



**Northern
Periphery
Programme**
2007–2013

Innovatively investing
in Europe's Northern
Periphery for a sustainable
and prosperous future



European Union
European Regional Development Fund

CMC@NP

Comparative transnational analysis

December 2008

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2.1 CMC@ NP: Comparative transnational analysis

The goal was to carry out a comparative transnational analysis of the mobile infrastructure in each region, including study and comparing the conditions necessary for deploying mobile services (broadband infrastructure, Wi-Fi, 3G Mobile, user acceptance).

2.1.1 Description of the Project area

All of the CMC@NP project partners come from areas that are mainly located in the northern fringes of Europe. In areas there are some main centres/cities, but plenty of people live also in countryside. All the partners have similar kinds of problems, what comes to the remoteness, low population density, limited transport opportunities, lack of suitable services, aging people etc. Of course, some differences exist, what comes to the size of total areas (for example population density varies from 8/sqm up to 285/sqm), social and economical backgrounds (the amount of elderly people, unemployment rates, young workforce, incomes, education etc).

At the moment world economic recession gives also a challenge to Connected Mobile Community project.

Derry



- Londonderry, or Derry as it is also known, is regional city for Ireland North West
- Derry is the second largest urban centre in Northern Ireland and fourth largest on the Island of Ireland
- Population - 108,000
- Area (km²) - 380.54
- Density (persons/km²) – 285.2
- Londonderry Port – deep water harbour facilities with a capacity for 30,000 tonne vessels
- City of Derry Airport – regional airport with direct flights to major UK and Ireland airports
- Derry City Council (DCC) administers the district; it is a publicly accountable body with 30 elected members and c. 550 staff. DCC roles include:
 - **Local service provision** including Economic Development, Environmental Health, Waste Management, Building Control, Festivals, Sport/ Leisure/ Recreation, Culture etc
 - **Development Role** - initiator and facilitator of social, economic and environmental initiatives
 - **Representative Role** - Elected members represent the council on community and civic issues
 - **Consultative Role** - members represent the electorate on Central Government responsibilities such as planning, roads, housing and water
- Derry has a youthful workforce - 43.5% of the population is below 30 years of age
- The region is strategically located on three main road transport corridors. These are:
 - A2, Derry/Limavady/Coleraine/Belfast
 - N14/A6, Letterkenny/Derry/Belfast
 - A5/N2, Letterkenny/Derry/Strabane/Omagh/Monaghan/Dublin

This map below illustrates the spatial plan for Derry's future Knowledge Based investment



County of Donegal

Donegal is located in the north west of Ireland with a population of approx 147,000. The county is approx 4,800 sq km in size with over 1,100 km of coastline. The terrain of the county is one dominated by its mountainous interior and numerous lakes and islands. The population centres tend to be located around the coastal and border fringes with sparsely located populations in the west and centre of the county.

Donegal County Council performs local government tasks and has 29 elected members serving 6 electoral areas (to be reduced to 5 in 2009). Donegal County Council has improved Public Services by undertaking a major Decentralisation programme of works over a 10 year period. This involved establishing and constructing 5 Public Service Centres throughout the county from which all Council services, and shared services with other Agencies, are delivered coupled with strategic investments in ICT.



Range of Council functions

Planning & Economic Development

- Forward Planning, development and implementation of policy through the County Development, Town and Area Plans, Urban and Village Renewal, Development Control and Sustainable Development Initiatives.

Roads & Transportation

- Design, construction and maintenance of road network, bridges, public lighting, Road Safety and Marine.

Community, Enterprise & Cultural Services

- Strategic Planning, Library, Museum and Regional Cultural Services and Arts Programmes, Youth Council, Inward Investment, Community & Voluntary Sector Supports.

Corporate Services

- Motor Taxation, Human Resources, Training & Development, Electoral Register, Council Meetings, Frontline Customer Services, Freedom of Information & Ombudsman Case Management, Public Relations & Communications, Higher Education Grants, Information Systems.

Housing & Building

- Management and implementation of Social Housing Measures, design, construction and maintenance of housing stock, architectural services, land acquisition and land bank management, traveller liaison, capital building programme, and facilities management.

Water, Environment & Emergency Services

- Drinking & Commercial Water Supply, Waste Water Management & Treatment, Waste Management Strategy and Implementation, Pollution Control, Environmental Awareness, Beach Management, Major Emergency Planning, Fire Service.

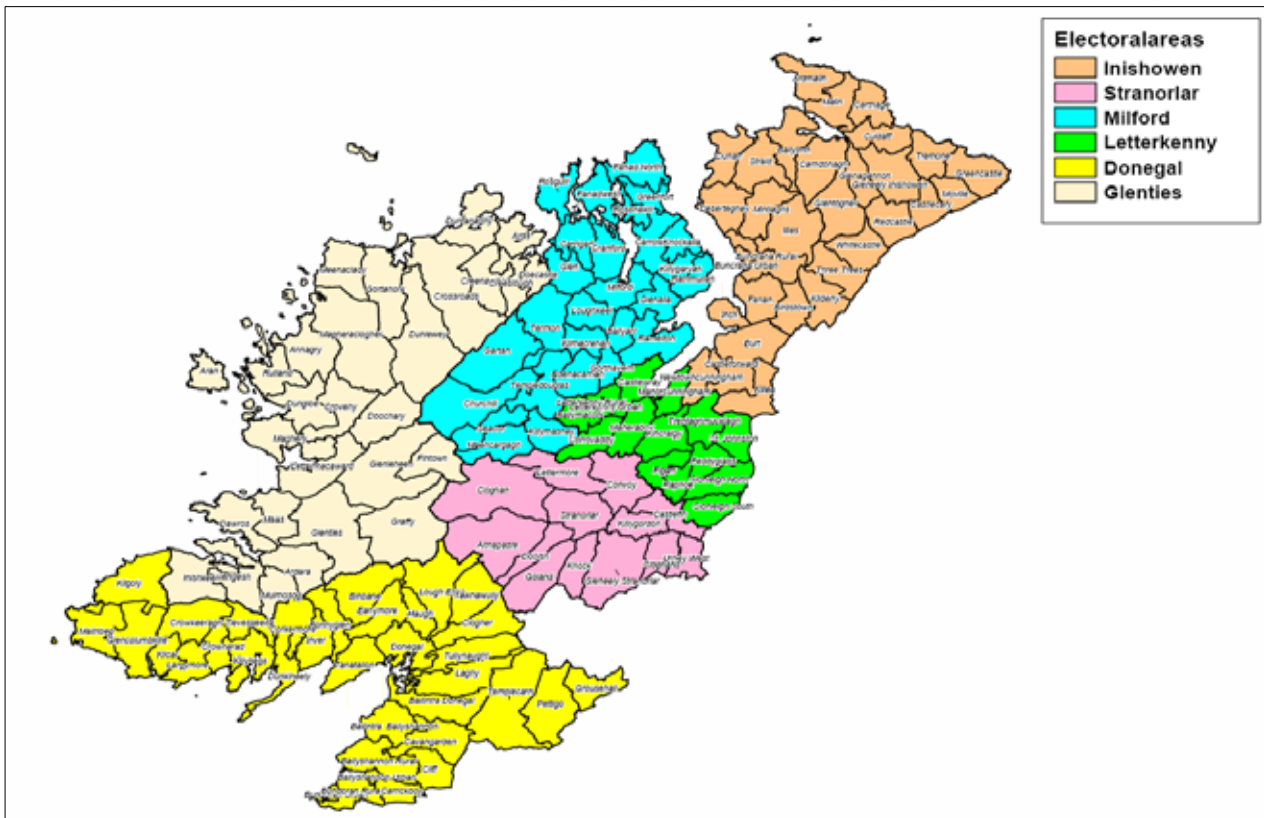
Finance

- Financial & Management Accounting, Budget Control, Internal Audit and Debtors Management.

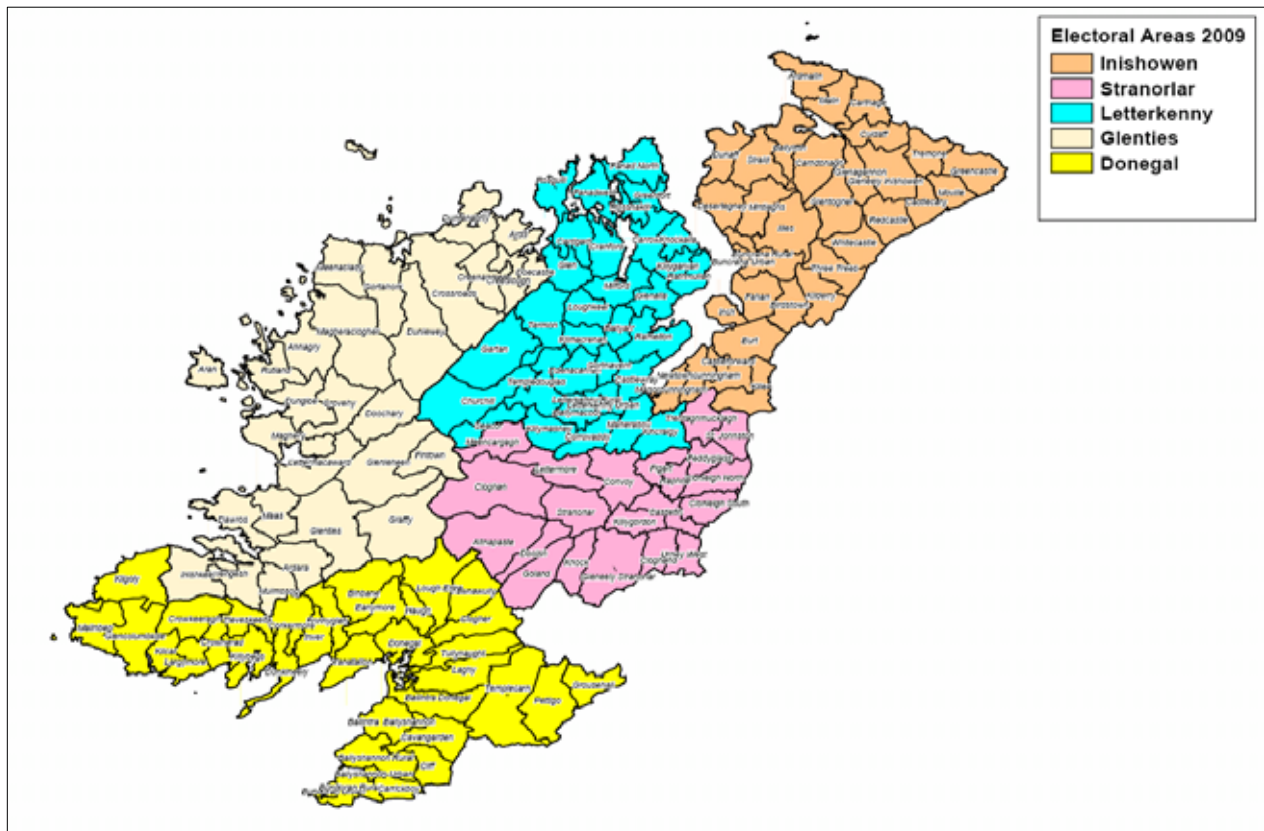
Information Systems – ICT competencies

- Design, implementation and maintenance of the Council's telecommunications infrastructure.
- Telephony.
- Broadband provision – consultancy & construction phase management of Metropolitan Area Networks (MANS).
- Corporate Systems implementation & support.
- Systems analysis and design.
- Software Development.
- Applications support.
- Database & Service Administration.
- Strategic Planning.

Current Electoral Areas



2009 Electoral Areas



County of Västernorrland

Located in the centre of Sweden and the Nordic Region.

The county is made up of seven municipalities – Örnsköldsvik, Sollefteå, Kramfors, Härnösand, Timrå, Sundsvall and Ånge. About 245,000 residents live in a 21,700 square kilometre area, meaning eleven residents per square kilometre. Västernorrland has a long coastline with a mainland shoreline totalling 1,121 kilometres or almost ten per cent of the country's coast, exclusive of islands.

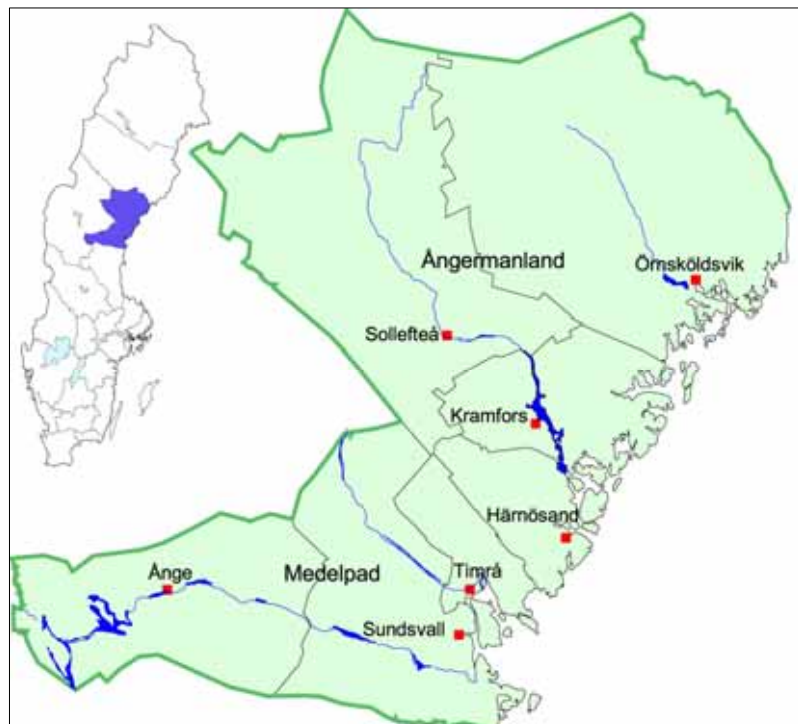
The High Coast is one-of-a-kind; since the last Ice Age, its land elevation has been without parallel anywhere else in the world.

Västernorrland tops the country when it comes to the production of goods and services per county resident and export value per employee.

The county is easily accessible, with its three airports and high-speed train service from the south. In a few years, when the Bothnia Line is completed, high-speed trains will also service the northern areas of the county. The E4 and E14 highways provide the county with good connections to the north, south and west.

Västernorrland county comprises the Province of Medelpad and the Province of Ångermanland.

"Västernorrland – a county offering opportunities and diversity", the motto for Vision 2005, with a perspective on 2010, was adopted by the county in collaboration with the County Administrative Board, the county council, the Association of Local Authorities, the Region Y project, business and industry and other organisations. The vision encompasses seven development goals and courses of action in nine different areas. To develop and realise Vision 2005 for Västernorrland, some 100 experts from across the county participate in working groups, based on the areas of action. Participants come from companies, municipalities, the county council, labour organisations, Mid-Sweden University, the County Administrative Board, and state authorities. The County Administrative Board is a driving force behind the implementation of the vision.



Outer Hebrides of Scotland

Rural lives, dispersed communities, hidden disadvantage

Geographical Background

120 islands, 11 inhabited (27 in 1951); 45 km from mainland Scotland	Stornoway, the main town, is the only settlement with urban characteristics
200 km in North to South	Approx 280 crofting villages
2,687 km of coastline	70 % of land in crofting (small farming) tenure
60 % of the population speak Gaelic	2 out of 3 residents live on land which is in community ownership
Land area of 3,071 sq km with 60 % of this covered by inland water	Very dispersed population spread of 8.5 people per sq km

Socio-economic summary Outer Hebrides

Declining and ageing population/ growing no. of households	Low % 'working age' but high 'economic activity'
Out-migration of young people/ large % elderly	Weak economic base and fragile private sector
Declining employment in traditional industries	Limited employment and training opportunities
High cost of living/relatively low household income levels	Unemployment declining but above Scottish average
School rolls declining faster than overall population	Lack of suitable housing/ 14 % vacant or 2nd home
Heartland of Gaelic language and culture/ but fall in no. of speakers	

Through teleworking there are a mix of government and private sector jobs in our villages giving a new lease of life for many of our communities. The Work Global initiative focused on:

- Creation of new knowledge economy sector in the Outer Hebrides.
- Attracting new jobs into our island communities.
- Teleworking (Home) and Office based initiatives.
- Created over 500 new jobs to date.

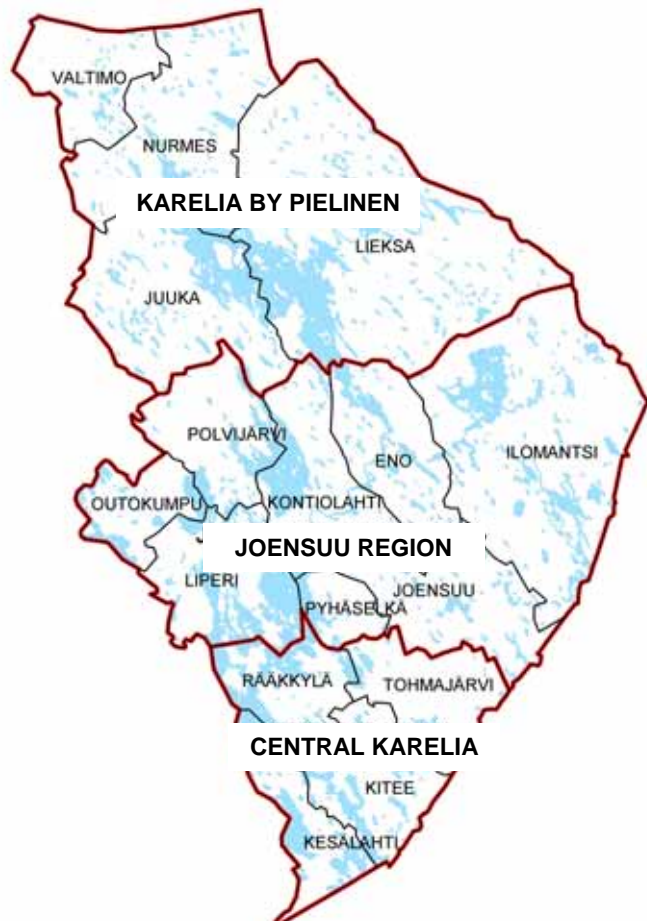
North Karelia

A region shaped by great lakes and its own distinctive culture

North Karelia is the easternmost region of the continental European Union, sharing a 296 km joint border with the Russian Federation. The total surface area of North Karelia is 21 584 square kilometers of which 70 % is forests and 17 % lakes. Region is one of the 19 regions of Finland and is best known as a region of forests, because of the highest knowhow of wood and forest technology. The region has always been characterised by

its clean environment and extensive waterways. The distance from Joensuu, North Karelia to the capital of Finland, Helsinki, is 437 km by road. The region is characterised by a low population density and long distances, thus increasing the need for access to networks, both tangible (infrastructure, ICT, etc.) and intangible ones (joint-activities, alliances, etc).

The North Karelia area consist of thee main region; Central Karelia (4 municipalities), Joensuu region (10 municipalities now; 8 at the beginning 2009), and Karelia by Pielinen (4 municipalities) Joensuu region is the largest one and the population is over 115 000. Due to migration and lowering birth rates, population is evaluated to decrease in North Karelia. Apparently, an even more significant change will happen in the province: population moves into population centres and especially to Joensuu region. The most powerful change is taking place after year 2010 when the 1940s baby boomers retire. Simultaneously, housing and working people probably gather into built-up areas and services for the people living in periphery should be organised in anew way.



- Population 166,268
- Population density average 8 km² (national average 17.5)
- Urban 70 %, rural 30 %
- 20.3 % higher education among population over 15 years (national average 25.8 %)
- Unemployment rate (Oct. 2008) 13.1 %, (national average 7.3 %)
- Industries: agriculture and forestry 8.1 %, production 27.0 %, services 63.3 %
- 16 municipalities (14 in 2009)

Industries belonging to ICT cluster have been growing fast in the region. In the core of the ICT business (software production, data processing etc) the number of jobs has almost tripled in five years. Information technology with its various applications is the main line of business at Carelian Science Park. Content producers, with an international clientele in numerous branches of industry, are also a significant group. Several companies in the Science Park have their origins in university and polytechnic students' business ideas, processed in the business incubator. In information technology, a new branch of business activity is the various applications of educational technology. In Joensuu region the

information technology services have been growing 18.3 % 2008 (compared to year 2007).

Donostia-San Sebastián

Donostia-San Sebastián is the capital of the Historic Territory of Gipuzkoa and one of the three capital cities of the Basque Country. It is located at the heart of the Atlantic axis on the far western side of the Pyrenees, just one hour from the cities of Bilbao, Vitoria-Gazteiz and Pamplona and 20 minutes from the French border and the French towns of Saint Jean de Luz, Biarritz and Bayonne.



The Donostia-San Sebastián Town Council is a local authority representing the City of Donostia-San Sebastián, which has around 183,000 inhabitants (data 2007) on a size of 61 square kilometres. The 20 % of the population is more than 64 years and the rate of immigration is up to 4.9 % (29.9 % EU, 70.1 % non EU).

Donostia-San Sebastián is a city located in an area of clearly defined industrial character that duplicates the number of inhabitants and concentrates a half of the population of the territory.

The commitment in the city to developing and disseminating active policies to promote the use of the New technologies among the population has been a constant during the last years.

The Edonostia.net municipal initiative, with its New Technology Centres, supports the spread of new technologies for all levels of ability in a simple, accessible and engaging way.

The Municipal Centre for Innovative Companies project (CEMEI), which was inaugurated in 2005, houses innovative companies or companies which develop its activity in emerging sectors (Audiovisual, NTIC's, Research and Engineering, Renewable Energies).

2.1.2 Existing infrastructure or resources in CMC@NP

The key objective for the mobile community development is the availability of fast and advanced communications connections and services. Broadband services have key significance for the introduction of services as well as the creation of services that require fast connections.

The fibre broadband infrastructure is available in CMC@NP cities and main population centres. In addition to that, all the areas have built a wireless network, which covers or will cover also the rural areas in the near future. Also the availability of 3G networks is promoted in all areas.

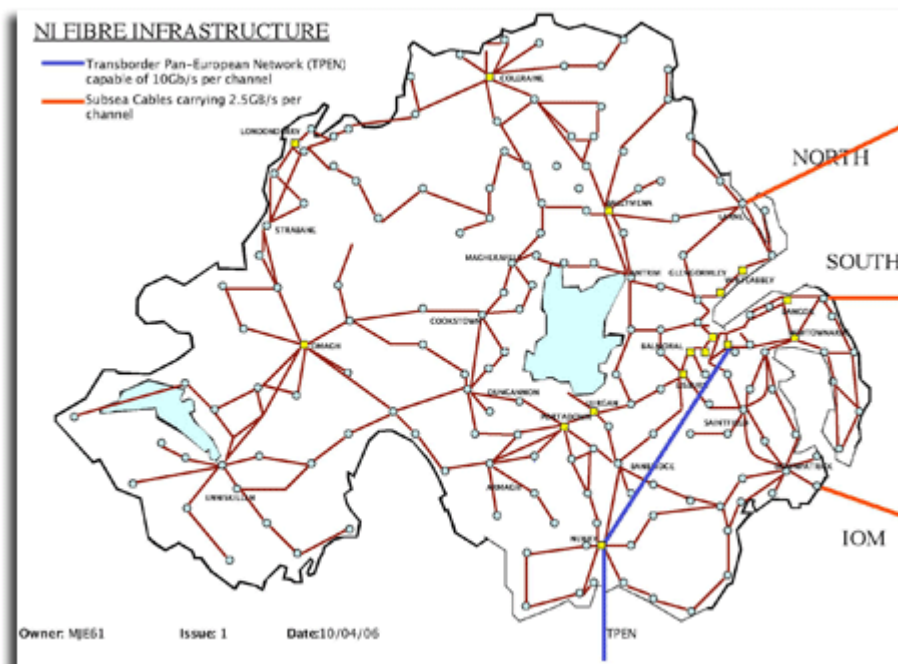
Despite of this there will be still blind spots, at least in Outer Hebrides, Västra Norrland and North Karelia. These target areas high-speed broadband connections are too expensive to build, and even broadband with minimum speed is not cost-effective.

Derry

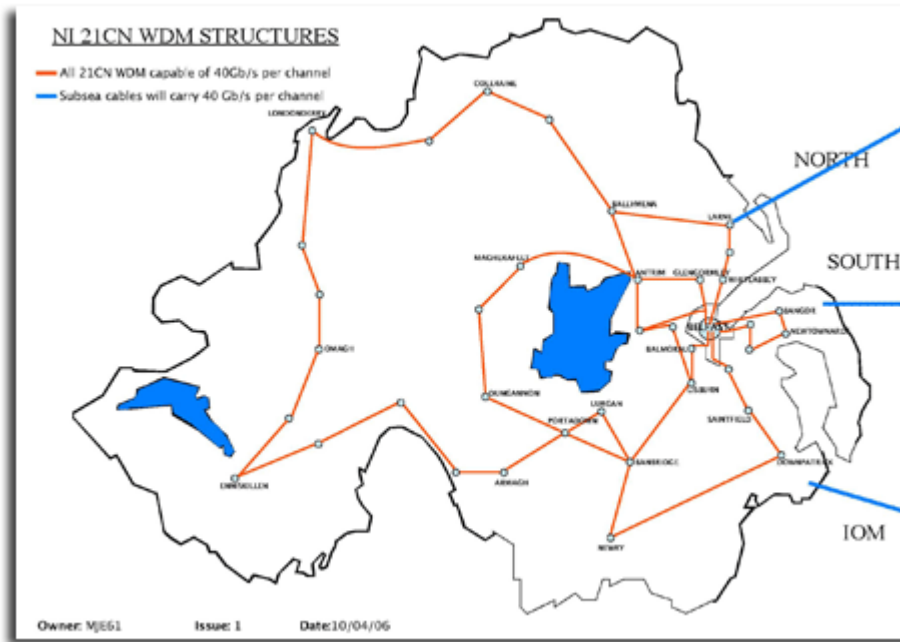
Northern Ireland has a very extensive and modern telecommunications infrastructure, which includes both fixed line and radio networks. The broadband backbone network that provides the high capacity core network connecting major urban centres consists of BT's ADSL Network, NTL's Core Infrastructure, and MCI linkages. In addition there are also radio networks providing both voice (e.g. mobile phone) and data services. All towns and cities that are on the backbone network have up to 155 Mbps SDH access capacity.

In Derry, Belfast and Portadown up to 622 Mbps is available. In smaller locations served by spurs of the backbone, broadband access may be limited to 2 Mbps over the copper infrastructure. Broadband satellite and wireless services are also available across Northern Ireland. There are also extensive mobile phone networks with 5 major operators delivering services. Northern Ireland has secure, resilient and high capacity international links provided by underground and undersea cables as well as radio and microwave technologies.

BT Network



This map above illustrates BT's Fibre Network in Northern Ireland



This map above illustrates the **planned BT 21st Century Network in Northern Ireland**

NTL Network

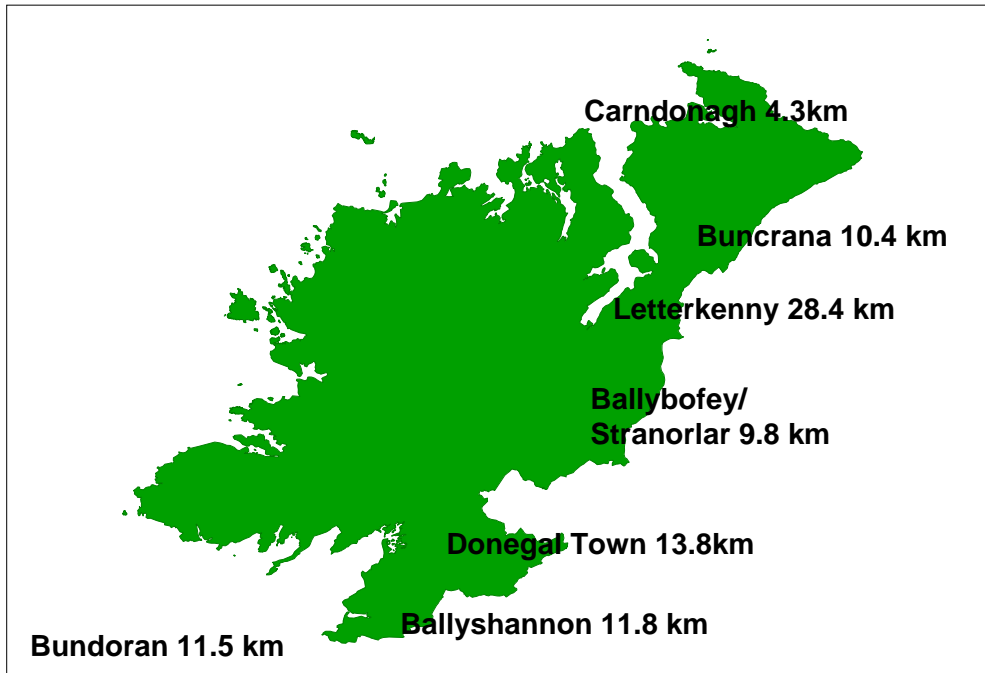


This above illustrates the NTL Network in Northern Ireland

County of Donegal

Metropolitan Area Networks (MANs)

The Government's Metropolitan Area Networks Programme seeks to construct high-speed fibre-optic rings in all towns in the Country with a population over 1,500 in partnership with Local Authorities. Following construction, these networks are managed by a Service Agency on behalf of the state and the Local Authorities, providing open access to all telecommunications providers at agreed rates.



Donegal County Council has long advocated the benefits of broadband and advanced telecommunications services as a means of assisting Donegal in the alleviation of its peripheral disadvantage and providing a key tool to assist the economic and social development of the County.

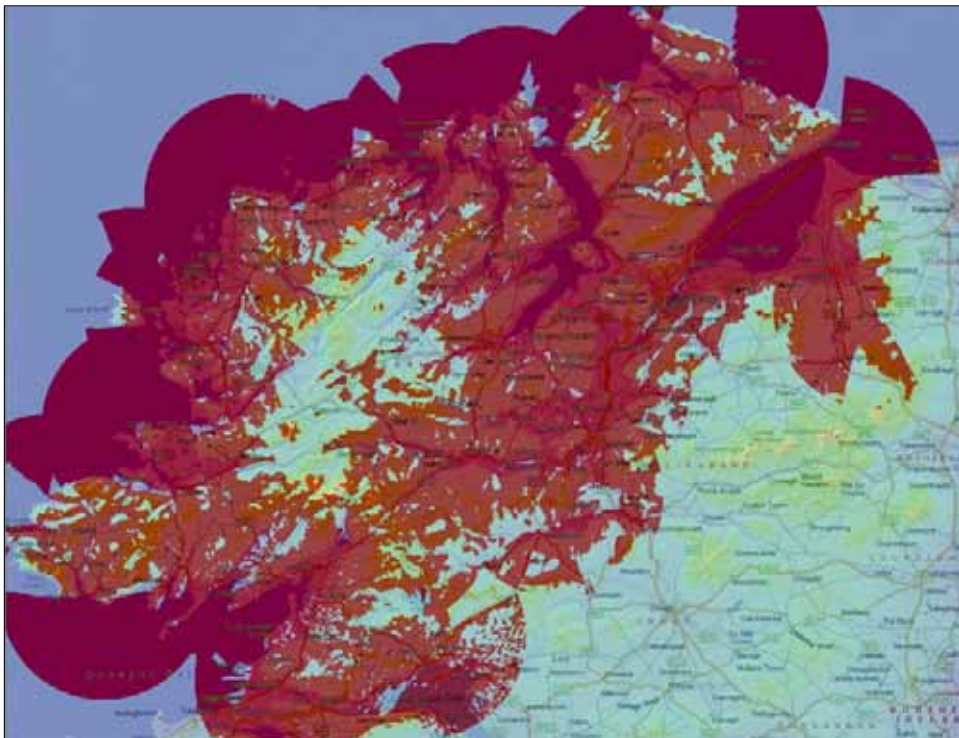
In 2003 the County's first Metropolitan Area Network was constructed in Letterkenny and this network is operational. During 2007 construction work was completed on 6 new networks in the following towns: Carndonagh, Buncrana, Ballybofey\Stranorlar, Donegal, Ballyshannon and Bundoran.

Community Network Services

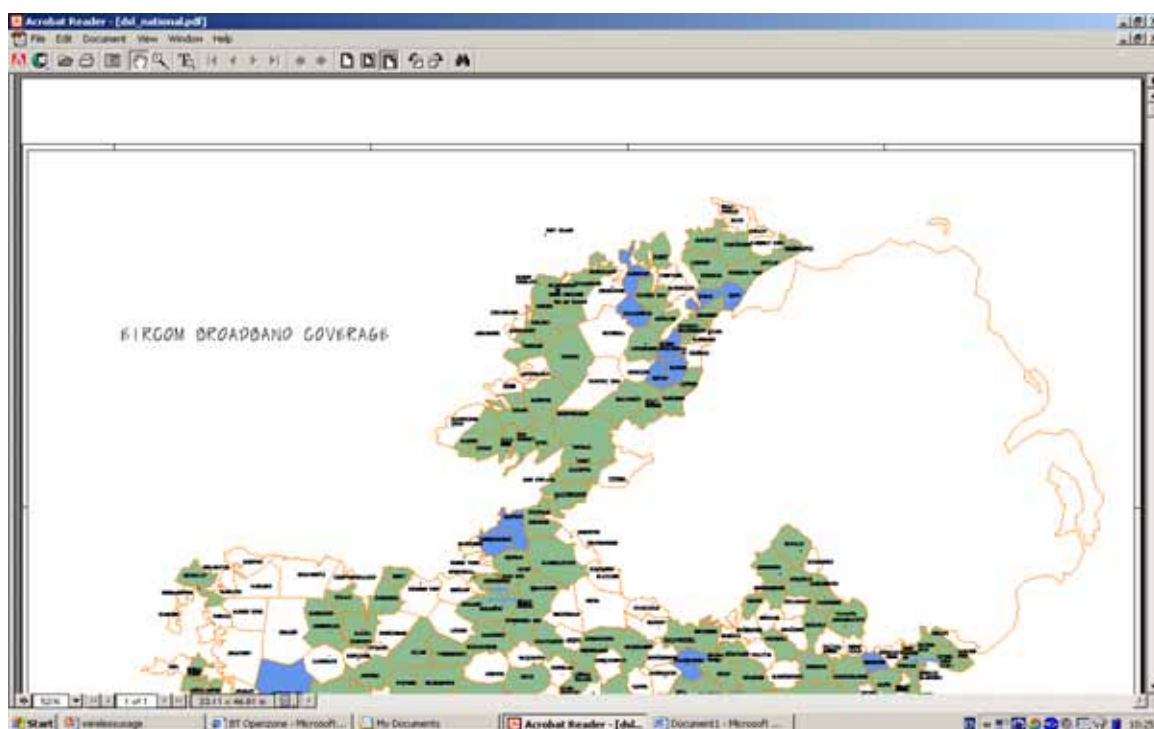
Another important rural broadband opportunity for the County is the Community Network Services project funded by Inter-Reg and IFI with contributions from Udaras Na Gaeltachta, Donegal County Council and the Department of Communications, Energy and Natural Resources. Community Network Services is a voluntary cross-border organisation supported by ERNACT whose objective is to encourage the provision of broadband and related services in rural areas of the North-West of Ireland. Donegal County Council's contribution to this project was in terms of both financial assistance and considerable staff time (technical and administrative).

Considerable progress was made on this project in 2007 with the appointment of a Service Provider, North West Electronics Derry, in February 2007. At the end of 2008 it is anticipated that construction work on the County-wide distribution network will be completed and fixed wireless broadband services will be available in rural parts of the County and the periphery of towns where DSL services are unavailable. This project will complement the former Group Broadband Scheme which has been discontinued nationally but which had funded 8 Schemes in various parts of Donegal during its existence.

CNS/NWE Fixed Wireless Coverage



Eircom enabled DSL Exchanges in Donegal



3G Coverage in Donegal

See following web sites for 3G coverage by mobile providers in Ireland:

- <http://www.vodafone.ie/businessservices/soverage/map/>
- <http://maps.three.ie/coverageViewer/jsp/content/mapScreen.do>
- <http://www.o2online.ie/wps/wcm/connect/O2/Home/Shop/Broadband/Buy+Broadband+now/Check+Coverage/>

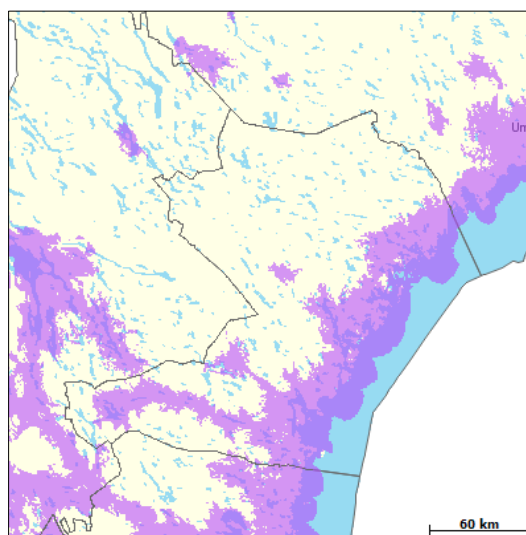
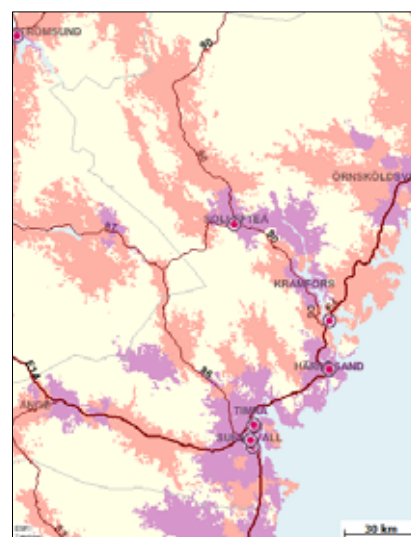
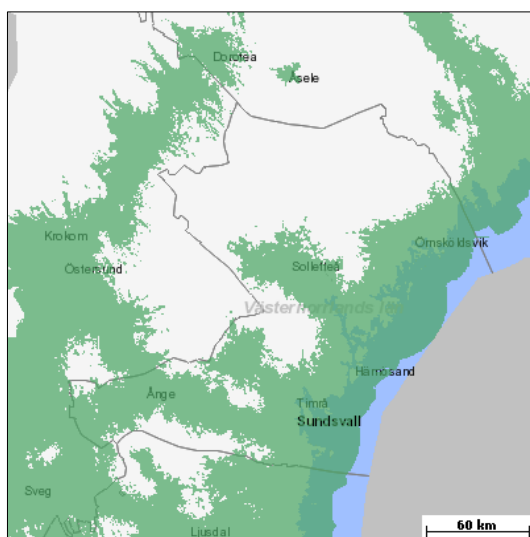
County of Västernorrland

In Västernorrland an ICT-infrastructure programme has been run for the last six years. A mix of public and private money financed the programme. Surveys made in the Understand-project shows that the programme has been successful indeed. The results are almost overall quite positive and are the results of consistent politics on both national and regional level. In an interview recently made to policymakers in Västernorrland their opinion were, that affordable broadband connections to the households in the region, should be a service of general economic interest in the future.

Broad band coverage in municipalities is 75–100 % (figures from 2005).

- Still blind spots in coverage.
- Low or negative ROI for investments in some rural areas – despite investment support.
- Lack of demand in some areas, technical limitations in others (limited number of ccess points).
- Wireless broadband offered by different providers, covering the most populated areas in the region.
- WiFi-hot spots in some cities.

Some examples of maps showing different providers wireless broad and in the region



Web-sites with information from different providers of broadband:

- <http://www.mobiltbredband.biz/tackningskartor-for-mobilt-bredband.html>
- <http://www.tre.se/templates/Page.aspx?id=172>
- <http://www.telenor.se/250.jsp>
- <http://e-tjanster.pts.se/Map/>
- <http://www.glocalnet.se/ws/sales/mbb/tackningskarta.jsp?device=>
- http://www.telia.se/privat/produkter_tjanster/mobilt/tackningskartor/tackningskarta.html
- <http://www.twifi.net/portal/?go=coverage>
- <http://www.tele2.se/mobiltackning.html>

Outer Hebrides of Scotland

Total of 35 Telephone exchanges cover the Outer Hebrides. Of these 14 have broadband availability over wired connections but with the limitation of distance from the exchange as a limiting factor. Those furthest from the exchange either get a very slow service or no service.

As a result of the limited exchange coverage a wireless network has been built to provide a service to the remaining exchange areas and also to those homes and businesses unable to receive a service due to distance from their local exchange.

www.connectedcommunities.co.uk.

We successfully sought 8M euro funding to build our own network and due to our terrain challenges settled on a symmetric wireless solution. The Connected Communities network has proved to be a great strategic fit allowing us to enable flexible options as demand dictates.

While the aspiration is to provide total rural coverage the reality would be that coverage will be around 98 % as many of the smallest rural hamlets are at such a distance from the main infrastructure and to provide a service to sometimes only one or two homes is economically challenging.

- Many relays required to provide full coverage.
- Terrain challenges and distance from main infrastructure is problematic.
- Strong community commitment for relay site provision by making land available for relay sites.
- Cost resistance to higher charges as the solution available is symmetric and slightly more expensive than ADSL.

The new network provides an SDH Microwave Backbone Network and is the only Island wide IP Network and is designed to exceed National Security Standards.

Local access services are provided over 90 wireless community nodes throughout the islands working on the 5.8G hz spectrum. A fibre network provides services to large public sector subscribers in the main town.

Network build included mast share with a range of operators

- | | |
|---------------------------------|--------------------------------|
| • Orange | • Northern Police Board |
| • Vodafone | • National Air Traffic Service |
| • BT | • Coastguard |
| • Wireless Infrastructure Group | • Scottish Water |

- Digital Microwave Radio Backbone.
- Broadband Fixed Wireless Access Radio (5.8 GHz).
- Fibre Network in Stornoway.

North Karelia

In Finland the existing broadband network has been built by commercial telecommunications operators. At the moment around 4 % of Finnish people are living in areas where no broadband is at all available, or in the area have blind spots. These target areas high-speed broadband connections are too expensive to build, and even broadband with minimum speed is not cost-effective what comes to commercial telecommunications operators. Certain operators have announced their intention of cutting back services in fixed networks across wide swatches in the country.

For example in North Karelia this will happen by the end 2009–2010, in many areas. Customers are offered replacements of wireless connections. However wireless broadband alone is not seen sufficient enough for the demand for more and better connections. Finnish government decided in November, over communications minister's proposal for a national plan of action making high-speed broadband (optical fibre or cable network) available throughout Finland.

Government stated that high speed broadband would be available to all permanent residence and private/public administration domiciles by the end of the year 2015. The connection speed would be at least 100 Mb/s. The distance should not be more than two kilometres between the user and the nearest network. The report proposes that the state, regions and municipalities share in the costs of improving the telecommunications network in those areas where the target level for 2015 cannot be reached by commercial means. The purpose is for the Regional Councils to organise competitive bidding among the telecommunications operators. At the moment maxim fibre speed is 20–24 Mb/s.

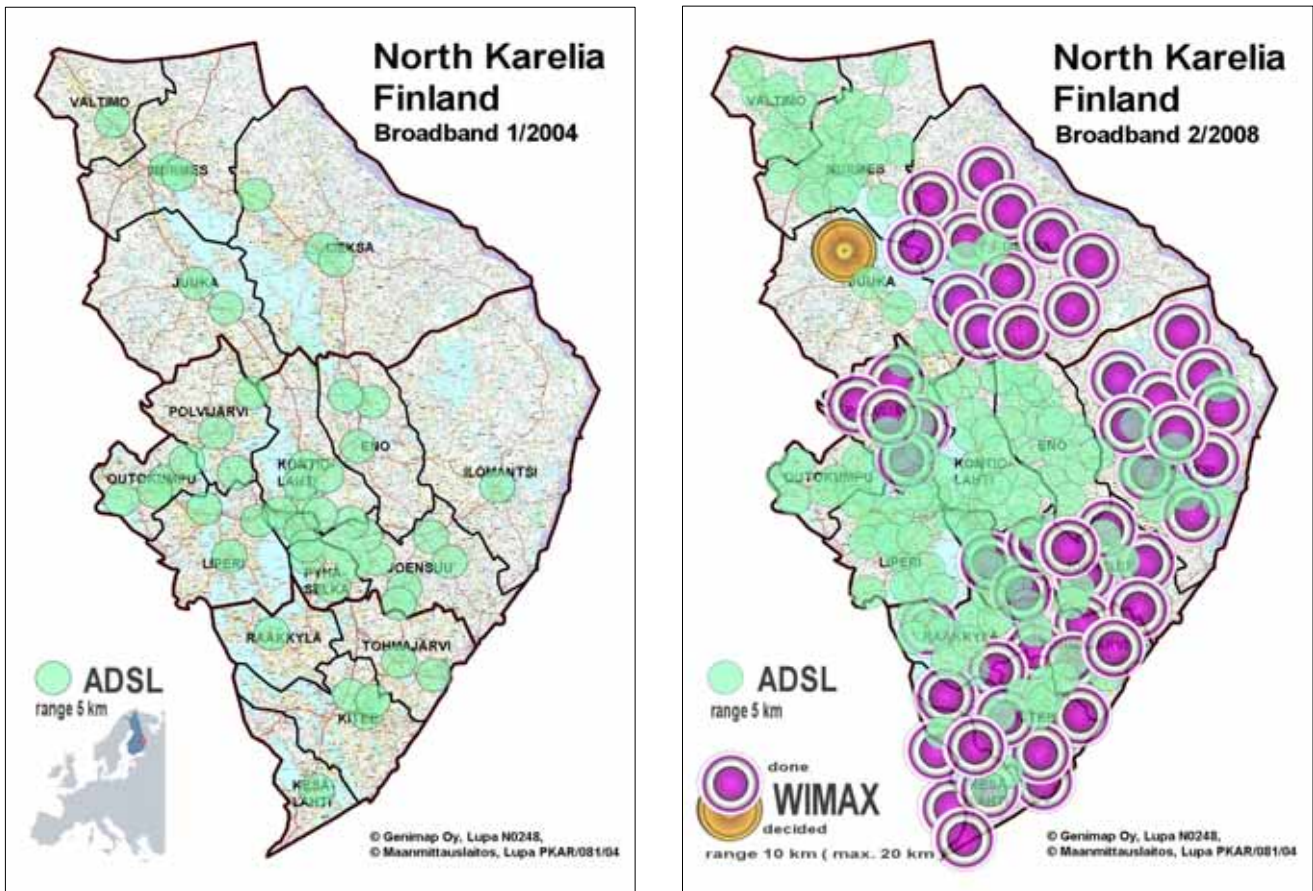
In North Karelia, at present, Wimax broadband infrastructure is available almost in the whole region. Also national wireless @450 broadband (1 Mb/s) will cover the whole country by the end of the year 2009 (at the moment approximately 90 % is covered). 3G (UMTS 900 MHz) are available in bigger city areas and population centres, and it is extending to rural areas very fast. For example one telecommunications operator offers max. 5 Mb/s speed to 70 % to North Karelian customers. By the end of year 2009 the speed will be 10 Mb/s.

Digitas @450 broadband coverage can be found:

- <http://www.450laajakaista.fi/karttapalvelu/>
- [3G coverage maps can be found from main operators www-pages:](#)
- http://kuuluvuus.dna.fi/Peittokartta_fi/mapviewer.jsf?width=300&height=300
- <http://www.elisa.fi/kuuluvuus/>
- <http://www.sonera.fi/Asiakastuki/Matkapuhelintuki/Kuuluvuus>
- <http://www.telekarelia.fi/etusivu/>

In Finland the prices have been quite reasonable for customers when compared internationally. Now some operators are going to raise the prices of the fixed broadband, even 25 %, in the rural areas. So the trend is anyway to move to wireless network.

The development of the broadband connections 2004–2008



Donostia-San Sebastián

The rapid advance of technology in the last few years has not been matched by the acquisition of digital ability by all social groups. As a result a large number of people, such as the employees of MSMBs (micro, small and medium businesses) and the self-employed, don't possess sufficient knowledge to benefit from the use of these tools, whether for communication or for general use.

Moreover, in the Spanish market, relevant inhibiting factors have been identified which prevent BroadBand taking off in the Cities:

- The low penetration of PCs in the homes.
- The low perception of usefulness of services and contents to be taken up, among other means, particularly in relation to digital Learning and municipal eGovernment services.
- The price. A more economic basic-level offer would be required to encourage general use of the broad band service.

In Spain Broadband connections are the most expensive in Europe in terms of speed/price (in San Sebastian only Telefonica and Euskaltel have their own network infrastructure, thus hindering new offers and competition). Existing delays in the adoption of measures to increase speed in Spain, is against the situation in the other European countries.

Curiously, mobile telephone penetration is 107 % (number of lines over 100 inhabitants), and Spain has the highest rates in the EU with an oligopoly of Movistar, Vodafone and Orange (Source: CMT annual report 2007).

In this context, Fomento de San Sebastian has continued during 2008 to develop active policies to promote the use of New Technologies, offering courses of digital literacy in support of the professional development of members of the general public.

Moreover, the **Edonostia.net** municipal initiative, with its New Technology Centres, supports the spread of new technologies for all levels of ability in a simple, accessible and engaging way. These Centres supply information resources and technological services, and offer a real opportunity for permanent education in a place that is easily accessible to the public.



In 2007, there were several events to promote the use of new technologies, with the aim of increasing Knowledge of the multiple possibilities that ICTs can bring to our daily lives.

Amongst these events, it is worth highlighting the two-day festival that was held to celebrate during 2007 the 5th Anniversary of the opening of the first **NCIT Centre in Altza-Larratxo** which had around 7,788 users that year.

Within this strategic priority that seeks to promote the information and knowledge society through the use of ICTs, the **broadband wireless connectivity project (Donostia Wireless)** driven by Fomento de San Sebastian responds to new living and working styles that are becoming prevalent among the population. These demand more and more venues and freedom of movement as well as new ways not only of doing business, but also of recreation and the provision of public and private services.

As explained before inhibiting factors in the Spanish market hinder broadband development and are responsible for the country's low rate of computers in the home, the poor perception of the usefulness of current services and content and also the price of Internet access itself. This project seeks to address some of these factors, based on the belief that universal access to ICTs – with a marginal cost of communication trending toward zero – is a necessary condition not only of the development of the New Economy but also for encouraging the principles of transparency, effectiveness and efficiency in public administration. It is also necessary to bring into operation and optimize social participation processes. Fomento started from the conviction that it has never been as technologically feasible and so financially cost effective as it is today to transform the urban environment into a more economically productive and socially coherent system.

The Wireless infrastructure in the Municipality of San Sebastian, as explained, was launched and supported by the initiative eDonostia.net-WIFI, and in the last phase, the infrastructure has been improved and extended. At this moment, the city has 500,000 m² of wireless coverage offering access to Internet through 22 access points. The area covered goes from Sagües to Ondarreta including the 3 beaches of the City. These HotSpots/HotZones are placed in many different locations: pedestrian areas, parks, environmental resources centre, libraries, Enterprise Centre.

The following map shows the actual wireless Internet coverage of the ALDERDI-EDER–BOULEVARD–ZURRIOLA–SAGÚES–LA CONCHA and ONDARRETA hotspots.

Current wireless Internet coverage



Main **characteristics** of the Donostia Wireless project:

- The project has a solid maturing process (authorisation from the Telecommunications Market Commission (CMT), feasibility surveys, hotspots, other international experiences, leadership of European networks, marketing).
- An excellent opportunity to position the city in the telecommunications market, a state pioneer, sharing leadership with other cities on the international stage.
- A project with earnings comparable to current operators, or generating capital gains at some point in the future based on self-management.
- Optimisation of connections of municipal services and public bodies (quality/price) through our own network, facilitating connection related to mobility and connectivity from homes and companies. Low investment costs.
- A sound driving force to push services forward through the network.
- Device to enhance the local network: new strategic sectors, local ISP, StartUp-s.

2.1.3 Existing services/other projects in the area

There are plenty of eServices and projects in CMC@NP area. In all of the regions, also different community models have been built and strengthened in last years.

According to Finnish Information Society Council mobile technologies can roughly be defined to four different classes (in addition to speech and data transfer):

- 1 Services and applications based on internet browser
- 2 SMS-message based services
- 3 Device based services
- 4 Authentication/ user identification

In the material gathered from CMC@NP partners, the existing services are dealing with e-government, culture and education, health and social-sector services and tourism. These services are mainly based on internet. Some partners mentioned also the business- world and have created specific business models in their communities. Transportation services have been developed in San Sebastian and Donegal. Device base services are used in culture and tourism. Compared for example to Donostia-San Sebastián or Derry North Karelia is far behind in the development of wireless Mesh/ hotspot technology.

In all of the partner areas mobile services have been largely developed by communities. But for example like in the situation in North Karelia area, there is duplication and there are also gaps in service planning, which mean that there is not real co-operation between different actors.

There is a need for services, but there is also a huge need for increasing the knowledge of these services. Especially for SMEs there is a real need for raising the awareness of the possibilities to utilize ICT in business.

Derry

1. Wireless City

In late 2003 Derry was designated by DETI as Northern Ireland's Flagship Project for the demonstration of wireless broadband technology. Derry City Council (DCC), the University of Ulster (UU) and North West Regional College (NWRC) have worked in partnership to deliver initiatives to create a wireless-enabled working environment in the City for students, lecturers, tourists, city councillors and local government officers.

There are three distinct strands to the project:

Wireless Campus

The UU and NWRC aspect of Wireless City Project focused on the creation of an educational precinct in the Strand Road area of the City, which is serviced by a wireless network covering large areas of both campuses. This initiative also served to improve the teaching environment of a number of lecture halls, which were equipped as SMART classrooms including wireless connectivity, interactive white boards, and a range of multimedia audio and video systems.

Another aspect of this element of this project has seen the creation of a Wireless Technology and Demonstration Centre in UU. The Wireless Technology and Demonstration Centre exists to provide independent consultancy to businesses on wireless broadband applications and content. The centre has a number of objectives, which include:

- Facilitating the research, development, prototyping and manufacture of cutting edge innovative wireless hardware/ software solutions for integration into existing or new products for businesses
- Developing of novel, innovative and localised applications/ content for delivery over the extensive wireless infrastructure provided by the project. This includes innovative e-learning and e-University applications to accelerate the utilisation of the Tablet PCs provided by the project.
- Developing innovative embedded wireless sensor technology solutions to a range of emerging applications and problems.

Wireless Council

The Wireless Council strand of the project has built on and developed existing e-government services from both the Council Offices on the

Strand Road and the Council Chamber in Guildhall Street. In practical terms this has involved the provision of wireless infrastructure on both sites. As the Council offices are located adjacent to both the UU and NWRC campuses this, in effect, provides a seamless wireless network between the civic quarter on the riverside and the city's 'knowledge corridor' extending from the riverside towards the border.

DCC has provided all senior management and elected members with laptop computers enabling council business to be carried out electronically. The objective here is to allow enhanced, more flexible access to computing resources and the Internet in designated areas. As a result more council business being carried out electronically there has been environmental improvements (in terms of paper wastage) and cost savings in terms of staff time.

As part of this element of the project DCC piloted an Electronic Records and Document Management Systems (ERDMS) in the City Secretary and Solicitors Department (using TRIM Software). Management Team, Council and Committee minutes are now available for access over wireless connections.

Under the Wireless Council element of the project equipment including Blackberry-type devices, Pocket PCs and Wireless enabled video cameras have been purchased for demonstration, training and testing purposes.

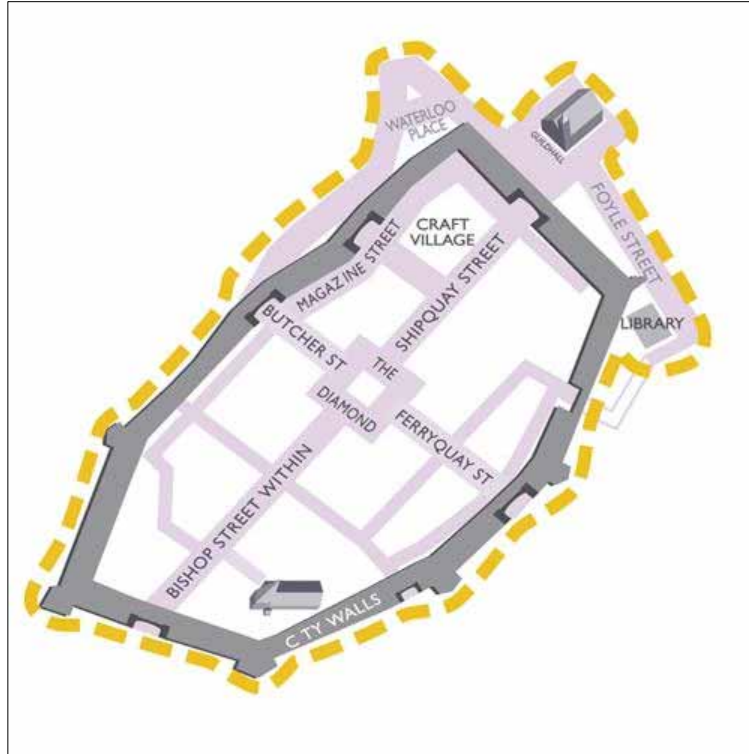
Wireless Walls

This strand of the Wireless City project has implemented a wireless/mobile network based upon a Wi-Fi networking standard in the historic walled area of Derry. The walled city is approximately one mile in circumference.

Outputs of this element of the project include:

- A wireless mesh has been installed providing 100% coverage of the Historic City Walls. The Mesh has recently been extended to cover Shipquay Street, Waterloo Place, Bogside and Foyle Street. The wireless network has also been extended into café venues and the Central Library (Foyle Street).

Map illustrating area of coverage of Wireless City mesh



2. Project Kelvin

-
- Project Kelvin is a cross border project bringing a direct link to the transatlantic submarine communications network into the North West. Co-financed under the INTERREG IVA programme 2007-2013, and in partnership with the Department of Communication, Energy and Natural Resources in ROI, the contract to build and operate the new link has been awarded to Hibernia Atlantic Ltd.
-
- Project Kelvin will involve connecting a new submarine cable to the Hibernia North Transatlantic cable located 22 miles off the North coast. The new cable will come ashore in the Portrush area initially and then onto a telecentre in Coleraine where it can interconnect with Northern Ireland's existing telecomms infrastructure at different locations including Armagh, Ballymena, Belfast, Coleraine, Derry, Omagh, Portadown and Strabane. Hibernia Atlantic has committed to having the new infrastructure in place by March 2010 and to operation of the link until at least December 2018. The Department of Enterprise Trade and Investment indicate that the project will be live by October 2009.
-
- **Benefits to the North West**
-
- Under-pin and supporting local e-initiatives such as ERNACT, and the North West Digital Corridor
-
- Make the region more technically and commercially competitive against other regions on the island, UK and globally, providing faster responses for international queries and higher data transfer rates
-
- Price reductions
-
- **All Island Benefits**

-
- Increased resilience and security of supply
-
- Providing the bodies tasked with attracting and retaining investment and industry in knowledge economy jobs with a significant tool to market the area effectively
-
- It will have a positive impact on the pricing structure for high volume connections, providing end users with more choice, lower prices and better quality
-
-
-
- **3.Programme for Government 2008/09 to 2010/11**
-
- Commitments have been given in the Northern Ireland Draft Programme for Government 2008-2011 (www.pfgbudgetni.gov.uk/pfg241007new.pdf) to develop the modern, efficient infrastructure, which is essential for economic and social development.
-
- Our small size and peripheral location has presented particular challenges in ensuring our businesses and communities, especially in rural areas, can benefit from a telecommunications infrastructure which supports balanced economic and social development across the region.
-
- As a delivery mechanism for the Programme for Government DETI Telecommunications Programme Unit (TPU) activities specifically support the strategic priority of "Growing A Dynamic, Innovative Economy" and contribute to "Productivity Growth".
-
- DETI TPU makes the following specific commitments in support of Productivity Growth

- - Undertake a range of broadband stimulation activities to encourage the take-up and innovative use of telecommunications
- - Develop Northern Ireland's next generation network
- - Establish a direct international communications link
-

County of Donegal

E-Council applications:

- Traffic Wardens – GPRS
- On-Line Planning
- Pre-Planning
- Motor Tax – Renewals
- Non Domestic Water Metering
- E-Payments – Fines, Fire Charges
- Telemetry
- Taobh Tire – Mobile Library Service
- Web Casting – e.g. Road Safety
- GIS
- Web EMail

County of Västernorrland

The broadband infrastructure is a prerequisite for a modern public sector. Our opinion is also that the public sector must be in the front line in the information society. The public sector must pave the way for the development of electronic service and the usage of different ICT-tools. In a small regional project 2005 SMEs was encouraged to use electronic invoice in their business relations with the local municipalities. A simple tool from which companies can gain a lot and the municipalities even more, in reduced administration and higher security and quality. This e-invoice project has been followed by other measures some financed by EU-programmes.

A reliable infrastructure has also made it possible for the public sector to co-operate more over geographical and organisational borders. Common databases and administrative systems are becoming more and more frequent.

The regional vision of Information Society is:

- Inclusive.
- Provides high quality public services.
- Promotes quality of life.
- Where broadband is a service of general economic interest.

All public authorities have a base of services offered on their web-sites, services that are quite similar comparing one authority with the other. E-services have in many cases been developed without a deeper thought about how it will affect the organisational structure back office and how the cost-benefits will be achieved. The idea has initially been just to provide better service front office.

Surveys made have shown that the households in Västernorrland have a high ICT-maturity, but small businesses are lagging behind. One explanation for this is the staff-computer reform from 1998. It makes it possible for employees to rent a Pc in three years under favourable conditions (reduction of your income tax). So the rate of PC's in households is high. These surveys have also given us regional ICT-statistics for the first time. A state of the art from which regional ICT-policies can be built. From this new knowledge we have already started some projects to improve the usage of ICT-tools among SMEs and develop new e-services in the local municipalities.

Indicators from our surveys have been used in the comparison with other regions and to evaluate our own progress.

Outer Hebrides of Scotland

A new project – Connected Hebrides will focus on the take-up and use of broadband by local businesses.

We are also working closely with the Public Sector to develop new initiatives to deliver efficiencies by using technology to deliver services like TeleHealth.

There is a strong interdependence between Public Sector organisations – especially NHS and CnES (Joint Futures).

Local Authority:

- Schools get fast connections enabling videoconferencing, interactive web based applications and VoIP.
- Jobs dispersal from main centres benefit community.

WI National Health Service:

- All Health Centres connected to central services.
- Enables efficiencies connecting specialists remotely.
- Telemedicine cost benefits & reduces high travel cost.
- Business – high performance access even in most rural locations.
- Residential – personal and community level.

Other client groups:

- 3 Airports.
- Rural Fire Stations.
- UHI Campus and Learning Centres.
- 1400 ISP subscribers via Hebrides.net.
- Scottish Ambulance Service.
- BBC and Grampian (STV) TV.
- UHI Campus.
- Chair of Rural Health.
- Hebridean Research Centre.
- Cisco Regional Academy.

Digital Transcription Service for legal secretarial work over the Internet

Teleworkers are supporting Law Firms in London, Manchester, Edinburgh.

The business model

One of the most important factors for us at the outset was to develop a sustainable business model. This was achieved through the concept of the Connected Community where the public sector organisations agreed to combine their broadband capacity requirements alongside those of the residential and business community. The business community benefit from the high quality service on the back of the public sector provision. The revenue income from these high bandwidth low contention connections transformed our business model and in a small community we would argue that this is a very practical approach. One powerful network benefits the whole community.

North Karelia

Regional Council of North Karelia

Regional Council of North Karelia is a public regional authority in accordance with Regional Development Act (national law). The areas of responsibility of Regional Council includes: economic development, regional planning, safeguarding of regional interests and creation of the knowledge infrastructure. Regional Council of North Karelia is a federation owned by the region's 14 municipalities. The goal of the Regional Council of North Karelia is to promote regional development initiatives, regional balance in co-

operation with the State and the local government, businesses, universities, research institutes and non-governmental organisations.

In addition to Regional Council of North Karelia there are many ICT service producers, Interest groups, co-operation bodies in the CMC@NP context:

- North Karelia Information Technology Center Ltd. (ICT technology service provider).
- Joensuu Science Park Ltd. (Expertise centres of Plastics and tooling, wood technology, forestry, Infotonics Center, Software Companies).
- University of Joensuu (Educational technology group; Department of computer science and statistics).
- University of Applied Sciences.
- Local Developing Agencies.
- Karelia Expert Tourist Service Ltd. (Travel services).
- Municipalities.
- Teleoperators (TeliaSonera Finland, Elisa, DNA, Finnet-group and Digita).

North Karelia Regional County Network Project

The aims of County network projects were:

- To face the future challenges of efficiency and quality of services in municipalities in rural and remote areas.
- To create a development network platform for technological innovation and new utilisation solutions and online services and ICT co-operation.
- User is the municipality sector in NK (16 municipalities and 3 joint municipality federations).
- The county network is a region wide (biggest in Finland) service platform for online services, information system services and networking operations that has been leased from private telecommunication operator.
- To be used by functions of municipalities such as the service processes of education, healthcare, social services, administration services, information deliveries and electronic transactions of the citizens and business.
- At the moment there is 15,500 users and 14,400 workstation all around North Karelia.

North Karelia Information Technology Center Ltd.

From the work of Regional County Network project North Karelia Information Technology Center Ltd. was established. It is publicly owned and financed, non profit developing company for the municipalities and joint municipality federations, which works also as a common procurement unit and provider of the shared services (exc. second phase of the network and shared services and solutions; software & hardware). The Center has 90 employees.

Network – shared licences or services for: purchase accounts, shared accounts office, electronic procurement system, electronic document handling system, system for handling pupil information in schools, electronic application for all eServices, Web publishing service, eMail service, electronic library, eService for day care, system for handling patient information, VoIP and Video-conference services.

- Map service – mobile version (routes, servicepoints etc.).

North Karelia regional network, State provincial office of eastern Finland and central communities in North Karelia owns this service. With the map service you can find the

main service offices of Finland and municipals. It works also with the latest mobile models. The map can be used also for mobile services. The aim is to further develop mobile tourist service. The map service will be developed further with the North Karelian University of applied science.

Other possible collaborators and mobile services in CMC@NP

City of Joensuu

City of Joensuu has many e-services, as well as many other municipals in North Karelia. Almost all of the forms citizen needs for doing the business with city can be found from the net. The latest innovation is electronic application form and service for day care. Customer fulfils the form in the net and it goes straight to the database, so no paper sending etc. is needed anymore. Also the application of social benefit can be handled digitally in the net.

eReissari 2008 – Communication via internet, GSM mobile phone and email for day care.

eReissari is modern version of traditional “information book” which travels with the children from day care centre/school to home, and vice versa. With eReissari the communication between school, parents and pupils can be taken care by emails and SMS messages, and all the information sharing is moved to internet and mobile phones.

City of Lieksa

Lieksa has been very active to utilize different technical solutions, for example in the area of educational technology. In addition to that in the city of Lieksa and in the region of Karelia by Pielinen, there has been very effective projects for seniors. In special development unit for elderly people, Karpalo, the aim is to produce continuously better services. In all their working models technological innovations are utilized. In Pielinen museum, there has been a lot of activities where technology has a part. Together with Ubique lab (University of Joensuu) museum has developed new mobile application, which gives information of old artefacts and old time's ways of work.

The joint Municipal Authority for medical and social services of North Karelia Hospital District – Avanto II project

In North Karelia Hospital District, one fourth of all Central Hospital appointments are cancelled or postponed. If changing an appointment takes an average of 10 minutes, it means in one year in North Karelia alone work input of nine people. SMS-messages are piloted in appointment booking of a Central Hospital. Cancellations and postponements can be reduced if hospitals inquire in advance by SMS whether the scheduled time suits the patient. New text message services can enhance appointment booking and make it more efficient.

University of Joensuu, Department of Computer science and statistics/ Ubique Lab

Ubique Lab is part of the Educational Technology research group, which is internationally well recognized. The adventure technology is developed with Korean and Taiwanese research groups. The same technology will be used in different museum contexts, for example in Technology Museum, Helsinki.

SciMyst: The approach of the development of SciMyst is to use pervasive mobile games to inspire, engage and motivate museum visitors. Players with SciMyst use their mobile devices to explore a real world game environment by solving intriguing enigmas related to the physical environment. Enigmas in SciMyst are different problems or puzzles for which

the answers are found from the environment. In SciMyst, the players are adventuring through a real world context with mobile devices. The game has several modes including solving intriguing enigmas, recoding memories (impressions), helping other players, and battling against the time.

Honkalampi-foundation

Honkalampi-foundation offers and develops diverse services for handicapped and disabled persons and people who work with them. The foundation has developed remote interpreting services for the hearing-impaired for many years. Remote interpreting services can be provided using videoconferencing equipment, a 3G phone, or a broadband connection with a webcam. Now, in project Punos, the aim is to increase the awareness of remote interpretation services for people with speaking disabilities. The goal of the project is to promote equal services by the help of information and communication technology.

Joensuu Science Park, Carelink project

Carelink is a web community and information sharing portal in the social – and health care sectors. There is also a database for customer information and medical prescriptions. It has been developed together with ICT, health-and social service producers in Joensuu Science Park. The model developed in the project; connect companies, organizations, public administration and public authorities by the help of information technology. Carelink is ready model for national piloting.

ENO-Environment

ENO-Environment Online is a global virtual school and network for sustainable development and environmental awareness. Four environmental themes are studied within a school year on a weekly basis. About 500 schools from 104 countries take part of the ENO actions.

Donostia-San Sebastián

Technology used in Donostia Wireless project: WIFI Mesh. Intelligent Wireless Technology.

WIFI Mesh technology allows a BroadBand Network to be deployed wirelessly throughout the entire City at low cost. We can easily adapt for the future growth of the City with no need for any civil engineering works. The network is always On, allowing us to roam to receive data, voice and video in mobility (car, bus, train,etc.).

Nodes are attached to traffic lights and Street Light posts to pick up electrical power, and this creates areas of wireless coverage in the City. Some of the nodes are connected by Optic Fibre to a Data Processing Unit (the Central Metropolitan System).

In the case of Donostia-San Sebastián, we use the municipal optic fibre infrastructure already deployed in the traffic lights system for the cabled nodes.

- The infrastructure will be rented out to new ISP (thereby improving competition and preventing monopolies) and to companies to operate value-added services (Digital TV, Voice, Leisure, Internet etc.).
- This allows mobility and ubiquity, and all users can access broad band, not only from their homes or work place, but also from any part of the City (a key factor for many municipal services such as the police, transport, etc.).

WIFI Network. Customers

- Municipal Services-Public Services.
- Access to audio and video communications, internet connection.
- Mobility, municipal police, municipal vehicles, civil work and projects, urban maintenance, ctts.
- Connection between municipal facilities mobility.
- Mobility.
- Tourists, foreign students, people in transit (work-leisure-sport).
- Citizens and local companies.
- Homes and companies.

WIFI Network and Municipal Services

- Administration of fines and parking facilities in real time (parking meters, on-line payment).
- Wireless access to Police Intranet.
- Video surveillance, security. Cameras at any location.
- Traffic and mobility control (cameras on moving vehicles with portable, information screens in the street etc.).
- Cooperation with emergency services (ambulances, hospitals etc.).
- Administration of public transport (intelligent stops, GPRS cost savings).
- Measurement and telemetry of noise and pollution.
- Automatic meter reading.

Participation in European projects to promote wireless technology in the city

Fomento de San Sebastian coordinated from October 2005 to September 2007 the European project named **Wireless Cities** (www.wirelesscities.org) which was part-financed by the EU under Interreg III C Sud. Its objective was to “promote and support wireless initiatives, publicize the advantages and opportunities that the use of this technology offers”.



Under Wireless Cities different wireless pilot projects were designed and implemented by each partner city or region. In San Sebastian, a service emerged that enables all users connected to the municipal hotspots with their WiFi devices (laptops, PDAs, mobile phones) to obtain information about local shops, hotels and other accommodation, as well as a range of other services of interest in the local area such as cash machines, public transportation and underground parking, through content that is based on geo-referenced localization and information (GIS). Financing of the project was in three areas: infrastructure, services and dissemination.



Fomento de San Sebastian is also coordinating a notable and novel project named CINeSPACE (www.cinespace.eu). This is a three year project (2006-2009) co-financed by the EU's Sixth Framework Programme for Research and Technological Development (FP6).

The objective of this project, that is being piloted in three cities – Glasgow, Venice and San Sebastian –, is to create a mobile device to enable users to access Location-Based specific information related to urban, film and cultural heritage while navigating each city.

CINeSPACE system will allow citizens, tourists and cinema professionals located in the San Sebastian WLAN hotspots not only to access to predefined contents hosted in a server but also to create new contents and upload them under the form of images and video to a database in order to create collaborative experiences with other end users. Finally, the system will break new ground in 3D visualisation and immersive reality technologies.

The first prototype for this project was developed in 2007 and first user tests took place at the beginning of 2008 with a wide range of audiences and end user bodies. City hotspots coverage will be used again during 2009 for testing the final prototype.

2.1.4 Main challenges for the connected community development

The main challenges and needs for the connected community development will be discussed more precisely in task 2.2. Here are the major challenges listed by the participants:

Derry

- Maximise the potential of Project Kelvin by ensuring that there is investment in the appropriate infrastructure (such as a data centre/s) that will help to attract and retain investment from hi-tech and knowledge intensive investors
- Target social inclusion and the acceleration and enhancement of social and community adoption of web based applications
- Work in partnership with telecommunications providers to assist in/ benefit from the rollout of Next Generation Networks
- Close the gap between those citizens with access to computing and Internet resources and those without

- It is vital for local SMEs to keep pace with the ever-changing modern pressures and demands being placed on them. With the build up of competition in every aspect of business and the resultant squeezing of margins there are certain requirements for small businesses to be able to grow. The ability to adopt the Internet and automated services is going to play a huge role in this and will be vital for success for many Derry SMEs. The benefits of broadband Internet access are clear: it opens up the possibility of accessing much larger global markets and it enables cost cutting and efficiency improvements.
- **clear: it opens up the possibility of accessing much larger global markets and it enables cost cutting and efficiency improvements.**

County of Donegal

Below are some of the challenges which Donegal as a region and Donegal County Council face in terms of ICT development for both the citizen and business needs.

- Promote the use of our Metropolitan Area Networks.
- Utilise Project Kelvin to the maximum for the advantage of Donegal.
- 100 % Broadband Coverage.
- Develop Wireless Mesh Developments in larger Towns and increase hotspot locations.
- Enhance Donegal County Council's substantial ICT infrastructure through Wireless technology and MANs.
- Encourage Next Generation Network Provision in all areas.
- Develop e-government Services.
- Develop Disability Access Services.
- Create Broadband awareness in rural communities.
- Develop Mobile Working Techniques for DCC staff.
- Stimulate Inward Investment through resilient, modern ICT infrastructure.
- Work with the Irish State and EU agencies to develop and enhance the ICT agenda in Donegal.

County of Västernorrland

If the provision of broadband availability and ICT-maturity by individuals is to make a tangible impact on regional development, it is necessary that individual companies and the public sector really take advantage of the opportunities offered by ICT. Opportunities of special interest for Västernorrland. The challenge may briefly be described as:

- Business has access to Internet but lacking knowledge how to use it.
- Households has access, knows how to use it, but are not offered so many attractive services.

Besides this we have a great challenge in raising the awareness about ICT and regional development. ICTs very important impact on development in businesses as well as public authorities is not familiar to all policymakers and stakeholders in our region. We're also facing a change of generations that will affect this issue the coming years.

Outer Hebrides of Scotland

The main problems for infrastructure in the Outer Hebrides are the harse terrain and dispersed communities over which services need to be delivered. This is a Scotland wide problem and not unique to the Outer Hebrides although more challenging here than in some areas.

- Exchanges have reached problems across Scotland.
- Estimates suggest that up to 25,000 homes affected throughout Scotland.
- The main infrastructure providers not able to solve the problem so satellite remains the only option in most of Scotland.
- Connected Communities has resolved the reach issue in the Outer Hebrides and it can be replicated but setting up support operations for a wireless infrastructure in other communities outside the islands would be challenging.

The next stage is to develop mobile or wireless access in areas where it would not normally be sustainable due to population numbers however it can reasonably be argued that the need is more acute in these areas.

North Karelia

In Finland the first national Information Society strategy was published already 1995. Third strategy came out 2006, and 2007 the government adopted a resolution on the objectives of the national information society 2007–2011. 2007 specific mobile technology utilizing plan for public sector was made as a supporting tool for the main strategy.

Main priorities and structure in the CMC@NP context:

- Implementation of the Regional Information Society Strategy, Pokat – which highlights the regional development as a whole.
- North Karelia County Network (municipality co-operation and network).
- Broadband Strategy Implementation (Wimax).
- National Information Society Strategy; especially Mobile technology utilizing plan.

According to a local Innovation and Development Program 2010:

- Regional competitiveness and cohesion is build on full scale interregional cooperation.
- North Karelia is developed as a region of knowledge, its level of expertise is strengthened and internationalised.
- Citizens quality of live, satisfaction in life and general well-being are supported.
- Competitive and development supporting operational environment is guaranteed for entrepreneurs.
- Quality and wide selection of services will be secured in all parts of the region by utilising new action models.

- Living and operational environment infrastructure networks are designed to support sustainable regional development.
- Location as a border region to Russia is utilized.

Development foci of the North Karelian operational environment:

- North Karelia as a significant education and research region.
- Knowledge structures as a tool for triple helix regional development.
- Entrepreneurship creates jobs for today.
- Accessibility and infrastructure.
- Competitive service structure.
- Environment as a foundation of regional appeal.
- Internationality development of the region.

Technology will be involved in all of these challenges in North Karelia.

Donostia-San Sebastián

We wish to design an Intelligent and Innovative City as a reference in the application of Active Citizen Technology.

- Guaranteeing access to high-speed broad band from any location to any citizen.
- Encouraging economic development in the city and internationalisation of its businesses.
- Improving the standard of living of its citizens, and optimising their relationship with the Council.
- The infrastructure will be rented out to new ISP (thereby improving competition and preventing monopolies) and to companies to operate value-added services (Digital TV, Voice, Leisure, Internet etc.).
- This allows mobility and ubiquity, and all users can access broad band, not only from their homes or work place, but also from any part of the City (a key factor for many municipal services such as the police, transport, etc.).
- Today's opportunity for the future of the city.
- Investment brought down to zero for the Town Hall.
- Deployment of the network with no civil engineering work, and no impact on the environment or on public health.
- The project positions Donostia-San Sebastián as an innovative pioneer city in terms of new technological infrastructure taking up the key role of the public sector.
- Simplicity and a lower price must provide a qualitative and quantitative change in the use and enjoyment of new information and communications technology by businesses and households in Donostia, and by those who come to visit our city.
- It will also reduce certain fixed municipal costs, and boost the development of new services and new ways for the Town Hall to interact with local residents.
- It is a necessary step to encourage new economic activities which require Broad Band: Biomedicine, Nanotechnology, the Film Industry and Multimedia, Leisure etc.



REGIONAL COUNCIL OF
North Karelia