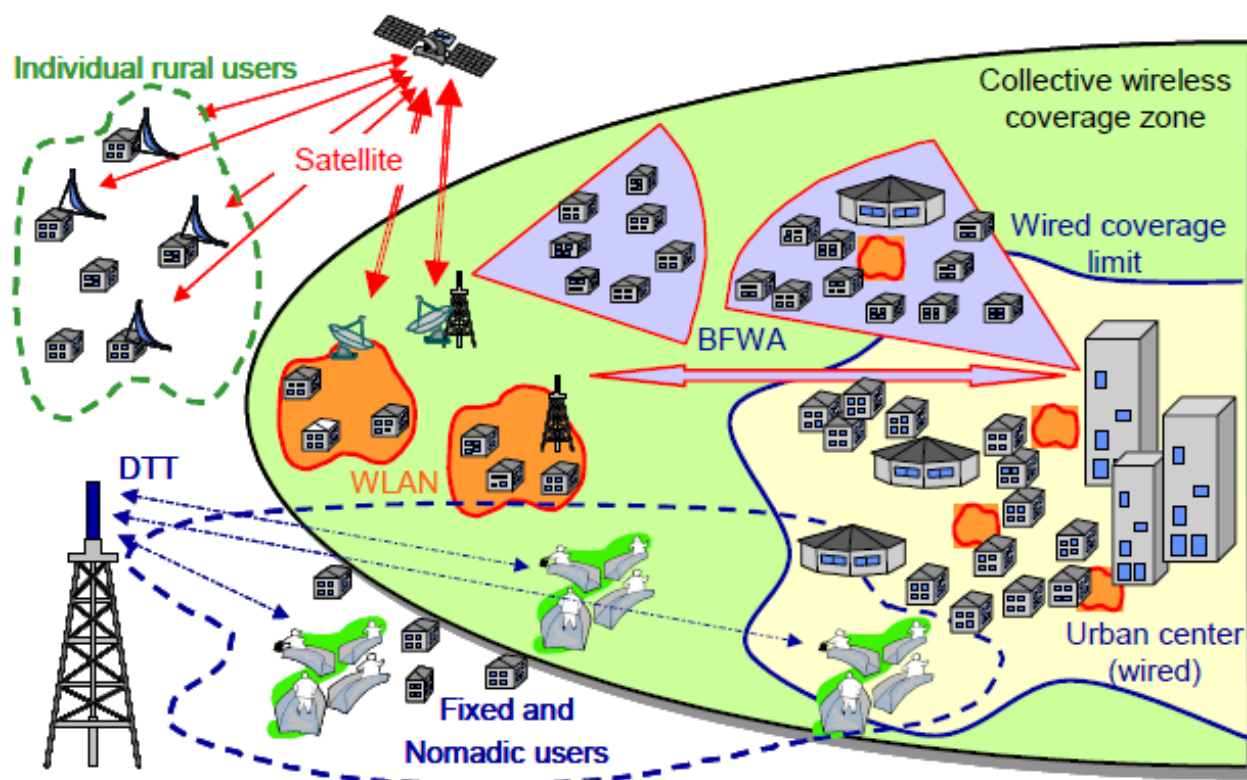
- Hybrid wireless technologies are well suited to provide broadband access since they have enhanced performances compared to single technology based network (in terms of coverage, capacity and throughput) and also considering that there is a bundle of wireless technologies promising to offer superior performances associated with adequate dynamic routing mechanisms and coverage optimization.

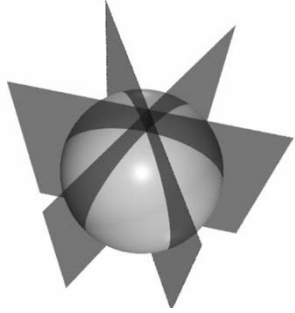




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# Soluções para um rápido acesso à internet nas zonas rurais





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# Conclusões

- **Rural areas account for more than 80% of the territory of the European Union and are home to some 25% of the population.**
- The challenge is to arrive to a point where rural areas reach a degree of development similar to those of urban areas, achieving a deeper integration into today's society and promoting economic development.
- This is the opportunity that technological progress offers, narrowing the gap between the rural and urban populations in its access to the many facilities our civilization has to offer.