



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



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## Transnational “Mobile Community” needs analysis

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# Comparative Transnational “Mobile Community” Needs Analysis

## Output 2.2 of CMC@NP project workplan.

### Background

As part of the CMC-project the partner regions have agreed on common scope, process and analysis tools to carry out needs analysis in each region. The results from these analyses have been compiled in this report “Comparative transnational needs analysis” by Kommunförbundet Västernorrland.

Each region have study their ROP and what is described in those and other development programmes e.g. for local authorities. The reports have been structured following a series of essential questions for the further development of mobile services.

For partner regions the ROPs has seldom mentioned anything about mobile services. For most regions ROP only has overall wordings about economic growth, knowledge based economy, innovative environment etc. and the only time anything close to mobile services are mentioned is when it comes to the provision of broadband in rural communities. ROPs in general don't specifically mention mobile services but development of e-services for the benefit of people living in remote areas. And this puts mobile services in some way in the same position as all other electronic services.

The following questions answered by most of the project partners give a good picture of the state of art.

### Which challenges in the ROP could, at least partly, be met by mobile services?

- Public service delivery in remote areas
- Highly dispersed population
- Difficult terrain making it expensive to provide services.
- Costs for providing good broadband is too high and other technical solutions must be found.
- The demographic change and ageing population in remote areas.

### How are the needs for new services described?

The demand of public services is growing and at the same time the costs for delivering keeps increasing. New ways to deliver services more efficiently need to be considered. Otherwise people have to travel long distances to the main centres in the region. This leads to an increased risk for further urbanisation and regional concentration of the population.

Broadband and access to digital services makes it possible to live in remote areas and for companies to compete in a global market.

### What is your definition of a mobile community service?

A mobile community service is a service delivered via different wireless techniques (WiFi, broadband, GSM etc.) and accessible via different technical devices (laptop, cell phone, PDA...) Which enhances local authority services, promotes accessibility and greater efficiency for the benefit of citizens regardless of their geographical location.

### What are the core desirable attributes of a mobile community service?

- Accessibility, at any moment and in the specific geographical areas for that special service.
- Ease of use, usability, reliability
- Localise, only information relevant to the location will be displayed.
- Services delivered on a variety of technical devices.

**What strengthens such services and their take-up?**

- Efficiencies in the delivery of public services.
- Worth the development cost. That the benefits are commensurate with the costs.
- Relevance of information provided.
- Usefulness does the service make life easier/save time etc.
- The first services delivered must be easy to use and have a desirable content.
- Interoperability with background systems.
- Strong commitment and clear roles of service developers and producers.
- Promotion-people need to know that the services exist.

**What are the barriers?**

- The digital divide can affect part of the population and certain beneficiaries.
- Uncertainty among public institutions which technology is the right to put money in.
- Lack of organisational commitment and understanding the need of change of technology.
- Resistance to change of providing public service inside the public administration.
- ICT literacy among end users.
- Finding services good enough for a fast introduction and paving the way for next service.

**Are there any particular interest groups with special needs of these services?**

The geographical population spread means that many citizens are located remote from the public service centres. This would include special interest groups and beneficiaries of mobile services i.e. Disabled persons and elderly people, children, migrants, commuters etc.

**What could be the authorities' benefits of the new services?**

- More efficient delivery of public services leading to cost-savings.
- Potential for process improvements. The provision of public services could be organised in a new and more effective way.
- According to World economic forum, good e-government service is also a benchmark for a competitive economy: Countries that score high on public- sector openness, efficiency and e-government readiness also rate well on the economic performance and competitiveness scoreboards. Good e-government services can also help political objectives like social inclusion or transparent government.

**When might these services be introduced?**

The project partners answers to this question varies a lot and many have raised the question of barriers to get rid off first. Others are more precise and declare that the first service will be deployed during 2009. These services are in the health sector, sports and culture events with a special tourist attraction.

## FOMENTO DE SAN SEBASTIÁN CONTRIBUTION

### Output 2.2 - Transnational “Mobile Community” Needs Analysis

#### 1. Which challenges in the ROP could, at least partly, be met by mobile services?

N/A

#### 2. How are the needs for new services described?

N/A

#### 3. What is your definition of a mobile community service?

“Mobile community services” or “mobile services” could be understood as the range of public services offered by a public organisation (regional/local) through mobile devices that would be connected to wireless infrastructures. The mobile services would be identified by the public institution as designed to improve the quality of life of the final users (citizens, general public..) or to solve particular problems related to their specific needs by means of the use of new technologies

The group of potential final users for these “mobile services” would cover citizens, students, workers, tourists and general public located or living in small cities or villages (e.g. in the rural areas of NP area) and connecting while on the move and through different mobile devices (laptops, PDAs and WiFi mobiles) to wireless broadband infrastructures (through WiFi or other wireless technologies).

We add some examples of what a mobile community service could be:

##### i). Enquiry and Information Services

The simplest and so far the most widespread type of services are enquiry and information services, which provide the mobile user with nearby points of interest such as restaurants, automated teller machines, or filling stations. Upon request, the user is either automatically located by the mobile network or, if appropriate positioning technology is missing, he must explicitly enter his current location. Furthermore, he must specify the points of interest, for example, whether he would like to receive a list of all nearby restaurants or filling stations, and the desired maximum distance between his current position and the points of interest. The request is then passed to a service provider, which assembles a list of appropriate points of interest and returns it to the user. Thus, this type of service is basically an extension of the Yellow Pages for showing only entries of local relevance. In today’s networks, these services are usually accessed over SMS, WAP, or I-mode. In some cases, they are combined with navigation facilities for guiding the user to the points of interest of his choice along the shortest route.

## ii). Community Services

Community services enable users that share common interests to join together in a closed user group (community) and to interact among each other via chat, whiteboards, or messaging services. In the recent years, the WWW has created various occurrences of these services supporting a broad and heterogeneous range of communities in such areas as cooking, travelling, family, computer

## iii). Traffic Telematics

The area of traffic telematics aims to support car drivers with a set of manifold services relating to their vehicles. It includes but is not limited to navigation, the automatic configuration of appliances and added features within the vehicle, diagnostics of malfunctions, or the dissemination of warning messages. The most widespread application so far has been navigation, which is enabled by On-Board Units (OBU) installed in the cars. On the basis of the current location, which is derived via GPS (Global Positioning System), the OBU guides the driver to the desired target by giving either vocal instructions or displaying the route graphically. The guidance is based on map material that is loaded from a local CD/DVD-ROM inside the OBU. More sophisticated versions of these systems are equipped with GSM/GPRS units and can thus keep the driver up-to-date with information from a remote server, including information on, for example, the latest traffic jams, weather conditions, and road works. On the basis of this information, it becomes possible to recommend alternative routes. The navigation services can be combined with several useful features.

For example, system that includes a number of services around parking lots, ranging from registering and tariffing parking lots, guiding the driver to the reserved lot, and the exchange of parking lots among drivers. A hot topic in research is the wireless inter-vehicle communication, which relies on short-range communication technologies like WLAN or Bluetooth and which enables the exchange of warning messages, local traffic situations, or the position of filling stations in an ad hoc manner. The content of the messages originates from different sources, above all from sensor technology inside the vehicles. Data delivered by these sensors is subsumed under the term floating car data and comprises such parameters as the vehicle's speed, direction, and position. To derive high-level information, for example, like the aforementioned traffic situation, the floating car data must be refined in several steps and maybe even combined with the data received from other vehicles, before disseminating it to nearby vehicles. Inter-vehicle communication is a complex matter, which poses a number of strong requirements on the systems' reliability, security mechanisms, routing protocols, and positioning technologies. It is usually not considered to be a classical LBS, but adopts a number of similar technologies and mechanisms.

## iv). Fleet Management and Logistics

While traffic telematics is concerned with supporting single, autonomous vehicles, fleet management deals with the control and coordination of entire fleets of vehicles by a central office. Typical target groups are freight services, public transportation, and emergency services. Location-based systems for fleet management are able to request the position of vehicles, display it on a map, determine the distance between different vehicles of a fleet as well as

between a vehicle and its destination, and so on. On the basis of this information, the central office can dynamically delegate new orders and predict the arrival time of deliveries at the destination.

#### v). Mobile Marketing

Mobile marketing is a new kind of sales approach that helps manufacturers and service agencies to promote their products and services by interacting with consumers through their mobile devices. The contact with a consumer is usually established by using technologies such as SMS, Multimedia Messaging Service (MMS), or WAP, where the first one is the most popular “media channel” till date. Unlike conventional campaigns in television, newspapers, and journals, mobile marketing enables to select the target group of a certain product or service very accurately by evaluating the user profiles that reflect a customer’s interests in products and services and possibly even his buying patterns in the past. In addition, it enables a high degree of interactivity between consumers and the agencies carrying out a campaign.

#### vi). Mobile Gaming

In recent years, mobile devices have developed from rudimentary mobile phones to sophisticated mobile computers with high-resolution multicolour displays, high-speed processors, and several megabytes of storage. Hence, devices with these capabilities can not only be used for making phone calls, but they are also very attractive to be used as mobile consoles for playing games, which are either preinstalled or which can be dynamically loaded over the air from a service provider against a fee. A very popular application is the interactive games that allow remote users to share the same session and to enter into a real-time competition, for example, in a football game or a race. The games are accessed via the mobile device and the data needed to organize and maintain a distributed game session are communicated over a cellular network. Another occurrence is the location-based mobile games, where the virtual and real worlds merge and the current locations of users become an essential aspect of the play.

### **4. What are the core desirable attributes of a mobile community service?**

- Accessible at any moment and from any point in the selected public network (e.g. WiFi area) for the final users connecting to it
- The mobile community service has to be multi-platform, being available for different WiFi devices or others (laptops, PDAs and WiFi mobiles)
- Wide range of technologies used to accede to the mobile service. Not only WiFi but also other wireless technologies such as 3G, WiMAX, etc. Sometimes, a combination of different wireless technologies will be required. The idea is to facilitate to the users the access to the mobile services

- Wide range of services oriented to different kind of users: development of municipal services (transport, City security), services with third parts (companies) and also location based services for the general public
- offered in different languages, above all in cities or regions developing mobile community services focused on tourism and/or on using different official languages
- Possibility of combined access while on the move, at the same time to mobile services and to the Internet connection service in an integrated website. According to Fomento´s experience, a key factor is the integration of new mobile community services with the traditional web portal which is provided by Fomento de San Sebastián and which makes possible the connection to Internet through the WiFi network "e-Donostia".
- The mobile community service offered should give to the citizens the opportunity to connect to Internet and to the service at a competitive price.
- Involvement of the sectors taking part in the content provided through the mobile community service. Moreover, when developing for instance, a service about commercial contents in the city this action should be carried out not only with the aim of involving the businesses of the selected WiFi areas in the service and but also trying to promote among them the use of wireless technology and mobile services.

#### **5. What strengthens such services and their take-up?**

- Connectivity through cable solutions offers good results in terms of service quality and transmission speed. However, mobile services through wireless solutions also offer an acceptable quality and the fact of the "mobility" that cable solutions don't have.
- The deployment of broadband wireless infrastructures (outdoor) has less cost for investments due to the fact that civil works required for cable
- Mobile community services can be location based. It allows the interaction between the user and the offered service while on the move and just in the area where the service is being developed
- The implication in the mobile service of the contents providers is important: firstly, for the sustainability of the service (business model); on the other hand, because the information served through the mobile service can have an greater added value; and finally, because, we sensitize with the use of new technologies not only to the final users but also to the agents in charge of providing the contents.
- Clear orientation of the mobile service to the user's needs. A market research could help to analyze the services demand, to know where the users are and which is their profile

For example, for "mobile gaming" the deployment of the wireless infrastructures should be considered in the places where the potential users will be (e.g. young people). Moreover, the mobile service should be highly oriented to the real needs of those potential users.

**6. What are the barriers?**

- Mobile community services accessible for users while on the move need the deployment of a wireless infrastructure through which these mobile services can be provided
- The deployment of a wireless infrastructure implies investments, time and resources than have to be planned in advance.
- The quick development of new wireless technologies forces the public institutions to assure that the technologies and systems selected for the deployment of a wireless infrastructure are not going to be obsolete in a reasonable period of time after the infrastructure starts.
- The digital divide that could affect part of the population and which could slow down the access of the citizens to the mobile services.

**7. Are there any particular interest groups with special needs of these services?**

N/A

**8. What could be the authorities' benefits of the new services?**

N/A

**9. When might these services be introduced?**

N/A

## **REGIONAL COUNCIL OF NORTH KARELIA CONTRIBUTION**



REGIONAL COUNCIL OF  
**North Karelia**

### **Which challenges in the ROP could, at least partly, be met by mobile services?**

In 2007 Finland was the first country in Europe, where administrative e-Services were legislated. New laws have been promoting, and will promote in the future, the development of e-services. The main challenge for public sector is to create that kind of system where local, regional and national e-services can be found from one place. Mobile services are in the same position as all electronic services in Finland. Cities, municipals, companies and third sector develop applications and solutions by themselves and those solutions can not be duplicated. Also the challenges of exploiting the technology are mainly the same.

The main changes which are the driving forces for changing the services and approaches towards mobile technology in Finland are:

1. Demographic dependency: ageing people and decreasing amount of workforce
2. Internal migration and population centralization to cities
3. The financial problems of municipals and government

According to the national mobile utilizing plan the main challenges at public level which can be met by mobile services are:

Developing the public services which are independent of time and place:

1. The implementation of electronic identification/authorization and payment systems in public service processes
2. The improvement of self services
3. Public data banks, custom managements and databases

Developing and making more effective service processes by utilizing the mobile technology:

1. Utilizing the generalized fast information transfer methods and new devices
2. Developing new innovative working methods and applications

The diversification of new products and working methods from the national level to global trends and Finnish export products:

1. There is a plain need in public sector content experts to develop their own service production processes
2. By utilizing this knowledge of experts in needs specification it is possible to create innovative applications
3. There should be clear programmes of funding even for public development projects. With the risk involved, it would make possible for companies and research centres to develop products for global markets.

## How are the needs for new services described?

Usually the needs for services are described in quite a generic manner. In North Karelia it is necessary to focus on those kind of ICT areas, which we already have potential know-how, expertise and competitive advantage. These themes arise naturally from North Karelian strong areas of production. Many of the challenges in ROP and other plans can be met by mobile services. The E-region network and North Karelian Information Centre have created information and communication infrastructure which makes possible to produce e-services for municipals and communities in North Karelia.

The main needs according to ROP

- Logistics:
  1. Utilizing the GIS solutions
  2. RFID and new identification applications
  3. Mobility and information transmission and information gathering applications
- Flexible production automation and real time production knowledge control
- The know-how of processing and methods of large store of knowledge
- Security
  1. Building automation
  2. Access control and signal processing
  3. The research of optics
- Integration of applications; It is important to integrate different applications and systems into a uniform system. The work is hard to outsource (abroad), because it requires the knowledge of local circumstances, statutes and culture.
- Healthcare ; medical records and archives, clinical data repository, virtual appointments for doctor, regional information services, SMS appointment service, electronic prescriptions
- Social sector; the possibilities of electronic services at home care, unified information systems, electronic case records, e- services and archives
- Administrative and management applications for companies; It will be important to utilize the co-operation between developing companies and different regional companies. With joined projects it is possible to create new competitive products for companies and at the same time, developing projects exploit the pilot companies and make their competitiveness better.
- New approach to knowledge work and working environments; In North Karelia new approaches to knowledge work have been created. One example is Network Oasis, new kind of open working environment. It is a space designed to inspire spontaneous and guided encounters of different individuals. Versatile environment welcomes actors, specialists and groups from various companies, research and development organizations and communities.
- Education; A key in regional and national plans is to explore opportunities for the development of new kind of learning technology that exploit mobile information and communication technology.

### **What is your definition of a mobile community service?**

Mobile community service gives more possibilities for everyday life, which are not dependent of time or place.

### **What are the core desirable attributes of a mobile community service?**

Accessible;

- Accessibility reduces disparities between individuals, entities or geographical areas with regard to ICT use.
- Reasonable and stable prices of the services
- Fast connections to all

Technologically efficient:

- Open standards and interfaces
- Joined projects and processes for service offers and producers

Secure/trustable

- Electronic identity management
- Electronic document authentication
- Electronic archiving

Easy- to use

- Usability
- Reliability
- Well known service

### **What strengthens such services and their take-up?**

From the point of view of service offers, for example North Karelia region, the following main things help the development process and taken into use of the services:

1. The similar solutions of the background systems- interoperability
2. Uniform and co-ordinated funding mechanisms
3. The nature of the developmental work; from separate short projects towards continuous, collaborative and planned system development processes
4. Co-ordination and willingness; The strong commitment and clear roles of service developers and producers
5. The joint procurement processing
6. Clear responsibilities of the developmental work

From the point of customer: well known service is accessible, secure and easy to use.

## What are the barriers?

In North Karelia the barriers for developing mobile services are:

- Unfocused activities
- There has been not enough co-operation between the strong regional actors
- Too narrow national and international networking

In Finland policies and strategies for citizen and community uses of mobile services are fragmented across government, industry, companies and third sector. Separate programmes, projects and policies that could join up are not being linked. There is duplication and also gaps. Awareness of the everyday benefits of using the information and communication technology is too low. There is also poor coordination in workplaces, and organisations are inflexible, which can stop projects in their tracks.

It is also a question of e-accessibility, which addresses the barriers that people with disabilities and many others may experience when using all kinds of information and communication technology products and services. The lack of trust and poor technical design mean that, when deployed, services are rarely used.

In national plan for utilizing mobile technology the barriers have been described from three points of view. These are customers/clients, service offers (government, region, municipals etc.) and service providers views.

From the point of view of customers, there is plain need for services which are independent of place and time. In Finland the mobile penetration and renewal of mobile devices are good. When wireless networks are available and more developed, it is possible to utilize mobile technology in a more efficient way. When free wireless networks are becoming common in public places and in public transport, it makes the totally new culture for mobile service utilization possible.

The main barriers at the moment from the point of view of customers are:

1. The existing services are not well known
2. The prices of mobile phones, connections and services varies, not clear price setting
3. There is a need for personal and interactive services and service processes

Barriers of the service offers

1. Problems with usability (small display of mobile phone , difficulties and slow connections); It is not possible technologically offer all the existing services to mobile phones
2. Fast device renewal in Finland is challenging
3. Need for open interfaces, which make easier to produce services for different channels (mobile paying, service SMS's, group posting, appointment bookings etc.)
4. The impressiveness can be seen after some years, so it is not possible to evaluate the whole cost-effectiveness before the system has been taken into use

Because of these problems, mobile services have been developed separately and it has not been easy to make networks and make joint procurements.

Service provider

1. The need to understand the whole service process of a customer
2. Open interfaces would give the possibility that any kind of new application can be attached as a part of service.

### **Are there any particular interest groups with special needs of these services?**

In addition to general sustainable development (economical, social and environmental) there are some specific groups, whose need has to be taken into account.

#### **Elderly people**

In Europe the population is ageing rapidly. In Finland, ageing is taking place even more quickly than elsewhere in Europe. The information and communications sector's product and service development must develop solutions that prevent the social exclusion of the elderly and create conditions for a better life.

#### **People with disabilities**

People with disabilities, whether affected in sight, speech, hearing and physical or mental abilities (e.g. learning disorder), can have difficulties to use technology in which our daily life depends. These groups should be taken always into account, so that they won't find themselves even more marginalized in the technological world.

#### **Children**

In North Karelia there is a strong educational base and knowledge on ICT education. In addition to keeping the level high, new research and development projects will be connected more to the existing networks and companies in the region. There is also a need to keep teachers up-to-date what comes to the basic know-how of skills, know-how of technology and the development and high level use of educational technology.

A one goal for information society development is to promote the position of children and young people in the information society and to create a safe environment for them. Today's children and young people are the first to adopt the new technology and put it to use. But skills in using technology are not enough to ensure a safe environment. There is a need for good media education, means to protect them from harmful, illegal and unwanted content. The need is to promote media literacy so children and young people have the ability and skills to process media content critically and from various perspectives.

#### **Cultural and language diversity**

The need for an educated workforce in the future in North Karelia (for example in health and social care) is self-evident in rural areas. Immigrants should be taken into account, especially what comes to Finnish language.

### **What could be the authorities' benefits of the new services?**

According to the World Economic Forum, good e-government service is also a benchmark for a competitive economy: Countries that score high on public-sector openness, efficiency and e-government readiness also rate well on the economic performance and competitiveness scoreboards. Good e-government services can also help political objectives like social inclusion or transparent government.

### **When might these services be introduced?**

People's habits change slowly, and learning to use new technology can be difficult. So, the main thing is to ensure that people have sufficient skills and preparedness to function in the information society.

When institutional barriers and social barriers will be lowered, it is more likely that service introduction will be much easier.

## **DONEGAL COUNTY COUNCIL CONTRIBUTION**

Themes are generally related to environment and sustainable development. BMW focuses also on linkages between higher education and business but broadly speaking is pretty much in harmony with the themes under the Northern Periphery Programme (environment, transport, tourism etc.)

### **1. Which challenges in the ROP could, at least partly, be met by mobile services?**

While there is a focus in ROP on broadband provision, this is not a deliverable under the CMC project. Under the CMC project, we would hope to capitalise on the existing and emerging infrastructure availability in a way that demonstrates how it can contribute to public service provision.

### **2. How are the needs for new services described?**

There is a strong focus on broadband as key infrastructure for the socio economic development of the region.

### **3. What is your definition of a mobile community service?**

A mobile community service is any online application, facilitated via broadband, which enhances local authority services, promotes accessibility and greater efficiency for the benefit of citizens regardless of their remote location.

### **4. What are the core desirable attributes of a mobile community service?**

- Builds on broadband availability
- Addresses ICT literacy issues if public-facing
- Showcases what can be achieved in a rural environment thus providing an example for other service agents.
- Accessible 24/7
- Offers self-service opportunities

### **5. What strengthens such services and their take-up?**

- Affordability for broadband
- Public internet access points
- Service(s) that appeal i.e. the service is already accessed and used by citizens via conventional channels and/or processing would benefit qualitatively from increased use of wireless technology.
- Organisational commitment and willingness to deliver services differently
- Innovative interfaces e.g. map-based, customer recognition etc.

### **6. What are the barriers?**

- Poor take up of broadband generally or focus solely on ecommerce offerings
- ICT literacy
- Lack of organisational commitment
- Resistance to change
- Costs associated with start up and sustainability
- Possible operational impact on existing services/resourcing

**7. Are there any particular interest groups with special needs of these services?**

- The geographic population spread means that many citizens are located remote from the public services centres. This would include particular interest groups.

**8. What could be the authorities' benefits of the new services?**

- Efficiency in turnaround times through deployment of technology to assist data capture and information processing.
- Potential for process improvement

**9. When might these services be introduced?**

These services would not be new and additional services offered by the local authority – they may be existing services that will be improved or offered in a non-traditional manner that capitalises on the availability of broadband. Where a new innovative aspect is being introduced, there will be some change management and organisational commitment/effort required. This can be quantified when a decision is taken to proceed with a particular service or services.

## **WESTERN ISLES / OUTER HEBRIDES CONTRIBUTION**

We have a local strategy 'Creating Communities of the Future' of which provision of broadband to our most rural communities is a key deliverable. The strategy does not specifically mention mobile services but we are in the process of looking at solutions based in the main on our current and recently built wireless network which utilises the 5.8Ghz spectrum. Although the service is wireless it is a Fixed Wireless Access solution and not designed for mobile services. Mobile GSM type services are available but coverage is patchy and no 3G services are available or planned.

Our installed network is the largest wireless network in the UK and delivers services across 11 populated islands and a total North to South Distance of 200 Kms. The network delivers a symmetric broadband service across an IP technology platform allowing any device to be connected in a wide area network configuration and also providing an Internet service for residential and business community. The network has 90 community nodes with coverage from each node up to 15 Kms where terrain allows. See [www.connectedcommunities.co.uk](http://www.connectedcommunities.co.uk)

### **Which challenges in the ROP could, at least partly, be met by mobile services?**

In the Outer Hebrides the Public Sector Agencies are seen as the early adopters of mobile services where the main challenges are a highly dispersed population in what is a difficult terrain for delivering public services. The cost of delivering specialist services across 11 islands is prohibitively expensive and new and more cost efficient means of delivering services is becoming a pressing requirement.

### **How are the needs for new services described?**

The Health Service and Local Authority require mobile access to corporate systems. This would allow for example Health Visitors to connect into corporate networks from their vehicles or wirelessly from the patients home to allow hospital and GP appointments and other medical interventions to be undertaken. This is particularly important in our kind of dispersed environment where services need to be delivered across 11 populated islands. The cost of delivering services keeps increasing and new ways to deliver services more efficiently need to be considered otherwise it will become unviable to deliver any clinical procedures except in the main centres meaning people would have to travel long distances to receive services.

### **What is your definition of a mobile community service?**

Our description would be WiMAX technology as other spectrum licences for lower cost solutions are not available. Costs for GSM type data services are decreasing and in some locations can be a solution however our main requirements is to have a more universal solution across the whole area so that receiving equipment can be standardised

### **What are the core desirable attributes of a mobile community service?**

Good coverage even into the most remote communities and a high level of security where services are not affected by interference.

### **What strengthens such services and their take-up?**

Efficiencies in the delivery of public services is a key driver for us.

**What are the barriers?**

The main barriers are financial and regulatory. WiMAX licensing has focused on the main population centres and doesn't leave any scope for remote and rural areas. The regulatory authority has focused on getting the most income from selling the spectrum licensing with no provision made for small areas where a normal commercial approach would mean that no infrastructure would be deployed. In cost terms the introduction of WiMAX across our network would be expensive and not commercially attractive to a telecoms operator.

**Are there any particular interest groups with special needs of these services?**

As above our main interest is from Health Service, Local Authority and Media.

**What could be the authorities' benefits of the new services?**

Efficiencies in the delivery of public services is a key driver for us.

**When might these services be introduced?**

We are undertaking some pilot testing now as follows:-

- Ambulance service being fitted with a Fixed Wireless Access Omni directional antenna which allows the ambulance to connect to the Accident and Emergency Service at the hospital and allow clinical decisions to be made on whether to mobilise an air ambulance to prevent a long road journey in a life critical situation. The system includes a High Definition camera with two way audio communications which allows a clinician to see high quality video both inside and outside the ambulance for example at an accident scene.
- A mobile Health Clinic has also been fitted with the same technical solution to allow connections to be made to Health Service computer systems to allow patient records, appointments and other clinical interventions to be documented.
- A media organisation is currently considering installing a pilot system in one of their vehicles to allow radio and television roving reporters to send video and audio back to their organisations from rural locations. This is being tested as an alternative to use of a much more expensive satellite solution.

## **DERRY CITY COUNCIL CONTRIBUTION**

The Governments strategy for economic growth in Northern Ireland is aimed at creating a knowledge based, innovative and business friendly environment with a highly skilled, flexible workforce generating high quality of living, sustainable communities and life time opportunities for all throughout the entire region.

### **1. Which challenges in the ROP could, at least partly, be met by mobile services?**

There is a strong focus in the ROP on broadband infrastructure, developing technologies that can be used to deliver next generation broadband services and deploying “in-fill” broadband solutions into a number of priority rural areas in NI. Under the CMC project Derry City Council have a number of suggestions regarding application pilot schemes to be delivered on the existing Wireless City network, these are discussed in greater detail in section 3 below.

### **2. How are the needs for new services described?**

The Northern Ireland Programme for Government emphasises the importance of broadband as an enabler for economic activity in the region:

“Broadband is a communication channel of immense power and importance. It makes it possible for Northern Ireland to compete in the global marketplace. A regions “place” in the world is no longer defined by geography, but by how it relates to, and integrates with, the wider global environment and economy” (*Shaping our Future – The Regional Development Strategy for Northern Ireland 2025*)

### **3. What is your definition of a mobile community service?**

Paul Golding in his book Next Generation Wireless Applications provides a definition of mobile services which illustrates the criteria that Derry City Council envisages for delivery of services to benefit citizens, visitors and business:

“The ability to interact successfully, confidently and easily with interesting and readily available content, people or devices while freely moving anywhere we are likely to go in conducting our usual, day to day business and social lives”

Derry City Council have a number of suggestions regarding application pilot schemes to be delivered on the existing Wireless City network, these are discussed below:

#### **What’s On Guide?**

Trial provision of a “What’s on Guide” for the Walled City Cultural Tourism Attractions. This could be done via the current splash page of the Wireless City network.

#### **Virtual Tour**

Using the same approach suggested above, the virtual tours can be made available to all users via the splash page. This will make it easier for users to access the history of Derry, which is currently only available to download from the Council web site. The current version of Node handheld devices will be able to access the wireless network. We could investigate the possibility of downloading the video clips over the network driven by GPS.

## **Video Surveillance**

IP enabled cameras can be connected to the network in a two ways, a wireless connection to the mesh or a wired connection into one of the Tropos routers. Cameras connected to the network can be centrally monitored using either existing network management software or by installing Net\_DVR software from OnSSI. This allows images to be viewed, recorded and played back; it also allows control of camera movement and motion detection for cameras that have those features. A separate, private SSID will be created on the Tropos mesh allowing access from the wireless mesh to monitor the cameras; this will allow staff to check cameras wherever they are in the mesh not just from the control room. The software also has a viewer available for PDAs to give more convenient mobile access.

## **Mobile working and Voice Over IP**

Voice over IP will allow staff to call each other within the network with no call charge and make calls to outside lines at a Public Switched Telephone Network (PSTN) rate rather than a mobile rate. Calls can be placed using "soft phones" that is software installed on PCs, PDAs or via VOiP phones which can be wireless or connected to the wired LAN. Dual mode phone capable of supporting both VOiP and standard cellular operation are now commonplace.

## **Unified Communications (UC)**

If Voice over IP is taken further a full unified communications system could be set up, this system would bring together voice, email, instant messaging, calendar and contacts list all together into one program. Unified communications (UC) refers to a current business trend to simplify and integrate all forms of communications. In general, it allows an individual to send or receive a message on one medium and received on another. For example, one can receive a voice mail message and then read it in their email inbox using a unified communications program.

The communications leveraged by this term can include phone, e-mail, chat (instant messaging), voice mail, and fax. The typical software program unifies these communication mediums so that any activity or message can be easily transferred to another. A successful implementation can automate and unifies all forms of human and device communications into a common user experience. Gains in efficiency can result through an optimization of business processes and enhancing human communications, reducing latency, managing flows, and eliminating device and media dependencies.

## **Education and Inclusion**

Potential delivery of education learning platforms using Internet technology e.g. heritage/ history and using the technology.

### **4. What are the core desirable attributes of a mobile community service?**

- i) Accessibility – always on, ever present
- ii) Ease of use
- iii) Rich Experiences – the content and services should be engaging and interactive and encourage expression of opinion/ ideas
- iv) Localised - for example if you enter a current location only information relevant to the location will be displayed
- v) Multi platform – available on a variety of devices including laptops, PDAs, mobile phones etc
- vi) Free limited access to the Internet
- vii) Affordable - competitively priced access to the Internet after initial free period

**5. What strengthens such services and their take-up?**

- Speed of connection/ delivery
- Geographical coverage
- Affordability
- Ease of use
- User experience
- Relevance of information provided
- Interactivity
- Promotion – people need to know that the service exists
- Usefulness – does the service make life easier/ save time etc
- Multi-platform

**6. What are the barriers?**

- i) Funding
- ii) Lack of promotion
- iii) Technology gap
- iv) Technical competence of end user
- v) Potential legal constraints e.g. video surveillance

**7. Are there any particular interest groups with special needs of these services?**

- i) Children re access to undesirable content
- ii) Disabled persons – services need to be NI discrimination act compliant

**8. What could be the authorities' benefits of the new services?**

- i) Improved tourism product
- ii) Increased tourism spend
- iii) Improved image of City as technology advanced
- iv) Education – exposure of students to new technology
- v) Potential cost savings/ efficiencies for council staff
- vi) Deterrence of crime re video surveillance

**9. When might these services be introduced?**

- Within 12 months

## **ASSOCIATION OF LOCAL AUTHORITIES IN VÄSTERNORRLAND CONTRIBUTION**

Västernorrland works actively in the structural change and development of companies and business which could be described in a way as the gradual development of e-society and digital communities. Characterising this is knowledge intensity, new techniques, new ways of organising, globalisation and breaking up traditional borders. In the area of the information societies services and products is a highly prioritised growth potential.

### **1. Which challenges in the ROP could, at least partly, be met by mobile services?**

- The demographic change
- Public service delivery in remote areas.
- As one of the weaknesses in the region mentioned in the ROP is insufficient broadband (and mobile telephone networks) coverage and the usage of ICT especially in remote areas.
- In the most sparsely populated areas of our region the costs for providing good broadband is too high and other technical solutions must be found, here might mobile services using telephone networks be an option.

### **2. How are the needs for new services described?**

- Make good use of the current ICT-infrastructure for raising competence and learning.
- If services for the more remote areas of the region are not developed there is a risk for increased urbanisation and regional concentration of the population
- The need for change of generations in the managing of SMEs.
- Today we're phasing out public services in remote and rural areas
- Demographic changes.

### **3. What is your definition of a mobile community service?**

A mobile community service is a service delivered via different wireless techniques (WiFi broadband, GSM etc) and accessible via different technical devices (laptop, cell phone, PDA...). Services could be possible to use over a big geographic area or specified for a limited location.

### **4. What are the core desirable attributes of a mobile community service?**

- Accessibility, the services covers specific geographical areas.
- Location specific information
- Services delivered on a variety of technical devices
- First services delivered are good examples of what is to come.
- Services that has a tangible impact on the administrative back-office processes.

### **5. What strengthens such services and their take-up?**

- The first services delivered must be easy to use and have a desirable content
- Worth the development cost. That the benefits are commensurate with the costs.
- That the services introduced are well marketed.

### **6. What are the barriers?**

- Understanding the need of change of technology
- Finding services good enough for a fast introduction and paving the way for the next service.
- Resistance to change of providing public service inside the public administration.

**7. Are there any particular interest groups with special needs of these services?**

- Commuters
- Disabled people
- Certain business groups in the transport sector

**8. What could be the authorities' benefits of the new services?**

- Easier and cheaper to provide public services
- Perform their work while on the move. The provision of public services could be organised in a new and more effective way.

**9. When might these services be introduced?**

- Some services will be introduced during 2009 with the first services focused on sport and cultural events with a special tourist attraction.
- After this risk management services has been discussed. Traffic information, accidents, weather conditions etc.