The European Agricultural Fund for Rural Development

Examples of Information and Communication Technology (ICT) projects

European Network for
Rural Development

European Commission
Agriculture and
Rural Development

European Network for Rural Development

The European Network for Rural Development (EN RD) contributes to the efficient implementation of Rural Development Programmes (RDPs) throughout the European Union (EU).

Each Member State has established a National Rural Network (NRN) which brings together the organisations and administrations involved in rural development.

At EU level, the EN RD ensures the networking of these national rural networks, national administrations and European organisations.

Find out more on the *EN RD website* (http://enrd.ec.europa.eu)

The European Agricultural Fund for Rural Development

Information exchange is an important aspect of the NRN and EN RD operations. This brochure forms part of a series of EN RD publications that has been introduced to help encourage such information exchange.

Each edition of the brochure features different types of projects that have received EU co-finance from The European Agricultural Fund for Rural Development (EAFRD).

This edition of the brochure focuses on the different roles and potential that Information and Communication Technology (ICT) can play as a rural development tool.

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ICT and EU rural development

ICT represents a valuable rural development tool which offers a wide range of beneficial opportunities for Europe's countryside. EU rural development policy recognises the potential that ICT holds and RDPs in the Member States include financial assistance for ICT projects.

Broadband internet technology is acknowledged by the EU as one of the indispensable ICT tools that will influence the long-term prosperity of rural areas. This point was underscored recently by the injection of €360.4 million of new EAFRD resources from the European Economic Recovery Package targeting the expansion of rural broadband services across the Union.

The scope of ICT in rural development projects is significant and covers many different activities such as those associated with: investments in internet infrastructure and on-line facilities; increasing the use of computer-controlled equipment in a variety of rural business settings; harnessing the potential of satellite technologies; up-skilling of citizens; delivery of new e-government services; and taking advantage of high-tech rural tourism products.

These types of ICT applications in rural areas can help promote productivity, strengthen competitiveness and support diversified economic progress. Furthermore, ICT can be employed to increase entrepreneurship, boost innovation, make environmental management practices more effective and improve quality of life.

In short, ICT is seen by the EU as an essential tool for unlocking the potential of rural areas and making them more attractive places to live, work and visit. This brochure presents a number of different EAFRD project examples that show how ICT is being used by Member States to achieve such rural development outcomes.

Further information about EU priorities for using ICT as a rural development tool is available from the *European Commission website* (http://ec.europa.eu/agriculture/rurdev/employment/ict/index_en.htm).

Connecting rural ICT developments: experiences from Ireland

Irish rural development actions are demonstrating how coordinated support for ICT can help overcome barriers of remoteness, reinforce the competitiveness of rural areas and also enhance both economic and social inclusion.

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Coordination of strong linkages between investments in rural broadband infrastructure with support for ICT training and use of on-line content can help to maximise the potential benefits from broadband and achieve synergies between EU funding streams.

Such an approach is illustrated well in Ireland, where EAFRD is being used to roll-out a dedicated rural broadband initiative, as well as provide capacity building assistance to help rural businesses and communities make the most of the opportunities offered by internet technologies.

Plugging broadband gaps

Uptake of broadband technology has been significantly lower in rural Ireland than in other parts of the country. Effects of this widen the so-called 'digital divide' and reinforce obstacles to rural development associated with remoteness.

For example, broadband access is considered to be vital for rural businesses to ensure that their services are advertised and traded on the web. Services currently account for around 40% of Ireland's exports and these figures are estimated to rise to 70% by 2025. The majority of services will be traded digitally and Irish rural businesses will need to ensure that they have a suitable internet presence to compete in export markets.

Broadband access is also becoming more essential for other aspects of daily life in rural Ireland. Online services including education, healthcare, banking, e-government and many different information services create time savings and convenience for rural dwellers. Access to video services, internet telephony and social networking sites is also becoming more important.

RDP support is helping rural businesses and communities to take advantage of these broadband benefits through the government's new Rural Broadband Reach Scheme. Comprising a total budget of €17 884 000 (containing €13.4 million of EAFRD from the European Economic Recovery Package), Ireland's rural internet initiative aims to provide broadband access to the 25 000 rural homes and businesses that are not currently served by any broadband service provider.

The Irish government acknowledges that investments in broadband are mainly a matter for the private sector, but it notes that there are a number of exceptions when the State should facilitate services. Accordingly, the RDP broadband project is operating alongside Ireland's National Broadband Scheme (which is co-financed by the European Regional Development Fund) to intervene in cases where market failure prevails. By working together, the two EU-funded schemes plan to plug all remaining gaps in Irish broadband provision.

Targeted ICT support

The Rural Broadband Reach Scheme is being implemented through axis 3 of the RDP which targets quality of life and rural economic diversification. As many as 600 net additional full-time equivalent jobs will be created by the EAFRD project, which offers grants to broadband service providers operating in areas where connection costs are too expensive.

Grants are also payable to compensate service providers for extending their networks to cover locations defined as 'unreachable'. An address-checker map has been prepared to allow authorities and applicants to clarify eligible locations for the RDP

assistance (determined as outside coverage by the National Broadband Scheme).

When completing its work at the end of 2012, Ireland's Rural Broadband Reach Scheme will have contributed to the government's policy objectives of enhanced economic and social inclusion for rural areas. In addition to underpinning the competitiveness of rural areas, this EAFRD initiative will also complement other ICT projects funded by the RDP, such as ICT training supporting the uptake of on-line content.

Coordinated synergies

Coordinating so-called 'hard' and 'soft' ICT project work generates synergies from Irish RDP activities. Many examples exist in Ireland to illustrate the added-value benefits that can be gained for rural areas from the introduction of 'soft' ICT projects following investments in 'hard' broadband access services.

For instance, a novel mobile ICT training facility funded by the Fingal Leader Local Action Group (LAG) is benefitting countryside communities from south eastern Ireland. This RDP project builds on the availability of broadband access and is noted by the Irish NRN Support Unit's manager, Mr Paul Keating, as "giving people the necessary skills and ability to harness and manipulate modern

Linking RDP support for broadband investments, ICT training and use of on-line content can create useful synergies for rural areas

technology to their advantage". He continues "The application of Information Technology provides a tremendous opportunity to compete effectively and therefore to generate economic development in the region."

This innovative Leader project received a grant from the Irish RDP of €58 320. The RDP funds provide ICT learning support to a more widespread group of rural residents than is possible via a fixed point training facility. Supplying ICT tuition in this way allows even isolated communities to receive localised services. Such an inclusive approach encourages wider use of ICT services and a variety of courses are being offered to cater for different competences and interests. These include specialised web-learning packages for young people and senior citizens from rural communities.

Further information about the Fingal mobile ICT training project and Rural Broadband Reach Scheme is available from the Irish NRN Support Unit (www.nrn.ie).

> " *The application of Information Technology provides a tremendous opportunity to compete effectively and therefore to generate economic development in the region.* "
>
> **Paul Keating, Irish NRN Support Unit**

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E-government encourages climate action by rural residents: ICT project promotes public uptake of solar power in Germany's countryside

An award winning e-government project in Germany has received EAFRD assistance for an ICT initiative focused on measuring and explaining the solar power potential that could be generated from each and every rooftop in a LAG area covering 32 rural municipalities.

E-government is a concept that is being taken forward by all EU Member States and incorporates numerous different types of public sector activity. These include using ICT, in particular the internet, as a tool for achieving better internal and external governmental operations, delivering new and more efficient services, as well as facilitating public participation and citizen communication.

Advice and guidance about e-government is provided by the EU through their *Information Society thematic portal* (http://ec.europa.eu/information_society/tl/soccul/egov/index_en.htm). Here the EU highlights how e-government can enable all citizens, enterprises and organisations to carry out their business with government more easily, more quickly and at lower cost. E-government is shown to help simplify processes and makes access to government information more readily available for citizens, and for public sector agencies themselves. In addition to its simplicity, effective e-government can also improve governance by enabling citizens to become more involved in the activities of their governments.

E-government approaches remain particularly pertinent for public sector services in rural areas, because citizens can access the on-line facilities from the convenience of their homes. This helps to encourage improved interaction between rural citizens and their public bodies, since it saves people the time and effort of having to travel long distances to meet with regional or national authorities. Nevertheless, it should be noted that Europe's rural areas differ greatly in both their access to ICT services, and their citizens' capacity to participate in on-line activity. This remains an important consideration for rural e-government

projects and other articles in the brochure (see pages 5 & 8) are demonstrating ways in which the EAFRD is being used to address such rural development challenges.

German e-government

Like other Member States, Germany is introducing a range of new e-government services for rural and urban citizens. These are being promoted through its *Deutschland-Online* (www.deutschland-on-line.de) programme which includes the promotion of ICT as a tool for increasing public participation in government policy initiatives. A group of 32 municipalities from southern Germany have used EAFRD to support this purpose through a RDP project that uses digital mapping technology to help tackle global climate issues at local rural levels.

Addressing climate change concerns is a high priority for EU rural development policy, and the German ICT project reflects these objectives through its focus on promoting solar power in rural areas as an alternative to fossil fuel energy. Led by the municipality of Schuttertal, the SUN AREA project provides on-line information to citizens about how much solar energy they could produce by installing photovoltaic panels on the roofs of buildings. The project forms an integral part of a wider 'Energy Region 2010' scheme that receives funding from the Central Black Forest LAG.

Digital imaging technology is applied in the SUN AREA project to map the solar potential of every roof in the LAG territory. Results from the mapping exercise are recorded on Geographic Information System (GIS) software which has been programmed

to store information about individual roofs. Such data details the angle and alignment of rooftops, as well as the sun's path across the sky in each location, and the possibility of any shadows that might be cast by a chimney or another rooftop over the course of the day. Seasonal change in sunlight hours also form part of the GIS data library.

SUN AREA's GIS is then able to process and compare all of this information to calculate the solar suitability and potential power output from every single roof in the territory. Information can also be generated at the touch of a button about the approximate costs involved with installing photovoltaic panels on each roof. Distinctions can be made between the suitability for photovoltaic systems for electricity production and solar thermal systems for hot water and heating.

A highly popular part of the project allows people to check when the costs of the equipment and installation will be paid off by the financial savings that can be gained from using the self sufficient energy sources. The GIS even goes as far as determining the amount of greenhouse gas emissions that can be reduced by installing the solar panels at specific sites.

An interactive website map is used to present and disseminate the RDP project's GIS data. It uses similar principles to other internet maps and lets users zoom in on the location of their own house or building. A colour coding system is applied to each roof in order to help citizens easily understand whether their roof has solar potential. Roofs that are considered highly suitable for solar energy are coloured red on the map, roofs that are assessed as suitable are coloured orange, and roofs with limited suitability for solar power are coloured yellow. In compliance with data protection legislation, citizens can instruct the LAG to remove information about their roof from the website and GIS.

Impressive potential

The technology being used by SUN AREA's e-government project won the 2009 Education and Research award at the German Solar Prize awards, and this accolade was attributed to its impressive potential as a technique for tackling global warming. For example, results from just one district in the LAG project's area analysed over 123 000 buildings and revealed that 22% of roof areas were suitable for generating solar power. If this area were fully equipped with photovoltaic systems, it could generate 180% of the district's private energy consumption.

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At the moment, less than 1% of energy used in Germany is generated from solar power and research has shown that the main obstacle to greater uptake is lack of knowledge among the general public about what they could do to help. EAFRD's inputs have helped put in place an ICT solution that can overcome this barrier for rural communities in the Black Forest.

Costing around €80 000 in total and receiving €44 000 of EAFRD from measure 322 finances targeting village renewal and development projects, the LAG's SUN AREA project indicates beneficial value from the RDP investment. It also offers interesting demonstration value for municipalities from other EU rural areas in how ICT can be used to harness 'people power' in the campaign to better manage our climate. Future options for the project include using GIS technology to map the suitability of wind energy sites.

More information about this successful SUN AREA e-government project (plus the wider 'Energy Region 2010' scheme) can be found on the LAG's website pages (www.leader-mittlerer-schwarzwald.de/projekte/energieregion_2010).

66 *In addition to promoting renewable energy and boosting bottom-up rural development, this project is also expected to create new employment opportunities for local businesses in the solar power sector.* 99

Mark Prielipp, Central Black Forest LAG

ICT promotes knowledge and improves human potential: computer training builds management capacity of Polish farming community

EAFRD support is being used in Poland to train the country's agricultural workforce in ICT courses that are tailored to the needs of farm businesses and contribute to high level EU policy initiatives.

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Following the release of a *European Commission Communication*[1] in 2010, the EU's Common Agricultural Policy (CAP) has a new blueprint for a "greener, fairer, more efficient and more effective" future. ICT can make substantial contributions these new EU rural policy goals through technologies that help to improve the environmental performance of agriculture, enhance operational efficiencies and increase the overall effectiveness of farm businesses.

ICT competence is thus becoming an essential part of the EU farmer's skill set and EAFRD is being used by Member States to build the capacity of agricultural workforces in ICT know-how. Much of this work is being progressed using RDP measures that promote knowledge and improve human potential. Poland is one of the EU countries that are spending a large proportion of their EAFRD support on these types of investments in human capital.

Poland's RDP stresses the relevance of vocational training support, which includes co-finance from measure 111 for capacity building in the use of computers and software to "streamline agricultural holding and forestry management". Results of these RDP actions are predicted to lead to restructuring and modernisation of agriculture and forestry, as well as increase competitiveness and profitability in the sectors. Greater use of ICT will also help Polish rural businesses comply with relevant national and EU standards.

1) "The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future" - http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0672:FIN:EN:PDF

Practical rural skills

EAFRD support from Poland's measure 111 has already started to address the skills challenges that face the country's agricultural labour force. An example can be seen in a recently approved RDP training scheme that will cover seven regions and integrates ICT skills within lifelong learning packages aimed at farmers.

Placements for over 9100 trainees are being provided by this project which has a contract value equivalent to around €1.84 million. Topics covered during the course will include ICT applications that can benefit the efficiency and effectiveness of rural businesses. Record keeping and data management systems are to be demonstrated in the context of practical agri-activity, such as quality standards and food safety. Farm management skills will also be strengthened by the course through its promotion of ICT's use in agri-business planning. In addition, training in internet skills and their relevance for farm business development is to form part of the courses.

Ms Beata Szybińska from Poland's Foundation of Assistance Programmes for Agriculture explains that the courses will "include exercises related to the use of selected ICT systems for plant production and livestock husbandry, plus agricultural economics." She also notes how the EAFRD support expects to encourage "self-learning of computer programmes by farmers", because the course will provide them with the confidence and capacity to start exploring further potential uses of ICT as a farm management tool.

Tailored training

The training provider involved in delivering the course, COM-BIDATA Poland Ltd, has gained a great deal of experience from working with different training projects that assist the agricultural sector. Many of these schemes have been funded by other EU funds, namely the European Social Fund, and are working with people from farming backgrounds that are looking to diversify out of mainstream agriculture.

COMBIDATA are planning to deliver the EAFRD courses to groups of trainees in an average class size of around 20 farmers. They are currently working out a detailed training plan for the RDP project, which will draw on their knowledge of how best to tailor their ICT courses to the business development needs of different Polish farmers.

A well targeted Training Needs Analysis (TNA) for this type of rural development project is essential to safeguard the success of the skills support scheme. Poorly targeted training courses produce counter-productive results and can undermine the confidence or interest of trainees. Successful lifelong learning initiatives create more positive outcomes, like those noted by Ms Szybińska, and lead on to the trainees taking up further personal development actions.

Rural training schemes should therefore be properly planned to ensure their efficiency and effectiveness. Designers of rural ICT training schemes need to know the existing skills levels of their different clients and understand how the ICT training can be used in practice by the trainees back in their work environ-

ments. Once this basic TNA information is known, the courses and content can be pitched at an appropriate level.

Systematic TNA approaches will help maximise the benefits of ICT training for EAFRD beneficiaries, and projects like the Polish example show how RDP measures can be used to develop skilled rural workforces that are capable of responding to labour market needs. Such actions not only support individual rural citizens and rural businesses, but they also complement the EU's European Employment Strategy and can make long-term contributions to the goals of the new CAP blue print.

Additional details about this Polish EAFRD project are available from the COMBIDATA training provider (www.eduportal.pl).

> " *Development and improvement of farmers' skills in the field of ICT will enable them to have access to specific information, best practice examples and facilitate development of e-services.* "

Beata Szybińska, Poland's Foundation of Assistance Programmes for Agriculture

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Interactive touch screen rural tourism technology: Slovenian visitor facilities evolve with the times

Virtual picture postcards and multi-media information for mobile phones are two of the ICT applications featured on new interactive tourist information panels that, using EAFRD assistance, are being installed in the countryside around Slovenia's coastal region.

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Europe is the world's leading tourist destination and EU Member States are proactively pursuing strategies that promote growth and employment in the tourism sector. Rural tourism destinations enjoy prominent positions within such strategies because many visitors are attracted to the natural charm, character and beauty of Europe's countryside.

Competition to attract and retain these rural tourists remains strong and ICT is being used as a powerful tool to provide rural tourists with a growing choice of services and attractions. Among these are innovative developments like digitised products communicating sophisticated multi-media information to holiday-makers about local sites of interest and/or other visitor facilities. 'Interactivity' and 'gadgetisation' of such tourism products are increasing in line with visitor expectations and Europe's tourism authorities are aware that the smart use of ICT is becoming more synonymous with the overall quality of visitor experiences.

Positive visitor experiences can translate into extended stays and repeat visits, as well as stimulate strong reputations through word-of-mouth advertising. The effectiveness of ICT applications in rural tourism locations therefore offers possibilities for these areas to gain and maintain competitive advantages. EAFRD budgets can be used to help implement such innovations and this is illustrated well by Slovenian tourism authorities from Koper who, assisted by the territory's Istre LeaderLAG, are using ICT to help keep up with their global competitors.

Rural outreach

Marketed with a mythical history dating back to the times of Jason and the Argonauts, Slovenia's coastal region around Koper has a lot to offer in terms of Mediterranean holiday options. Architectural and natural monuments, gastronomy and health spas, religious and other cultural heritage attractions are all part of the Koper package. Whilst the old town, with its Venetian-style character, terracotta rooftops and busy cruise ship port, profits reasonably well from these tourist assets, the surrounding countryside favours less so.

Efforts to encourage visitors out of the town and into the hinterland have previously been difficult but a new high-tech heritage interpretation initiative aims to help tackle this challenge. The thinking behind the project is explained by Mr Peter Žudić from the Koper municipality tourism department who says "We wanted to find a way to attract visitors out into the countryside so they could discover its true treasures. We had heard about the possibilities of using multi-media touch screen devices from city tourism projects and this gave us the idea to develop our own rural outreach version."

Mr Žudić points out that the Leader project wanted to use novel attractive technologies to provide an interesting, entertaining and memorable tourist experience. At the same time, the project also aimed to use ICT as a way of improving access to the local area's cultural heritage so that it could be better understood, enjoyed and sustained. Balancing these two objectives maximises the benefits from this type of ICT rural development project.

Sophisticated ICT services are becoming synonymous with high quality rural tourism

A great deal of careful planning was undertaken to make sure the project's goals were achieved. This involved evaluating the most appropriate technology, selecting the right sites and researching the heritage interpretation messages that would be presented at each site. The project developers knew that high quality interpretation material was essential to ensure a positive visitor experience. They knew that good interpretation needed to combine strong story-telling skills with the ability to make complex heritage subjects clear for the general public. They also knew that ICT approaches could permit worthwhile multilingual content.

Positive visitor experiences

All of the planning and research work was funded from the EAFRD project budget, which in total received circa € 90 000 of financial assistance from Slovenian's RDP (Leader measure 413). Much of this money is being spent on a set of 12 multi-media interpretation panels. These smart ICT devices are linked to the internet and include integrated touch screen services as well as other interactive services. A further 54 static information panels were produced for the new tourist trail which covers key sites of natural and cultural heritage interest in the rural areas around Koper. A common visual identity is being applied for all the information points to help tourists recognise and navigate around the different sites.

Each of the interpretation points provides information in four languages (Slovenian, Italian, English and German), and the content at one site is designed to steer visitors towards another heritage location in the vicinity. A multi-lingual printed map of Koper's rural cultural treasures has also been prepared as part of the EAFRD project.

Selecting the positions for the interpretation panels involved consultation with different stakeholders. Mr Žudić describes "We chose the location for the multi-media interpretation screens by geographical coverage, by the importance of the site and the number of interesting sites nearby".

One especially interesting feature of the multi-media interpretation screens is an electronic picture postcard facility that visitors can use to send to their friends and family by e-mail. The e-postcards contain high quality photographs of the heritage site and the touch screen service allows tourists to post the cards to e-mail addresses of their friends and family. They can also compose a short message to send along with the photo of the site.

Mr Žudić is enthusiastic about this innovative tourist concept. He sees the e-postcards as very promising and believes that "such technology will not only be fun, interesting and useful for tourists but it will also advertise the Koper region around the world at very low cost, and so make our destination more recognisable". Other interactive options are also to be incorporated into the ICT interpretation panels and these include options for uploading more detailed information to mobile phones about the heritage sites and Koper's wider tourism services.

The new interactive panels are due to go live in early 2011 and readers can contact Peter Žudić, (peter.zudic@koper.si) to find out more about how this EAFRD project is helping Koper municipality's tourism strategy to evolve with the times.

" *This technology will not only be fun, interesting and useful for tourists but it will also advertise the Koper region around the world at very low cost.* "

Peter Žudić, Municipality of Koper

Cutting-edge butchery plant boosts competitiveness of rural businesses: ICT supports forward-looking Danish agri-food firms

European consumers are interested to know about the food they buy and new traceability technology adopted by Danish rural businesses demonstrates how ICT can be used to help agri-food producers cater for their customer's information needs.

Providing consumers with choices about the products they purchase can help to improve sales. This is the case for food products and today's food consumers make choices on the basis of how they perceive the quality of different products. The ability of food producers to provide customers with relevant information about their products can therefore help create competitive advantages.

Traceability is one of the buzzwords involved in this process because consumers are interested in where their food comes from. The EU encourages traceability of agri-food products through its '*Farm to Fork*' strategy (http://ec.europa.eu/publications/booklets/move/46/en.pdf), and ICT provides many opportunities to help strengthen traceability in the food supply chains that link consumers and farmers.

Using computerised technology to trace the whereabouts of food products along a supply chain provides benefits for farmers and consumers. These types of automated systems can identify the location of different products and the sources of their ingredients at any point in the production or retail process. They can also streamline and enhance agri-food business performance, ensure food safety through better transparency, and so improve overall customer services. Hence, forward-thinking rural firms and food processors are investing in traceability as a business development tool, because it allows them to respond to consumer (and regulatory) challenges, and so supports their brands' market positions.

Co-finance from the EAFRD is available to help rural businesses carry out such investments in their long-term competitiveness,

and an interesting computerised example of this can be seen from a Danish meat processing plant.

Quality food

Based in northern Denmark, the *Himmerlandkød company* (www.himmerlandskoed.dk) is run as a joint venture by a local butcher and abattoir. Between them they process around 35 000 beef and veal carcasses annually for catering trade customers in export and domestic markets. Consumer relations are prioritised by Himmerlandkød which states that "Our purpose is to promote the production and sale of Danish quality food. Our emphasis is on food safety, traceability, consistency and quality. We also want to support Denmark's farmers and food producers."

Traceability had previously presented a challenge for Himmerlandkød, particularly when cuts from different animals were mixed during sorting into different batch sizes. Their solution came in the form of a revolutionary new automated meat processing plant, which received EAFRD assistance through measure 123 funds for projects that add value to agricultural products.

Costing around €1.83 million in total, the new computer-controlled butchery facility is unique in Denmark, and one of only 20 similar plants worldwide. It allows 100% traceability from individual animals and farms through to any cuts from the animal into different batches and/or products.

Processing is carried out using three automated lines, each of which was funded by the EAFRD project. Carcases are first tagged with coded tickets that relate back to the animals' own identifi-

cation number. Coded information from these electronic tickets can be read automatically using similar barcode scanning equipment like those found in supermarkets. The results provide a trace back to where and when the animal was born, raised, slaughtered and butchered. Even the company who delivered the calf to the farmer can be traced using these codes.

Intelligent machinery

Following tagging, the carcasses are boned and organised for further cutting. Here again each piece of meat is automatically packed and retagged with printed labels containing coded information about the specific source animal's history. Butchers at Himmerlandkød then decide what type of final cuts that they want and programme this data into a robotic cutting and dicing machine. The 'intelligent' machine determines itself how best to cut each piece of meat that passes through the processing line. Finally, the end products are also labelled with traceability codes.

Food tagging

Customer responses to the new food tagging technology have been positive and the EAFRD can help other rural food producers to take advantage of similar business development opportunities. Himmerlandkød's clientele from the catering sector have been especially supportive of the new product tracking system. Restaurants for example can now request regular cuts from specific breeds or farms according to their own individual quality standards and requirements.

Himmerlandkød therefore believes their ICT investments represent "a major step forward", and traceability has now been made even easier thanks to a complementary ICT-based tracking device for Danish food products. This '*foodtag*' tool is a new multilingual website (www.foodtag.dk) that provides free public access to the trace information from a network of around 300 food companies. By simply entering the trace codes (displayed on each product's label) into the foodtag search engine, customers can retrieve all available data about a product's history, from primary producer to retail outlet.

No EAFRD support was needed for the foodtag scheme which is run and administered independently by food producers from many different areas in the Danish foodstuffs sector. In addition to offering product information, the website also provides recipes for various food dishes that encourage more consumers to purchase Danish products.

The foodtag and Himmerlandkød examples show how ICT can be used as an effective development tool by agri-food businesses, and more information about rural development activity in Denmark is available from the Danish National Rural Network (www.landdistriktsprogram.dk contact: Merete Jeppesen – jepe@ferv.dk).

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" *Our emphasis is on food safety, traceability, consistency and quality.* "

Himmerlandkød A/S

Precision technology improves productivity of rural crafts: robotic equipment modernises Bulgarian wood carving business

Many of rural Europe's craft firms are micro-businesses and ICT applications present opportunities to help these enterprises grow by increasing their efficiency and productivity. Financial limitations can sometimes create obstacles for such rural developments but a master craftsman from the Balkans has shown how investment challenges can be overcome by combining EAFRD with Bulgarian-built robotic technology.

© N. Vlashev

Europe's rural craft industry is made up of thousands of artisans, associations and commercial companies. The sector covers a vast collection of traditional rural skills connected with (among others) textiles, jewellery, ceramics and wood crafts. Many of these businesses produce hand-made, time-honoured goods that reflect rural culture and regional identities.

Historically speaking, the quality of such handicrafts was commonly associated with the amount of specialised labour required to create detailed artisan products. This helped to maintain higher prices for high value craft goods. Advances in modern technology however now reduce the need for labour-intensive manufacturing systems and the introduction of automated innovations mean that a wider range of high quality handicrafts can be produced by precision machinery.

Competition in the global craft market has been affected by these developments, and EAFRD assistance can be used to help rural craft businesses in Member States invest in their own futures by making best use of new productive technologies, like ICT-oriented manufacturing tools. Bulgaria's *Vlashev-darvorezba Ltd* (www.vlashev.com) wood-carving company from the southern region of Plovdiv has demonstrated how this can be done in practice through its RDP grant for a high-tech pantograph.

Modernising traditional crafts

Pantographs are mechanical devices used by different craft trades for transferring the initial design of an object onto the raw material from which it will be produced. Owner and master craftsman manager of Vlashev-darvorezba Ltd, Mr Nikolay Vlashev, explains that his wood carving workforce use pantographs "to make unique models on the grounds of classic patterns".

Manually-operated pantographs had been used by the company during production of their high value, luxury wooden furniture and religious sculptures. This traditional system served the business well during its start-up phase, but as its reputation grew, so did demands from clients for increased productivity. A faster, yet equally proficient approach was sought to help build the company's capacity and so staff started to explore the potential offered by robotic pantographs.

First steps in this business modernisation process involved carrying out a feasibility study. Its findings confirmed the commercial benefits that could be achieved from the use of computerised craft manufacturing tools. However the financial investment costs were found to be prohibitive, even with the availability of EAFRD support from the Bulgarian RDP. Prices from international suppliers of robotic pantographs exceeded €250 000 and this persuaded Mr Vlashev to seek more cost-effective domestic options.

A tender was therefore launched to find a Bulgarian company that could build the robotic elements for a new high-tech pantograph. Terms of reference were prepared for the tender, which took account of EAFRD grant rates in the budget proposals. Three firms bid for the contract and the final deal was signed for a figure that represented less than 15% of the international price.

Total projects costs for the Bulgarian-built technology came in at just over €35 000 and this significant cost-saving put the investment within reach of the craft company's finances. Bulgaria's RDP was then able to fill the funding gap through its grant assistance from measure 312, which targets business projects developed by micro-enterprises in rural areas.

ICT impact

Being installed in early 2011, the new ICT-controlled wood carving equipment will have a big impact at Vlashev-darvorezba Ltd as higher levels of quality, speed and overall performance are made possible by the robotic pantograph. Future editions of the company's precision furniture designs and detailed ornamental decor will all be pre-processed by the robotic computerised pantograph, which applies a three dimensional profiler to ensure accurate uniformity.
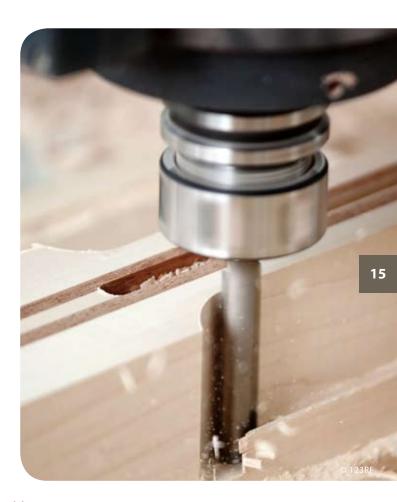
Previous challenges concerning inconsistency in the production process, particularly of batched goods, are to be overcome and business turnover is set to climb as the company's modernisation and expansion plans unfold. Introducing ICT into the wood carving craft business is the key that opened the door to help Mr Vlashev turn this business ambition into a commercial reality.

He appreciates the long-term importance of this development project for his craft firm and says "The turnover of the company depends on the market and by introducing the new technology we are aiming to increase the productivity and the quality of our products. This should increase the turnover of the company so we can open new working places."

Mr Vlashev is also keen to stress the importance of the EAFRD support and acknowledges that "The RDP funding was crucial. Without the grant assistance, the costs involved in paying off the equipment made it too difficult to afford".

Contact the Bulgarian NRN (www.nsm.government.bg) for more information about this ICT project and other EAFRD activity in Bulgaria.

> Home-grown high-tech options can provide cost-effective and tailor-made solutions for rural business development challenges

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66 *By introducing the new technology we are aiming to increase the productivity and the quality of our products.* 99

Nikolay Vlashev

Electronic mapping benefits rural economic development: EAFRD helps modernise heritage management methods on Madeira

Geographic Information Systems (GIS) are playing an increasingly prominent role in rural development activities throughout Europe. Uses of rural GIS applications range from farm management, to tourism tours, and resource planning. A variety of RDP projects from different Member States are using GIS tools, including Portuguese work on Madeira where EAFRD is helping to map and manage the island's heritage resources.

GIS technology has evolved at a remarkable rate over recent decades and its use as a beneficial EU rural development tool is likely to continue in the future. At first glance, GIS may appear to be not much more than a modern way of generating electronic maps, but it is actually far more. GIS is a computer-based tool that links locations on maps with specific data about the location. This might be information about soil types, population structures, wildlife migration patterns, water temperature, or traffic volumes to name a mere few examples.

Linking such data with geographical positioning references creates 'spatial data'. GIS computer software is then able to manipulate and analyse this spatial data at high speed to show the possible effects on an area of different scenarios. These modelling functions are used to help people make decisions about how best to manage and develop rural areas. GIS is also being applied in inventive rural economic development ways, like in tourism projects that offer self-guided tours of an area conducted by portable technology in mobile phone applications.

A vital first step in the GIS process involves collating spatial data and EAFRD has been used for this purpose in a 'Natural Park' on Portugal's Madeira Island. Here, the park managers are focusing RDP support on producing spatial data about the rural area's built heritage. Resulting GIS materials will be used to help conserve local landscape features, preserve cultural assets and support economic development in one of the most isolated and outermost parts of rural Europe.

Heritage opportunities

Madeira's Natural Park (www.pnm.pt) extends over approximately two thirds of the island's territory and provides protection for a rich mix of natural and built heritage resources. Sustainable development sits at the heart of the park authority's management mandate and this involves giving equal consideration for environmental and socio-economic assets located in the park.

Park managers thus acknowledged the importance of maintaining buildings and other cultural characteristics, especially those that reflect the various ways in which human influences have shaped Madeira's island environments. The potential offered by these historical features for stimulating economic development was also recognised, especially in terms of their value as visitor attractions for rural tourism. In addition, maintenance of the park's architectural assets offered possibilities for creating new employment linked to the revival of traditional rural trades and skills.

Information however was lacking about the diversity and condition of built heritage assets in the park, and so a two year project proposal was designed to address this information deficit. EAFRD resources from Madeira's regional RDP provided co-finance for the project's aims to prepare a spatial data map of the park's historic buildings and human features.

Around €28 500 of RDP funds were awarded to the project from measure 323, which targets its support towards the conservation and upgrading of rural heritage. This money is being used by the park authority for a programme of survey works (running until the end of 2011) which will collect and record data on thousands of different locations from around the park.

GIS in situ

Each site is photographed and geo-referenced using a Global Positioning System (GPS). Information about the sites' condition and development factors are also being recorded and transferred onto the park authority's GIS. Outcomes from this process will greatly assist the inclusion of cultural considerations into the park's strategic planning and management tools.

The Nature Park authority draws attention to this point stating that "enabling the geo-referencing of heritage locations in our GIS provides decision-making information for the park's management and planning. The simple achievement of just knowing about these buildings is already a big move forward in helping to preserve them".

To date the EAFRD-financed survey has already prepared spatial data for a GIS inventory of Madeira's churches and chapels, traditional houses, walls, watercourses, water mills, community wells, standpipes, barns, roads, old industrial plants and bridges. Once complete the survey will provide an electronic baseline of in situ rural heritage resources, against which conservation and development actions can be measured.

Manipulating and comparing the GIS data will also help park managers to predict any positive or negative consequence on heritage resources (and associated rural tourism) from future events. This includes possible variations in land use trends, proposals for new infrastructure developments, or even climate changes. Furthermore, introducing a central record of all cultural assets in the park will lead to more efficient coordination of management activity throughout the protected area.

Provision of public access to the spatial data, via on-line links to the GIS database, could create even more opportunities for this type of GIS project, particularly in the fields of environmental education, cultural awareness and municipal transparency.

Lastly, the electronic mapping exercise is predicted by the Nature Park authority to benefit rural economic development in Madeira. They express their hopes that "this project will contribute to the awakening of consciousness about the preservation of our islands' rich heritage and traditions associated with local know-how. It will reinforce Madeira' identity and encourage people to find new ways of using old cultural features. Some of the traditional barns and buildings could be restored for tourism purposes and this would help improve farm incomes by diversifying our rural economy".

Further information about the project can be provided by Graça Mateus (gracamateus.sra@gov-madeira.pt) from the Nature Park of Madeira.

" *This project will contribute to the awakening of consciousness about the preservation of our islands' rich heritage.* "

Nature Park of Madeira

© Nature Park of Madeira

Building high-tech rural skill bases: Computer Aided Design facility supports the growth of Latvia's furniture industry

EAFRD assistance in Latvia has been used to help run specialised ICT training that supports lifelong learning opportunities for furniture designers from the country's Krāslavas County.

Latvia's Krāslavas County sits on the eastern edge of the EU, near the border with Belarus and Russia. This predominantly rural area forms part of the picturesque Daugava valley where agriculture and forestry have traditionally provided the mainstay of the local economy.

Rural businesses in Krāslavas continue to rely on the surrounding dark pine and fir tree plantations as important sources of income. Developments over recent decades in the region's timber production systems have led to modernisation and diversification as local entrepreneurs take advantage of new EU markets and financial gains available from added-value wood products, such as furniture.

Timber-based furniture products provide many opportunities for Krāslavas, as well as other rural communities in Latvia and across the Baltic States in general. This sector has seen expansions into new ranges that include the likes of mass-produced self-assembly furniture, tailor-made design and manufacturing for interior and exterior works, specialised ergonomic furnishings, craft products, furniture fittings and finishings.

Competition in such markets is strong and high-tech approaches to both design and automated production facilities are used to help furniture companies maintain competitiveness. ICT skills therefore remain an essential tool for many rural furniture businesses and this fact was appreciated by the Krāslavas District Partnership (which acts as the county's Leader LAG) in its award of EAFRD co-finance for a new ICT training course dedicated to high-tech furniture design.

Modernising rural skills

Demand for this rural skills initiative was confirmed from furniture companies in the LAG area. These had received EU support from pre-accession funds to help acquire modern wood processing equipment, but the new technologies' full potential was being hampered by a lack of trained workers.

Led by Krāslavas county council, a project partnership formed in response to this skills shortage. Partners included timber trade education experts from Riga State Technical School and Krāslavas Varaviksne secondary school, where the training sessions were hosted. Some €12 896 of RDP support was provided from axis 4 (75% of this grant came from the EAFRD) for the partnership's ICT project, which was delivered during 2010 by a specialist ICT training provider, LatInSoft SIA.

Content of the ICT courses was carefully designed to fit with the furniture sector's requirements and covered a variety of different Computer Aided Design (CAD) components. The advantages of CAD for furniture designers are described by the Chairman of LatInSoft SIA, Mr Sergey Simonov, who notes how "This technology greatly reduces the time required to produce either custom-built furniture, or to prepare batch-production of standard furniture products. The resulting product quality is also significantly improved".

Up-to-the-minute CAD packages formed the focal point of the training which Mr Simonov goes on to explain "directly relates to furniture design since it uses parameterised software." He continues, "This is different to other CAD programmes that only

support creation of technical drawings. Parameterised software applications also help to create drawings, but most importantly is their ability to set parameter values in order to comply with customer or design project requirements. Parameters include dimensions, material properties, weight, unit price, etc. The application also supports creative design processes by 3D modelling that eventually leads to the production of all the technical drawings, specifications, quotes, visualisations, animations, etc. It is even possible to test the design for joints and overlaps."

Future developments

Training in these types of specialised, high value rural skills has been made available for more than 100 participants. Final beneficiaries of the project include students seeking to find work in the regional furniture sector, self-employed furniture craftsmen, unemployed rural residents and other interested individuals. All of these trainees have had their knowledge and skills in modern furniture design and manufacturing upgraded through the EAFRD assistance. CAD competences are also in demand by other industries and so this broadens the potential benefits from Latvia's axis 4 funding for ICT skills even further.

Future phases of the furniture design project are already being discussed and the project partners are now contemplating an expansion of the area's lifelong learning facilities for woodworking and furniture specialists. New developments on the drawing board could involve acquisition of additional computer-controlled wood processing equipment, which Mr Simonov states "will
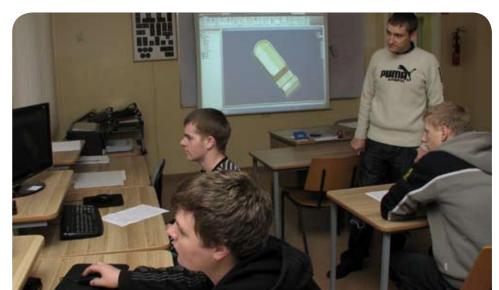
enable the students to learn all the stages of wood processing and furniture manufacturing, from creative ideas to computer-aided design and up to computer-aided manufacturing of the final product."

More information about this high-tech rural skills project can be gained by contacting the Latvian NRN (www.laukutikls.lv), Sergey Simonov at LatInSoft SIA (simonov@latinsoft.lv) or Ināra Dzalbe from Krāslavas County council (inara@kraslava.apollo.lv).

" *This technology greatly reduces the time required to produce either custom-built furniture, or to prepare batch-production of standard furniture products. The resulting product quality is also significantly improved.* "

Mr Sergey Simonov, Latvian ICT training provider

SMEs bond through rural e-business network: Alpine on-line business community shows strong promise

A large group of rural businesses from France's Provence Alpes Côtes dÁzur territory is coming together with the help of the EAFRD to make use of ICT as a tool for building business confidence and improving economic prospects.

© Anne Pancaldi

The European Commission has launched an '*e-Business Support Network for SMEs*' (eBSN) (http://ec.europa.eu/enterprise/sectors/ict/ebsn/index_en.htm) which aims to encourage Small and Medium Enterprises (SMEs) to explore the innovative potential of ICT and e-business. This eBSN provides policy level services as well as practical guidance for companies, such as a *diagnostic tool* designed to help SMEs identify ICT solutions for their own circumstances (see: http://ec.europa.eu/enterprise/e-bsn/ebusiness-solutions-guide/showSearchOverview.do).

Key messages promoted by the eBSN highlight the facts that: e-Business is much more than e-Commerce (e.g. buying and selling on-line); and that companies are increasingly using ICT to link together their business processes and systems. E-Business therefore now permits new forms of partnership, as well as improvements in both the way that companies can work, plus the products and services they sell.

These principles apply to rural businesses throughout Europe and the EAFRD toolkit of support measures provides different options for implementing e-business solutions.

An example of EAFRD project support in this area can be found in France's Alpine region, where a large group of small firms has joined forces under the banner of an e-business initiative.

E-business confidence

Instigated by the AMACA (Académie Majeure des Arts Contemporains Alpins) association, this rural development project evolved with objectives based around increasing the profile of local businesses from the Pays du Grand Briançonnais area. Raising awareness about the full extent of SME activity in the region had multiple goals. First and foremost it aimed to improve business confidence in the region by demonstrating the strength of SME activity that existed in an area where business-failure was not uncommon.

An important secondary objective linked to this involved facilitating networking functions between local businesses so as to encourage interaction and mutual support. Longer-term outlooks could then be considered possible in terms of identifying joint working opportunities between the network members in order to generate additional income and create new employment.

ICT was viewed as the most appropriate platform to kick-start this rural development process, primarily due to the region's geography which physically separates businesses and can hinder conventional approaches for connecting local companies. AMACA were also keen to exploit ICT's potential as an artistic tool for promoting the visual profile of local SMEs on the web.

LAG support

Early efforts to establish the business network met with some challenges, not least of which was the limited willingness of local businesses to participate. Nevertheless, perseverance by the project coordinator, artisan Ms Anne Pancaldi, eventually paid off following her discovery that "Businesses were willing to come together in the network if I took the time to personally visit each company and explain the project's purpose". This technique proved to be more productive than advertising for members via the local media.

As the number of members increased, so did the project's momentum. Around 35 local SMEs had already joined the network by December 2008, and these were now linked up in an on-line community through their website *www.brianconnais.pro*. Each member had committed to financially support the e-business network through subscription fees. Membership paid for a dedicated advertisement on the website that was produced using AMACA's creative design skills.

News of the e-business community soon reached the region's Leader LAG, which saw the project's potential for helping to improve business prospects across a broader area. An EAFRD project subsequently emerged from the LAG's intervention and concluded in project activity being expanded to take in the entire LAG territory of Provence Alpes Côtes dÁzur.

Nearly €25 000 of private sector finance was included in the LAG project's budget (totalling almost €75 000 in value) and EAFRD support came from measure 313 funds that target tourism development. LAG staff were conscious that the on-line SME community provided a good opportunity to market local products and services from participating rural businesses to visitors. Hence, the bulk of the EAFRD budget has been used to develop information kiosks that contain computer screens to display static versions of the e-business directory. Tests of the kiosks at a visitor information centre indicated their effectiveness and new locations are now being identified to maximise the kiosks' tourism marketing prospects.

e-potential

LAG support was also used well to build the e-business network, which now contains over 90 members covering a strong diversity of regional SMEs. LAG Animator, Mathilde Houze, explains how the project "Presents a wide network of professionals in the territory, from the baker to the mechanic, from the hotel owner to the perfume retailer." She goes to say, "This modern type of communication used by the project has revealed there is a strong interest in new technologies which enable them to be seen and become known".

Successes in establishing on-line business communities like this EAFRD example can be built on to produce tangible economic development benefits for rural areas. An assortment of different business growth tools is available to e-groups who have established a critical mass. These can either be channelled to the network as a whole, or to specific sub sections. Web-based business mentoring, peer advice forums, market analysis work, cluster initiatives, new product development, and more ambitious e-commerce activity are all options that remain open for e-business communities to use to help themselves make the most of their full e-potential.

Contact the LAG Provence-Alpes-Côte d'Azur (www.reseaurural.fr/provence-alpes-cote-d-azur) for additional information about this EAFRD project.

" *This website has helped my clients find me. For instance, one client that had visited my shop in the summer, managed to find me again in autumn by searching through the internet. Being part of the AMACA network constitutes an additional approach in my company's communication plan.* "

Caretta Chabrand, La Bergerie, Briançon

> Many rural development rewards can be gained from efforts invested in establishing e-business networks

The European Network for Rural Development ONLINE
http://enrd.ec.europa.eu/

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