

WP2 Early Analysis & Guidelines

Deliverable 3 – Regional / national satellite broadband implementation case studies

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2.1 Review of Member States (national) broadband plans

According to Action 46 of the Digital Agenda for Europe “Member States to develop national broadband plans”, the Member States should develop national broadband plans operational by 2012. National Broadband Plans (NBPs) are the legislative frameworks aimed at improving broadband Internet access for citizens and business. These documents specify different sets of indicators, policies and a range of targets, defined on the basis of the DAE objectives. The Commission reports annually on progress as part of the Digital Agenda governance through “Broadband Coverage in Europe” Reports.

2.1.1. General presentation of the review

2.1.1.1. Chosen indicators for the analysis

The analysis of the review of the NBPs that the SABER consortium is proposing is based on five indicators:

- targeted basic broadband speed (download);
- current percentage of the population covered by basic broadband (i.e the measure of broadband gap);
- targeted basic broadband coverage;
- scheduled achievement of the basic broadband coverage target;
- inclusion of satellite technology in the NBPs.

2.1.1.2. DAE indicators

All these indicators from national levels have to be considered against the same indicators contained in the DAE, respectively:

- targeted basic broadband speed (download): 144 kbps;
- current percentage of the population covered by basic broadband: 95.7%;
- targeted basic broadband coverage: 100%;
- scheduled achievement of the basic broadband coverage target: 2013;
- inclusion of satellite: YES

Extract of the table (see the whole table in Annex):

<i>countries</i>	<i>Basic broadband speed (download)</i>	<i>Population covered by basic broadband (measure of broadband gap)¹</i>	<i>Basic Broadband targeted coverage</i>	<i>Basic broadband coverage timing scheduled in the national broadband plan</i>	<i>Satellite included in the national broadband plan</i>
DAE	144 kbps	95.7% (July 2012)	100%	2013	satellite included
Austria	1 Mbps	95%		2013	
Belgium	2 Mbps	100%	100%	2013	NO
Bulgaria	1 Mbps	91.50%	98% (only 50% for the remote and rural areas)	2015	YES
Cyprus	2 Mbps	100%	100%	2013	
Czech Republic	2 Mbps	94.50%	100%	2013	YES
Denmark	2 Mbps	99%	100%	2013	NO
Estonia		95%	100%	2013	NO
Finland	1 Mbps	97.80%	100%	2010	NO
France	512 kbps	99.30%	100%	2017	YES
Germany	1 Mbps	95.30%	100%		YES
Greece	DAE objective	98.50%	DAE objective	DAE objective	NO
Hungary	DAE objective	93.20%	DAE objective	DAE objective	NO
Ireland	1.2 Mbps	97.10%	DAE objective	DAE objective	NO
Italy	2 Mbps	98.50%	100%	2012	YES
Latvia		89.60%		2008	NO
Lithuania	512 kbps	88.40%	98%	2010	NO
Luxemburg	2 Mbps	100%	100%	2010	YES
Malta	4 Mbps	100.00%	100%		
Netherlands		100%	100%		YES
Norway	640 kbps	95.90%	99.80%	2008	YES
Poland	2 Mbps	72.20%	100%	2013	YES
Portugal	DAE objective	99.50%	DAE objective	DAE objective	
Romania	1 Mbps	91.70%	DAE objective	2015	
Slovakia	1 Mbps	91.40%	100%	2013	YES
Slovenia	2 Mbps	90.10%	98%	2012	YES
Spain	1 Mbps	96.90%	100%	2012	NO
Sweden	1 Mbps	98.60%	100%	2013	YES
United Kingdom	2 Mbps	100%	100%		YES

¹Broadband coverage in Europe in 2011, European Commission, DG Communications Networks, Content & Technology

<http://ec.europa.eu/digital-agenda/en/news/study-broadband-coverage-2011>

2.1.1.3. Results

Based on the review of the National Broadband Plans, it results that out of the 23 documents found (out of 28 studied countries):

- More than 55% of the countries include satellite technology in their NBP (13 out of 23): Bulgaria, Czech Republic, France, Germany, Italy, Luxemburg, the Netherlands, Norway, Poland, Slovakia, Slovenia, Sweden and the UK;
- a minority do not include satellite in their broadband strategy (10 out of 23): Belgium, Denmark, Estonia, Finland, Greece, Hungary, Ireland, Latvia, Lithuania and Spain.

The “Broadband coverage in Europe in 2011” report from the European Commission assumes that six countries have already achieved the 100% coverage objective by now. **These 100% coverage data have to be checked with the partners!**

It appears that three of these countries, namely Luxemburg, the Netherlands and the UK, include satellite in their NBP. Belgium, where also 100% of the population is covered by broadband, does not mention satellite in its national broadband strategy. Concerning the two other countries (Malta and Cyprus), no information on their NBP were found.

Therefore, 50% of the countries that have achieved 100% before the 2013 deadline considered satellite in their mix of technology.

2.1.2. **Analysis of the results**

2.1.2.1. General outcomes

Based on the NBPs that include satellite in their mix of technologies, some general features appear:

- necessity of setting a **mix of technologies** that implement the **use of ALL the available technologies** (*France and the UK*);
- inclusion of **satellite among the technologies that provide basic broadband** (*Bulgaria, Germany, the Netherlands and Slovakia*);
- recognition of the **universal coverage of satellite broadband**, that is **independent from the density of population** of the territory; thus, acknowledgement that satellite is an **important means to reach the 100% coverage target** (*Czech Republic, Germany, Luxembourg, Poland, Slovenia, Sweden and the UK*).

Even in countries that do not include satellites in their NBP, the necessity to include this technology is put forward, as for instance in Spain. Indeed, although Spanish NBP does not

mention satellite, a Report for Digital Agenda for Spain² from the Spanish Government recommends in its section on “how to improve the deployment of networks” to include satellite solutions in order to reach the 100% coverage objective, especially for areas where deployment of terrestrial technologies is non-profitable for private operators.

2.1.2.2. Specific features

Besides, the outcomes of the review of the NBPs emphasise specific elements:

➤ **dedicated section on satellite technology or satellite broadband architecture with a balanced description (advantages and drawbacks)**

- Description of satellite broadband architecture:

Britain’s Superfast Broadband Future, Department for Business, Innovation & Skills, Department for culture, media and sport, December 2010, p.18

“Chapter 3: Technology options

DEVELOPMENTS IN WIRELESS TECHNOLOGIES

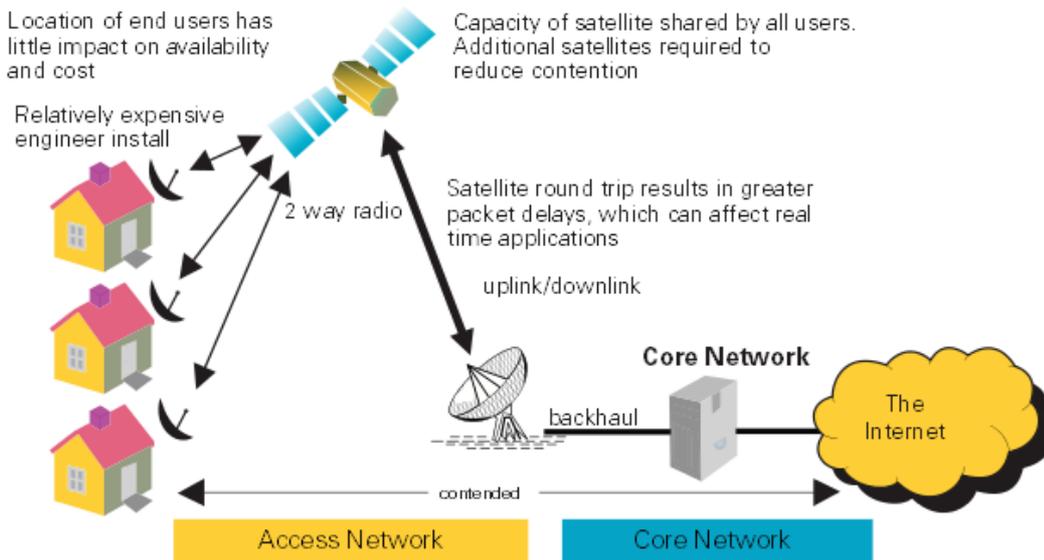
3.13 Another technology that can be used to deliver broadband services is satellite. The UK benefits from three satellite arrays. Providing broadband services over satellite to the general public is a new and developing market sector. Satellite using the Ka-band can offer high data rate services to large number of customers at an acceptable price point – with more than 150,000 connections likely to be available before the end of 2011 following the successful launch of Avanti’s Hylas1 satellite at the end of November 2010.

While the physics of being 30,000 km away cannot be completely overcome, particularly its impact real time two way services (voice, video conferencing, gaming) it has a potential role to play in delivering data to set-top boxes and other computing devices. Satellite is a viable option for the most remote users and for those in some other not-spots. It will need to be part of any solution aiming at universal coverage.”

² Informe de recomendaciones del Grupo de Expertos de Alto Nivel para la Agenda Digital para España, Ministerio de industria, energía y turismo, Gobierno de España, 22 de junio de 2012

<http://www.minetur.gob.es/telecomunicaciones/es-ES/Novedades/Documents/informe-recomendaciones-ade.pdf>

Figure 3.3



- Balanced description:

The Federal Government's broadband strategy, Federal Ministry of Economics and Technology, February 2009, p. 24

"Appendix:

Technologies and opportunities

[...]

Satellite

Internet is primarily an option for locations that do not have access to terrestrial broadband, in particular those outside interconnected settlement areas. However, its benefits – widespread, immediate access – are compromised by certain technological restrictions in terms of capacity and by high monthly charges. In particular, the upload rate via satellite Internet is very low and, because it takes a relatively long time for the radio signals to be sent and received (latency period), this broadband technology has limited suitability for realtime-critical applications. Nevertheless, download rates of 1–2 Mb/s and higher ensure access to all core Internet services (excluding online gaming). Existing capacity restrictions, which currently enable simultaneous usage by just 10,000 users nationwide, are expected to increase significantly as of 2010, once the planned use of "spot beam" technology to provide satellite broadband services has been implemented."

➤ **eligibility of satellite and satellite terminals to public funds**

NARODOWY PLAN SZEROKOPASMOWY, Departament Telekomunikacji MI, Ministerstwo Infrastruktury³, March 2011, p. 14

“Środki pochodzące z realizacji programów operacyjnych mogą służyć również, jako źródło dofinansowania urządzeń abonenckich. Na ten aspekt zwracają uwagę przedsiębiorcy świadczący usługi satelitarne, działający w ramach Grupy Roboczej Okrągłego Stołu Satelitarnego. Wskazują oni na konieczność opracowania rozwiązań systemowych, które umożliwiłyby skorzystanie z osi 8 Programu Operacyjnego Innowacyjna Gospodarka dla sfinansowania dopłat do kosztów zakupu terminala, osprzętu instalacyjnego oraz samej instalacji urządzeń umożliwiających korzystanie z usługi szerokopasmowego dostępu do Internetu w technologii satelitarnej. Technologia ta bowiem może skutecznie pomóc w likwidacji białych i szarych plam pokrycia szerokopasmowa sieć telekomunikacyjną oraz może być skutecznym narzędziem walki ze zjawiskiem wykluczenia cyfrowego. Ponadto

przedsiębiorcy wskazują na konieczność:

- *określenia zasad kwalifikowalności i wysokości dofinansowania rozwiązania satelitarnego we wskazanej lokalizacji,*
- *udostępnienie telefonicznej i internetowej procedury składania wniosków o dofinansowanie sprzętu i instalacji,*
- *wyłonienie dystrybutorów usług satelitarnych spełniających ustalone kryteria i oferujących usługi zgodne z ustalonymi kryteriami.”*

Translation to be improved:

“Funds from the implementation of operational programs may also serve as a source of financing for user equipment. This aspect was pointed out by satellite service providers operating within the Satellite Working Group Roundtable. They pointed the need to develop system solutions that allow the use of the axis 8 of the Operational Programme Innovative Economy to finance subsidies for the purchase and installation of the terminal equipment This technology can effectively help with the elimination of white and gray spots covering broadband telecommunications network and can be an effective tool in the fight against the digital divide. According, satellite service providers, there is a need to:

- Determining the eligibility rules and funding of satellite solutions in the specified location,
- Provide telephone and online application process for financing equipment and installations
- The emergence of satellite distributors that meet the established criteria and offering services in accordance with established criteria.”

³ NATIONAL BROADBAND PLAN, MI Department of Telecommunications, Polish Ministry of Infrastructure

- **link between satellite broadband and rural and/or sparsely populated areas where there is no investment from private operators**

Broadband network development strategy in the Republic of Slovenia, Government of the Republic of Slovenia, July 2008, p. 10

“Satellite broadband connections are becoming interesting due to the powerful way they integrate capacities, in particular for remote and less accessible areas. The idea of capacity integration is based on the fact that the satellite beam non-selectively covers a vast geographical area, and thus a critical concentration of users in a narrow geographical area is not required. With organisational methods, it is possible to virtually integrate individual users who are otherwise geographically dispersed and who, together, represent for the satellite services provider demand sufficient for particular services to generate acceptable prices for such services.”

Concerning Poland and Slovenia, a contradiction has to be noted. Although they include satellite technology in their NBP, they did not implement it (Slovenia) or struggled to implement it (Poland) within calls for tenders.

- **cost-efficiency and easy set-up of satellite broadband**

Stratégie nationale pour les réseaux à « ultra-haut » débit - L'« ultra-haut » débit pour tous, Ministry of Economics and External Trade, Ministry of Media and Communications, Government of Grand Duchy of Luxembourg, April 2010, p. 11

« 3. Satellite

Le satellite est une solution économique, rapidement disponible et qui peut couvrir toute une région en haut débit indépendamment de sa topographie. C'est donc un moyen idéal pour arriver à un taux de couverture de 100% puisqu'il permet d'atteindre des endroits éloignés ou peu peuplés qui ne justifient pas le déploiement d'un réseau en fibre optique sur le plan économique. Le gouvernement soutient le développement d'offres haut débit par satellite par la mise en place d'un cadre réglementaire adapté. »

2.1.3. Recommendations

To conclude, some recommendations can be raised from these observations:

- the mix of technologies should not exclude implicitly any available technology, in compliance with the principle of technological neutrality;
- recognising at least satellite among the technologies providing basic broadband access; and as a consequence, implicitly recognising satellite as a complement to the terrestrial technologies;
- mentioning the ubiquity of satellite broadband coverage, regardless geographic location nor density of population;
- inserting a dedicated section in the NBP on satellite technology to highlight its specificities, through a cost-benefit perspective;
- expressing eligibility of satellite to public funds and state aid mechanisms in full compliance with the EC rules and regulations;
- recognising the role of satellite in remote areas, especially rural areas with low population density, that are un-served or non-covered because of the lack of investment of private terrestrial operators; as a consequence implicitly recognising that in these areas satellite is not a complement but the only solution to provide broadband in a cost-efficient way;
- recognising that satellite is a solution that provide immediate connectivity (easy and fast deployment).

The non-inclusion of satellite broadband in NBPs may risk to lead to the non-achievement of the DAE 2013 objective of broadband for all and to the non-respect of the principles of technology neutrality and cost-effectiveness of the use of public funds.

2.2. Introduction to best cases

2.5.1 Implementation models: classification and description

2.5.2 Learnt lessons (SWOT analysis ?)

2.5.3 SABER Recommendations

2.3. Case studies – reference sheets

2.3.1 Relevant past and ongoing partner projects

2.3.1.1 Region of Agder

Two counties and 30 municipalities in the south of Norway



Overview:

The county administration of Agder was the project owner, on behalf of the 30 municipalities and the two counties of Agder. The project was named “The Digital Agder” Bykle og Hovden Vekst AS (BHV) was hired as the project manager.

Timeline:

“The Digital Agder” started in 2001 and is an on-going project.

The milestones of the project to give broadband to all households:

2006: The main project for guaranteed broadband to all residents started. 2007: The contract was signed.

2008: The delivery was accepted as completed. (Nearly one year delayed)

2012: Contract bringing indoor mobile coverage up to 99,2 % (mobile coverage at least 3G)

within 2015.

2013: The guarantee of broadband ended by 2013.02.01. But it has now been prolonged to 2015.

Main objective:

The vision: "Everybody always on in Agder"

Objective: Guarantee of broadband to every resident that order. The provider was allowed to offer broadband to 160 customers by using satellite technology.

Awarded company:

After the evaluation, TDC AS was chosen as broadband provider (lowest price for guaranteeing broadband to all residents.)

Scheme Overview:

Strategic frameworks for broadband development, including legal bases

In 2001 the project "The Digitale Agder" signed a contract that should bring broadband by fiber optic cable to all town halls in the two counties. This contract also secured some more offers of DSL.

At 2005 the Ministry of local government and regional development had established a support scheme for broadband rollout. Applicants could receive up to 40 % of the total costs. Broadband coverage was in 2006 90 % and the aim of the government was to bring this up to 98 %. The definition of broadband was 0,6 Mbit/s download. The total fund was small, compared to the application mass. The scheme was technology independent, and good projects with high results of coverage should be given priority.

The counties could use their own financial resources, but in Agder they had no specific budgets for broadband. The municipalities had neither fund that was required to use for broadband rollout.

Specific objective

The ambition of the government was that giving some economic support, the counties and the providers should together make a cost-sharing that should give good results. Expected results was to bring up the coverage of broadband to 98 % at a speed of at least 0,6 Mbit/s download.

Target areas

The support scheme that Ministry of local government and regional development established should be used all over the country.

The Digital Agder focused on the 30 municipalities in the two counties of Agder.

Scheme description:

Scheme design

The municipalities in Agder were eager to get better broadband to the residents, and The digitale Agder/BHV was hired for the project. At that time about 20 000 residents had no offer of broadband. After some workshops the project formulated the vision “Everybody always on in Agder” First the project ordered an analysis from “Teleplan Globe AS” that should consider the possibility of extending broadband to all residents. This was considered possible, by using WiMax technology, but at high costs. The fund that the government had established encouraged working with development of broadband. Possibility of connection to broadband was seen as an important strategy for the development and growth in the region, and the municipalities and the two counties gave promise of financial support to accomplish the vision.

The steering committee for the project decided to try to make an economic cost-sharing and make procurement for broadband to all residents, and broadband capacity and telephony to all municipalities and the two counties. The large cash flow from broadband and telephony should give better price for the rollout of broadband to all residents.

The Digitale Agder outlined a large procurement project. Here the different deliveries were outlined. There was set milestones for each of the deliveries. The provider desirable to select should do all the broadband rollout and be the contract partner to the resident end user.

The plan was that all deliveries should be ready by the end of 2007.

Beneficiaries:

The project made all the applications and agreements with the contributors. All the contributors transferred the money to the county of Aust-Agder, which paid contributions to the selected supplier.

The residents got no payment, but got a guarantee that they should never pay more than the best prices of DSL in the region, and the establishment charge should never be more than € 130. These conditions should apply to both DSL and broadband given by satellite.

Procurement:

The project used competitive dialogue as procurement form.

After advertising, interested providers got a descriptive document for the procurement. When made a review of all companies that had expressed interest, the project selected three providers for the dialog process.

Through the dialogue process with the three providers, the details of delivery were designed.

The providers competed to get a construction contribution, to complete delivery specification.

Selection criteria:

The project made detailed description of the criteria that the provider had to meet. There were fixed specifications for telephony and broadband to the municipalities. For broadband to the residents everybody had to guarantee offering broadband to all that ordered. After discussions in the dialogue process, the providers were allowed to use broadband via satellite for up to 160 households. With this exception there were no limits in technology to the private market.

The main competition was about the amount of the contribution from the project. There were also criteria about the speed of broadband to residents. Everybody had to offer at least 1 Mbit/s, but they were awarded if they could guarantee higher speed.

Budget and financing instruments:

The project raised a total budget at € 6 800 000. In addition it was stipulated that the provider would use at least € 3 000 000.

By the support scheme that the Ministry of local government and regional development had established, the project got € 2 700 000. This was the largest grant from the scheme. The Ministry also added on about € 700 000 to the procurement.

The competition for the contract was hard, and the contribution to the provider became € 3 700 000. This was far less than expected, and the project used about € 5 200 000 prepaying the costs for broadband to the municipalities for the next four years. In addition the provider got a daily penalty for late delivery of ca. € 270 000.

The contract with TDC AS had duration of four years, after the delivery was completed.

Awarded value

Evaluation of the project shows high values. Feedback from the municipalities, government, residents and external company that evaluated the results is positive. Public sector got broadband at very good prices, and no other region in Norway had a guarantee of broadband to all residents. The plan to create a large and demanding customer gave good results.

The support scheme from the ministry made it much easier to get the municipalities engaged in the project and increased willingness to contribute financially.

Most of the complaints are caused by those that have broadband via satellite. The fair use policy and problems by getting the promised speed has been the most common complaints. Both the project and the supplier had little knowledge about broadband via satellite, and this caused probably some of the problems. (01.04.2013 a new supplier takes over the deliveries of broadband by satellite)

Monitoring:

Delivery phase was more difficult than anticipated, and there had to be allocated more resources to this field.

During the implementation the project had one person monitoring the progress. Every month there was a meeting in a group with representatives from the project and the supplier. Delivery process was carefully monitored and deviations were promptly responded to. This had a good effect, because the contract had rather severe penalties for not holding the progress.

Project communication and promotional activities

During the project phase there were regular information letters to the municipalities, presentations in meetings and coverage in newspapers. The project also had a homepage and produced leaflets. The contract said that the supplier had to use about € 600 000 advertising the offer of broadband to every resident.

Because of the guarantee of broadband and the large scale of the project, it has been presented to many different groups in the ministry and in different conferences.

Ex-post results

The results from the project made it much easier to start a new project, based on economic cost-sharing model. This has especially shown in the project for building out mobile coverage, and a new project with ambition of building broadband coverage with fibre optic cables for about € 7 000 000.

2.3.1.2 Trikala (Greece)

Overview: Satellite internet infrastructure in the mountainous region of the Prefecture of Trikala

Public Administration in charge of the scheme: Municipality of Trikala

Timeline: 2008 - 2010

Main objective: Broadband access to the remote areas of the Prefecture of Trikala

Awarded company: e – Trikala in cooperation with the Hellenic Aerospace Industry

Scheme Overview:

The framework was defined by the need to provide broadband connection to the citizens for several reasons and make people more familiar with ICT. The first step towards this objective was to cover urban regions through the development of the Wi-Fi hotspots at which citizens are

connected with their free – given credentials. Along with urban, internet connectivity had to be given to suburban and mountainous regions of the Prefecture. At that time, Satellite internet was the one and only solution in order to provide internet coverage to remote areas and decrease in this way the Digital gap.

Specific objective

Trikala is situated in the centre of Greece and is mainly a mountainous region with a population of 150938 spread in an area of 3389km². Accordingly, the mountainous region spans 2236km² which sets the 66%. 5 spots of the mountainous and semi mountainous part of Trikala benefited from the deployment of Satellite Broadband among them the village of Gardiki and the well-known ski resort of Seli. The satellite equipment was first deployed 5 years ago at 2008 and the Contention Ratio was defined at 30 to 50 while the Download/Upload speed was 2048/256kbps. The main equipment was provided by the Hellenic Aerospace Industry.

Target areas

Place	Altitude	Geoinformation
<i>Gardiki</i>	<i>1100 meters</i>	<i>Summer resort</i>
<i>Elati</i>	<i>950 meters</i>	<i>Mountainous village</i>
<i>Pertouli</i>	<i>1150 meters</i>	<i>Snow sport resort</i>
<i>Seli</i>	<i>1500 meters</i>	<i>Oldest ski resort</i>

Scheme description:

Scheme design

As it was previously mentioned the main objective of this initiative was to offer broadband services to the citizens of the Prefecture of Trikala. Apart from recreation, internet access was also needed in order to use several e – government and telecare and telemedicine services. For the mountainous region that offers many natural landmarks which attract many tourists but the lack of the Internet access discouraged people from visiting these places.

At this point e-Trikala, the development company of the Municipality of Trikala in cooperation with Hellenic Aerospace Company deployed satellite infrastructure in this mountainous region. Hellenic Aerospace Company provides the satellite equipment and internet access. e-Trikala deployed satellite internet through the use of Wi-Fi antennas in order to decrease the cost as each satellite antenna was too expensive.

Beneficiaries:

- final recipient: Citizens of the Mountainous regions and the Public administration as well in the case of semi – mountainous village Xiloparoiko and
- final beneficiary: the entity responsible for carrying out the co-financed operations, in the technical point of view was e-Trikala SA and the payment of the corresponding expense was the Public administration (Municipality)

Procurement:

E-Trikala is a Development company of the Municipality of Trikala and as it is defined in the internal operation of the company can cooperate with other Municipalities with the use of contractual agreement without an open tender.

Selection criteria:

E-Trikala had to deploy the satellite infrastructure in the predefined places being also responsible for the maintenance of the equipment.

Budget and financing instruments:

2300€ per satellite antenna * 7 places / 25000€ Wi-Fi hotspots / 2220€ total price for the 7 places interconnection speed cost

The financing model was structured by local and regional funds of the Municipalities.

Duration of the scheme – 3 years

Monitoring:

The project was reviewed by the Planning and Programming department of the Municipality. More specifically, there are two committees, the Monitoring committee, which monitors the construction and deployment of the project and the Finalization Committee which inspects the proper delivery of the project. The contractual agreement was acquitted into two phases, a pre-financing and the final payoff of the project. Additionally, these payments are monitored and approved/rejected by a Finance Commissioner which is defined by the Independent Authority “Supreme Council for Personnel Selection (ASEP)”.

Project communication and promotional activities

The project was primarily promoted through a major conference “Digital cities 2008” that was organized by e-Trikala and took place in Trikala. Additionally, an advertisement campaign was set up to promote the project over media.

Ex-post results

The service ran successfully for approximately 3 years at the mountainous region of Trikala. Citizens used the Municipal internet access in order to check their emails, use the Municipal services for telecare and e – Government. There were several connectivity problems especially during bad weather conditions which deteriorated the quality of the connection.

2.3.1.3 Devon County Council (working with Somerset County Council)

Overview:

Public Administration in charge of the scheme: Devon County Council

Timeline: 2011 – end 2013

Main objective: To provide improved connectivity speeds in very rural upland areas of Devon and Somerset that currently receive speeds less than 2 Mbp/s

Awarded company: Satellite Solutions Worldwide (using toowaydirect service /Eutelsat satellite).

Scheme Overview:

- **Strategic frameworks for broadband development, including legal bases** (Please describe the main planning process including the main features of the legislative framework at the base of the scheme) The scheme supports the UK Government target of providing the Universal Service Commitment of at least 2 Mbp/s for every user and 'best broadband networks in Europe by 2015' aim.
- **Specific objective** (please describe the specific objective of the scheme, including the expected results e.g. coverage, speed, specific needs of the target area) The original scheme aimed to provide a 5 Mbp/s synchronous upload/download speed to beneficiaries. Due to improved speeds now possible through Eutelsat, this has been exceeded (20 Mbps download and 8 Mbps upload).
- **Target areas** (please, if possible, provide a map of the region, county, local area involved in the program / project) The scheme operates in 4 defined areas of Devon and Somerset:
 - o Axminster – Dunkeswell area
 - o Rural Tiverton
 - o Rural South Molton
 - o Wheddon Cross, Exmoor National Park.

Scheme description:

- **Scheme design** (please provide a detail description of the scheme, including the different implementation steps and the rationale) The scheme provides grant funding to fund the purchase of the satellite dish/antenna and installation fees in 4 defined areas of Devon and Somerset. In addition, beneficiaries can receive up to 8 hours training and support on ICT/using broadband more efficiently via a 'Digital Mentor' operator which Devon County Council has contracted alongside the service operator.

- **Beneficiaries:**

- o final recipient (the end beneficiary of the assistance e.g. Citizen, SME, Public Administration, NGO, others) and
- o final beneficiary (the entity responsible for carrying out the co-financed operations and the payment of the corresponding expense e.g. Public Administration, ISP, others) The final recipients are anyone or any business/SME located within a specific post code range. These have been pre-defined as areas that were receiving very poor broadband service.

- **Procurement:** (please described the procurement procedure: e.g. competitive open tender, qualification of multiple providers, direct subsidy to end-users -through voucher either in arrears- Single source - ;framework or existing contract options-; Private tender -e.g. only to invited suppliers-; Mini-competition using a framework contract.

A fully open tender procedure was adopted; compliant with OJEU standards and procedures for a service operator who could provide an end to end service – sales ordering, customer management, billing, installation and maintenance.

- **Selection criteria:** please list the criteria adopted for the procurement including service min requirements where applicable.

- o Minimum upload and download speeds of 5 Mbps
- o 99.95% service availability
- o Business hours and weekend maintenance/fault handling service
- o Full customer service management
- o Private sector match funding and marketing contributions
- o Willingness to work with the County Councils and Digital Mentor agent to promote the use of broadband service use throughout the project.

- **Budget and financing instruments:** Please describe the total budget allocated for the scheme and financing model in terms of funds and their source (i.e. ERDF, EARDF, Local, regional, national, mix of funds) 550,000 GBP from EU RDPE funding.

- Duration of the scheme: November 2011 – December 2013.

Awarded value

Maximum of 350,000 GBP for equipment subsidy and service operation – payment is based on actual take-up.

Monitoring

Targets were agreed for support of SMEs – so far, 70 out of 75 target SMEs have received the training and support service.

Over 100 satellite hardware equipment sets have been deployed; however no targets were agreed for actual deployment.

Project communication and promotional activities

A range of activities have been undertaken to promote the service and to increase residents and SMEs' use of ICT in their everyday lives/business operations:

- Workshops delivered in very rural locations such as Village Halls and Community Centres with different audience groups (e.g. Parish Councils, Women's groups, local community organisations) to promote the use of social media, digital photography, website search optimisation.
- Work with the DEFRA Rural Payment Agency to encourage farmers to complete their Single Payment Application online.
- 1 to 1 diagnostic sessions and follow up support to SMEs on any aspect of ICT or using broadband to tackle any problems encountered.
- A range of case studies on people who have taken up the service have been produced. These have recently been used by DEFRA to produce a technology neutral video to promote the benefits of using broadband and online services: <http://www.youtube.com/watch?v=IQE-DOZnTY8>>
- A range of promotional materials such as banners, flyers, posters and brochures on the service have been produced to promote the service and IT support.

Ex-post results

The full results of the scheme will be written up as an evaluation report post December 2013. These will be disseminated through our funder, DEFRA and used as best practice to inform further Programmes.

2.3.2 External cases

2.3.2.1 Auvergne (FRANCE)



1. Overview:

Région Auvergne is composed of 4 départements and six urban areas. 1.3 million of inhabitants live in this predominantly mountainous region, mainly composed of rural and sparsely populated areas (around 60% of the region).

Région Auvergne decided to intervene to deploy broadband access, as a means to strengthen the competitiveness and the attractiveness of its territory. The regional broadband programme is based on a mix of technologies.

Public Administration in charge of the scheme: Auvergne Regional Council in partnership with 4 local authorities (départements).

Timeline:

- December 2nd 2005: Agreement for the resorption of the white areas unserved by broadband (“Convention en vue de la résorption des zones blanches non desservies en haut débit”)
- 2007: Public-private Partnership *Auvergne haut débit* for 10 years (first PPP related to broadband infrastructures in Europe and in France)

Main objective: 100% basic broadband coverage (512 kbps)

Budget and financing instruments:

The total budget for the basic broadband was €38.5 million to fund the provision of 338 cities located in white areas.

Distribution of the origin of the funds:

French government (Fonds National pour l’Aménagement et de la Développement du Territoire): €4.8 million

EU (ERDF) : €10 million

Region Auvergne : €11.85 million

Departements (Allier, Cantal, Haute-Loire, Puy-de-Dôme) : €11.85 million.

2. Main solution: Deployment of fibre backhaul infrastructure :

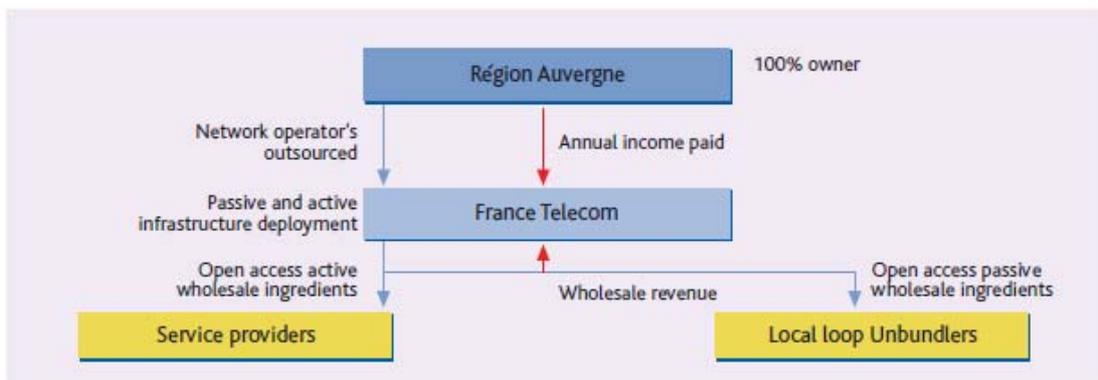
The Auvergne project qualified for state aid as its main aim was to provide at least 512kbit/s internet access in white areas (4% of the territory and 353 communes) in which an affordable and efficient internet access service was unavailable.

Auvergne is an example of the public outsourcing model. This model leverages the expertise of the private sector, while ownership remains in the public sector.

The chosen financial model is a Partnership Public-Private (PPP) between Région Auvergne and the private operator, France Telecom, selected in the frame of a competitive public tender.

Région Auvergne provides the funding for the required infrastructure paying the operator for a 10-year contractual period. France Telecom has designed the network and now operates and commercialises it on behalf of Région Auvergne. This scheme allows the sharing of risks since France Telecom takes some of the risk and responsibility, especially in terms of technical implementation.

The passive infrastructure is provided by France Telecom which also provides active wholesale bitstream services. Local loop unbundling passive access is also available. However, competition is respected since citizens can choose their operator/ provider.



Source: Broadband - Delivering next generation access through PPP, European PPP Expertise Center for the EIB, April 2012, p.35

The project was identified as meeting the requirements of Service of General Economic Interest (SGEI).

The intervention of Région Auvergne falls within its general mission of developing and opening-up its territories. Indeed, the French law entrusts the regions with a “mission of general interest” to make high-speed broadband internet accessible to the largest possible number of end users⁴. The regions are authorised to cover and organise, under supervisory control, the building and operation of electronic communication infrastructure and networks.

Network architecture:

The winning technology was NRA-ZO (“new subscriber node in a shadow zone”), where a ‘shadow zone’ is an area with no DSL service.

The technology uses the France Telecom’s existing copper network, but reduces the length of the copper loops by running fibre to a cabinet or small building nearer to subscribers, known as a very small technical site. This decreases copper loop length and enables higher speed DSL services.

Results:

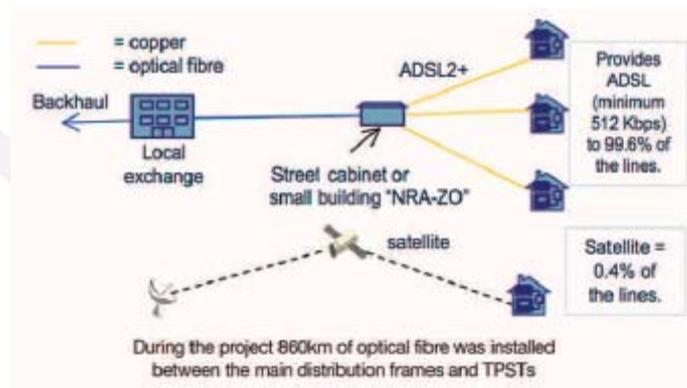
The project resulted in 14 400 new lines eligible for DSL, 860 km of fiber optics that will be re-used for VHS broadband and 36 000 lines that benefited from an increase in broadband.

99.6% of the households from Region Auvergne get at least a 512 Kb/s offer in 2009, 85% a 2Mb/s offer, 47% a 8 Mb/s offer and 30% a 20 Mb/s offer.

3. Complementary solution: financing satellite user access to bridge the Digital Divide

Despite the excellent regional broadband deployment with terrestrial technologies, 0.4% of the population (a couple of thousands households) was not served by basic broadband. To complete the broadband coverage and to reach the 100%, a measure to favour satellite solution was considered in the general regional scheme.

⁴ article L 1425-1 du Code Général des collectivités territoriales



Source: Broadband - Delivering next generation access through PPP, European PPP Expertise Center for the EIB, April 2012, p.3

3.1 Target areas

The measure focuses on white areas, where private operators are unable or unwilling to invest in broadband infrastructures. The target is the 3000 households ineligible for any terrestrial technologies.

3.2 Scheme description

- *Scheme design:*

Demand-side mechanism was implemented to favour satellite broadband provision and penetration.

Thus, Region Auvergne granted €600 in vouchers to subsidize the acquisition and installation of the satellite equipment: one €400 voucher for the purchase and another one of €200 for the installation.

- *Beneficiaries:*

- final recipient: citizens ineligible to DSL
- final beneficiaries : ISP. They are the intermediaries between citizens and administrative bodies

Selected companies: 5 satellite broadband providers (connexion verte⁵, sat2way¹, alsatis¹, nordnet⁶, viveole²). Competition is guaranteed, citizens can choose among these companies, the relevant satellite operators and services.

⁵ Eutelsat

⁶ SES

- *Procurement:*

As, only households that are ineligible to DSL received subsidies, the Auvergne Regional Council provides a test of eligibility on the regional broadband PPP website, just by entering a phone line number.

Once citizens know if they are eligible to satellite broadband vouchers, they can ask for the subsidies online. Then, they will receive the 2 vouchers with a declaration of honour to fulfill. In addition to the declaration of ineligibility to DSL, citizens must declare that they did not benefit already in the past from a subsidy for satellite broadband and that the satellite equipment will be for a personal use, not a professional one.

Citizens just need to contact a satellite ISP, chosen between the 5 partners mentioned above, to buy the satellite equipment (modem and antenna). Once purchased with the €400 voucher, the equipment can be installed by the citizens themselves or they can decide to call on an installer. In that case, users of satellite broadband will give to the partner company the €200 voucher that will be deducted from the bill.

- *Selection criteria:*

ISP able to provide services of minimum 512 kbps.

3.3 Awarded value

From 2009 to 2012, more than 1000 households (around 38% of the ineligible to DSL lines) got equipped with satellite broadband equipment through vouchers, i.e a budget €600 000 dedicated to satellite into 3 years.

3.4 Project communication and promotional activities

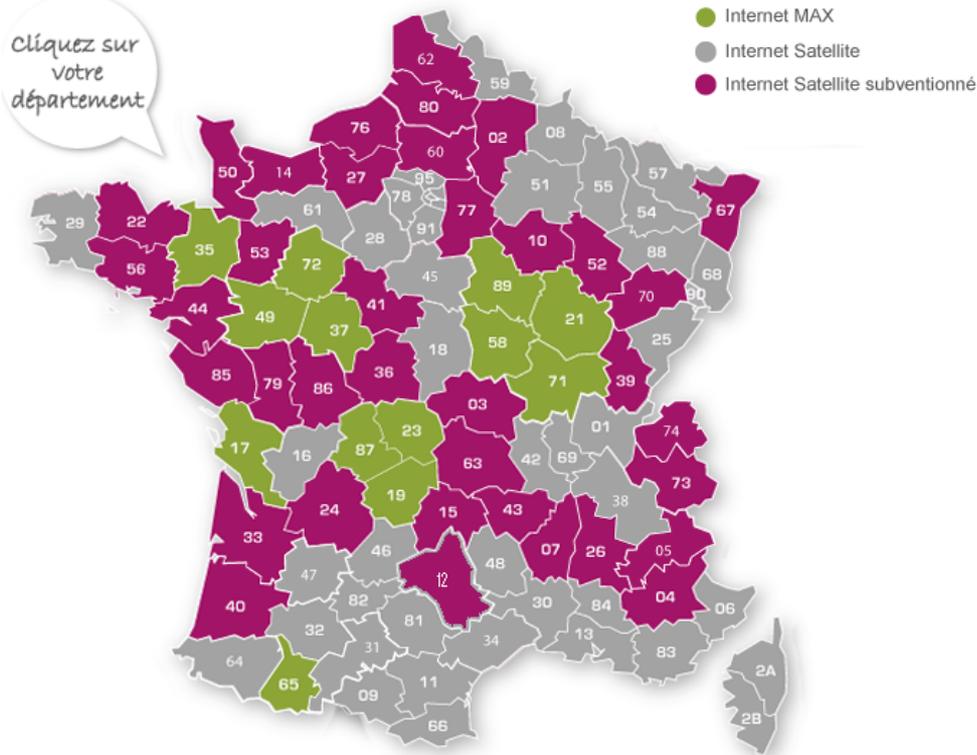
- information from the PPP to local authorities
- information and assistance from the PPP to citizens:
 - hotline on the process, agenda, project details, providers available
 - website to present the project, informing the inhabitants on progress, the commercial opening dates and the internet providers available: www.auvergnehautdebit.fr

- information from ISP websites on the available subsidies by départements, the conditions and process to get them:

Eligibilité

Dans le cas où vous ne seriez pas éligible à l'offre haut débit proposée dans votre département, vous pouvez bien sûr souscrire à l'offre [Internet Satellite Vivéole](#) classique.

Appelez au **0805 017 082** pour connaître les démarches pour obtenir votre subvention.



Source: <http://www.viveole.fr/eligibilite-subventions-internet-satellite-wimax>

3.5 Ex-post results

Since 2009, 100% of the Auvergne population can have access to basic broadband (512 kbps): 99.6% by terrestrial technologies and 0.4% by satellite.

For reaching the target of 100% high broadband coverage of the households, the region received in 2010 the Regio Star Awards from DG REGIO of the European Commission.

2.6 Preliminary comments from non-contributing partners

- Note: To be provided after a first reading of the first draft

2.7 Preliminary comments from external bodies