

# **Information technologies and rural development**

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# Introduction

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During LEADER I (1991-1994), certain local action groups (LAGs) used information and communication technologies (ICTs), especially for rural tourism, education and training actions.

With LEADER II (1994-1999), many have stressed the development of ICTs in their rural innovation plan. However, much still remains to be done to take full advantage of the potential these technologies offer for rural development.

## **Rural development and new information technologies**

Until recently, the geographical position and accessibility of an area were essential criteria, for instance, in the choice of a business location. Other factors are now becoming more important. They include:

- > the quality and cost of local labour, its stability, its flexibility and its adaptability;
- > the organisational and entrepreneurial skills of local employers;
- > the performance of public services and local community organisations;
- > an area's natural environment, building heritage, amenities, infrastructures and facilities;
- > the quality of life (climate, cultural life, recreational activities, the area, safety, etc);
- > the number and quality of available services (public, private and community);
- > the price and quality of land, property and services.

These new criteria can become competitive advantages for rural areas. It is up to the local authorities, local development agencies and the area's other "living strengths" to take advantage of them.

A region like the Highlands and Islands in Scotland, for example, has an attractive environment and a good quality of life, but it is hard to reach with traditional means of transport. Thanks to a voluntarist, regional planning policy based on ICTs, this problem has been partly solved and the region is becoming more attractive as its handicaps diminish in importance.

## **The networking society**

The rapid development of networking technologies is transforming Europe's economy and society. Identifying the factors of change and the competitive advantages for rural areas requires a new look at the way services are provided or businesses are run. This is particularly true in the service sector, a growing source of income for rural communities. In order to anticipate evolving needs and to adapt to them, it is important to understand what the networking society (and economy) means: for many, it means the advent of a radically different way of working and living. The use of ICTs calls into question geographical and political orders, the conventional approaches to employment, education and training, and opens up new areas of economic, social and cultural activity, of considerable importance for rural communities.

Faced with the growing mobility of capital in an increasingly globalised context, the need for competitiveness is making new forms of cooperation between private and public players necessary in order to attract skills and investments to an area.

Public services are also having to face the challenge of new technologies, and we are seeing the creation of virtual libraries, telephone assistance, and in some cases "telewindows" for administrative procedures and/or social services, job centres, distance learning programmes, and even "telemedicine" (*see case study*).

As far as the changing job scene is concerned, individuals and organisations of all kinds are beginning to take advantage of the new networking techniques. Companies are gradually adopting information technology (IT) solutions for their business dealings, using electronic exchange systems (including electronic commerce) for bargaining, marketing, ordering and payment procedures on the Internet, for example. Similarly, distance cooperation methods are beginning to be used in non-market activities, combining groups and individuals in virtual working networks.

The increase in distance exchanges and cooperation is being accompanied by a rise in the importance of teleworking. The nature of the technologies used means that organisations can subcontract more and more work externally. The networking economy can thus offer individuals, groups, businesses and local authorities in rural areas great prospects for employment and open the door to jobs previously performed in companies or institutions, generally in urban areas or in areas close to cities. Now businesses in remote areas can also be in direct contact with customers on the other side of the world and thus have access to business opportunities that in the past would have been unthinkable. At the same time they are able to retain a much greater portion of the added value in the area where they are located.

It is precisely this perspective that is of interest to rural areas. However, it is not easy to translate this potential into concrete activities and real jobs. It is important to study demand in the sectors concerned and examine the types of organisation concerned, and also to make sure the know-how, skills and capacities of the area in question match this demand. This can be achieved through a voluntarist strategy.

### Introduction to the dossier

This dossier presents several examples illustrating the opportunities but also the difficulties that can arise when using information and communication technologies (ICTs) for rural development. Four models are examined:

**model no.1:** ICTs in traditional business activities (eg, the marketing of crafts, tourism, agricultural products);

**model no.2:** ICTs and new opportunities (teleworking, call centres, etc);

**model no.3:** new ways to provide services ("distance learning", "telemedicine", distance public services, etc);

**model no.4:** network coordination (within an area, a region, between LEADER groups, etc);

Seven case studies relating to the above four models are examined in detail in this dossier:

- > **Adopting ICTs: an area-based approach to demand** ([IR-17] Longford, Ireland) illustrates models no.2 and no.3.
- > **Changes in traditional rural activities** (Community Centre of Trångsviken, [SE-03] Stjörsobygden, Jämtland, Sweden) illustrates models no.1 and no.2
- > **Expanding markets: electronic commerce in the agri-food sector** ([FR-PC05] Pays de Gâtine, Poitou-Charentes, France) illustrates model no.1
- > **Job and business opportunities: marketing rural tourism** (Paralelo 40 network, [ES-CM02] La Manchuela, Castile-La Mancha, Spain) illustrates models no.1 and no.4
- > **Job and business opportunities: intellectual teleworking and call centres** ([UK-HI04], Western Isles, Skye & Lochalsh, Scotland, United Kingdom) illustrates model no.2
- > **New services and maintaining quality** ([FR-RA03] Ardèche Centrale, Rhône-Alpes, France) illustrates model no.3
- > **New tools for coordination, cooperation and communication** (ES-AR03, Maestrazgo, Aragon, Spain) illustrates models no.3 and no.4

## THE NETWORKING SOCIETY AND ITS RELEVANCE TO RURAL EMPLOYMENT

Networking society	Radical change in: > working > living > communicating, creating links > thinking
Technologies	Electronic chips: > 1998 - 400 million instructions per second > 2012 - 100 000 million instructions per second Telecommunications: > 1980 - telephone line: 1 page per second > 1998 - optical fibre: 90 000 encyclopaedias per second > 2002 - wide band satellite networks covering the entire globe
World electronic network	The Internet combines the power of information technology and the power of telecommunications: > 1994 - 3 million users > 1998 - 100 million users > 2005 - 1000 million users
Electronic commerce on the Internet	> 1998 - EUR 18 billion > 2000 - EUR 900 billion
Changes to work and employment	Work depends less and less on: > location and distance > simultaneous presence of workers > tasks performed in synchronisation > single employer > local wage scales
Gradual generalisation of teleworking	The work can be relocated, opening up possibilities to choose: > partners > clients > suppliers
Combination of private and professional life	In a more or less marked fashion depending on the country, a growing number of individuals want to: > live and work at home > combine work and family life > choose an urban or rural setting > choose their social environment
Revolution in relations	> virtual relations between acquaintances, friends, clients, associates, suppliers, etc. > new forms of social networks > real interaction that implies a redefinition of one's identity, making individuals responsible and creating psychological maturity





## **Chapter 1**

# **The evolving technological context of rural areas**



# The evolving technological context of rural areas (\*)

**The fact that information and communication technologies are able to eliminate distances in today's increasingly globalised economy means that local and regional development strategies are having to be reassessed in rural areas.**

With the Internet, multimedia, mobile telephony and group work software, the "information society" has spread to the countryside as well as to the cities. Distance working and training, electronic commerce for tourism, local products, etc, are all new forms of activity that some LEADER areas are trying out.

Information and communication technologies (ICTs) seem somewhat paradoxical. On the one hand, they call to mind the globalisation of the economy, the internationalisation of markets, networking on a planetary scale and other heavy tendencies over which it seems difficult to have any influence. On the other hand, their relevance to local development seems evident, since it is the transformation of industries and services that is at stake, as is the future of work and employment. Furthermore, the policies linked to the "Information Society" should be implemented at local level, whether they concern infrastructure, research, support for businesses, job promotion, the organisation of vocational training or communications policy.

## **A new technological deal, dominated by communication**

Most of the recent technological developments in the area of information technology (IT) and telecommunications, such as the Internet, mobile telephones and multimedia, have advanced the notion of communication: our economies will henceforth rely on distance communication and exchange networks. The priority accorded to communication distinguishes the current wave of information technologies from that of the 1980s, where the use of IT concerned in particular the automation of operating tasks: robotics, computer-aided design and manufacturing, databases, word processing, data transfers, etc.

What are the significant technological innovations in the new distance communication and exchange systems between individuals and organisations?

Many of these innovations are well known: mobile telecommunications have invaded our lifestyles since the appearance of the mobile telephone; the Internet network is no longer the privilege of university researchers alone; portable computers are becoming widespread in certain jobs (commercial service, maintenance, etc) and multimedia applications are becoming more extensive. Other lesser-known technological developments for the general public have also changed the ways companies are organising themselves. Here we can mention in particular group work software ("groupware") and workflow management software ("workflow"), which facilitate the organisation and execution of joint activities, internal business networks (Intranet) or even computer-integrated telephones, as have been implemented in call centres for example.

These new technologies are also at the origin of a number of new services (teleservices) and new work forms (distance work), which are affecting more and more sectors and private or public companies. These recent developments *may* offer perspectives in terms of the creation of activities at local level **in rural areas**, but are *certain* to give another direction to policies of communication and opening up to the outside world.

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(\*) this section was adapted from an article by Patricia Vendramin and Gérard Valenduc (Fondation Travail-Université, Belgium) published in LEADER Magazine no.19 (Winter 1998-99).

### **The boost given to external communication**

The development of the Internet and multimedia applications has given a new impetus to the external communication of economic and social agents. Not only are businesses and public authorities concerned, but also the not-for-profit, educational and cultural world as well.

Three aspects of external communication have been strengthened and these are already within the reach of small and medium-sized enterprises or local organisations. The first, and by no means the least, concerns advertising, brand image, information on a company's clients or suppliers, and even tourist information, the development of the local heritage or the promotion of rural activities. The second aspect concerns the very operation of companies and local authorities: relations with partners, suppliers and clients are becoming increasingly interactive in real time, whatever the distance between them. There are important consequences in terms of flexibility and adaptability. Finally, the third aspect concerns the development of on-line services which can be accessed by the general public. But connection to global networks does not only imply making oneself known, getting to know and distributing one's services and accessing information. It also enables resources not available locally to be accessed, whether in terms of services to companies or community services, for example in the areas of health or education. Symmetrically, it can promote local resources on a wider market or to a wider public.

Furthermore, for many non-commercial organisations, particularly associations with a cultural or educational vocation, the recent development of the Internet and multimedia are offering new possibilities to disseminate information, communicate with the public, or even diversify their educational or cultural "products". In this case, networks are considered above all as new media, rather than working tools or instruments of organisational change.

### **Developing teleservices**

Advanced communications technologies can be beneficial for a remote region or area in planning the development of new activities. Among the various forms of distance work, the development of teleservices is one to be exploited. An increasing number of service activities involve the telephone, ie, "face-to-face" contact is replaced or complemented by telephone communication. Businesses have become experts in the provision of these types of services, in fields as varied as banking and insurance, holidays and tourism, maintenance and after-sales service, real estate, direct marketing, leisure promotion, etc. These services are characterised by the fact that they are perfectly mobile, ie, can be carried out from absolutely anywhere, as long as the basic technological infrastructure is sufficient and the vocational skills are available.

Considerable technological progress has recently been made in the development of these on-line services. This concerns call diversion and voice servers and, more generally speaking, work stations integrating telephony and computers. This equipment enables a company to organise the provision of services from "telephonic platforms", sometimes geographically located very far away from the company itself.

## > Example

### METASA, MIND, IMAGINE... EUROPE HELPS SMALL TOWNS GET CONNECTED: THE EXAMPLE OF PARTHENAY (POITOU-CHARENTES, FRANCE) (\*)

The introduction of IT in Parthenay, a small town in a region where use of the Internet is still relatively limited, has its roots in the "Digital Town" project undertaken by the municipality in 1994 whose aim was to *"make the citizens creative players in the town"* <sup>(1)</sup>.

METASA <sup>(2)</sup> was implemented in 1996. This one-year pilot programme, initiated by the Directorate-General for the Information Society (former DG XIII) of the European Commission, involved:

- > turning several small European towns into a life-size laboratory for experimenting new information and communication technologies (ICT);
- > adopting a so-called "social-pull" approach, associating the citizens to the project as much as possible, basing it on their needs and ensuring that they were co-creators of services and not merely "consumer-guinea-pigs".

In addition to Parthenay, METASA involved Arnedo (La Rioja) in Spain and Weinstadt (Baden-Württemberg) and Torgau (Saxony) in Germany. Several large IT companies, as well as six universities and research centres, also took part. *"To identify people's needs, we sent a questionnaire of approximately 20 pages to 7500 households,"* explains Hervé Denudt, economic development officer in the District of Parthenay. *"25% of them were returned, which was very encouraging. The answers enabled us to identify seven types of attitudes towards new technologies, which correspond to three psychological profiles: the 'utopians', the 'wait-and-see partisans' and the 'refractory partisans'. Based on these profiles, three homogeneous discussion groups - 300 people in total! - were then formed. The results of these exchanges enabled three main fields of application for information technologies for the general public to be identified; they were culture, the economy and social affairs."*

In 1997, Parthenay won support from a European programme to promote awareness and demonstrate the use of ICTs. Under the MIND <sup>(3)</sup> project launched by the former Directorate-General for Industry (DG III), interactive IT services were installed in the town. The operation was to trigger the creation of an Intranet network and six "digital resource centres".

In the same year, the municipality of Parthenay launched the "Mille Micros" (1000 Micros) operation. In a bid to gear up the community to ICTs, each citizen was given the opportunity to purchase a microcomputer at a reasonable price. To achieve this, the town held talks with France Telecom and a large computer manufacturer. For approximately ECU 1000, each Parthenay inhabitant was able to purchase a computer and enjoy 200 free hours of communication on the Internet for two years.

A further programme, an extension of METASA called IMAGINE, was implemented in 1998 with the support of the former Directorate-General XIII.

At the same time, the education and training sectors were also mobilised. All schools in the district were henceforth connected and working parties were set up to develop joint actions using ICTs, eg, pooling documentation centres, creating a "package" of educational services, etc. Even without these projects, there is clear evidence of the positive "educational effect" generated by the "digitisation" of Parthenay, particularly in terms of social and professional inclusion. The most spectacular example is that of a young person who was failing at school and who discovered a passion for the Internet, put his poems on the web and was contacted by a German publisher who wanted to use them in the school textbooks he was printing...

*"Here, all companies are dependent on new technologies",* concludes Hervé Denudt. According to the Head of Financial Services for the District of Parthenay, the impact of all the projects taking part in the "digital town" approach is considerable:

- > existing companies are being strengthened - this is the case, for example, of a hundred-year-old local company, a joke and novelty manufacturer that has been considerably expanding throughout the French-speaking world for two years now;
- > new services are appearing - in addition to the "virtual supermarket" experiment, which has created three jobs, a large DIY chain is setting itself up in the mail-order business from Parthenay. A system for centralising orders, which are passed on to small shopkeepers via the Internet, is also planned as part of the much-needed revitalisation of businesses in the town centre;
- > new companies are setting themselves up - 12 IT firms have established themselves, creating 30 jobs, while a large furniture distributor has chosen Parthenay to try out a new organisation of its "just-in-time" type sales;
- > new innovative micro-activities are being developed; such is the case of the local businesswoman who rents out mobile homes all over France to mainly Dutch clients on the Internet; or the shoe salesman who, after becoming a net surfer, discovered a market niche for very large sizes, and now receives orders from Switzerland, Spain and elsewhere...

Web: [www.district-parthenay.fr](http://www.district-parthenay.fr)

(\*) Article by Jean-Luc Janot published in LEADER Magazine no. 19 (Winter 1998-99).

(1) Michel Hervé, Mayor of Parthenay, in "Le Monde", 9 December 1996.

(2) METASA: Multimedia Experimental Towns with a Social-Pull Approach.

(3) MIND: Multimedia Initiation of Digital Towns.



## **Chapter 2**

# **ICTs and how they can boost existing activities (Model no.1)**





# ICTs and how they can boost existing activities (Model no.1)

ICTs can give new momentum to the traditional activities of rural areas (agriculture, forestry, fisheries, mining) and derived products (food, timber, crafts, etc) but can also be of help to tourism, a sector that has considerably developed over the past twenty to thirty years.

## 2.1 In perspective

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A characteristic feature of many rural areas is their traditional activities, often in the primary sector. In the past twenty to thirty years, the tourist business, and in parallel the enhancement of the natural heritage, has grown because of a greater interest shown by city dwellers in the countryside.

In this context, ICTs can play an important role in strengthening, developing and diversifying these activities:

1. information and assistance for farming (weather reports, databases to monitor plant health, etc);
2. management, planning and growth of tourism, particularly in connection with professional organisations and financial bodies;
3. economic data (products to be developed, prices to charge, possible niches, information about competition, etc);
4. marketing beyond the usual markets, access to new markets;
5. customer service (eg, specific information for customers and rapid updating, direct tourist reservations avoiding middlemen, etc).

For SMEs, which are the mainstay of the socio-economic fabric of Europe's rural areas, ICTs can for example provide access to:

- > sources of professional information identical to the sources used by large corporations;
- > world-wide marketing channels and mechanisms;
- > teleworking, electronic commerce and distance cooperation.

With information technology networks greatly reducing the cost of doing business, flexibility and the ability to swiftly react to new business situations are becoming major assets. This is to the advantage of SMEs whose small size enables them to adapt more easily than large companies. That is why these past 10 to 15 years have seen some major firms downsize and outsource certain activities, or reorganise themselves into small semi-autonomous production units, often controlled by the same shareholder. The biggest drawback of many SMEs is insufficient resources (human, financial), which prevents them from properly managing risks and making the necessary investments at the right time. ICTs can offer a way to overcome this handicap (even though they may also require considerable financial investment and qualifications), because via the networks they provide inexpensive access to quality advice and assistance (*see chapter 5*).

Existing rural businesses can benefit from these trends by taking advantage of the competitive edge that they often have, such as a workforce that is generally less expensive but skilled nonetheless, and an attractive environment in comparison to urban areas.

Information technologies can help widen the markets for rural products at the European or even world level, thus retaining more added value at home and reducing the cost of doing business.

### > Case study

#### TRÅNSVIKEN (JÄMTLAND, SWEDEN): CHANGES IN TRADITIONAL RURAL ACTIVITIES

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In this northern part of Sweden, two traditional industries are gaining substantial added value and generating more jobs thanks to the implementation of information technologies:

- > *aluminium mining and processing*: launched in the 1940s, this activity has over the years maintained a remarkably steady workforce (25 to 30 jobs), despite increased competition from regions where labour is cheap. Since 1990, it has managed to occupy a very specialised niche: the *Trangia* company produces luggage accessories and a line of microwave dishes. 85% of the production is exported and the company is growing. With considerable computerisation on production lines, a number of manual operations have been automated over the years but without any loss of jobs thanks to a worker retraining policy. The Internet is used as a marketing tool;
- > *packaging* - the *Minitube* company has its main outlets in Europe where it sells its products which are derived from wood and other raw materials, eg, CD-ROM sleeves, small plastic money tubes and thermometer cases. Created in the early 1970s, the firm has 25 employees today. Nearly 10% of the sales turnover is already generated by electronic commerce and this proportion is

growing. By doing away with intermediaries (sales representatives), the Internet enables the company to lower the selling price and increase its profit margin.

To support these new developments, a collective infrastructure, the "Community Centre", helps information technology companies identify local, traditional activities where their expertise may be useful. The Community Centre receives an annual grant of EUR 80 000 (about 35% of the sales turnover) from local economic operators in order to provide facilities to new companies and to run a resource centre for worker training. Most of the computer equipment and part of the staff are co-funded under Objective 6 of the Structural Funds.

In addition to this strengthening of existing activities, Trånsviken is witnessing the development of brand new ICT-based activities, notably data archiving and computerised telephony. There is synergy between the existing traditional businesses and these new activities. The know-how and competitiveness of the existing businesses are improved by the new computerised firms; in return, these firms benefit from the business opportunities that the existing industries give them.

### > Case study

#### PAYS DE GÂTINE (POITOU-CHARENTES, FRANCE): THE "ELECTRONIC MARKET" OF PARTHENAY

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Pays de Gâtine is a very rural region dominated by cattle and sheep farms. The market at Parthenay, one of the largest in France, handles 170 000 animals a year. Since 1994, a programme covering the entire sector has been working to improve the quality of products at all stages, ie, the selection of animals, certification, transparent pricing, promotion, marketing and distribution.

The overall objective is to improve the value of the products and therefore to strengthen the sector and its capacity to create jobs. Two actions have been undertaken in this respect: the rehabilitation of abattoirs and the establishment of an "electronic market". The electronic services are targeted at livestock farmers, abattoir workers and retailers as well as the marketing of other produce from the region.

A large number of actors are working together in this operation. Since 1990, the Association for the Promotion of Quality Meat has been creating labels. Its action is supported by the LEADER group and, since 1996, an agent has been working on the project full time. The total cost of the quality programme is estimated to be EUR 1 000 000 over a period of five years, but the exact percentage allocated to ICTs has not been specified. Funding is provided by the European Union (38%), the local and regional authorities (32%), and the State (9%), with the remainder (20%) coming from various sources (vocational training fund, etc).

Web: [www.gatine.org](http://www.gatine.org)

See also LEADER Magazine no.19 (Winter 1998-99).

## 2.2 Good practice

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The case studies offer a way to identify good practice in the use of ICTs to strengthen existing activities and to support employment in rural areas.

### 1. Starting point:

- > the first step is to gather all relevant information about the area, its activities and its potential, taking stock of the tools in place and the available human resources;
- > this involves bringing together all concerned individuals and interest groups in order to reach a consensus on what should be done to make better use of existing resources;
- > quickly select a person to coordinate the actions;
- > it can be a good idea to set up a coordinating group, but it may also be appropriate to work through existing organisations, considering that the ICTs transcend sectoral interests;
- > involve in the operation mentors, resource people and others who may have useful expertise;
- > explore the possible alliances between existing and potential activities;
- > learn from others and share experiences;
- > cooperate with other areas/players to improve the products and services;
- > consider new partnerships, networks and organisational frameworks, contracts/procedures, etc, from the outset of the project.

**2. Emigrants:** many areas have suffered from large-scale emigration and are today discovering how this dispersion can contribute to marketing the area and selling its image owing to the sentimental link that already exists and may also be used to take advantage of existing contacts world-wide. This outflow can serve to:

- > promote the area and give it a positive image by means of a targeted communication campaign, for example;
- > involve the emigrants and put their skills, know-how and contacts to work;
- > find funding and business contacts (*case of Longford in Ireland - see case study in chapter 3*);
- > stop the “brain drain” and reverse the trend (eg, in the Hebrides in Scotland, some people who left the islands are now returning after marrying, bringing with them skills, experience and contacts).

**3 Limits:** it is important to know what ICTs can and cannot do. This approach can be based on:

- > what is really possible with ICTs and what the community is capable of using (the constraints being funding, training, basic knowledge, etc);
- > supply and demand;
- > taking into account the opportunities offered by ICTs in local and regional planning.

**4. Needs analysis** - is a crucial step that involves:

- > ascertaining the actual needs of the community (*example of Longford*);
- > networking (*example of “Paralelo 40”*);
- > taking account of the environment (*example of “Paralelo 40”*);
- > identifying user needs (*example of Pays de Gâtine*);
- > recognising new opportunities for traditional activities (*example of Trångsviken*);
- > identifying new products and activities with potential;
- > taking into account the structural constraints of the business and its competitive position.

**5. Permanent information and animation:** a lack of knowledge of the possibilities and opportunities of ICTs, especially on the part of decision-makers and opinion leaders, is often a major obstacle. Information and animation should:

- > be a part of vocational training activities;
- > be monitored on a permanent basis;
- > help identify new opportunities;
- > be combined with technical assistance;
- > be based on the sharing of experiences, particularly via the Internet;
- > use systems for the collection and dissemination of information at the local level;
- > take into account changes in the way work is organised, repercussions on the individual, the company, the community, and any legal implications (tax legislation, agreements between social partners, etc);
- > take account of the time needed for cultural adjustment.

## **6. Strategic factors**

- > traditional activities require unconventional methods;
  - > training and education are a very important element;
  - > the implementation of pilot projects greatly facilitates the process;
  - > training actions and demonstrations that show the advantages and opportunities of ICTs are extremely useful;
- > ICTs should be considered and used as a tool and should not be seen as an end in themselves but as the main element of a programme; the application of ICTs corresponds to needs expressed;
  - > it is important to carefully assess the new market order and the possible local answers to global trends;
  - > by bringing people together “virtually”, ICTs facilitate the bottom-up approach and the attainment of a critical mass enabling economies of scale.

## 2.3 Tool box

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### ICTS TO BOOST EXISTING ACTIVITIES

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<p><b>Sectors of activity</b></p> <p><b>Primary:</b></p> <ul style="list-style-type: none"> <li>&gt; fisheries</li> <li>&gt; forestry</li> <li>&gt; agriculture</li> <li>&gt; mining</li> </ul> <p><b>Secondary</b>, for example:</p> <ul style="list-style-type: none"> <li>&gt; processing of primary products</li> <li>&gt; marketing of local crafts</li> <li>&gt; product improvement</li> </ul> <p><b>Tourism</b>, for example:</p> <ul style="list-style-type: none"> <li>&gt; accommodation</li> <li>&gt; restaurants and shops</li> <li>&gt; events and activities</li> <li>&gt; excursions and itineraries</li> <li>&gt; attractions and panoramic viewpoints</li> </ul>	<p><b>Tools and results</b></p> <ul style="list-style-type: none"> <li>&gt; information, for example:             <ul style="list-style-type: none"> <li>- weather</li> <li>- databases</li> <li>- market prices</li> </ul> </li> <li>&gt; management, marketing, development and planning</li> <li>&gt; on-line access to support and expertise</li> <li>&gt; teleworking, trade (including electronic commerce) and distance cooperation</li> <li>&gt; on-line and off-line training</li> <li>&gt; economic information, for example:             <ul style="list-style-type: none"> <li>- crops to grow</li> <li>- prices to charge</li> <li>- potential market niches</li> <li>- what other producers are doing</li> </ul> </li> <li>&gt; marketing, for example:             <ul style="list-style-type: none"> <li>- finding buyers</li> <li>- improved targeting of potential customers</li> <li>- new distribution channels</li> <li>- marketing products and services beyond the usual markets with possibility of world-wide distribution</li> </ul> </li> <li>&gt; processing of products, for example:             <ul style="list-style-type: none"> <li>- may cover a greater part of the value chain owing to better information and more effective communication (access to expert advice) but risk of automation and loss of jobs</li> <li>- integration through the interconnection of the processes of different sites</li> </ul> </li> <li>&gt; customer service, for example:             <ul style="list-style-type: none"> <li>- precise customer information and quick updating</li> <li>- tele-shopping without intermediary</li> </ul> </li> </ul>
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## **Chapter 3**

# **Using ICTs to take advantage of new opportunities (Model no. 2)**





# Using ICTs to take advantage of new opportunities (Model no. 2)

Information technology and the new networking technologies are revolutionising the working environment. The new “networking society” where a growing number of economic activities are being done on the Internet adds a new, potentially global dimension to the activities of private companies and public bodies. The development of teleworking is a direct consequence of this.

## 3.1 In perspective

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Teleworking has emerged from the greater use of ICTs for trade and cooperation. Distance working implies profound changes in the organisation of the tasks to be done and in the way they are performed.

Because of the advantages and opportunities it offers, teleworking is not an end in itself but a way to accomplish various goals:

- > many businesses and organisations now consider teleworking as a way to increase productivity and flexibility;
- > a number of development agencies are today promoting teleworking as a tool for the socio-economic development of their area of intervention;
- > More and more people are incorporating teleworking into their day-to-day life to achieve an improved reconciliation of their work, family and personal life.

The advantages of teleworking are triggering a series of changes that are affecting every aspect of professional life, to the point that what we call “*teleworking*” today will probably be simply referred to in the future as “*work*”, and this because work in the information society is no longer so much a matter of location (where) but a matter of object (what) and method (how).

In the context of rural development, teleworking jobs can be defined as jobs that actively use information technology and networking technologies in the following situations:

**1. employees** working at home or near home (eg, in a telecentre or a satellite office) during part or all of their work time instead of commuting everyday between home and work;

**2. self-employed people** working at home or near home (eg, in a telecentre or a satellite office) for distant clients. They either work entirely alone or in cooperation with other people or companies, with which they can set up “*virtual teams*” or “*virtual associations*”;

**3. group of individuals in one location** who cooperate in an informal or formal manner (in the latter case, they may set up a company) to take advantage of the group’s assets to win contracts from clients far away;

**4. small businesses** which are set up with local or outside capital, create jobs in the area and operate regionally, nationally and world-wide with their customers, suppliers, etc. Call centres may be included under this heading;

**5. branches or subsidiaries of large firms** which provide local jobs and operate regionally, nationally and world-wide with the rest of the firm, their customers, suppliers, etc. Call centres can be included here.

For types 2 and 3, the location where the work is performed is of little importance. Winning contracts depends on the ability to find a market that matches the particular skills and aptitudes of the individuals/groups. Selling this provision depends on competitive factors:

- a) quality of the work,
- b) price,
- c) delivery conditions, including the delivery date.

Given the nature of the technologies used to find and send work, many new opportunities fall into the category of the so-called “intellectual” or non-manual jobs, which can in principle be located anywhere, provided there is access to the network. These so-called “itinerant” jobs are primarily obtained by individuals, groups and/or areas offering the most competitive factors.

Types 4 and 5 are based on the same competitive factors but also take account of elements such as the nature of the area where the work is done. The competitive advantages of rural areas (*see 1.1*) are factors that determine the choice of location of the new “itinerant businesses” likely to create jobs.

These new teleworking opportunities are likely to become the most competitive source of new jobs, since the work can be done anywhere. Whatever the case, these jobs represent a rapidly growing source of employment.

## > Case study

### WESTERN ISLES (SCOTLAND, UNITED KINGDOM): JOB AND BUSINESS OPPORTUNITIES – INTELLECTUAL WORK AND CALL CENTRES

Since 1996, the Hebridean islands (*Western Isles*) have witnessed the development of a successful rural employment initiative. The jobs concerned fall into three major categories:

1. Teleworking at home by self-employed people, even if the work is managed by one company, *Lasair Ltd.*, which is responsible for administration, quality control, training and marketing;
2. Jobs in new companies (CD-ROM, multimedia, film production and distribution, creation of Web sites, etc);
3. Internet-assisted jobs in the call centre set up locally by a large multinational.

All this has increased demand for better telecommunication infrastructures and created additional capacities for high-tech activities. The LEADER group has acted as the “venture capital coordinator”, in association with the local economic development agency and the public authorities. In some cases, rapid decision-making is necessary to take advantage of new opportunities. The range of ICT-related activities is very large. It is impossible to divide the technologies by sector of activity: to take advantage of economies of scale, the same workstation is used for distance training, teleshopping or teleworking. The computer equipment is configured for optimal use at the local level. Over 100 jobs were created between 1996 and 1998, and another 70 jobs are expected to be supplied by the call centre.

The Hebrides today have a firmly established reputation for excellence in the provision of distance services for large organisations and companies in the United Kingdom and in the United States. They can in this respect be considered an “intellectual, cottage-industry centre” in the new networking society, with high-tech jobs in different sectors of the economy. Generally speaking, three major factors are behind these initiatives: the local partnership as a trig-

gering element; a highly educated and qualified community; and an organisational culture based on an old tradition of multiple occupations.

The funding for these different activities is rather complex. Figures are available for some products and services, but they do not take into account the tangible investments in equipment or the private capital:

- > Acquisition of specialised training and skills: EUR 340 000 over a period of six years (1995-2001) financed by the ERDF (Objective 1), Western Isles Enterprise and the Western Isles Council;
- > Data processing and analysis: LEADER funding to train about 60 people at an average cost of EUR 215 (total: EUR 12 900);
- > Web site creation and maintenance: EUR 43 000 in LEADER assistance over a period of two years;
- > Remote learning centre: EUR 60 000 (including 40% supplied by LEADER);
- > Call centre: EUR 2 000 000 (regional funding under Objective 1 especially).

The main conclusions that can be drawn from the case of the Western Isles are the following:

- > there are many job opportunities that need to be taken advantage of and it is important to aim for the highest added value possible with regards to the skills of the workforce;
- > the importance of a central marketing strategy and a local skills register should not be understated;
- > the main difficulty is making sure that there is always enough “work in progress”;
- > the islands’ distance from the main markets is no longer a barrier.

Web: [www.hebrides.com](http://www.hebrides.com)

See also LEADER Magazine no. 19 (Winter 1998-99).

## > Case study

### LONGFORD (IRELAND): ADOPTING ICTS - AN AREA-BASED APPROACH TO DEMAND

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As part of a campaign to develop information technologies in County Longford, Ireland, links were forged with the county's expatriates, who subsequently volunteered a number of suggestions for the application of IT. Contact was established with the owner of *Vision Computing* (the leading IT consultancy company in Ireland), who was originally from the region. Having noticed Longford's Internet site, he became interested in the campaign and backed the idea of creating a software company that would work in conjunction with his firm and would be based in a rural setting. Two people were convinced that Longford was the ideal place for a location-independent company and expressed their readiness to take part in the endeavour. The three set up the Longview Technologies software company in January 1998, and the initial ten jobs created grew to 16 in April of the same year, then 35 in December 1998. The company's development is based on three principles:

- > the provision of cost-competitive, high-quality software – the low cost of property and rents in Longford combined with a high quality of life and the town's accessibility from all over the Midlands offer a competitive advantage;
- > the recruitment of staff whose skills are geared to the specific needs of the customer base. *Longview Technologies* strives to enhance their employees' skills by providing ongoing training in accordance with market requirements. Adaptability is obviously also a valued trait;

- > the setting-up of a recognised training course for non-graduate programmers. Consultation is ongoing with bodies such as the National Council for Vocational Awards, and the first group of 10-20 trainees began a 100-hour course in the company in September 1998. Such a course will make available a pool of highly skilled workers with training that corresponds to current market trends. The company's long-term ambition is to extend this opportunity to those programmers who have been out of the workforce for family reasons and who wish to return to the job market.

As a new company, *Longview Technologies* has a "horizontal" organisational culture. The workers develop a wide and flexible array of skills. The company is proud of its community-based ethos and the positive image of Longford which it is promoting. It is also aware of the competitive climate of the software industry and the ever-changing demands of the market, but it is confident of continued success and expansion.

A feasibility study on the development of ICTs in Longford cost EUR 46 000, 80% of which was funded by LEADER II.

Web: [www.longfordleader.ie/](http://www.longfordleader.ie/)

## 3.2 Good practice

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A series of examples across Europe illustrate good practices in the application of ICTs and show how this is making it possible to take advantage of new opportunities and create employment in the countryside.

### 1. Globally

- > every area and its culture are unique and opportunities must be considered in this regard;
- > local commitment is essential;
- > a consensus is needed at all levels;
- > long-term strategic direction is necessary;
- > awareness is essential;
- > ICTs can enhance the quality of rural services;
- > the creation of a local skills register/directory is a must;
- > training must be directly related to customer needs;
- > the skills needed for teleworking are relatively easy to acquire.

### 2. Prerequisites

- > the infrastructure must be available at an affordable cost;
- > the ability to work together is necessary;
- > adequate education and training must be available;
- > the psycho-sociological factors of resistance to change must be identified and taken into account.

### 3. Strategy to obtain itinerant work for individuals/groups of individuals

- > market the workforce, not the area;
- > take advantage of the exiles and use “resource people”;
- > obtain subcontracting jobs;
- > transform the perception of work;
- > encourage autonomy and individual responsibility;
- > seek as much added value as possible;
- > make sure there is a good marketing structure and anticipate job opportunities (voluntarist attitude) to find what the customer needs and make him a competitive offer.

### 4. Strategy to involve local or itinerant investors in the creation of jobs by setting up companies or company subsidiaries

- > market the area, including its human resources (stress its competitive advantages);
- > take advantage of the exiles and use “resource people”;
- > market skills and know-how;
- > focus on the quality of life;
- > set quality and delivery dates as priorities;
- > offer appropriate training;
- > show flexibility/a capacity to adapt;
- > attract investors with various incentives (advice, technical assistance, subsidies, etc).

### 5. Strategy to encourage group work

- > demonstrate the advantages of cooperation;
- > use ICTs to work together (eg, e-mail);
- > share ideas and information for more direct professional contacts;
- > use “mentors” or independent advisors.

## 3.3 Tool box

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### ICTS TO TAKE ADVANTAGE OF NEW OPPORTUNITIES

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<p><b>New opportunities</b></p> <ul style="list-style-type: none"> <li>&gt; <b>Itinerant teleworking</b>, individuals and groups of individuals</li> <li>&gt; <b>Endogenous or itinerant investment</b>, creation of companies or subsidiaries</li> </ul>	<p><b>Tools and results</b></p> <ul style="list-style-type: none"> <li>&gt; information, for example:             <ul style="list-style-type: none"> <li>- market prices</li> <li>- sectoral trends</li> </ul> </li> <li>&gt; professional skills and ICT training, on-line and off-line</li> <li>&gt; management, market development and planning</li> <li>&gt; economic information, for example:             <ul style="list-style-type: none"> <li>- potential market niches</li> <li>- what the others do, prices charged</li> <li>- sectors and types of on-line activities</li> <li>- types of jobs where teleworking is appropriate</li> </ul> </li> <li>&gt; job search and/or marketing, for example:             <ul style="list-style-type: none"> <li>- world-wide customer search via the Internet</li> </ul> </li> <li>&gt; electronic commerce, ordering and payment</li> <li>&gt; group work in teams/virtual organisations</li> <li>&gt; on-line access to advice and expertise</li> <li>&gt; skills register</li> <li>&gt; teleworking enabling increased productivity and flexibility, for example, by taking advantage of the best quality/price/delivery equation, regardless of the location of the workers</li> <li>&gt; teleworking as a tool for the area's socio-economic development and for job creation</li> <li>&gt; teleworking used by individuals in their day-to-day life giving them better control over work and improved coordination of work, family and personal life</li> <li>&gt; use of electronic networks to add value to information (search, classify and confer – production of knowledge)</li> <li>&gt; receiving and delivery of work</li> <li>&gt; work in cooperation with other organisations in order to market a global provision for the entire area</li> <li>&gt; marketing, for example:             <ul style="list-style-type: none"> <li>- finding customers</li> <li>- marketing products and services world-wide via the Internet</li> </ul> </li> <li>&gt; customer services, for example:             <ul style="list-style-type: none"> <li>- precise, updated information on products and prices</li> <li>- completion of customer studies</li> </ul> </li> </ul>
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## **Chapter 4II**

# **ICTs to improve local services (Model no. 3)**





# ICTs to improve local services (Model no. 3)

Advanced communication technologies can offer all kinds of advantages to rural areas, including the most isolated. Among these advantages are more efficient services, a wider range of services and improved accessibility.

## 4.1 In perspective

Local services (administrative, welfare, medical and educational services, services for people, shops, community transport, etc) are one of the foundations of an area's dynamism, attractiveness and quality of life (*see dossier "Developing rural services", LEADER European Observatory/AEIDL, 1999*). The application of ICTs can improve services like these in three ways:

1. for the citizen/user, these technologies can complement or improve existing services, as is the case of the "electronic town hall" which offers a wide range of information and advice and where electronic ordering and payment are possible for certain administrative services like public records, taxes, health care, education and continuing training, libraries, etc;
2. for the citizen/user, ICTs can mean the creation of services that did not exist before, such as electronic mapping and databases of the area, electronic chat forums, distance training courses for the disabled, etc;
3. for the service provider, ICTs provide new ways to manage administrative tasks and offer the citizen/user the following advantages:

- > a more efficient service;
- > reduced cost;
- > a wider range of services offered;
- > enhanced accessibility, for example, the possibility of reaching more people and access to services 24 hours a day.

These advantages are of particular importance in rural areas, as the cost of the service per inhabitant is generally much higher than in the city. This is especially because of the difficulty in reaching a small population scattered across regions that are sometimes difficult to access. Equipped with an on-line access to the town hall databases, new technologies also enable a decentralisation of services in outlying areas, to places where public officials, for example, must regularly travel in order to provide advice and documents. Shops can also use ICTs for customers and in so doing help stabilise the population and the economy. The experiences of "teleshopping" (*see boxed text*) clearly show this.

### > Example

#### "TELEPROMISE": PROVIDING SERVICES PREVIOUSLY LACKING IN RURAL AREAS

Launched under the European Commission (former Directorate-General XIII) programme *Telematic Applications 1998*, this project provides the inhabitants of the rural areas of Ireland, Denmark and the Netherlands with public and commercial services (teleshopping on the Internet) that they normally would have only found in the city or at the nearest shopping centre. For example, on the west coast of Ireland, the people living on the Aran islands can consult the database of certain non-food shops of the city of Galway on the mainland to see what is available and at what price.

They can order on-line and deliveries are made by a normal ferry service or by plane. In the Danish municipality of Kjellerup in central Jylland, two grocers offer teleshopping on-line within a limited area. For families this means greater convenience and access to a wider range of products, and for the shops this translates to a stronger competitive position in relation to their counterparts in the city. People can either pick up their orders at the shop or a delivery van can drop them off at their homes. The idea of combining this service with mail delivery is being examined.

As far as the provision of services in the countryside is concerned, it is important to strike a balance between:

1. the need of the service provider to maximise the quality-price ratio, efficiency and savings in the provision of services (eg, when there is a limited municipal budget), and;
2. the demands of the user to increase the quality, quantity and range of the services and to see new services offered.

### > Case study

#### **ARDÈCHE CENTRALE (RHÔNE-ALPES, FRANCE): NEW SERVICES AND MAINTAINING QUALITY**

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The primary aim of this regional planning action is to improve local administrative, health and educational services. LEADER is not a direct participant in this initiative which is mainly being supported at the national level. The action is a public sector led technological project although it does involve the private sector. Three activities have emerged from the action, which together employ 200 people. The operation is being implemented at the level of the *département*. It is directly linked to France's "Information Highways" programme launched in 1995 by the country's national planning agency DATAR (*Direction de l'aménagement du territoire*).

In the beginning, the aim was to create a high-flow network connecting the municipalities of Ardèche. At the end of 1995, the operation started up by using existing networks (RTC and Numeris). The "Syndicat intercommunal des Inforoutes de l'Ardèche" (Intermunicipal Association for

the Information Highways of the Ardèche) was created to provide an Internet platform and videoconferencing facilities. With France's Ministry of Education, multimedia equipment was supplied to 10 pilot classes. The teachers were trained and a coordinator was hired. A project of greater magnitude involves hospital directors at the level of the *département*, and teletraining sessions are organised every two weeks for the hospital staff, mostly doctors. Despite its "top-down" approach – decision-making at the level of the *département* and initial impetus given by France Telecom in 1983 – the project is succeeding in providing efficient, local health and educational services. It is being overseen by the municipalities (decision-makers are elected officials) and coordinated by an entity set up for this purpose. A number of short training courses (public and private) are available. The estimated five-year budget is EUR 7 000 000, most of it going to buy equipment.

## > Case study

### LONGFORD (IRELAND): ADOPTING ICTS – AN AREA-BASED APPROACH TO DEMAND

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As part of a concerted campaign to develop ICTs in Longford, a taskforce was set up with five working groups to examine possible applications of information technology in education, agriculture, health care, business and the community sphere. An office was set up with three full-time staff to manage the project and the resultant activities, under the responsibility of a local management consultant who was also an IT specialist. The project focused on forging links with emigrants and on coordination with the technology-oriented actions already being undertaken, with the educational sector, the local library and heritage centre, with the *Local Ireland* Internet site and with teleworkers working in the region.

The five working groups collected data on Longford, its population and the situation of information technology in the county. Two surveys were carried out: one was of 259 households, the other was of 77 businesses. This consultation and the project's grounding in existing initiatives gave it the legitimacy and support it needed from the community. The successive phases – inductive phase, data collection, development of prototypes (e.g. the Longford Web site project), analysis and drafting of a report – led to a clear strategy for the optimisation of IT applications in Longford. The final document provides a solid basis for technology-related development in all aspects of community life: business, social, education, job creation, and communication. The study was completed and published at the end of July 1997. Since then the task force has regrouped as a registered company, *Longford Information Technology*, with the taskforce members as company directors. The company is presently looking at the possibility of employing a full-time administrator to bring the projects outlined in the study to fruition.

Listed below are some of the project's main achievements:

- > permanent communication has been established with many of the exiles via the *Longford-on-Line* Web site and a database / directory is being developed;
- > an information service for farmers has come on line as the result of a joint effort between the Internet cooperative and TEAGASC, the agricultural advisory service. With the siting of a mobile computer (staffed by Longford Community Resources Ltd – LCRL) opposite one of the county's largest marts, the service is providing easy access to agricultural information and the operator is helping compute the variables involved in calculating regional aid and grants;
- > the compilation of a database of local businesses, in conjunction with the County Enterprise Board, is helping identify potential markets;
- > a computer course has been set up under the auspices of the LCRL (the local development plan purchased 11 computers and LEADER II contributed EUR 20000 to pay the instructors). The PCs are based in a particular community for eight weeks, enabling 30 people to obtain an introduction-to-computing certificate. Accounting courses for farmers where the tuition is paid by a dairy cooperative are held on alternate days.
- > steps have been taken to establish a joint business and schools network with Châtillon-sur-Seine in France which is twinned with Longford.

Together the various actions undertaken in Longford have enabled the application of ICTs for new activities and jobs, but they are also transforming existing services and methods. The efforts of those who pioneered the move towards IT have been rewarded.

Web: [www.longfordleader.ie/](http://www.longfordleader.ie/)

## 4.2 Good practice

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The case studies illustrate a series of good practices in the implementation of ICTs in local services and show how jobs are being created in rural areas.

### 1. Globally

- > The range of services must be developed to match concrete needs.
- > A balance and complementarity have to be found between on-line services and traditional services.
- > Efforts need to be focused on improving existing services and developing new services.
- > The aim should be a wide range of efficient, economical, and quality services.
- > The technology needs to remain user-friendly and as simple as possible.
- > Democratic principles have to be observed whereas individuals and groups need to be made responsible.
- > Exclusion needs to be avoided to favour participation by all, including the weaker segments of the population (the unemployed, elderly, disabled, etc).

### 2. Strategies

- > Examine what exists (through surveys, skill appraisals, etc).
- > Mobilise the community around a strong idea, a "vision".
- > Organise training courses to fill in the gaps and to satisfy needs.

### 3. Examples of services which could be delivered and/or supported using IT

- > social care
- > health care
- > medical information
- > legal advice
- > childminding
- > childcare
- > schools
- > training
- > distance learning
- > research
- > demographic information (population, etc)
- > geographic information systems
- > community notice board
- > village appraisals
- > electoral lists
- > environmental services  
(eg, waste management, Agenda 21)
- > tourist information
- > booking systems (hotels, B&Bs, packages)
- > transport timetables (bus, trains, planes)
- > traffic and accident information
- > shops and offices opening hours
- > prices
- > weather information
- > classified ads
- > job information
- > agency offers
- > auctions
- > commercial and business information
- > banking/finance
- > SME information
- > local product database and marketing
- > farming and agricultural information
- > screening/protection
- > police information
- > civil protection
- > music/literature/cultural information
- > gardening advice
- > various Internet services
- > hardware/software problems (eg, Year 2000 issue)

## 4.3 Tool box

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### ICTS AND LOCAL SERVICES

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<b>Local services</b> <ul style="list-style-type: none"><li>&gt; for the citizen/user, ICTs can <b>complement or improve existing services</b></li><li>&gt; for the citizen/user, ICTs can lead to the creation of <b>brand new services</b></li><li>&gt; for the service provider, ICTs offer <b>new ways to manage and provide services</b> to the citizen/user</li></ul>	<b>Tools and results</b> <ul style="list-style-type: none"><li>&gt; the “electronic town hall” for ordinary services (taxes, registrations, libraries, health care, education and training, etc) reduces costs for the service provider;</li><li>&gt; new information services which can improve the quality of services for the user/consumer, for example:<ul style="list-style-type: none"><li>- smart cards and databases of the area,</li><li>- possibility to monitor on-line the progress of a project,</li><li>- electronic chat forums,</li><li>- teletraining programmes for disabled people;</li></ul></li><li>&gt; electronic administrative services, with potential savings for the provider but also for example:<ul style="list-style-type: none"><li>- better efficiency,</li><li>- a lower service cost,</li><li>- a wider range,</li><li>- more accessible service (24 hours a day, etc.);</li></ul></li><li>&gt; shopping services (teleshopping, etc);</li><li>&gt; citizens/users can in turn contribute to the content;</li><li>&gt; more democratic because of greater availability of information and possibility of having contact with politicians;</li><li>&gt; “do it yourself” on-line services.</li></ul>
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## **Chapter 5**

# **The electronic networking of socio-economic players (Model no. 4)**





# The electronic networking of socio-economic players (Model no. 4)

## 5.1 In perspective

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“Electronic networking” or “distance cooperation” involves using ICTs to improve communications and increase access to information. A network of participants who share ideas and information within a virtual group is an example of distance cooperation – as is the formation of an alliance to create a network of individuals who cooperate on a common objective. Once formalised, this networking can be considered a virtual organisation. It requires new skills and new ways of organising and cooperating. In particular, the information flows of traditional orders are disrupted, the conventional barriers to communication between organisations are gone, thereby opening new horizons. In addition to the traditional networks, the networking of socio-economic players via ICTs offers advantages in many different ways. It provides:

1. an additional dimension to the existing networks based on the media and traditional means of cooperation; the quality of the human relationship that comes from a direct meeting is enriched with the efficiency of regular contact but also with the possibilities of disseminating and preserving information;
2. new opportunities to set up networks of people and groups, which were not possible before the advent of new technologies:
  - i) by expanding the scope of the networks (or interest groups) through the possibility of establishing world-wide links;
  - ii) by increasing the number and variety of participants of a network;
  - iii) by increasing the intensity of the exchanges within the network;
  - iv) by improving the network’s capacity to manage information.

The ability of electronic networks to cope with growing degrees of intensity and complexity, with greater flexibility and swifter answers to new situations, echoes the comparison that is often made with organic or ecological systems: by encouraging difference and diversity at the cost of uniformity, these networks are more stable and dynamic. Assuming that there is equal access to ICTs and

to the skills needed to use them, electronic networks are fundamentally part of a democratic, bottom-up approach. They bestow intrinsic advantages, because when someone joins a network, the cost is in proportion to this individual alone whereas at the same time all the network’s members benefit from the arrival of a newcomer. The best example of this is the Internet itself. However, rural areas are suffering from poor ICT availability and do not have the skills to use these technologies. This handicap is expected to continue in spite of the sharp increase in the capacity and quality of the technologies implemented.

Despite the predictions made only five years ago, the advent of electronic networks does not seem to increase isolation or harm society, culture and human relations. On the contrary, ICTs are proving useful to stimulate cooperation, to share knowledge and ideas, to develop partnerships, to seek consensus and areas of agreement, and to broaden perspectives for consolidating activities. In the cultural field, a series of actions are attempting to revitalise areas by promoting their history, traditions, architectural heritage, etc, and are using ICTs to facilitate field work (cataloguing, databases) and to establish a link with outside expertise.

In spite of the handicaps linked to poor infrastructures and qualifications, learning about the power of electronic tools and networks and using this force in rural areas can be a valuable experience. Networking can be an important platform to support rural life and the economy and in so doing improve the prospects of employment. In LEADER, networking is possible within and between LAGs, with other rural organisations and more generally speaking with all rural development players.

## > Case study

### THE PARALELO 40 NETWORK (SPAIN): A GROUPED EFFORT TO MARKETING RURAL TOURISM

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Coordinated by the La Manchuela local action group (Castile-La Mancha), the "Paralelo 40" network encompasses 14 LEADER areas in Spain and Portugal, all more or less located along the 40th parallel of latitude. The 14 local action groups have set up an Intranet system for rural tourism: the system manages an accommodation service and various local activities and events. The information is included in the systems of national and international travel agencies via the Internet. The participating LEADER groups are responsible for the collection and updating of information, for the training of users and for supervision and the lending of technical assistance to the local partner operators. The aim is to make information about this type of tourism more readily available to agencies and holiday-makers so as to be less dependent on the traditional marketing channels of regional and national tour operators, fairs and shows.

The project today forms a more or less formal network that combines ICTs and traditional means of communication. The initiative was started by field agents, then restaurant owners joined and the project became more business-oriented. Paralelo 40 was set up in 1994 as a joint project comprising nine LEADER groups (six Spanish groups and three Portuguese groups). Since 1996, other areas have joined the project, with La Manchuela playing the role of coordinator. The representatives of all the LAGs take part

in the decision-making. The partners are driven by the conviction that to reach the market directly and improve their rural tourism products, it is better to cooperate than to be rivals. The budget, slightly over EUR 500 000, is 70% funded by the Objective 1 regional programme supporting telecommunications in SMEs.

The rural tourism network is based above all on the 14 development agents who ensure the link with 147 accommodation providers (mostly small hotels and self-catering cottages). Moreover, 667 other businesses in 1999 also used the system to market their products. A not-for-profit association has been created; a new software application has been developed from a programme run by the Spanish Ministry of Tourism; and subcontracting, technical application agreements have been concluded for an ICT service provider. The development agents collect the information, train the operators in information technology and provide monitoring and assistance. The main problems encountered are related to a lack of computer, marketing and management skills among the groups involved. A steering committee oversees the financial flows and a project leader coordinates the operations.

Paralelo 40 is a good example of networking. All the partner areas benefit from increased added value through mutual consolidation, something that is not possible for competing areas acting alone or in small numbers.

**Web:** [www.paralelo40.org](http://www.paralelo40.org)

## > Case study

### **MAESTRAZGO (ARAGON, SPAIN): NEW WAYS TO NETWORK, COOPERATE AND COMMUNICATE**

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Intervening in a very sparsely populated area (5 inhabitants/km<sup>2</sup>), the Maestrazgo LEADER group has been using different means of electronic communication to improve collaboration and networking between local actors. New communication tools are also serving to establish contact between these local actors and external partners: for example, computer projects are being carried out with five other LEADER areas of Aragon in order to facilitate relations between the LAGs and to carry out together certain operations, notably training.

#### Activities:

- > A newsletter, "Buenos Dias Maestrazgo", has been published five days a week since early 1998; it is distributed by e-mail to 225 recipients:
  - > 98 are local partners, including about 30 schools or educational centres and the town halls and main local associations, organisations and businesses;
  - > the group's main partners outside the area are government agencies, universities, research centres and the other LEADER groups of Aragon.
- The publication provides a summary of the main news on the development of Maestrazgo de Teruel. It is written by the group's manager who reports on past or planned activities and on more general information obtained, for example, on the Internet service provider of the regional authorities. Once a week, the newsletter offers its readers a press review of the main articles about the area published in the regional or national press.
- > A telecentre was opened in a village of 600 inhabitants and a training course was organised for eight people interested in teleworking.
- > The telecentre is equipped with video-conferencing facilities as is the telecentre of another village some fifty kilometres away, and several other villages also became equipped in 1998.

- > Participation of small rural schools and agri-food SMEs in Intranet projects, and support for teleworking in order to create new activities for the local community.

As far as their budgets are concerned, one of the telecentres has benefited from EUR 25 100 in LEADER funding. Funds totalling EUR 125 000 were used to buy the computer equipment for the local SMEs and associations. The electronic newsletter represents two hours of work a day.

#### Main results:

- > The newsletter is an important means of internal and external communication. Locally, it encourages the community to take on board the various projects promoted by the LEADER group, and gives a voice to all those who want to become involved. To the outside, it projects the image of a dynamic area at the forefront in the application of new technologies.
- > Eight people are today in the process of creating their own employment. Eventually, the aim is to consolidate the existing businesses and organisations by taking maximum advantage of the possibilities offered by these new technologies: communication between agri-food or tourist enterprises grouped together in their respective association, purchase of products and reservation service on the Internet.
- > Technological progress. The LEADER group, using the opportunities provided by LEADER and other regional, national and European programmes, plays a pioneering role in testing the possibilities offered by new technologies for internal communication, boosting local businesses and creating new activities in a particularly underpopulated rural area.
- > Settlement of initial difficulties, including problems of co-ordination between the authorities and the actors involved.

Web: [www.maestrazgo.arrakis.es](http://www.maestrazgo.arrakis.es)

## 5.2 Good practices

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The case studies illustrate a series of good practices concerning the use of ICT for network and employment creation in rural areas.

### **1. to create networks,**

- > within an area or an organisation, ICTs improve operating efficiency and help ensure that all interests are taken into account;
- > between areas, for example between LEADER groups, rural development bodies, etc, ICTs improve efficiency, facilitate the sharing of ideas and good practices, and place the area in a broader context by asserting its image and presence and by opening the door to new opportunities.

### **2. The information conveyed**

- > requires appropriate management to avoid overload and to remain relevant;
- > has a source and a reference (normally regional/local).

### **3. Training**

- > requires an appropriate training strategy that meets the needs of the participants and the network of which they are a part: young people, women, adults (continuing training), socio-professional groups (eg, farmers or hotel owners).

### **4. Motivation and commitment**

- > ICTs encourage cooperation between different groups (eg, list of topics of interest and list of experts for consultation);
- > ICTs make transnational projects easier.

## 5.3 Tool box

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### ICTS AND ELECTRONIC NETWORKING

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<b>Electronic networking</b> <ul style="list-style-type: none"><li>&gt; <b>complementary to the existing forms</b> of networking based on the media and traditional methods of cooperation</li><li>&gt; <b>totally new forms</b> of contact established between people and groups that were not possible before ICTs</li></ul>	<b>Tools and results</b> <ul style="list-style-type: none"><li>&gt; complementary forms that combine physical and electronic interaction</li><li>&gt; new forms of distance cooperation that:<ul style="list-style-type: none"><li>- expand the scope of the networks (or groups of interest) with the possibility of establishing links world-wide;</li><li>- increase the number and variety of participants of a network;</li><li>- increase the intensity of the exchanges within the network;</li><li>- improve the network's capacity to manage information;</li></ul></li><li>&gt; regular contact at all times</li><li>&gt; access to information</li><li>&gt; access to expert advice and know-how</li><li>&gt; dissemination of information</li><li>&gt; preservation of information</li><li>&gt; sharing of information and ideas in a virtual group (that can be developed formally in a virtual organisation/business)</li><li>&gt; formation of alliances and search for consensus</li><li>&gt; local network</li><li>&gt; similarity with democratic, bottom-up procedures</li><li>&gt; encouragement of diversity and dynamism</li><li>&gt; sharing of skills and know-how</li><li>&gt; flexibility and ability to manage complexity enabling a swift reaction to new situations</li></ul>
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# Conclusion





# ICTs and local development: opportunities... on certain conditions (\*)

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**Taking maximum advantage of the opportunities that the use of ICTs offers rural areas also implies an awareness of the challenges and limits of these technologies.**

For two decades, the European Commission, among others, has set up various programmes to boost and support IT experiments at local or regional level. A quick assessment of these programmes enables one to get an idea of the successes and failures and an appreciation of the advantages and drawbacks associated with the local or regional dimension.

## **Infrastructures or services**

A similar dilemma emerges from the many experiments: should priority be given to infrastructures and networks, in a model where the supply of technology encourages demand for services, or should it be given to the expression of needs and innovation in uses, in a model where the demand for services guides technological innovation? Certain programmes have favoured one or the other priority, but on the whole the results have fallen very short of expectations.

Assessments show that there are many barriers to using information and communication technologies for the economic development of a region. Having the infrastructure does not necessarily activate its use. There is a need for education, training, mobilisation of users, a need to translate technology into applications and services suited to the companies of the regions concerned.

Offering tailor-made services and applications to local firms is very often insufficient, partly because it is often considered that the real needs are well known but in the end are poorly clarified. Furthermore, the same applications, even those designed to meet identical needs, may succeed in one case and fail in another, depending on the different organisational and socio-economic contexts.

Consequently, in order to effectively meet local and regional economic development objectives, both infrastructure policies as well as those geared towards uses must be integrated into those policies aimed at improving the organisational and socio-economic environment of each region. Education and training hold key positions in this regard.

## **The myth of decentralisation**

A generally accepted idea that has passed through many local IT projects is to believe that advanced communications technologies are going to strengthen decentralisation, to point that they could place central and outlying regions on an equal footing.

In reality, advanced communications technologies can not overcome all the obstacles to local or regional development. These may be related to completely different factors, such as a lack of innovation culture, managerial attitudes which are badly suited to changes in the economy, public policies which are too defensive, gaps in terms of qualifications or training, or simply characteristics of physical geography which networks can do little to change.

In practice, in the area of services, experience has shown that the decentralisation phenomenon is not so evident. Decentralised services are often those that come under an industrial type model: standardised, simplified services which are produced routinely and en masse, thus bringing little value added. The tendency has not, however, been to relocate this type of service wherever. For reasons of economies of scale, these activities have tended to be concentrated on a limited number of specialised sites and more in suburban regions or on the outskirts of main urban centres than in remote areas. Furthermore, most services with a high value added have tended to remain in large towns and central regions. In this respect, the example of teleworking in the Hebrides in Scotland (*see case study*) is probably an exception.

In theory, although much work has become mobile, not all regions are on an equal footing to benefit. A decisive criterion seems to be to have a workforce capable of providing a quality service that is competitively priced. This factor may explain the success of the Scottish experiment.

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(\*) drawn from an article by Patricia Vendramin and Gérard Valenduc (Fondation Travail-Université, Belgium) published in LEADER Magazine no. 19 (Winter 1998-99).

### **Overcoming the distance or overcoming the complexity?**

Another generally accepted idea is that advanced communications technologies have the effect of eliminating distances, overcoming geographical obstacles and therefore ironing out disparities between regions.

This is a fact: IT decreases dependence with regard to the distance factor, information gateways and many obstacles to interactive communication. But this does not mean that distance and location are no longer important. Instead, people's attention is drawn to other location factors, such as the quality of the environment, human capital, the dynamic and innovative nature of the local economies and communities, local partnerships, etc.

The real specific feature of advanced communications technologies lies elsewhere than in the abolition of distance; rather it is concerned with its ability to shorten time, deal with complexity and organise flexibility. This perspective is important for local or regional policies.

### **A poor industrialisation potential**

A third generally accepted idea is to attribute the virtues of an "industrialising industry" to information and communication technologies, ie, a basic activity which would give rise to other connected activities, leading to the creation of a new industrial structure.

Contrary to previous "industrial revolutions", the Information Society requires few major infrastructure programmes that could create jobs and have a multiplier effect on the economy. Even major telecommunications operations, such as cabling or the construction of Hertzian networks, carry little weight compared to other major infrastructure work, such as motorways, high-speed trains, purification stations or waste treatment plants. The added value of information technologies does not lie in the material aspect of these technologies, but in the immaterial aspects. It is therefore illusory to make it the keystone of an industrialisation strategy: it is more important to invest in knowledge and skills, because these will allow new infrastructures to be exploited and allow innovation in products and services. The example of Parthenay, in France, demonstrates this point (*see corresponding case study*).

### **Paths for the future**

#### ***Modernising services***

In many European countries, services represent a very important part of economic activity, particularly in rural areas. These services could constitute a considerable growth factor. Unfortunately, in some regions, their development is still too often considered as compensation for de-industrialisation. Public services are handled as public expenditure, and not as resources. Private services are not yet sufficiently considered an activity in their own right. The growth factor in the area of business services is the development of knowledge-intensive activities. These can best exploit the knowledge and know-how accumulated within the local economy, and are also capable of being transformed into teleservices.

But the most radical change in mentality undoubtedly concerns public services. The report entitled "*Building the European Information Society for us all*" is very clear in this respect: it recommends making public services an engine of growth in the emerging Information Society. It puts forward three specific recommendations: shifting public services from infrastructure to content; improving the effectiveness of public services; making public services models of service provision.

#### ***Managing the risks and exploiting the potential of distance work***

Advanced communications technologies and the restructuring of service activities are paving the way for an expansion of distance work. But like any economic evolution, distance work has its own risks.

The most significant risk is undoubtedly that of ***bad flexibility management***, where distance work is used to exploit a back up workforce as price and market fluctuations dictate. Distance work can therefore encourage the development of short-term insecure jobs. It institutes the employability of the most effective workers and compels the others to manage on their own. It is a very dangerous scenario at the social level, but also at the economic level. It can also widen disparities between regions.

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(1) Report of the High Level Group of Experts on the Social and Societal Aspects of the Information Society, Directorate-General V of the European Commission, Brussels, 1997. Available in all EU languages.

The **decentralisation risk** is indeed considerable for activities with a low added value or which depend solely on the strategies of industrial groups whose decision-making centres are situated abroad. The easiest services to decentralise are the generic services of distance data processing or specialised but standardised services, such as IT programming.

Managing these risks gives oneself the advantage of avoiding bad flexibility management and preventing decentralisations that are too easy. Developing the specific characteristics of human resources at local level, modernising commercial and non-commercial services and creating a social climate which is favourable to innovation are just some of the qualities that LEADER is seeking to develop.

#### ***Priority to human resources***

To state that human resources must be a priority in local or regional development strategies may be obvious. Nevertheless, the very expression “investing in skills” has only recently come into use and education is still rarely considered a long-term investment. In the past, it has often been preferable to invest in motorways, business parks or material assistance to companies rather than in training, research and development and skills upgrading.

Distance work, the development of teleservices and the exploitation of networks all favour the emergence of new jobs and functions which require the acquisition of new skills. Among these, there are specialised skills in technology, management and consultancy. These especially concern the people involved in creating, structuring and communicating the information that circulates on the networks, eg, publishers, authors, graphic designers, network managers, creators of on-line services, consultants, etc. These also concern those working on the operation and dysfunctions of the networks, eg, maintenance technicians, on-line assistance experts, security experts, qualified sales staff, consultants to SMEs or authorities, etc.

But this is not all. More broadly speaking, the development of teleservices and distance work also requires non-technical skills linked to the operation of a service, which account for many current and future jobs. These particularly relate to the ability to communicate, manage risks and particular events, etc. They do not always involve a very high level of qualifications, but often new skills which are difficult to acquire at school or university. It is there-

fore essential for public training agencies to ensure the organised provision of such skills training in these fields. However, the need to continuously upgrade skills does not only concern workers, but also company bosses. Managerial skills and the managerial culture are always among the key factors for success in the use of the advanced technologies. In the development of distance work, teleservices and other uses of advanced communications technologies, human factors are generally determining. Beyond a minimum threshold for quality and accessibility, infrastructure issues are moving to the second level.

In this context LEADER can play an essential role in enabling rural areas to take advantage of the new opportunities and to meet the challenges of the information society.

