

European Commission - Directorate-General for Research
Regions of Knowledge Pilot Action



integrating
Foresight, Benchmarking, R&D,
Technology Watch & Technological Skills

F i n a l R e p o r t
Technical Implementation
01/02/2004 to 30/11/2005

MetaForesight
Towards the knowledge-based economy

URENIO research unit
FUNDECYT
University of Wales, Cardiff
INFYDE
Institute Jules Destrée

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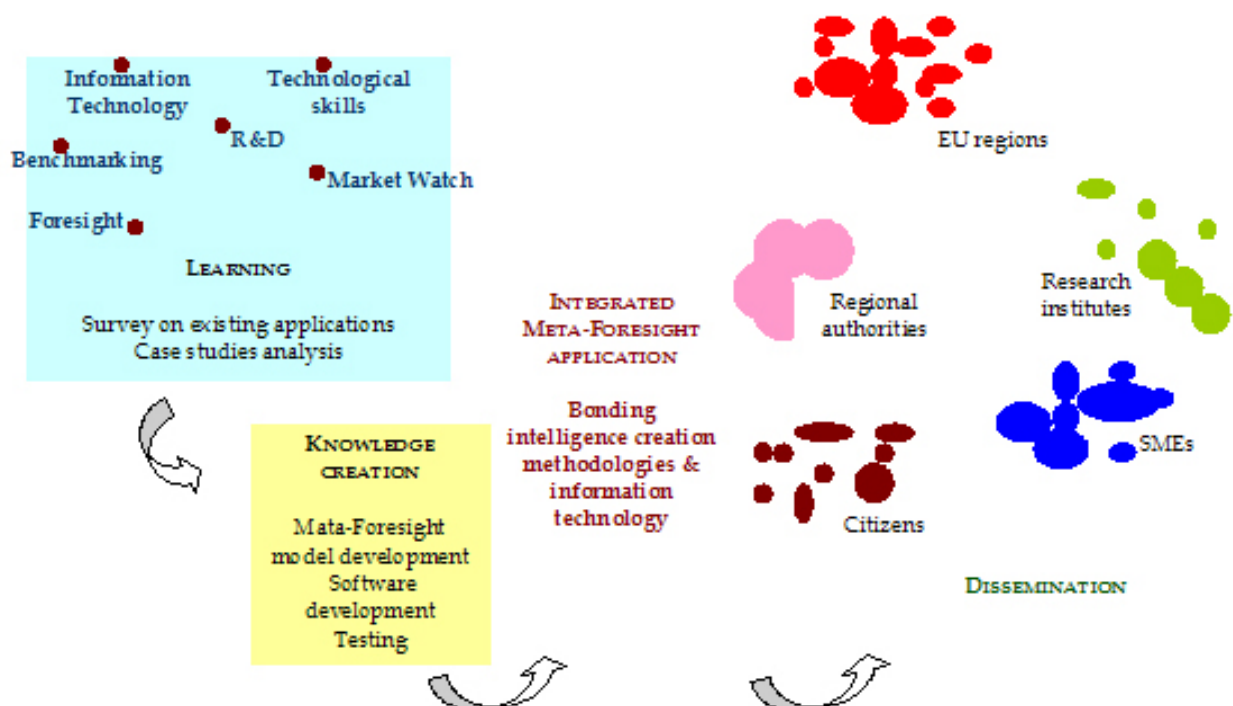
Introduction

The Meta-Foresight project was seeking to produce an integrated information technology application, aiming at enhancing regional knowledge-based capacities, and supporting regional intelligence through learning process at the regional and interregional level. In this concept, the heart of the project was the design and development of an integrated regional information system, linking data included in different applications and information systems and providing search capabilities. The intended integrated five fields of intelligence to a unique territorial intelligence application:

- (1) regional foresight, which allows the identification of regional development scenarios and analysis of their efficiency and accordance to the existing situation for the development of a knowledge based economy in regions
- (2) R&D results databases, which enable the identification of the research potentiality of regions and dissemination of the outcomes of research
- (3) benchmarking of regional companies and regional innovation potential and development policies, in order to identify and disseminate best practices from and to other regions
- (4) technology and market watch, which provides information on existing technologies and their possibilities, and on the products' market demand, and
- (5) regional technological competences and skills.

The work plan was starting from the learning process, involving survey and case studies analysis, proceeded to creating intelligence, through the development and testing of the integrated Meta-Foresight model and software, and concluded with the dissemination of the results achieved. The strategy of the project and the sequence of work packages are illustrated in figure 1:

Figure 1. Meta-Foresight strategy



Partnership involved five organisations: two Universities and three research institutes from five European regions:

| No | Organisation | Region/ country |
|----|---|---------------------------|
| 1 | Urban and Regional Innovation research unit (URENIO) - Aristotle University of Thessaloniki | Central Macedonia, Greece |
| 2 | Foundation for the Development of Science and Technology in Extremadura – FUNDECYT | Extremadura, Spain |
| 3 | University of Wales, Cardiff | Wales, United Kingdom |
| 4 | Informacion y Desarrollo S.L. – INFYDE S.L | Basque Country, Spain |
| 5 | Institute Jules-Destrée | Wallonia, Belgium |

The contract between the Commission and each one of the partners was signed by the end of January 2004, thus setting the starting day of the project on the 1st February 2004. The initial project duration was 18 months and the initial end date the 31st July 2005. However, during the evolution of the project, the work load in the activities foreseen, the delay in the design of the Meta-Foresight model and the strong commitment of the partnership to qualitative deliverables, forced the partnership to apply for an extension of the project duration. The request was approved by the Commission (02-08-2005/RTD/M3/VK/fa/(2005)D/524867), thus the overall duration of the project has been 22 months and the end date the 30th November 2005.

Work has been based on inter-regional co-operation and followed a balanced distribution of tasks between partners, in order to involve all partners and benefit from collective work and sharing of views for the development and dissemination of the intended regional intelligence model applicable to EU regions. An excellent cooperation network has been established. The specialisation of partners in different regional development aspects provided creative insights for the design and the content of the Meta-Foresight model. The exchange of ideas was the basis for such a project, which focused on the development of a new knowledge management model. Co-operation was fruitful and enabled the production of new ideas, which proved useful for the core deliverable, the Meta-Foresight application. The working team in all partner organisations involved high scientific level and combination of views from different types of organisations: administration and regional authorities, technology watch experts, benchmarking and r&d expertise. There has been no bias in communication and partners delivered the work foreseen on time and with the qualitative characteristics set.

In July 2004 a very sad event, the sudden loss of the excellent colleague Mr Philippe Delavergne, shocked all the Meta-Foresight working team. The project missed a high level expert in regional development and knowledge management. For most partners it was also a loss of a good friend. Partners agreed with the suggestion of the project leader to dedicate the Meta-Foresight project and a collective publication – the Meta-Foresight application guide- to the memory of Philippe Delavergne.

The current report is the final technical implementation report of the Meta-Foresight project. It presents the progress made and the results achieved from the beginning of the project, February 2004, until the end, November 2005. It presents the progress on the work packages, the results achieved, the progress in relation to the initial plan, the difficulties faced during the implementation and the financial issues involved. The final report integrates information provided by each partner and reflects the overall efforts of the consortium.

The final report is accompanied with all the deliverables produced during the evolution of the project.

1 Progress of work

In general, the project evolved according to the work plan. All activities foreseen in the contract were undertaken and accomplished during the project duration:

- (1) survey on existing applications dealing with foresight, benchmarking, r&d, technology watch and technological skills,
- (2) analysis of 5 case studies -one per partner,
- (3) design of the Meta-Foresight model,
- (4) development of the Meta-Foresight software
- (5) project evaluation and testing of the software
- (6) dissemination actions (webs, promotion leaflets, Meta-Foresight application guide, final conference)
- (7) management of the consortium activities.

In addition, three technical meetings, not foreseen in the initial work programme, were held, in order to facilitate decision making on specific issues. The project progressed efficiently, in terms of management and evolution of work packages and deliverables.

Specifically, the activities accomplished during the project are analysed below.

REGIONS OF KNOWLEDGE PROJECTS KICK-OFF WORKSHOP, 27 FEBRUARY 2004, BRUSSELS

The programme was represented to the meeting by Ms Lina Kyrgiafini, for the coordinator – URENIO research unit, and Mr Philippe Destatte, for partner 5 – Institute Jules Destrée. The participation of Mr Martin Rhisiart was cancelled, due to flight cancellation. The meeting offered the possibility to review the overall orientation and the objectives of the Regions of Knowledge programme, exchange ideas with the other projects of the pilot action, incorporate the views of the Commission in the project activities, and clarify managerial issues. The meeting was also an opportunity to present the Meta-Foresight concept and the milestones of the work plan to the KnowReg secretariat and the representatives of the other projects. The proceedings of the meeting and all the documents distributed by the KnowReg secretariat were communicated to the Meta-Foresight partners.

ACTIVITY 1 REVIEW OF EXISTING INFORMATION SYSTEMS

Main objectives of the activity have been the deepening of partners' knowledge on the implementation of foresight, benchmarking, r&d results demonstration, technology watch, and applications for the codification, categorisation and presentation of technology skills, and the learning from the experiences of other EU regions on the application of corresponding information systems: specifications, technical requirements, resources, methodologies, etc. The activity included two distinct tasks: the organisation of the kick-off meeting and the survey on existing information technology applications dealing with foresight, benchmarking, R&D, technology watch and technological skills.

D1 *Kick-off meeting*

The kick-off meeting took place on the 16th March 2004, in Thessaloniki, at the premises of URENIO research unit. The agenda of the meeting included: (1) the analysis of the concept of the Meta-Foresight project, (2) the description of work packages and deliverables, and (3) the presentation of the management rules of the project. In the meeting participated 10 persons, representing the five partner organisations:

| | |
|------------------------------|---|
| URENIO research unit | Nicos Komninos Lina Kyrgiafini Elena Sefertzi |
| FUNDECYT | Maria Martin Edigo Luis Casas Luengo |
| University of Wales, Cardiff | Yiannis Pierrakis |
| INFYDE | Belen Barroeta Carlos Rivera Aleman |
| Institute Jules Destrée | Philippe Delavergne Pascale Van Doren |

During the first session, Dr Nicos Komninos presented the concept of the Meta-Foresight project, with emphasis on existing information systems fostering the creation of regional knowledge. This raised the discussion on the focus of the Meta-Foresight application: the target groups that will be involved, the output of the application, the ways independent modules will be combined to provide the output.

The second session concerned the distribution of work among partners and the analysis of activities and deliverables. For each task of the work plan was presented: the objective, the implementation procedure, the responsibilities of partners, the time schedule, and the distribution of budget among partners. Partners discussed each task and deliverable and provided fruitful insights for the evolution of the project. A number of small modifications, concerning mainly the time of delivery of certain results, have been made to the initial work plan, with the agreement of all partners. Partners reorganised the project, set the specifications of work for the whole project, decided to hold a technical meeting in July 2004, in order to set the specifications for the Meta-Foresight model.

The third session covered management issues. The project implementation requirements were discussed, based on the presentation made by Keith Sequeira during the KnowREG kick-off meeting of 27th February, and covered: contract overview, technical and financial reporting obligations, payment procedures, deliverables and outputs. Partners obtained a clear view of their contractual obligations and the managerial requirements for the project.

D2 *Survey on existing information systems developed under projects of the Innovative Actions Programme*

The objective of the survey was to list and codify approaches related to the concept and the technical aspects for the application of information systems for foresight, r&d, benchmarking, technology watch and technological skills. The initial plan was foreseeing to investigate projects developed under the Innovative Actions programme of the EU, but during the kick-off meeting, partners decided to broaden their search and include applications over the EU and USA. Partners conducted the survey according to the

specifications and based on published data. Each partner undertook to conduct the survey in one thematic area:

URENIO: Technological Skills

FUNDECYT: Technology Watch

University of Wales – Cardiff Business School: Benchmarking

INFYDE: R&D

Institute Jules Destrée: Foresight

The results of each survey were included in a report, which, apart from the description of the selected applications, provides useful insights to the content of the Meta-Foresight model. For each application identified, the following information is provided:

- general features: region where the project has run, objectives, partnership
- intelligence creation methodology (foresight, benchmarking, etc.)
- supporting information system
- key results and transferability
- contribution to the development of the Meta-Foresight model

URENIO

The problematic of the survey on technological skills covered two directions: the first direction was the identification of the conceptual aspects involved in “technological skills”: learning opportunities, education, certification of qualifications, existing qualifications within regions, employment, job vacancies, employers’ needs for specific qualifications etc. The second direction concerned the information technology part of the existing applications. Combining these two axes, the survey on information systems for technological skills was based on Internet search, given that the Meta-Foresight application would be provided on-line. The survey was initially focused on projects run under EU calls, but given that only a few such projects were found, the survey was re-oriented to applications available on the web, providing information on human resources. The investigation covered specific known addresses and agents (European Commission, Universities, professional chambers, etc.) and search in general search engines available on the web (google, yahoo, etc.). The identified applications were listed and codified and then a second elaboration and deeper search was conducted, in order to identify the more indicative and adequate applications for the Meta-Foresight project. Based on criteria related to the concept, the quality of information and output, the transferability, and the accessibility of the applications, the survey concluded to 32 applications dealing with technological skills aspects. Four cases were selected out of the 32 applications and were further analysed:

- (1) the *human resources section of the comprehensive portal Madri+d* (www.madrimasd.org) performs matching of companies needs for high qualified personnel with the supply of technological skills, and provides a series of services enabling companies to ameliorate their business performance and professionals to orient their job careers. The software platform used is easily accessible, friendly structured and adaptable.
- (2) the *European Job Mobility portal* (europa.eu.int/eures/) focuses on the whole EU area and provides information, services and database search for several aspects relating to ‘technological skills’: mobility of workers, job finding and job recruiting, living and

working conditions and learning opportunities across Europe - regional approach. The multifunctional approach and the combination of several services fit to the integrated scope of the Meta-Foresight model.

- (3) the *European Job Guide* (www.european-jobguide.org) is a project run by a consortium of European organisations offering services to professionals in four sectors: health care, tourism, IT/high tech, and metalworking/ electrotechnics. It focuses on the reinforcement of their mobility opportunities by providing interactive services concerning vocational training, working conditions and professional organisations in the countries of the consortium members.
- (4) the *on-line database of engineers on the technical Chamber of Greece* (www.tee.gr) provides search within an alphabetical listing of engineers and technical companies of Greece.

The results of the survey were recorded in a report, which included the description of the basic features of the 32 applications and more detailed presentation of the 4 selected cases.

FUNDECYT

The survey on Technology/ Market Watch examined different theoretical approaches and was based on data published on the Internet, promotion material and publications produced by the coordinators of the initiatives. The results of the survey were included in a report listing different initiatives that have been launched in European regions, and trying to present a general overview of the variety of services that are provided within the so called "Technology Watch services", from the advanced to the basic ones. The survey and analysis were focused on four applications:

- (1) *technology watch service of the Madri+d portal* (www.madrimasd.org). The Technology Watch services are provided through innovation circles aiming to assist companies with the initiation and development of technology watch and economic intelligence activities, and promote cooperation between companies and research centres and groups. The innovation circles currently encompass the following areas: Agro-food, Biotechnology, Production Materials and Technology, Information Technology and Communications, Environment, Microsystems and Nanotechnology, and Energy.
- (2) *Pasaia Observatory* (www.observatoriopasaia.com) was a multi-service internet web, whose main objective was to be a useful tool for industrial companies in the Pasaia Region, Basque Country providing information of interest to the companies themselves and contributing to publicising the enormous industrial potential offered by the Zone.
- (3) *South West of England Regional Development Agency* (www.southwestrda.org.uk) uses the Automated Matching Tool of the IRC as a free technology watch service. By email they inform the companies about the technological developments and requests for technological solutions from business and research centres throughout Europe.
- (4) *technology watch service of the Montage project* (www.montage.org.uk) assists businesses by searching a range of world wide information sources to identify specific technologies, materials, research expertise, development facilities, etc., to meet the unique needs of each client. The service offered is either for a "one off" search or a "subscription" based on the continuous update of a chosen subject.

**UNIVERSITY
OF WALES**

A large number of benchmarking applications were known to the project team at Cardiff Business School at the inception of the project – through discussions within conferences and various professional contacts. Collectively, these applications formed a substantial body of benchmarking knowledge and experience. To supplement existing knowledge, desk-based research was undertaken to identify other relevant applications for the purposes of this survey. Many applications were identified in the course of this research phase. Having identified a range of benchmarking applications, they were categorised into types of applications and graded according to their potential contribution to the project. A typology of Benchmarking applications was identified, consisting of Organisational Benchmarking (appropriate for companies), Thematic Benchmarking (appropriate for economic sectors) and Spatial/territorial Benchmarking (appropriate for regions). A total of 6 specific applications were described and analysed, following a period of identification and research:

- (1) *UK Benchmarking Index* is arguably the world's most extensive benchmarking resource for businesses. Its aim is simple - to help businesses to improve their competitiveness and profitability. Run by the Small Business Service (UK Department of Trade and Industry) and delivered exclusively via trained advisors, the Benchmarking Index holds the financial data of over 156,000 companies and has a database of benchmarked performance data for a further 5,000.
- (2) *PROBE* - PROmoting Business Excellence is a suite of diagnostic and best practice benchmarking tools. Developed by the CBI (Confederation of British Industry) in conjunction with industry leaders and leading academics, the PROBE tools help CBI members gain and sustain the edge in today's highly competitive markets. There are four PROBE tools, one of which has been specifically designed for manufacturers. The other three deal with three key business areas: CONTOUR covers environment, health and safety management; HEADSTART covers all aspects of people management and the final tool covers service excellence.
- (3) *EURBEST* – European Union Region Benchmarking, Economic Strategy and Transfer project brings together 28 partners from a wide geographical spread of regions in Europe. The focus of the project is to produce transfer tools, methodologies and procedures to enable any region that wishes to transfer best practice from an exemplar region into their own region to do so.
- (4) *European Innovation Scoreboard* was developed at the request of the Lisbon European Council in 2000. It focuses on high-tech innovation and provides indicators for tracking the EU's progress towards the Lisbon goal of becoming the most competitive and dynamic knowledge-based economy in the world within the next decade.
- (5) *BISER* – Benchmarking the Information Society: e-Europe indicators for European Regions. The BISER project has defined, developed and piloted a set of statistical indicators for benchmarking the progress of European regions in respect of the e-Europe initiative and the emerging Information Society.
- (6) *SCEnE* project, Sustainability for Organisations: A Guide to Best Practice in Wales. The main aim of the project was to identify and measure best practice in Sustainable Development, the SCEnE project (University of Wales, Bangor) has developed a sustainability appraisal tool. Through extensive desktop based literature review focused on relevant SD related publications, policy initiatives and research such as the Global Reporting Initiative (GRI), the project team were able to map out the major issues relevant to all aspects of SD. A primary outcome of the project is a practical

“Sustainable Development Appraisal Tool-kit”, which can assist individual organisations in mapping their performance in terms of sustainability. A secondary outcome of this project is a user-friendly “best-practice” guide. The guide provides a useful source of information, including clear examples and “how-to” guidelines, for a variety of organisations wanting to move towards sustainable development and in planning their own sustainability strategies.

In addition to covering the main background, aims and content of the applications, the report on the survey discussed the transferability potential of the different approaches.

INFYDE

The approaches related to the concept and technical aspects for the application of information systems for R&D in the European Union and the United States, were listed and decoded. The survey tried to identify the different types of R&D and support infrastructures, such as Foundations and Chambers of Commerce, as well as University Centres and associations of public services. The different types of R&D are covered: technology transfer, R&D management, R&D policy and high tech. Seven applications have been selected:

- (1) *the R&D section of the Madrid portal* provides information on current research, development and innovation news in Spain with national and European contents, free of charge and with free access to all users. It also offers a series of indicators that allow to view, evaluate, and pursue the state-of-the-art concerning the research and innovation system of the Community of Madrid.
- (2) *Steinbeis Foundation in Baden-Württemberg region* provides an extensive range of services to SMEs including target-oriented advice on technologies and markets, a wide range of information and further training measures, and implementation and transfer of concrete research and development projects.
- (3) *Usix Tekes* in Finland comprises R&D projects involving major Finnish companies and research institutions. There are also working groups and seminars dealing with key programme areas, and a number of publications on the results of the R&D programmes. Moreover, the programme provides an excellent opportunity to pilot IT applications, services and contents in collaboration with participants. Knowledge management and availability methods are the common denominators for all research areas of Usix.
- (4) *Arist in Rhone –Alpes region* builds a space of reference between experts from the public and the private sector on technological issues concerning innovation, skills and exchange of know-how.
- (5) *Association of Regional Observatories in England* represents a meta observatory of regional intelligence in UK. The principal aim of ARO is to promote the provision and use of the best intelligence and data for UK’s regions.
- (6) *Centre for Economic development Carnegie Mellon Pittsburgh region, US* provides strategic and policy support for technology and economic development. Services include technical assistance in policy and strategy to guide action, economic analysis and modelling, mapping, benchmarking, and timely analysis of key issues.
- (7) *Joint Venture: Silicon Valley Network in Silicon Valley Region, US* mobilises people from businesses, employees, government, education, and all segments of the

community in order to identify regional issues to sustain the innovative economy, to increase the productivity and broad prosperity.

INSTITUTE
JULES-DESTRÉE

The methodology followed to identify Foresight applications suitable to the Meta-Foresight project combined observations both at European and regional levels that all support the idea that regional foresight is still new to be really considered as a structured and well integrated tool in the decision making process. In that perspective, one main goal of the survey was to valorise the contribution in the Meta-Foresight project as “intelligent intermediary” to organize a constructive interaction between the product development process (Meta-Foresight application) and the regional field with all efforts developed in foresight on a non convergent approach. Four cases have been selected according to four specific areas of intelligence and criteria:

- Foresight and innovation strategy in the regions
- Geographical information systems as foresight tool for public decision makers
- New issues linked to Knowledge Society development
- Updated indicators to measure performance of the Knowledge Regions

The identified applications are:

- (1) *Project Prométhée I and II (Wallonia)*: development of a foresight programme to structure a better knowledge of the innovation potential of the region (SWOT and mapping of innovation in the region, including technology forecasting), stimulate partnerships and synergies to launch clusters and organise a supply network to respond to firms needs and create a favourable environment for innovation in the region.
- (2) *RIS Limburg (The Netherlands)*: development and application of a set of intelligence support instruments to support the regional innovation vision/strategy of Limburg: (1) a manual providing a practical outline of the techniques used by consultants (Delphi, road mapping, Porter, SWOT, benchmarking, etc.); (2) Technology foresight study (identification of 15 key-technologies for the region) and dissemination of results among SMEs; (3) 3 complementary monitoring systems that contribute to set out an effective and efficient policy of innovation to assess the impact of innovation promotion measures at the company level, impacts of individual projects of innovation and the overall impact at regional level.
- (3) *SIGALE* project accumulates, analyses and disseminates geographical information useful for the planning, the follow-up and the assessment of regional policies and for the diagnosis, analysis and forecast of spatial evolution with the aim to promote a sustainable development.
- (4) *SEEL (Supporting Excellence in e-Learning) project* combines analysis and assessment of current e-learning practices, the production of tools and recommendations to promote best practice, and ongoing and public dissemination of the outcomes of the project (benchmarking tools, quality guidelines, quality centres).

The five reports were elaborated and consolidated in a comprehensive report, which, is structured on the five chapters each one targeted to one thematic field: foresight, benchmarking, r&d, technology watch, and technological skills. The chapters of the consolidated report follow the same specifications, but there are some minor differences,

due to conceptual issues involved in each thematic and approaches followed by the partners. Work on the survey and the reporting lasted for two months, from March to April 2004, according to the time schedule. The consolidated report was finalised in April 2004, and was initially submitted to the Commission in August, when requested. The report was revised twice, in order to incorporate the observations of the project officer.

ACTIVITY 2 ANALYSIS OF SELECTED CASE STUDIES

The activity intended to transfer best practice in the implementation of applications for foresight, benchmarking, r&d, technology watch and technological skills, identified in initiatives of the survey stage. One common task was foreseen and implemented by all partners, the analysis of case studies.

D3 Case studies analysis

Following the survey on existing software applications dealing with foresight, benchmarking, r&d, technology/ market watch and technological skills, each partner focused on one case identified at the survey stage. The scope of the case studies analysis was to deepen on selected applications in each of the fields of interest, record the milestones of the applications and investigate the possibilities to transfer best practice in the design of the Meta-Foresight model. Each case study includes four sessions:

1. description of the application (objectives, general features, methodological approach, target groups, implementation procedure, outputs),
2. information system description (operational details, data collection and management, software)
3. transferability possibilities
4. conclusions

The cases selected and analysed, the field of interest in which falls each case study, and the partner responsible are presented below:

| Field of interest | Application | Partner responsible |
|--------------------------|---|--|
| Foresight | Permanent Conference for Territorial Development (CPDT) http://cpdt.wallonie.be Walloon Institute for evaluation, forecasting and statistics (IWEPS) http://statistiques.wallonie.be | Institute Jules-Destrée |
| Benchmarking | European Innovation Scoreboard www.cordis.lu | University of Wales, Cardiff Business School |
| R&D | Madri+d portal, r&d section www.madrimasd.org | INFYDE |
| Technology/ Market watch | Madri+d portal, technology watch service www.madrimasd.org | FUNDECYT |
| Technological skills | Change2IT (e-Content programme) www.change2it.com | URENIO research unit |

URENIO URENIO research unit focused on the Change2IT (e-Content programme) project, which deals with technological skills in the sector of IT. Main scope of the application is the job match-making. It was selected because it provides a series of services to companies and job seekers, covering job-matching, market trends, e-learning and on-line discussion forum. It is a dynamic application, based on the participation of end users – companies and job candidates. The following features of Change2IT application were the main reasons for its selection:

- o a series of services to companies and job seekers, covering job-matching, market trends indicators, e-learning courses and on-line discussion forum
- o dynamic application, based on the participation of end users – companies and job candidates
- o user-friendly application
- o easily adapted to other production sectors, fields of interest, or any 'couple' where match-making of supply and demand may take place (e.g. matching educational interests with existing vacancies for specialisation in certain degrees, etc.)

FUNDECYT FUNDECYT, based on the list and the templates of the initiatives identified on the previous work package, selected one best practice case, the technology watch service of the Madri+d portal. The selection was based on the concept of the service, the contribution to the creation of regional intelligence, the involvement of regional actors, the adaptability, the access of users and the software structure, etc. The detailed study of the selected case in the framework of Technology Watch has included:

- ✓ An analysis of the model used taking into account the methodological approach and objectives, the target group, the involvement of regional agents, the geographical coverage, the implementation procedure, the partial tools used for the implementation of the model (questionnaires, diagrams, etc.) and the output description.
- ✓ An analysis of the information system including the objectives, the structure of the system and operational details, the strengths and weaknesses (access to the services, adaptability, added value etc.), the methodologies for data collection and management (simple data entry, completion of questionnaires and templates by users, etc.), the software barriers, the problems faced during the implementation and the use of the system and the methodologies of testing the system before use.
- ✓ An analysis of the transferability possibilities.

For the development of the study there have been several interviews with the persons responsible of the Technology Watch service in the selected case.

UNIVERSITY OF WALES University of Wales reviewed the Benchmarking applications identified in D2 and assessed their value for the Meta-Foresight project. The European Innovation Scoreboard was selected as the single, most appropriate case study to be analysed in detail. The rationale for choosing the European Innovation Scoreboard was as follows:

- o the European Innovation Scoreboard is an important monitoring component of the EU's Lisbon strategy – of becoming the most competitive and knowledge-based economy in the world. It is logical to take advantage of the wide recognition of the Innovation Scoreboard.
- o data is freely available for the EU Member States and associated countries
- o there is consistency in the use and presentation of the data
- o ability to link benchmarking data to other intelligence creation systems

A complete benchmarking exercise involves both a descriptive analysis of the position of a company or region against comparator actors and a prescriptive course of action to gain parity with – or exceed – the best practice identified. The descriptive element is undertaken through specifying variables to be measured, collecting the necessary data and comparing the cases. The prescriptive element usually consists of an action plan together with specific goals to be attained. A qualified expert is required to advise on the action plan, which is based on the specific circumstances of the organisation or region. The benchmarking component of the Meta-Foresight model can only deliver the descriptive analysis of certain variables – based on the data provided – as the prescriptive element can only be carried out by an expert on a one-to-one basis.

The detailed analysis focused on the key elements, description of the model, information system description, transferability possibilities and conclusions).

INFYDE

INFYDE identified and de-codified the conceptual and technical aspects existing in Madri+d concerning the information system for R&D activities. Main criteria for the selection of the R&D service of Madri+d have been:

- represents a case of regional economic intelligence, with a territorial information system: it is based on localized network and uses human and artificial intelligence and an integrated system of internet based platform.
- represents an experience of high participation of local actors at different levels: local administrations, Universities, technology centres, companies, central government, etc.
- possesses a very flexible structure easily transferred.
- supports a web site platform with friendly applications, free access to direct users and very structured software.

The analysis took in consideration interviews with experts involved in Madri+d, systematic research and many literature and sources of statistical information. As a conclusion, Madri+d is a fundamental reference in knowledge generation activities developed by agents, institutions and enterprises of the region of Madrid. These activities and the efficiency in achieving them with particular emphasis on the Internet platform, and the image trademark of a modern city, turn Madri+d to an ongoing experience interesting to transfer to other regions.

**INSTITUTE
JULES DESTREE**

Institute Jules Destrée focused on Prométhée I and II programmes. The case was targeting on the development of a regional system for technological foresight and innovation, with a specific focus on the initial foresight step focused on a networking action

oriented on 40 key technologies identification for Wallonia. The 40 key technologies should become a tool for the regional authorities to prepare their support programmes and select the fields they want to support in priority. It contributed to promote the technological potential and is used as a show window. The question raised is therefore how to update this study within a networking process between actors and other actions.

During the preparation of the case studies, partners worked separately, but they communicated via e-mail in order to consult each other on the selection of the appropriate applications for further analysis, the content and the structure of the reports. The five reports on the selected case studies were delivered by the end of June 2004, as foreseen. After elaboration by the co-ordinator, the case studies were consolidated in a comprehensive report and submitted to the Commission. The five case studies follow the same specifications, but there are some differences, because the reports were made by different organisations and in some areas information was missing. For instance, information on technical issues and SWOT were not always available, given that such information was considered confidential by the owners of the selected applications. A revised version of this report was also been produced in October 2004, in order to incorporate the recommendations made by the project officer, while the final version of the deliverable was submitted to the Commission along with the Interim technical implementation report.

ACTIVITY 3 DEVELOPMENT OF META-FORESIGHT MODEL

This activity was the heart of the whole project, as it concerned the design of the integrated Meta-Foresight model, its features, inputs and outputs. It was divided in four main tasks, the technical meeting, the regional reports gathering views on the concept of the model, the consolidated report on the model design and the second Steering Committee meeting. The development of the model was falling under the responsibility of partner 4, INFYDE, while the role of the other partners was to provide insights on the concept, the structure and the variables of the model.

D4a First technical meeting

The first technical meeting was held on the 6th and 7th July 2004, in Chalkidiki, organised by URENIO research unit. This meeting was not included in the initial work plan, but, in the kick-off meeting, partners decided that it would be necessary to meet in order to set the orientations for the design of the Meta-Foresight model, given its significance for the project.

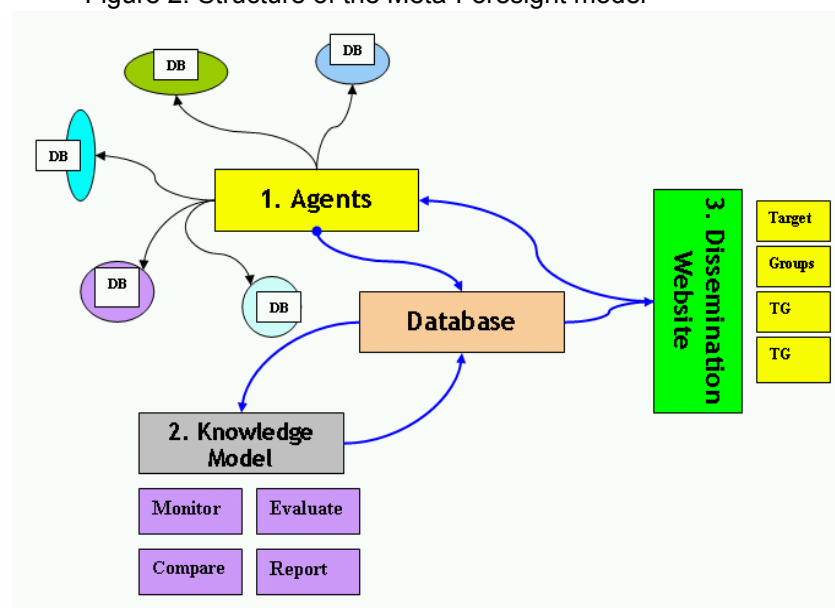
The agenda of the meeting included three sessions: (1) overview of work for deliverables 2 and 3, (2) brainstorming on alternative scenarios for the knowledge integration model, and (3) consolidation of work for deliverables 2 and 3. In the meeting participated 9 persons, representing the five partner organisations:

| | |
|------------------------------|---|
| URENIO research unit | Nicos Komninos Lina Kyrgiafini Elena Sefertzi |
| FUNDECYT | Maria Martin Edigo Carolina Grau |
| University of Wales, Cardiff | Martin Rhisiart |

| | |
|-------------------------|--|
| INFYDE | Carlos Aleman |
| Institute Jules Destrée | Philippe Delavergne Pascale Van Doren |

During the first session, partners presented the work done for deliverables 2 and 3, and discussion followed on the findings of each thematic (foresight, benchmarking, r&d, technology watch and technological skills). The discussion was oriented mainly towards the inputs that could be valuable for the development of the Meta-Foresight model. The second session concerned the presentation of the partners' views on the content and the structure of the model. Discussion followed aiming at the systematisation of the different ideas, and the identification of the inputs and outputs of the model. Following the agreement of all partners, the third session of the meeting was dedicated to brainstorming and exchange of ideas on the type of indicators and the templates to be used in the Meta-Foresight application. Partners examined the possible content of the types of reports that the application would provide and the specific themes that each intelligence creation technique (foresight, benchmarking, r&d, technology watch, technological skills) would include. Several alternatives were discussed regarding the features of the Meta-Foresight model: users' requirements, targeted users and expected products, providers, problems linked to knowledge integration at regional level, etc.. Partners agreed on the following Meta-Foresight model structure (figure 2):

Figure 2: Structure of the Meta-Foresight model



- (1) 3 pathways/ services offered to end users: regional authorities, companies, intermediaries
- (2) modelisation of variables (indicators, data from the 5 areas of interest, thematic structure, geographical dimension, time series)
- (3) combination of diagrams and check lists
- (4) the information technology part will include: portal/ database / visitor
- (5) establishment of an experts' network to produce the reports

At the end of the technical meeting, partners undertook the responsibility to conduct a short survey of regional actors – potential users of the Meta-Foresight application, in order to

provide feedback on the user's expectations/ requirements from such an application (model validation, reality check), and develop brief reports analysing selected indicators that could be used in the model.

D4b Model design brainstorming

Following the decision taken at the technical meeting partners provided to INFYDE brief reports codifying their views on the conceptual framework of the model.

URENIO URENIO research unit suggested a model structure which provides two types of reports, one addressed to companies and one to regional agents and intermediary organisations.

The suggested "companies report" would combine assessment coming from benchmarking, facts based on technology watch, opportunities offered by R&D, trends based on foresight, and capabilities available human resources and skills. It would cover all major fields of company activity, but mainly the fields related to innovation, technologies, and processes. Its main sections are related to nine fields: Financial performance, Products, Markets, Human resources, Research and innovation, Technologies and ICT capability, Marketing, Quality, and Supply chain. Thus, the report would be structured in 9 sections and 6 fields per section corresponding to data from benchmarking, technology watch, R&D, foresight, technological skills, and synthesis. In each section available data would be both quantitative and qualitative, based on selected indicators and wider assessment and informed opinions on upcoming trends.

The "regional agents report" would provide information on the technological/innovation environment of a specific region, a self-assessment test of the regional performance and innovation capability, and would identify the appropriate regional innovation strategy to be followed. The report would be based on data coming from a specific region and data coming from the analysis of external to the region sources in fields related to innovation, technologies and human resources. Each field would be combined with benchmarking for self-assessment of the region's position, technology watch to obtain constant information, R&D and skills to define capabilities and weaknesses, and foresight to investigate trends. The report would be structured in 6 sections related to the fields: Production activities, Research and technology, Technology transfer, Human resources, Knowledge creation, and Innovation finance/ output/ market.

FUNDECYT FUNDECYT interviewed representatives of the Innovation Service Unit of the Regional Government with two main objectives: to present them the project, the objectives, and the expected outcomes, and to conduct a short survey in order to detect their main interests within the thematic of the project.

Simultaneously FUNDECYT carried out a survey in order to identify national and regional databases that can be used to feed the Meta-Foresight application. In addition, combining the conclusions obtained from the short survey of Extremadura actors and potential users of the Meta-Foresight model, the interviews with Madri+d and own experience, FUNDECYT provided a list of indicators whose implementation within the Meta-Foresight application would be feasible. The indicators are classified in three categories, according to the target groups of the project: regional authorities, companies and intermediaries. Each category is

divided in five categories that refer to the services of the Meta-Foresight application: Technology Watch, R&D, Benchmarking, Foresight and Technological Skills.

**UNIVERSITY
OF WALES**

University of Wales arranged meetings with the principal innovation and regional intelligence actors in Wales (representatives of the Welsh Assembly Government and the Welsh Development Agency). The actors responsible for innovation and technology policies were asked to comment on the potential of the model to contribute to regional priorities within innovation and regional intelligence. The views of the regional actors were recorded in a synthesis report. The meetings also provided a good dissemination opportunity. A number of indicators were identified to match the regional intelligence areas contained in the model. These indicators were selected on the basis of standardisation and availability of data at the international level.

**INSTITUTE
JULES DESTREE**

Institute Jules Destrée diffused to regional agents the alternative scenarios for the Meta-Foresight application features. The Institute contributed to the model design by indicative foresight indicators collected from two levels: indicators from scoreboard of research and innovation in Wallonia and indicators from the Millennium Project.

D4c Report on the model design

This specific task was coordinated and carried out by INFYDE, which proceeded to the systematisation of the outcomes of the technical meeting, the incorporation of the regional reports (D4b) and the finalisation of the model design. INFYDE begun the elaboration of the various elements in July 2004 and developed a draft report on the design of the model, which communicated to the partners by the end of October 2004, in order to have feedback and recommendations, with the scope to finalise the design of the model and the corresponding report after their approval by the 2nd Steering Committee meeting (beginning of November 2004). The draft report was also communicated to specialists of the University of Basque Country, with the purpose of enriching it. The prosecution of this information turned to be high time consuming in relation to what had been foreseen, leading to a delay in the consolidation of the final model design report, but, the involvement of further academic experts has improved the quality of the model design. The final model design report was delivered in the beginning of January 2005.

The work was hard because of the complexity of the task. It was necessary to use different methodologies, such as Regional Economic Intelligence as framework of the model, Other theory disciplines, Methodology of algorithm, Methodology of architecture of object database and relational database, Methodology of modelisation, Methodology of general statistic and mathematics, with a special focus on operation with matrix.

The aim of the model design report was to describe the main steps required to integrate information from different variables selected in order to produce a high added value product for public authorities, companies and intermediary organisations. The specific objectives were to:

- define the methodology of the integration
- establish the interrelation among the variables of the model
- transform each variable in indicators

- establish the generic algorithm which base the software application
- identify the output of the model application

Several interviews with experts were carried out for the development of the model and the preparation of the report, including:

1. Raquel Andino López, Delegation of Madrid in Brussels.
2. Raquel Serrano Prospektiker s.a. <http://www.prospektiker.es/PROSPEKTIKER>
Zarautz, Basque Country
3. Javier Velasco, Research specialist and Director of the Asturias Delegation in Brussels.
4. Javier Barcina Zaintek, Zaintek Director, <http://www.zaintek.net>.
5. Maria Jose Mijangos, supervisor of the Informatics system of the Basque Country University and database specialist.
6. Stanislav Rangelov Youlianov. Manager of Scientific Marketing and specialist in informatics. Basque Country University, Bilbao, Spain
7. Josu Ramírez, Infyde Informatics specialist.
8. René Galvez, Informatics engineering, Basque Country University, Deusto Campus.
9. Carmen Rodriguez. Informatics database of Spanish office of science and technology in Brussels.
10. Eva Bernedo. Informatics system of Spanish Institute of Export Cooperation (ICEX), Brussels.
11. Paul Antoni Soto Hardiman. Specialist in European Policy and information system. Consulting of European projects.
12. Ana Arroyo Muñoz, Robotiker Foundation, Vizcaya Technology Park, Basque Country.
13. Professor PhD. Antonio Mendizábal. Regional innovation specialist, Basque Country University.
14. Professor PhD. Joaquin Arriola, Innovation specialist, Basque Country University.
15. Professor PhD. Josú Amezaga, Information system specialist, Basque Country University.
16. Professor PhD. Idoia Fernández, Information system specialist, Basque Country University.
17. Professor PhD. Bejamín Bastida, Regional Innovation specialist, University of Barcelona.

According to the model, main features of the Meta-Foresight application would be:

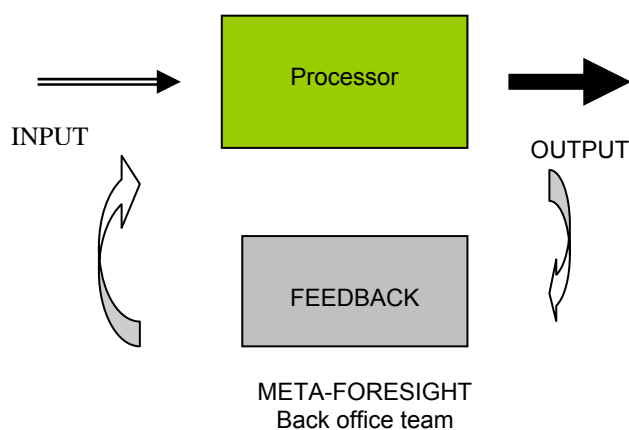
- Capability to link information from different intelligence creation systems: foresight, r&d, benchmarking, technology watch and technological skills
- Search capabilities and data reporting in the fields above – cross-link search
- Capability to incorporate further data bases and modules

The model design report includes three main components: firstly, the objectives, the framework and the inputs of the system are developed. Then, the forms to combine the variables in an integrated system, specifying the outputs of the process are analysed. Finally, the main conclusions and recommendations derived from the previous analysis are presented.

The model design is a conceptual representation of the information structure required by the system. The structure includes the variables and indicators, the associations between them, and the rules governing the operations on the objects. The information model focuses on what kind of data is required and how it should be organized rather than what operations will be performed on the data.

The information system of the Meta-foresight model has the structure of a dynamic management information system. The inputs, represented by the indicators of the variables of the model are: Foresight, Benchmarking, Technology Watch, R&D, and Technology Skills. The processor combines the variables and transforms them. The resulting output is supervised by the team forming the back-office. In this way, there is a permanent relation between the inputs, the outputs and the processor (Figure 3).

Figure 3. Meta-Foresight model



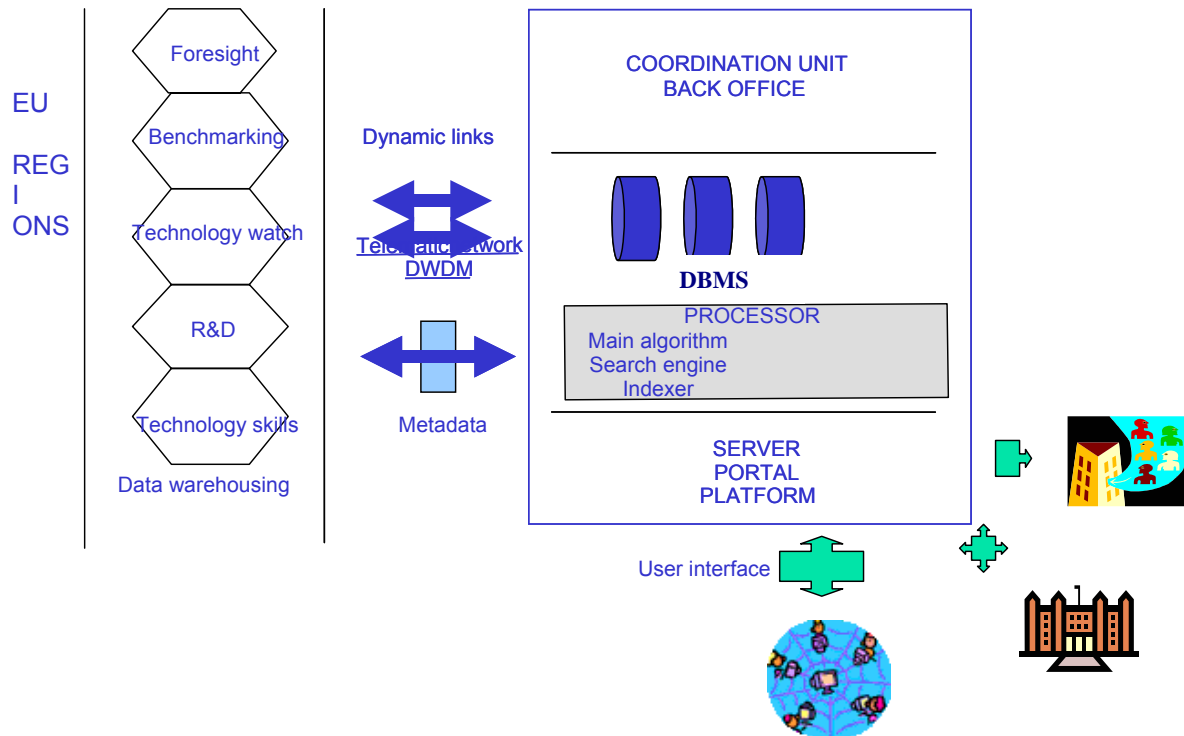
The Meta-foresight model seeks to create a knowledge management tool, providing contemplated utilities which support the gathering, creation, and use of knowledge.

The design of the model attributes to the Meta-Foresight application the following features:

1. Facilitates the conversion of the information in intelligence and knowledge;
2. Combines the database of different variables;
3. Integrates information from a variety of electronic formats, paper, and personal sources, corporate databases, content suppliers, on-line services, Internet, news, etc.;
4. Integrates these tools within territorial competitiveness system;
5. Enables search with powerful engines which allow to look for in a simple way to the existent information on the Internet or in the companies databases.

The Meta-foresight information system consists of a data model which allows the creation of a new content from dispersed regional information systems, a software platform enabling to structure the new content in meaningful subjects, a back-office sustaining the use of the software platform, and target groups which are the recipients of the information. The Meta-foresight information system works as illustrated in Figure 4.

Figure 4. Meta-Foresight model operation



The main components of the Meta-foresight information system are: *back-office*, *server portal platform* and *the processor*. The users, regional authorities, companies and intermediary organisations, request information in the server portal platform of the Meta-foresight application. The request goes directly to the processor (where can be found the main algorithm), which discriminates against an automatic answer, an intervention of the back-office or a combination of both. Depending on the kind of service, the request is forwarded to local database across an indexer, or to external databases on selected variables.

The Meta-foresight model design is a solid instrument which allows the combination of strategic variables in order to offer useful results to companies, regional agencies and the intermediate organisations. The model design report is structured on 9 sessions:

1. Justifications
2. Objectives
3. Theoretical fundamentals
4. Modelisation of variables
5. Inputs
6. Processing Meta-Foresight, an integrated system of information
7. Output of the model
8. Conclusions
9. General recommendations

D5 Second Steering Committee meeting

The 2nd Steering Committee meeting was held in Bilbao, Basque Country, under the responsibility of INFYDE, on the 4th and 5th November 2004. The meeting was attended by 13 persons, 10 representatives of the five partner organisations and 3 invited specialists in informatics from the Basque Country University:

| | |
|------------------------------|--|
| Pascale Van Doren | Institute Jules-Destrée |
| Martin Rhisiart | University of Wales, Cardiff |
| Meirion Thomas | University of Wales, Cardiff |
| Lina Kyrgiagini | URENIO research unit |
| Elena Sefertzi | URENIO research unit |
| Carolina Grau | FUNDECYT |
| Maria Martín | FUNDECYT |
| Jaime del Castillo | INFYDE, Director and Cathedratric of Economics, Basque Country University |
| Carlos Rivera Alemán | INFYDE, Senior Consultant |
| Carmen Hernández Henche | INFYDE, Technician in Information and Documentation |
| Arturo Rodríguez | Business and Administration Professor, Basque Country University |
| Stanislav Rangelov Youlianov | Manager of Scientific Marketing and specialist in informatics, Basque Country University |
| Joaquín Arriola | INFYDE Senior consultant, Professor in Economy, Basque Country University |

The scope to invite informatics specialists was to share experiences and gain feedback for the model design. The meeting proceeded according to the agenda, with analytical presentations and discussion on four major axes:

1. presentation of the characteristics of the model and discussion
2. organisation of the dissemination actions and the next steps of the project
3. presentation the on-going evaluation methodology and scheduling the preparation of the corresponding reports.
4. clarification of details for the submission of the interim report

The concept of the model design and the on-going evaluation was approved by the project team, while partners committed to initiate the web promotion activities, and the preparatory work for the international conference. It was decided to postpone the publication of the brochures after the software development in order to include technical information. The possibility to have a common format in the five promotion brochures was also examined. Technical issues for the preparation of the interim implementation and financial report were also clarified.

ACTIVITY 4 DEVELOPMENT OF META-FORESIGHT SOFTWARE APPLICATION

D6 *Meta-Foresight Software development*

The task was falling under the responsibility of the project leader, URENIO research unit. It included one task and deliverable, the Meta-Foresight software, which is the translation of the model into an operational Internet application.

Work started in November 2004 with technical meetings with software experts to explain the concept of the model and find adequate solutions for the interpretation of the model design to a functional information platform. Two software developers were selected and cooperated with URENIO in the whole process of the software design and development, which involved several revisions and updates, and lasted until May 2005 for a first fully operational version. Specific adjustments and addition of further elements also took place until September 2005, incorporating insights from the software testing phase. Several scenarios have been elaborated regarding the features and services of the application, in order to provide an optimum, user-friendly and adding value solution. The solution finally adopted is based on the suggestion of URENIO for the concept and variables of the model (D4b), enriched with insights from the partners, and with some modifications dictated by the need to provide a comprehensive, intelligent, but simple software application.

The final version of the software forms a digital Internet platform addressed to:

- (a) regional authorities and intermediary organisations, supporting their efforts to elaborate regional knowledge based development strategies and design appropriate actions, and
- (b) companies, providing a comprehensive tool allowing to benchmark their performance, watch latest market and technology developments, forecast trends and identify centres specialising in their fields of activity.

The platform performs three main functions, each of which is implemented combining human intelligence and software tools (Figure 5):

1. Data collection: defines appropriate information sources, collects the targeted information, and stores it in the database of the application

T1: Information sources search tool is a web-based list of information sources, local or global, and a freeware search tool, allowing automated information retrieval through an external business intelligence tool equipped with dedicated agents for different types of databases.

T2: The questionnaire/ information collection module consists of a flexible model of data collection, capable to support different types of reports (addressed to companies, regional authorities and intermediary organisations). The module defines the targeted information and its structure, and the qualitative and quantitative variables enabling the collection of information. It covers issues of financial performance, strategy and management, products, markets and competition, R&D and innovation, production technologies and ICT, supply chain and networks, and quality. In each of the above sections information is derived from foresight exercises, benchmarking, r&d results, technology and facts watch, and regional technological competences.

T3: Text miner facilitates the transfer to the database of any piece of information located on the sources.

T4: Database enables to store information gathered. The database follows the structure of the questionnaire.

2. Data analysis: elaborates and integrates the different pieces of information that have been stored in the database. It is based on human intelligence, as the selection of data at the previous stage

T5: Analysis templates and variables relationship model, which includes the indicators and variables examined and the model required to inter-relate them.

T6: Data viewer gives access to the content included into the database

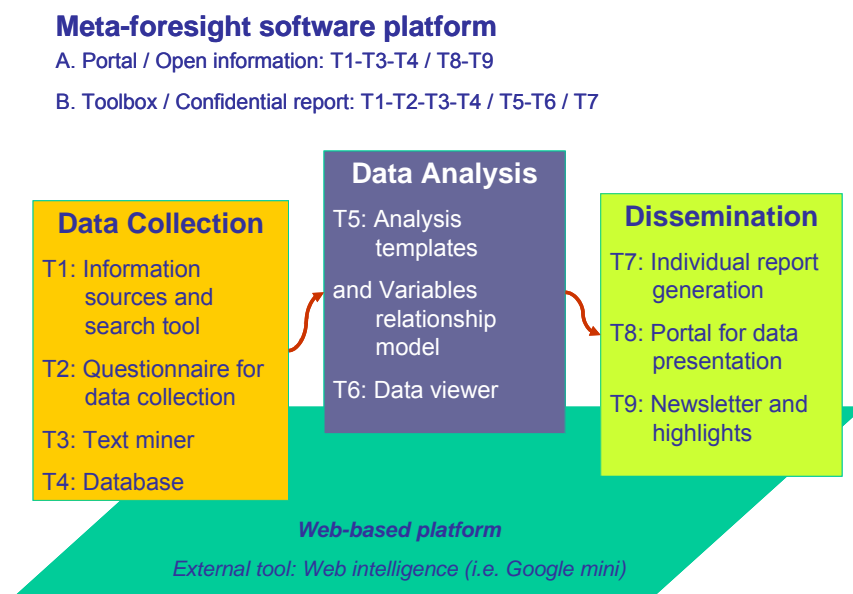
3. Dissemination: diffuses the information of the database to the public. It supports the demonstration of business and sectoral facts on a web portal, the elaboration of the Meta-Foresight confidential reports to companies, and the automated creation and posting of electronic newsletters to companies, agents and regional authorities

T7: Individual report. Based on the work done during the analysis, and the step-by-step elaboration and completion of templates, the tool generates a comprehensive report, following the structure of the analysis templates.

T8: Portal for data presentation includes information, articles and links to organisations dealing with knowledge management and specific industrial sectors.

T9: Newsletter tool facilitates the automated creation of electronic alerts and newsletters.

Figure 5. The Meta-Foresight platform architecture



Two basic services are provided through the Meta-Foresight platform:

(1) open information services, through the “portal”, focusing on industrial sectors and mainly addressed to regional authorities and technology intermediaries

(2) customised services and confidential report to companies, through the “toolbox”

The application allows customisation of both services, in order to reflect the framework of the region that runs the Meta-Foresight application.

The platform, www.urenio.org/metaforesight/platform.html, includes three components (Figure 6):

(a) **the portal**, which is mainly addressed to regional authorities and intermediary organisations and includes information on selected sectors, in the fields of Foresight, R&D and Innovation, Market Watch, Benchmarking, and Competences; the sector targeted in the prototype is ICT,

(b) **the toolbox**, which is addressed to companies and provides an individual company assessment report, and

(c) **the application guide** with explanations on the structure and functions of the portal and the toolbox.

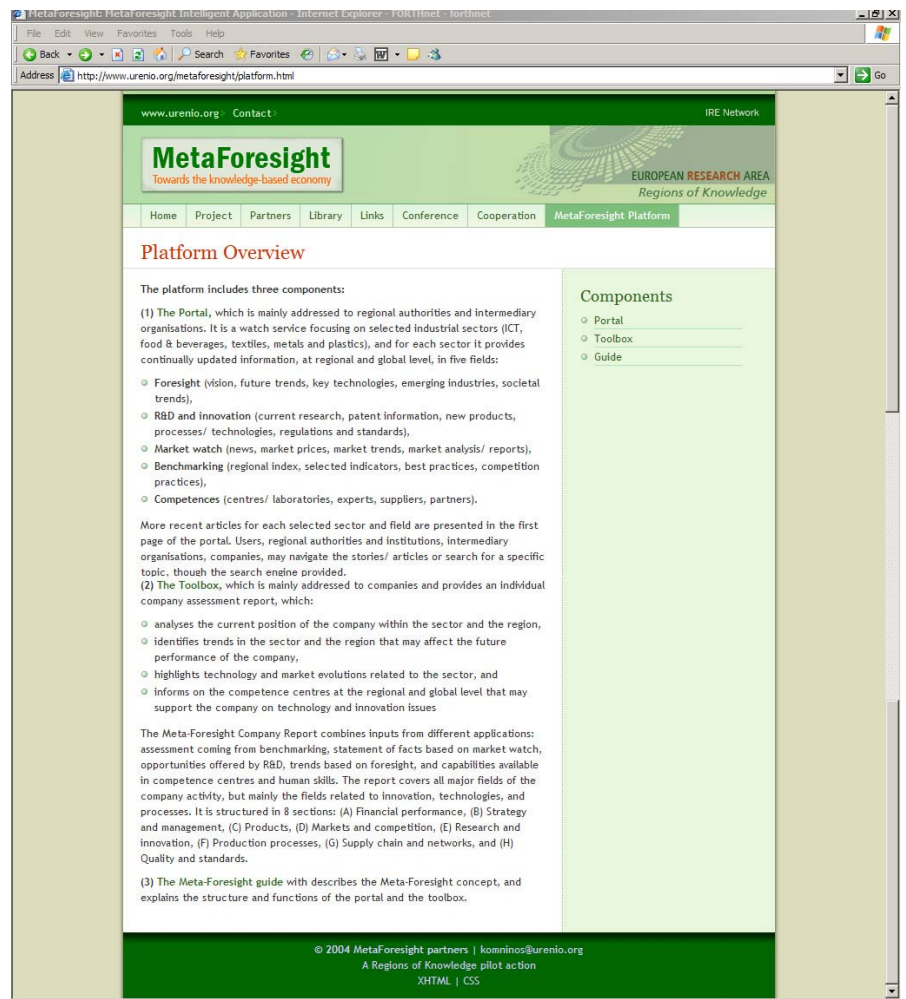


Figure 6. Meta-Foresight platform

The **Portal** includes the tools T1, T3, T4, T8 and T9 of the platform architecture and focuses on selected industrial sectors (ICT, food, textiles, metals, plastics, for the purposes of the prototype) in a particular region. For each sector information is provided, in the form of announcements/ small articles, in five fields and adequate sub-subcategories:

- (1) **Foresight** (vision, key technologies, emerging industries, societal trends),
- (2) **R&D and innovation** (current research, patent information, new processes/ technologies, regulations and standards),
- (3) **Market watch** (news, market prices, market trends, market analysis/ reports),
- (4) **Benchmarking** (regional index, selected indicators, best practices, competition practices),
- (5) **Competences** (centres/ laboratories, experts, suppliers, partners).

The portal provides current information on a selected sector and field, while elder stories may be required and reached by the user by pressing the corresponding button. The "stories" are prepared by authors, who are specialists across Europe, delivered to the Meta-Foresight back office, and, following validation, are presented into the portal. Authors are

assigned by the Meta-Foresight back office, according to their experiences and competences in each topic.

Figure 7. Meta-Foresight Portal

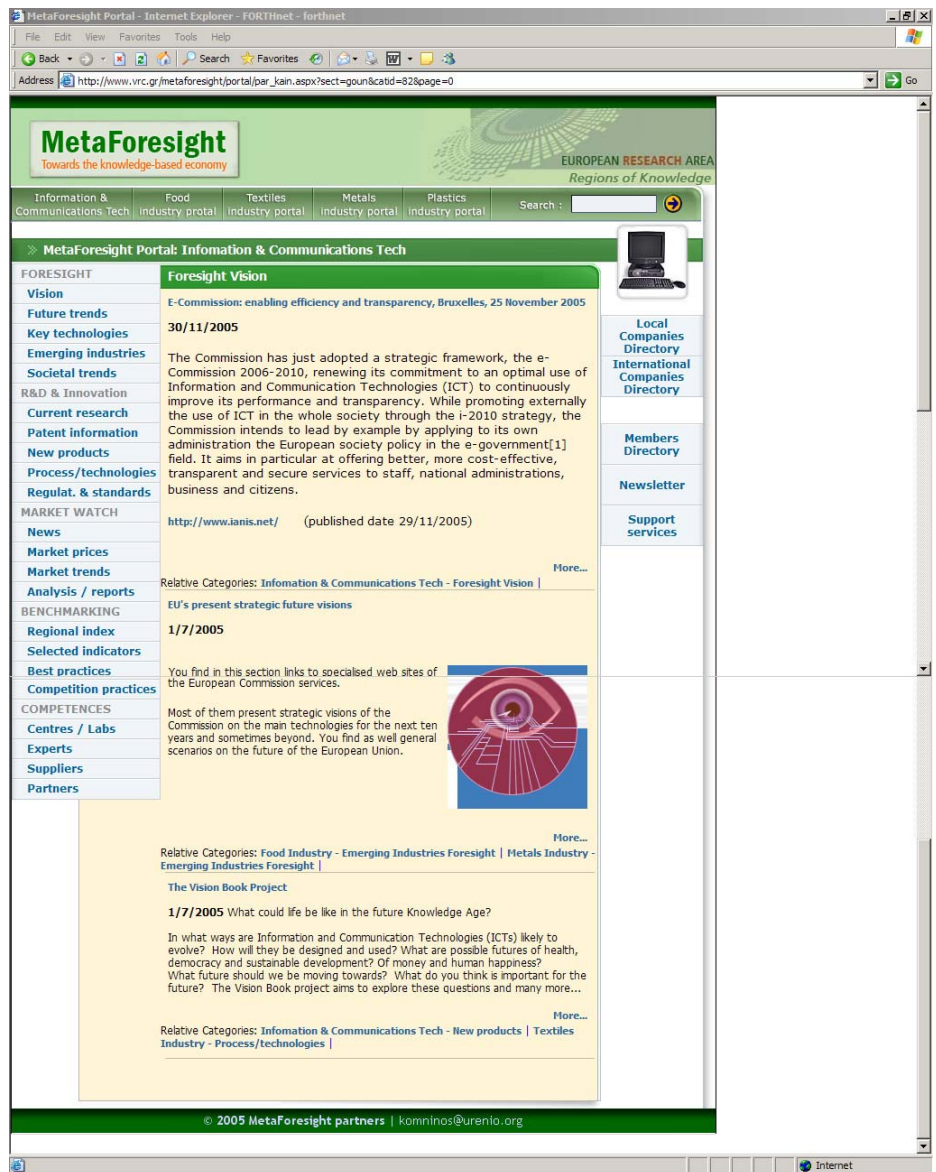
The elaboration of the stories is based on a on-line data entry template, which includes: the title of the story, name of the author, date, summary and full story, related figures and photos, Meta-Foresight field, industry/sector focused, link to other Meta-Foresight fields, key words, and indication of the level of importance.

Thus, the administration of the Meta-Foresight portal is based on three levels: (1) the administration, which is the Meta-Foresight back office, responsible for the coordination of the whole application, the assignment of the proper consultants/authors, the validation of the stories and the maintenance of the portal; (2) the authors, who access the application through log-in process and complete the data entry

templates that feed the portal database; (3) the users, regional authorities and institutions, intermediary organisations, anyone concerned, who may scroll the stories available or search for a specific topic in the database of the portal, though the search engine provided. The first two administration levels of the portal are password protected, as through them it is possible to create/ delete categories, entries, members and users. It is up to the organisation running the application to provide authorised access to the Meta-Foresight network members/ authors of the "stories".

The portal also supports:

- Local companies directory, where regional companies of the selected sector can be listed, including contact details and web link, where available. This directory has not been completed for the prototype, due to limited resources and no contractual obligation.



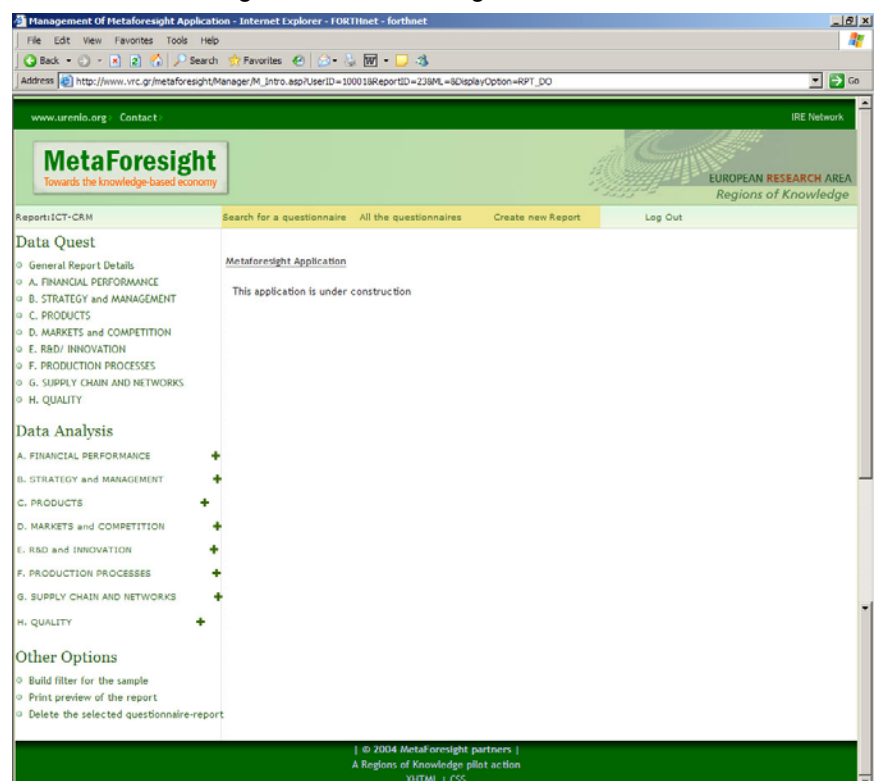
- International companies directory, where international companies of the selected sector can be listed, including contact details and web link, where available. This directory has not been completed for the prototype, due to limited resources and no contractual obligation.
- Members directory, where the members of the Meta-Foresight portal are listed.
- Automated creation of newsletters, which include the latest entries of the portal for any selected sector. By pressing the “Newsletter” button, a user may register in the “Members directory”, and thus be included in the address book of the Newsletter. The creation and submission of the newsletters is managed by the administrator (back office).
- Support services on the Meta-Foresight application, through direct contact with the Meta-Foresight back office.

The **Toolbox** includes the tools T1 to T7 of the platform architecture and provides customised services to companies (Figure 8). These services refer to a comprehensive report, the Meta-Foresight Company Report (MCR), which is elaborated by the Meta-Foresight back-office (or authorised consultants) and analyses the current position of the company within the sector and the region, identifies trends in the sector and the region that may affect the future performance of the company, highlights technology and market evolutions related to the sector, and informs on the competence centres at the regional and global level that may support the technological and innovation position of the company.

Figure 8. Meta-Foresight Toolbox

The MCR starts with a company audit, which highlights the main questions that a company wants to know in order to improve its technological and innovation capabilities. The company audit template is supplemented with data coming from the region, the sector, markets, technologies, R&D results and competence centres, forming a comprehensive questionnaire (Data Quest).

The data of the questionnaire are elaborated by the Meta-Foresight back-office through the Data Analysis module/analysis templates to deliver the MCR. The report combines data from different information applications: assessment coming from benchmarking, statement of facts based on market watch, opportunities offered by R&D, trends based on foresight, and capabilities available in competence centres and human skills. The MCR covers all major fields of the company activity, but mainly the fields related to innovation, technologies, and processes. Its main sections are: A. Financial



performance, B. Strategy and management, C. Products, D. Markets and competition, E. Research and innovation, F. Production processes, G. Supply chain and networks, H. Quality and standards.

Thus, the report is structured in 8 sections and 7 fields per section, corresponding to data from the company, the region, the sector, the market, R&D, foresight, and skills. The 7 fields and the focus per field are indicated in Table 1. In each section available data are both quantitative (i), for numeric values, and qualitative (c), for multiple choice questions and free text, based on selected indicators and wider assessment and informed opinions on upcoming trends.

Table 1. Fields and information sources of the Meta-Foresight Toolbox

| | Target area | Source | Type of data | Data focus |
|---|---|---|--|---|
| 1 | Company | Company audit | I: Quantitative and C: Qualitative | Company practices: Financial, Management, Products, Markets, Innovation, Production, SC, Quality |
| 2 | Region | Regional statistics and development programmes | I: Quantitative and C: Qualitative | The company within the region: Regional statistics or Regional practice |
| 3 | Sector | Benchmarking applications | I: Quantitative | The company within the sector: Benchmarking with respect to max number of companies of the same sector |
| 4 | Market watch | Market intelligence applications | I: Quantitative and C: Qualitative | Most important facts related to the company practices from <ul style="list-style-type: none"> • The sector • The region • Globally |
| 5 | R&D watch | R&D dissemination applications | C: Qualitative | Most important R&D related to the company practices from <ul style="list-style-type: none"> • Regional R&D • EU R&D • EPO patents |
| 6 | Foresight | Regional / national foresight exercises | C: Qualitative | Future or emerging trends related <ul style="list-style-type: none"> • The region • The sector • The practices of the company |
| 7 | Competences centres in the region and the sector | Regional survey, web, associations, clusters, | C: Qualitative | Competences, skills and services related to the company practices |

Table 2 presents the number of variables used per report section and information field. The full list of variables and analysis templates are included in the corresponding report for deliverable 6.

Table 2. Meta-Foresight Toolbox – Variables per section and information field

| Section | Field | | | | | | | Total |
|-----------------------|---------|--------|--------|--------------|-----------|-----------|-------------|-------|
| | Company | Region | Sector | Market watch | R&D watch | Foresight | Competences | |
| Financial performance | 12 | 9 | 12 | 6 | | 8 | | 47 |
| Strategy & management | 21 | 5 | 21 | 3 | | | 1 | 51 |
| Products | 8 | 11 | 6 | 2 | 3 | 3 | 4 | 37 |
| Markets & competition | 15 | 3 | 15 | 6 | | 2 | 3 | 44 |
| R&D/ innovation | 15 | 14 | 10 | 3 | 3 | 5 | 4 | 54 |
| Production processes | 27 | 8 | 18 | 4 | 3 | 2 | 4 | 66 |
| Supply chain | 16 | 3 | 16 | 2 | 3 | 2 | 4 | 46 |
| Quality | 10 | | 10 | 2 | | 2 | 4 | |
| Total | 124 | 53 | 108 | 28 | 12 | 24 | 24 | 373 |


Main features of the analysis templates and the report are:

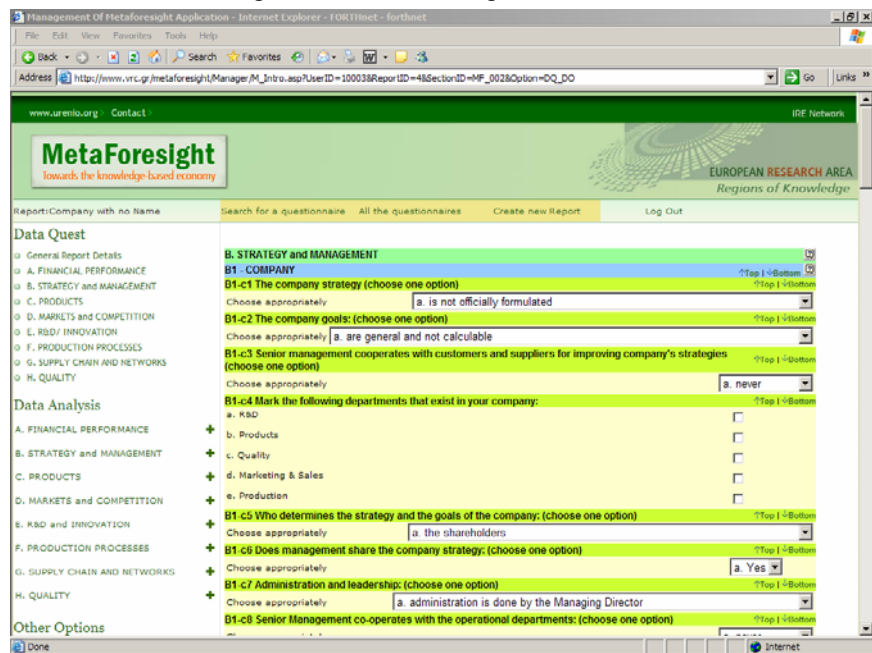
- Generally, each template includes as many sessions as the corresponding questionnaire. It may happen that a specific field is meaningless for a certain topic. For example, in section A 'Financial performance', the field 'R&D' is missing because R&D evolutions are not related to the actual financial performance of the company.
- Each session has the same title with that of the questionnaire (e.g. A1, A2, A5)
- In each session the partial topics appear under their own subtitle, numbering from 1-...N
- For each partial topic, guidelines are available under the subtitle, and free text box is following
- The application automatically retrieves the titles, subtitles, and the free text from the templates and incorporates them into the company report, while automatically creates diagrams and tables. The report is produced automatically, following the structure of the analysis templates (titles, subtitles, diagrams, free text), and may be printed section by section or overall.

Main technical features of the Toolbox are:

At the left side of the Toolbox first page (Figure 8) the sections of the questionnaire and the analysis templates can be viewed. The "Meta-Foresighter" may create a new questionnaire for a new company, modify an existing questionnaire, elaborate the analysis templates or print the company report.


Figure 9. Meta-Foresight Toolbox Data Quest

Data entry for the qualitative and quantitative variables of the questionnaire (Figure 9) may be done section by section, manually and/or automatically. Data collection for qualitative variables and navigation in selected Internet sites is facilitated by the “field fill wizard tool” . It enables to automatically store the search procedure, e.g. the

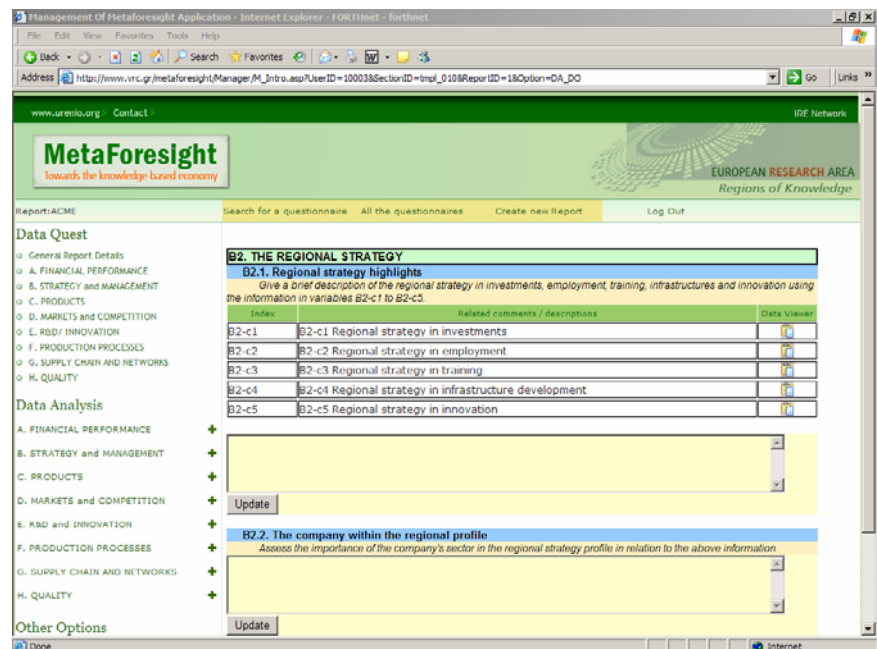


range of web sites visited and the corresponding pieces of information collected. Customisation of this tool refers to the definition and setting of the Internet information sources. Quantitative variables are filled manually, using information from appropriate sources (regional statistics, Eurostat, Innovation Scoreboard, etc.). All data are stored in the toolbox database. Update button of the modifications and new entries is available at the end of the page.

Figure 10. Meta-Foresight Toolbox Data Analysis

The analysis templates (Figure 10) can also be elaborated and updated separately. The data viewer tool  allows to recall the entries in the database, in order to facilitate the analysis procedure. Adequate space for free text is included under each subtitle.

Two elements included in the “Other options” to the Meta-Foresight toolbox (Figure 8) increase its functionality:



Filter for sample creation (Figure 11). The tool allows to set the criteria for the creation of a sample of companies, from those included in the application, towards which the benchmarking calculations of the application will be performed (in the sections concerning

“the company” and “the company within the sector”). These criteria refer to: country, corresponding regions, and nace code. The user may select the countries, regions, nace codes from a drop down list and add/ remove the choice to a corresponding box. The filter appears on the left standard column of the toolbox and may be applied after the selection of a specific company. The application of the filter is not mandatory for the creation of the company report. In case the filter is not applied, the calculations are based on the total number of companies included in the database.

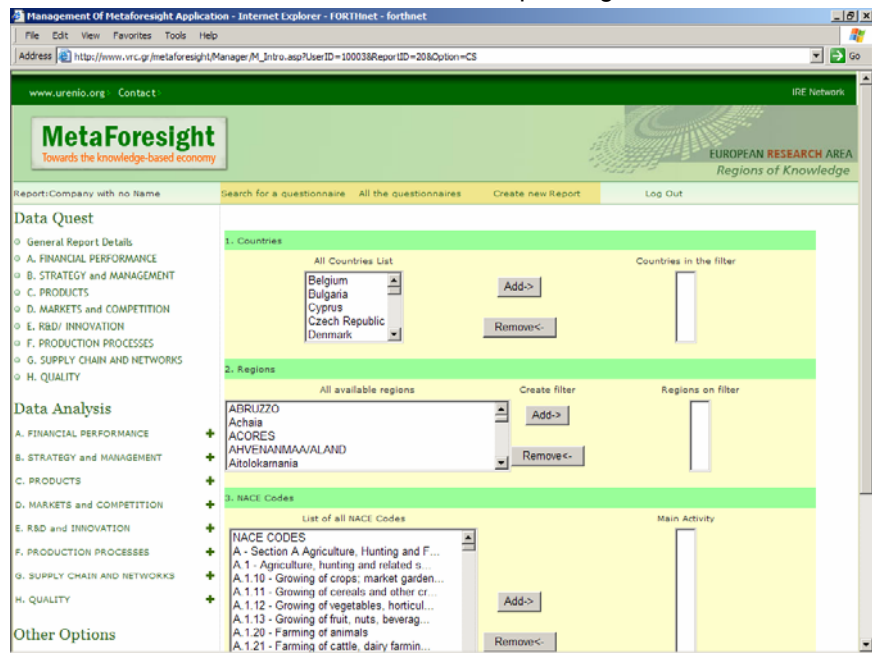


Figure 11. Filter for sample creation

Specific field for recording the code of the region and country (Figure 12) where the company under consideration is established. This feature appears in the last field of the

“General report details” section of the questionnaire (Data Quest), and is activated by pressing the corresponding button. It is directly linked to the function of the filter for sample creation (in the definition of the origin of the companies towards which benchmarking will be performed). The user/consultant may insert the corresponding data following the steps suggested by the application.

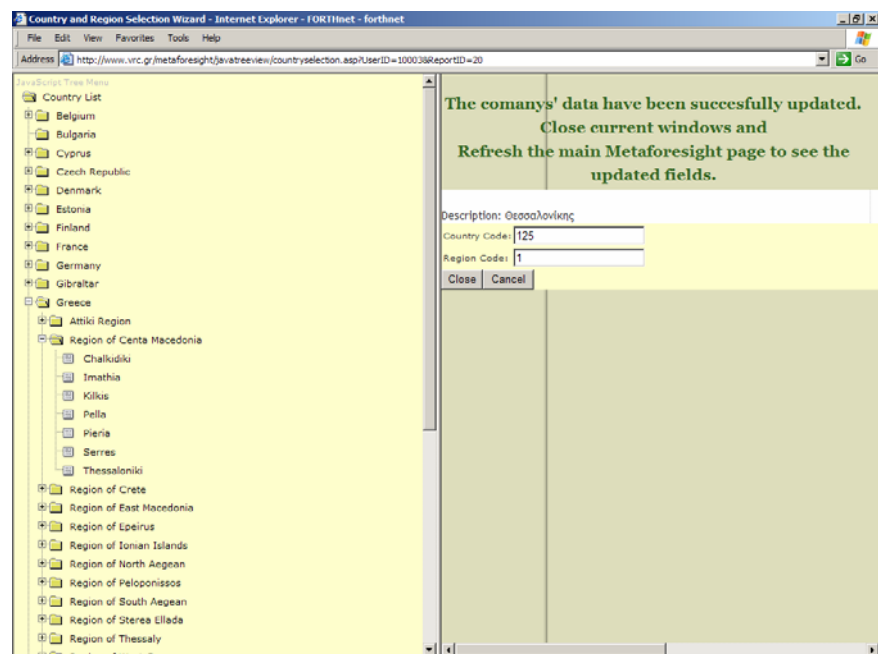


Figure 12. Region and country codes

The **Guide** allows to view and download the Meta-Foresight application guide, which is fully described under Activity 6, Deliverable 12.

A crucial feature of the overall Meta-Foresight platform is that it consists a collective application which presupposes networking between regional stakeholders (regional authorities, universities, technology centres, etc.) and a mutual agreement between them to co-operate and share information in order to run the Meta-Foresight platform. The collection of information required for the operation of the platform is based on collaboration and networking between organisations that maintain applications such as benchmarking, technology watch, etc. Additional assignments to experts may also be done by the back office. The resources to run the application may be from public (follow up national or EU projects) or private (mainly companies requiring the Meta-Foresight company report).

In addition, the Meta-Foresight prototype has been designed and implemented in a way allowing customisation, and thus transferability, to the framework of each region/organisation applying it. The organisation may select which tools will be used in each of the five thematics, foresight, benchmarking, R&D, technology watch and technological skills, and the URENIO Meta-Foresight team will undertake the customisation of the platform, including the questionnaire/ database and the analysis templates.

A sustainability perspective for the platform is to provide the Meta-Foresight services through the Greek Benchmarking Centre. URENIO has already created the Greek Benchmarking Centre (<http://www.urenio.org/benchmark/el/>), which offers company and regional benchmarking. Actually, URENIO is working on a new module to cover town/communities benchmarking. Meta-Foresight company or regional reports will be a new service of this Centre. Meta-Foresight-report may be offered as more global report to business and regional authorities, integrating R&D, markets, technologies, and skills. Another option is to maintain the platform, seek for follow-up projects and/or provide the services upon request.

ACTIVITY 5 EVALUATION

The activity includes three tasks/ deliverables: on-going evaluation of the project and organisation of the third Steering Committee meeting, falling under the responsibility of partner 3, University of Wales, Cardiff Business School, and testing of the software application, under the responsibility of URENIO research unit. University of Wales made an overall evaluation of the project and a large scale evaluation of the platform, analysing issues such functionality, reliability, flexibility, customisability, ease of use, etc. URENIO evaluated the functionality of the portal, with the inclusion of articles/ stories for the ICT sector, and of the toolbox, through the development of a company report with the use of the software.

D7 On-going evaluation report

The scope of the on-going evaluation was to measure the degree of achievement of the milestones of the project, in qualitative and quantitative terms. The initial work plan was foreseen one on-going evaluation report, in the form of a mid-term assessment of the project. During the kick-off meeting, partners decided that it would be more beneficial to provide two evaluation reports:

- one for the first half of the project duration, in order to review the effectiveness of activities and provide early warnings for possible correction actions, and
- a second covering the whole duration of the project, aiming to measure the overall progress, and the results achieved, with special emphasis on the Meta-Foresight application.

Work on the on-going evaluation started in October 2004, with the elaboration of the on-going evaluation methodology. The University of Wales project team reviewed several evaluation options and set the evaluation priorities for the project, which were presented at the 2nd Steering Committee meeting, end October 2004, and approved by the partnership.

The first on-going evaluation report was delivered by the end of January 2005. Data collection was based on desk research and reviewing the documents generated by the project thus far (proposal, deliverables produced, interim report, minutes etc). In addition, a structured questionnaire was distributed, in which the views of partners were solicited on retrospective and prospective issues critical to the delivery of the project's objectives. This information was collected via telephone interviews. This section is divided into retrospective and prospective analysis. Data analysis and reporting followed by the University of Wales, Cardiff Business School, and the results and recommendations were outlined within the first on-going evaluation report. Main conclusions/ recommendations of the on-going evaluation report are:

- the project is on course to meet its strategic objective to produce an integrated information application enhancing regional intelligence
- the project's deliverables to date have met their objectives and the actions taken have produced the desired results
- partners have contributed enthusiastically and diligently to the work of the project; however as project has become more technical in nature, the need for more time for discussion and collective analysis has grown
- the expectations and value added identified by the partners have focused mainly on the integrative nature of the Meta-Foresight application; however stronger connections could be made between chronologically and logically connected project phases
- the Meta-Foresight should work to increase awareness of regional intelligence issues and stimulate discussion over the trajectory and decisions in building knowledge-based regions, with carefully designed promotion campaign.

The first on-going evaluation report was communicated to the partners via e-mail and officially presented and approved at the 3rd Steering Committee meeting, March 2005. At that meeting, it was also decided to prepare the second evaluation report in the form of an academic article, providing an overall assessment of the project and its main output, the Meta-Foresight platform.

Within the following months, University of Wales developed an evaluation approach for the Meta-Foresight software application, which was presented at the 2nd technical meeting, July 2005, and approved by the partnership. According this approach the items to be evaluated were: functionality, support to the use of the application (possible training, installation procedures, supporting documentation), maintenance, reliability, scalability, legal/licence issues, content, audience appeal and suitability, ease of use. In September 2005, the

partner responsible developed an evaluation web-based survey for the Meta-Foresight platform. The web-link

http://www.xn--mxai5b.gr/metaforesight/public/survey.php?name=Meta_Foresight_Application_copy2 was sent to all partners who were kindly asked to complete the survey.

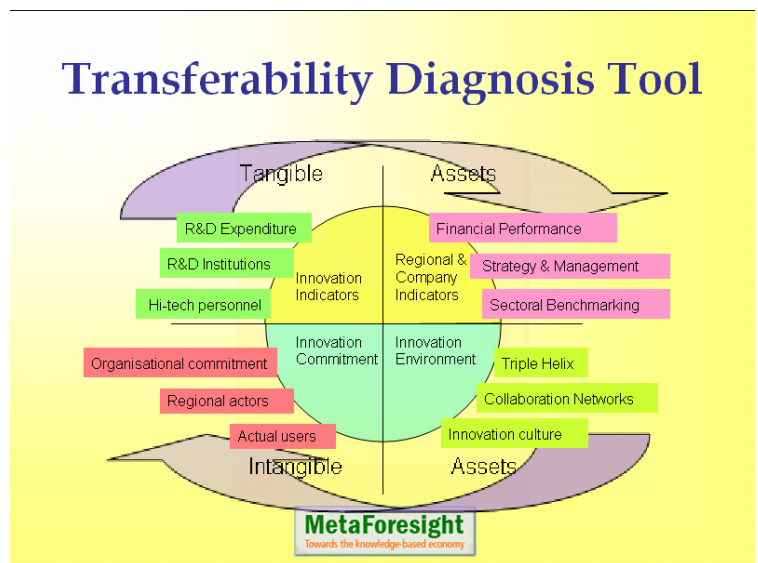
The University of Wales project team conducted a Meta-Foresight Platform Formative Review. The document comprised a synthesis of concerns and comments made by the partners and it was forwarded to the software developers, who addressed all issues raised by the partners.

The second-overall evaluation report was delivered by the end of November 2005. It was based on desk review of key documents produced during the project duration and analysis of the results of an on line survey addressed to the partners, based on a structured questionnaire. The survey addressed management and coordination issues, meeting of objectives, effectiveness of the project, maximising added value of the outcomes and sustainability of the project outputs. Main conclusions of the second evaluation report are:

- The project's deliverables have met their objectives and the actions taken have produced the expected results.
- The management of the project and the dissemination activities were the most successfully implemented.
- The most obvious added value of Meta-Foresight is the integration of different variables within one single application, which offers new ways of combining strategic issues and actors to promote the process of innovation.
- The nature of the project and the time limitation restricted the potentiality of establishment of an intra-regional and trans-regional partnership among stakeholders of the participating regions. The establishment of such partnerships prerequisites the utilisation of the final product of the project, the Meta-Foresight platform.
- The project, through the promotion and communication efforts put in place, helped to increase awareness of regional intelligence issues and stimulate discussion over the trajectory to building knowledge-based regions.
- Main difficulties faced have been the conceptual design of the platform, technical difficulties to develop the platform, limited resources to accomplish ambitious and time consuming tasks, the need of change of the mentality of the final users (especially companies and regional authorities) regarding the benefits of territorial intelligence.

The transferability of the Meta-Foresight application to other organisations (local authorities, public organisations, companies etc) has been a fundamental element throughout the entire process of the application's design. For this reason, University of Wales, Cardiff Observatory of Innovation developed a simple Transferability Diagnosis Tool which can support the decision making process as per the implementation of the application to other regions. The potential user-region will complete a brief questionnaire concerning tangible assets, such as regional innovation indicators, and intangible assets, such as regional commitment to innovation. The results of the questionnaire will determine the feasibility of the transferability diagnosis tool being implemented into the potential user-region. The Transferability Diagnosis Tool is a concept that indicates the main criteria that a potential user should meet in order to benefit more from the implementation of the Meta-Foresight

application. It is a kind of “reality check”, and its subjectivity depends on the quality of the instruments used for the measurement and evaluation of the region’s innovation environment. The development of such instruments requires extensive research. However, during the project duration, time restriction and other commitments did not allow to dedicate the time required for the development of such research. The tool was presented at the Meta-Foresight final conference in Cáceres.



D8 Meta-Foresight software application testing

The task was falling under the responsibility of the project leader, URENIO research unit, and its purpose was to check the functionality of the Meta-Foresight software application.

By mid April 2005, URENIO research unit, started work on the Meta-Foresight platform testing, with preliminary design of the testing specifications, and contacts with Central Macedonia competence centres that would cooperate in the testing process. Such cooperation was crucial, given that the operation of the Meta-Foresight application is based on a network of regional stakeholders that handle applications of benchmarking, technology/market watch, foresight, etc. For the purposes of the testing, URENIO agreed to cooperate with Thessaloniki Technology Park, the Centre of Research and Technology-Hellas, and the Association of Exporters of Northern Greece. Assignments were not made, but a mutual agreement was reached to cooperate with URENIO and provide information and support for the testing of the portal and the toolbox.

The evaluation of the Meta-Foresight software platform tested the technical functionality of the software and its efficiency in delivering the outputs foreseen. Specifically, the application was tested towards two directions: (a) the toolbox, with the elaboration of an individualised company report for an ICT company of the region of Central Macedonia, and (b) the public portal, with the inclusion of articles, mainly within the section of the Meta-Foresight portal referring to the ICT sector.

(a) *Testing of the toolbox* started although some technical aspects needed further elaboration and the software was not technically fully operational, considering that the conceptual test could initiate. This involved:

- check the correspondence between the questionnaire and the analysis templates, in terms of numbering and duplications
- check the analysis templates, in terms of consistency with the questionnaire variables
- check the functionality of the “field fill wizard” (whether it is applied in all cases required, mainly the qualitative variables of the analysis templates)

- check the operation of the web links within the wizard (whether the web addresses used are correct, whether the selected links provide the appropriate information for each certain variable, whether the wizard opens properly)
- check the data viewer functionality (whether the data of the questionnaire are recalled properly on the screen for each variable of the analysis templates)
- inclusion of the feature that each user of the toolbox can only view and elaborate the questionnaires and reports that he/she has created, for security and confidentiality reasons
- check the overall facility and user friendly operation
- make the adequate corrections

Once the above checks were finalised and the adequate corrections to the software were made, the URENIO Meta-Foresight team started the elaboration of the individual report for the selected ICT company of Central Macedonia. It should be noted that, although the company used for the testing is an existing ICT company of Central Macedonia, its real name does not appear on the testing report, provided that the report includes confidential information which cannot be published. The name used for the testing company is ICT-CRM.

During the completion of the questionnaire and the data analysis templates, a number of technical issues have been faced and corresponding modifications/ corrections were made:

- Calculations: in order to have reliable, stable and measurable results for each company, it has to be benchmarked against a standard number of companies of the data base for all the questions/ variables, and not just against the companies of the database that have answered a certain question. Thus, the possibility to characterise questionnaires as "valid" was added, in order to make a distinction between tests and reliable questionnaires. Valid questionnaires are used for comparisons. All questions of a valid questionnaire are taken into account for the comparison.
- The calculation of percentages in multiple choice questions is based on the total number of answers in the database. Thus, these calculations have no sense until the database has a critical mass, in order to provide reliable results. To face this issue, two possible options were considered in order to include the benchmarking data: the first is, when the entries in the database have a critical mass, that the application produces the benchmarking charts/ results by calculating them. The second is to use benchmarking data from other applications. For the testing purposes, given that only a unique company/questionnaire was included in the Meta-Foresight database, the second option was followed, using data from the URENIO benchmarking application (www.e-benchmarking.org)
- Tables presenting the answers of the qualitative questions "c", answered with a multiple choice or drop down list: column C was initially representing the total number of answers of the database and not the value for the current company. As the analysis concerns the current company, the corresponding answer should appear on the screen. Thus, column E has been added reflecting the answer of the current company.
- In the Data analysis the order of illustrating the indicators is grouped by type of answer (drop down list, check boxes)

- In the multiple choice questions there was not initially foreseen the null option, which was not correct, as the system was providing an answer even to questions not answered by companies. The “No answer” option has been added in all multiple choice questions.
- Answers to the Data quest with tick boxes were not updated in the Data analysis section, although no related notification was provided by the application. The bug has been addressed.
- In some cases, the “Update” function did not work –the message appearing was “the web page is unavailable”- although modifications were actually saved, thus eliminating reliability of the application. The issue has been addressed.
- A number of variables, checkboxes and tables were missing from the data questionnaire and the data analysis, while, in some cases, the order of questions or analysis fields was disrupted. Careful check has been performed in order to record all faults and proceed to the adequate corrections.

Apart from the technical issues, hard work was dedicated to the filling of the questionnaire and the analysis templates, provided that a wide range of variables had to be taken into consideration and analysed. The following tools were extensively used:

- Foresight application in Central Macedonia, developed by the Research Committee of Aristotle University of Thessaloniki and provided free
- Benchmarking application and database, developed by URENIO research unit
- Cordis Innovation Scoreboard open services, for benchmarking regional performance
- Eurostat statistics open services, for benchmarking sectoral and regional performance
- Technology watch application developed by URENIO and technology/ market watch information provided by the Association of Exporters of Northern Greece and the Centre for Research and Technology-Hellas
- R&D open database of the Virtual Research Centre of Central Macedonia (www.vrc.gr), developed by the Network of laboratories for Quality, Innovation and Sustainable Development of Aristotle University of Thessaloniki, for R&D results and competence centres in Central Macedonia.

Bibliographic and internet search was conducted. The “field fill wizard” included in the analysis templates of the toolbox facilitated search in selected information sources on the Internet. Meetings with ICT experts of the cooperating regional stakeholders were organised, as specialised knowledge was required for some variables, especially those related to the sector. Synthesis and analysis of the findings followed.

The task proved much more time consuming than foreseen, mainly due to the great number of variables that had to be faced. Adding to these, by mid October an unexpected disaster happened: by mistake, the whole testing report was deleted by the application and there was no way to recover it from the server. Fortunately, most of the contents had been saved in word format the previous day, and were easily copied to the application, but still time was spent. After this event, automatic daily backup function was added to the toolbox.

The ICT-CRM company report was delivered by the end of November 2005. Additional work after the end of the project was also provided, in order to edit and format the report. The ICT-CRM testing report is included in the deliverable 8 report, but can also be viewed on the

Internet, <http://www.vrc.gr/metaforesight/Default.asp?LangID=2&AppID=ToolBox>, with entry codes: Username: esef, Password: 1234.

(b) *Testing the portal* started by mid August 2005. The five sectors targeted in the portal prototype are: ICT, food, textiles, metals, and plastics. The portal can be easily customised according to the regional framework running the application, and thus, include those sectors that are crucial for that region.

For the purposes of the testing, the initial decision was that URENIO project team, would include articles only for the ICT sector, while the other sectors (food, textiles, metal products and plastics) would appear on the screen, but no information/ articles would be included for them. However, at the 2nd technical meeting, July 2005, the other partner organisations, focusing on the actual involvement of their regions in the testing phase, agreed to develop around ten “stories” each, for any of the portal sectors, and include them in the portal. Although this was not a contractual obligation, partners considered that this would add value to the project and enable their familiarisation with the administration features of the portal. For this purpose, all partners got authorisation passwords by the software developers.

The selection of articles on the ICT sector was facilitated by experts from the regional cooperating stakeholders (Association of Exporters of Northern Greece, with significant competences in market watch, the Thessaloniki Technology Park and the Centre for Research and Technology Hellas (CERTH) with expertise in technology watch). Actually, the testing was done by internal URENIO resources, but there has been a mutual agreement with the regional organisations mentioned above to assist the feeding of the portal with information for the ICT sector. The articles for the other sectors were elaborated and inserted into the portal by the rest project partners.

Technical adjustments made to the portal concern:

- The button “Newsletter” is inserted in the first page, leading to a window, informing on the possibility to receive the newsletter, after registration.
- The button “Support services” has been added in the first page, leading to a window, informing on the contact details in order to get support on the Meta-Foresight application.
- Adequate technical adjustments have been made to the outgoing mail server of the newsletter.
- The last entries appear first on the screen, irrelatively of the sector and the field of interest (benchmarking, foresight, etc.)
- The dates on stories’ entry appear on the screen.
- The management of members has been modified, allowing to select multiple sectors simultaneously.

The portal and all its components (appearance, management, newsletter, members directory) run properly. The filling of the portal lasted until the end of November 2005 and continued after the end of the project duration, in order to deliver the around 100 entries foreseen. Totally 117 entries are included in the portal: 49 of them refer to the ICT sector

and the rest 68 to the other sectors, while 6 entries are common to all sectors, given they refer to horizontal issues, e.g. article on the Digital Research Centre of Central Macedonia.

Table 3. Meta-Foresight portal entries

| Thematic/ Sector | ICT | Food | Textiles | Metals | Plastics | Total |
|------------------|-----------|-----------|-----------|-----------|-----------|------------|
| FORESIGHT | 8 | 2 | 0 | 0 | 0 | 10 |
| R&D/ INNOVATION | 20 | 20 | 11 | 11 | 8 | 70 |
| MARKET WATCH | 7 | 2 | 2 | 2 | 1 | 14 |
| BENCHMARKING | 7 | 2 | 0 | 0 | 0 | 9 |
| COMPETENCES | 7 | 2 | 1 | 2 | 2 | 14 |
| Total | 49 | 28 | 14 | 15 | 11 | 117 |

In terms of partners' contributions, 10 articles were provided by FUNDECYT, 3 by INFYDE, 1 by Institute Jules Destrée, and the rest 103 by URENIO. Bibliographic and Internet search was put in place in order to identify the most appropriate articles and announcements to be included into the portal.

The operation and filling of the Meta-Foresight portal after the end of the project falls under the responsibility of URENIO, which will continue to provide the service through the Greek Benchmarking Centre, <http://www.urenio.org/benchmark/el/>, in cooperation with the regional partners.

The "local companies directory" and "international companies directory" have only been tested for technical operability and no entries have been included, although the software supports the possibility to include corresponding entries. There was no technical problem identified to this part of the software. The project team considered that, in order to include companies in the above directories, contacts with them should be made first. This would require resources (efforts and time) not foreseen in the contract.

D8a Second technical meeting

Partners revised their decision of the 3rd Steering Committee meeting to hold a Steering Committee meeting in September 2005. Instead, they decided to organise a technical meeting in Thessaloniki on the 14th July, in order to organise the last steps of the project and demonstrate the Meta-Foresight platform earlier and, thus, have the time for any possible adjustments until the publication of the software guide and the organisation of the final conference. In the meeting participated nine persons, seven representatives of the partner organisations and the two software developers:

| | |
|-------------------|--|
| Lina Kyrgiagini | URENIO research unit |
| Elena Sefertzi | URENIO research unit |
| Nicos Pachtas | software developer, URENIO research unit |
| Issidoros Passas | software developer, URENIO research unit |
| Maria Martin | FUNDECYT |
| Yiannis Pierrakis | University of Wales, Cardiff Business School |
| Carlos Rivera | INFYDE |
| Pascale Van Doren | Institute Jules Destrée |
| Gervaise Ropars | Institute Jules Destrée |

The meeting proceeded according to the agenda and gave partners the opportunity to understand better the operation of the platform and coordinate their future activities, given the end of the project was approaching.

The presentation and discussion on the Meta-Foresight software application included the conceptual and technical features of the open portal, the toolbox for the development of the confidential company report, and its partial tool “fill field wizard”, which facilitates internet search and composition of specific parts of the report.

Organisational issues for the other tasks of the project concerned:

Meta-Foresight application testing: check of the operation and functionality of the open services through the inclusion of entries-articles for the sector of ICT, under the responsibility of the project leader, URENIO; check of the confidential services of the platform through the preparation of a report for a specific company of Central Macedonia, with the use of the toolbox.

Evaluation: two distinct procedures to be followed for the overall evaluation of the project: (a) evaluation of the efficiency of the Meta-Foresight platform, in terms of meeting the initial objectives, delivering a usable instrument, allocated resources, etc., (b) reviewing the overall project, especially focusing on the impact generated and the sustainability of the outcomes.

Software guide: the structure of the guide was presented by Pascale Van Doren and Gervaise Ropars, and a draft version was distributed to the partnership. A number of technical issues to be included in the guide were discussed and clarified, while the software developers committed to provide any additional information required on technical details and stay in contact with the Jules-Destrée Institute. Partners approved the structure and content of the guide and recalled their agreement to dedicate the guide to Philippe Delavergne. They also committed to provide a short description (6-8 lines) and the logo of their organisations.

International conference: the sessions of the conference agenda were presented by Maria Martin, and accepted by partners. The possibility to re-orient the 4th session was discussed, in order to include more KnowReg projects.

Promotional brochures: Partners committed to publish their Meta-Foresight promotional brochures in September. The content of the URENIO brochure would be communicated to partners.

Web sites: The update of the partners' web sites with articles and publications concerning knowledge creation and development and the inclusion of links to relevant organisations was discussed.

D9 Third Steering Committee meeting

The 3rd Steering Committee meeting was held in Cardiff, Wales, under the responsibility of University of Wales, Cardiff Business School, on the 21st and 22nd March 2005. The meeting was attended by 7 persons, representatives of the five partner organisations.

| | |
|-----------------|------------------------------|
| Gervaise Ropars | Institute Jules-Destrée |
| Martin Rhisiart | University of Wales, Cardiff |
| Meirion Thomas | University of Wales, Cardiff |
| Lina Kyrgiagini | URENIO research unit |

| | |
|----------------------|---------------------------|
| Carolina Grau | FUNDECYT |
| Maria Martín | FUNDECYT |
| Carlos Rivera Alemán | INFYDE, Senior Consultant |

The meeting proceeded according to the agenda, with analytical presentations and discussion on five main axes:

- (1) Review of completed tasks: the Meta-Foresight model design, findings of the first on-going evaluation report, structure of the software application
- (2) Project evolution since the 2nd Steering Committee meeting, November 2004
- (3) Meta-Foresight platform: the architecture of the application, the indicators/questionnaire, structure of the outcome
- (4) Organisation of next steps: software testing requirements, software guide structure, 2nd on-going evaluation, final conference organisational details, publication of leaflets and operation of web sites, activities to secure the longer-term impact of Meta-Foresight.
- (5) Management issues: project prolongation, updated timetable, and financial issues.

Main decisions reached have been:

- To bridge the activities for the software development, testing the application, and preparation of the software guide, mainly between Urenio research unit and Institute Jules Destrée, and secondly among the other partners
- To organise the final conference in October 2005, suggested dates 6-7 or 20-21 October, according to the availability of EU Commissioners and other speakers
- To provide insights to FUNDECYT for the thematics and the agenda of the conference
- To hold a steering committee meeting in September 2005, in order to review the guide and finalise details for the final conference, under the responsibility of Institute Jules Destrée
- To produce a sustainability plan for the project, under the supervision of University of Wales, Cardiff
- To structure the second evaluation report, covering the whole duration of the project, following the provisions of an academic article.

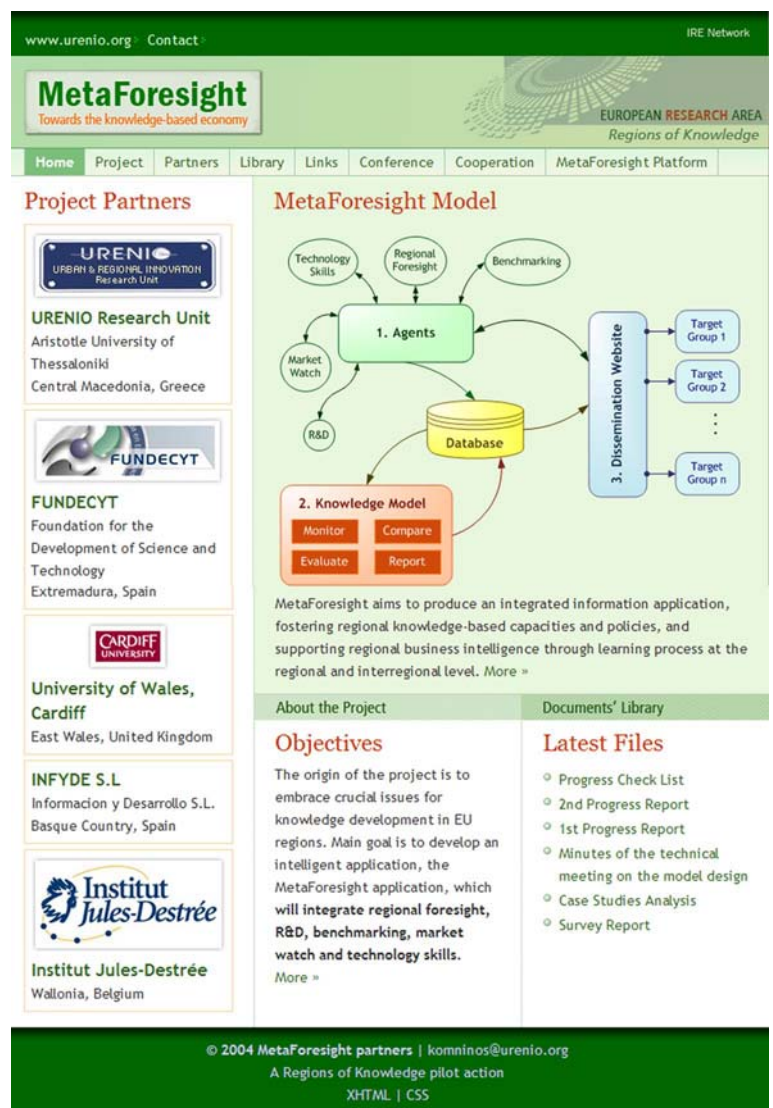
ACTIVITY 6 PROMOTION/ DISSEMINATION

The activity includes four distinct tasks/ deliverables: the launching and operation of a web page within the web site of each partner organisation, the publication of 5 promotion brochures, one per partner, the publication of the Meta-Foresight software guide and the organisation of the final conference.

D10 5 web pages

URENIO research unit hosts the Meta-Foresight web page (www.urenio.org/metaforesight) within the URENIO web site since September 2004 (Figure 13). The web page is available in English and is structured on eight sections:

- (1) Home, giving an overview of the project and the partnership
- (2) Project, providing a brief description of the project, the objectives, strategy and workplan
- (3) Partners, describing the profile of each partner and providing contact details and access to the Meta-Foresight web pages of the partners
- (4) Library, which includes documentation related to foresight, benchmarking, R&D, technology watch and technological skills. Around 50 titles of articles and 22 papers/reports related to regional knowledge creation and management are included.
- (5) Links, including links to the projects/ applications identified in the survey and the case studies
- (6) Conference, including link to the site of FUNDECYT promoting the final conference
- (7) Cooperation, a password protected space including internal documents of the project (progress reports, deliverables, etc.)
- (8) Meta-Foresight platform, the space where the application is hosted, allowing to view the portal, enter, through password, to the toolbox, and view/ download the Meta-Foresight application guide



FUNDECYT In December 2004 Fundecyt launched its Meta-Foresight web page, www.fundecyt.es/metaforesight/index.htm, which is available in English and Spanish. It includes five active sections:

- (1) Home, giving a brief project description
- (2) Project, which provides more details on the structure of the project
- (3) Partners, where the partnership is described with link to the partners Meta-Foresight web pages
- (4) Platform, which provides a description of the application features and link to the Urenio web page dedicated to the platform
- (5) Conference, with information on the conference (objectives, agenda, organisation, transportation, accommodation, registration, city of Cáceres, venue details).



UNIVERSITY OF WALES

The Meta-Foresight web page of the University of Wales started its operation in May 2005 and was updated later in August in order to provide more information on the project,

www.observ.cf.ac.uk/Projects/Current%20projects/metaforsight/About%20Metaforsight/metaforesighthome.html. It is structured in nine sessions:

- (1) Home page
- (2) Project overview
- (3) Objectives
- (4) Methodology
- (5) Meta-Foresight Portal, linking to the MF portal
- (6) Meta-Foresight Toolbox, linking to the MF toolbox
- (7) Meta-Foresight guide, enabling to download the guide
- (8) Partners, providing brief description of the partner organisations and linking to their webs
- (9) Contact, with contact details of the University of Wales Meta-Foresight project team.



INFYDE INFYDE, after having faced several technical problems with the web developers and the organisation's server, launched its Meta-Foresight web in June 2005, www.infyde.com/areas/metaforesight/. The site is in English and Spanish and includes information on:

- (1) Meta-Foresight project
- (2) A regional economic intelligence system
- (3) Meta-Foresight variables
- (4) Overview
- (5) Objectives
- (6) Web platform
- (7) Open and private platform
- (8) Meta-Foresight services
- (9) The final conference
- (10) Downloadable version of the INFYDE leaflet for the project
- (11) Downloadable version of the Meta-Foresight guide



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The Meta-Foresight web page of Institute Jules Destrée initiated in December 2004, www.wallonie-en-ligne.net/Regions-Connaissance/MetaForesight.htm. Information is provided in French on the topics:

- (1) Objectives
- (2) Structure of the project
- (3) Partners, with access to the their web sites
- (4) Events, referring to the project conference and linking to the corresponding web page of FUNDECYT
- (5) Contact details of the IJD Meta-Foresight project team.



D11 5 promotion brochures

According to the plan, each partner organisation had to create and disseminate at regional level a project promotion brochure, published to its native language. Work on the task and

delivery of the expected outcome was quite delayed, because partners decided to postpone the publication of leaflets after the finalisation of the software platform, in order to include into the leaflets information on the concept and the functional characteristics of the Meta-Foresight application. This way, brochures operate not only as instruments acknowledging the evolution of the project, but they also seek to raise awareness on the benefits from the new Meta-Foresight platform, thus generating real impact to the end users. During the second Steering Committee meeting, partners exchanged ideas on the conception of the brochures, the documents to be included and the appearance. Brochures were published with the end of summer 2005, apart from the INFYDE brochure, which was published in April 2005.

URENIO produced 500 Meta-Foresight bilingual leaflets, English and Greek. 50 of them were distributed at the Cáceres international conference, while the rest have been disseminated to regional actors: University laboratories dealing with innovation management, regional authorities involved in strategic planning and funding (Regional Development Fund, Regional Operational Programme, etc.), intermediary organisations/ business consultants in Central Macedonia.



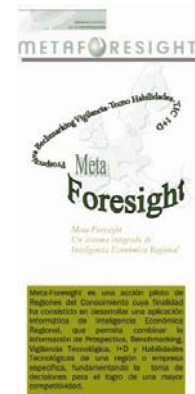
FUNDECYT edited the project's brochures both in English and in Spanish, and they were distributed in the International Conference with the objective of providing a general overview of the project to all the participants.

University of Wales decided to follow a quite different promotional campaign than just producing a project brochure, considering a more value adding procedure. During the Meta-Foresight technical meeting in Cáceres, all partners agreed that it would be more useful to produce a CD with a demo of the Meta-Foresight software. The Meta-Foresight Demo contains a demonstration of the two Meta-Foresight tools (the Portal and the Toolbox) which are designed to stimulate regional development knowledge intelligence. It provides a synthesis and collation of the content and the structure of the



Meta-Foresight application using the Meta-Foresight Guide, the Meta-Foresight Web Sites and the tested Company Report provided by the Lead Partner. The Demo has been formatted and constructed using FLASH. There are audio effects and explanatory voice throughout the whole duration of the Meta-Foresight Demo. The Demo is available in a CD Rom and on-line in order to be accessible via the internet (www.metaforesight.info).

INFYDE published two brochure forms in 1.000 copies: one in Spanish and one in English. Brochures were distributed to regional agents with the opportunity of presenting the Meta-Foresight project in events, conferences and seminars.



Institute Jules Destrée finalised the brochure by early October and disseminated it to main regional actors in Wallonia (decision makers at the different levels of governance, regional ministries, companies, federations, chambers of commerce, innovation support organizations, technology transfer centres, universities, and high schools, etc). Besides, the French networks and main partners of the Destrée Institute got the brochure.



D12 Software guide

The partner responsible for the preparation, design and publication of the Meta-Foresight application manual was Institute Jules Destrée. The role of the other partners was to provide ideas on the structure and content of the manual and the preparation of the documentation required.

Work on the task started in March 2005 and during the 3rd Steering Committee meeting (21-22 March 2005) IJD presented a first proposition on the content of the guide. A more concrete but still draft version was presented at the technical meeting in June 2005. Partners exchanged ideas and submitted their comments to IJD later on via e-mail. Institute Jules Destrée project team cooperated with the software developers for the preparation of the technical part of the guide, through exchange of multiple e-mails. In early August, IJD sent a final version of the Meta-Foresight guide to the partners, in order to collect their last comments. From end of August until end of September 2005, the publication of the guide was subcontracted and managed by the Bonnivert company. The Destrée Institute team brought about 250 copies to be disseminated in the final conference of Cáceres in early October. Each partner received by post about 175 copies to be disseminated towards their main correspondents at regional and European levels.

The Meta-Foresight guide has the format of a small book of 77 pages and covers the goals initially set, to explain the concept of the project and the Meta-Foresight application and to demonstrate the main issues on how to use the application. The contents, as formulated by the Institute Jules Destrée team with the other partners' contributions, are as follows:

Foreword

Chapter I. Meta-foresight and knowledge Regions

I.1 The context: Meta-Foresight within KnowREG initiative

I.2 Main features and added value of Meta-Foresight

- An integrated system
- A user-oriented tool
- A cooperation-based system
- An experimental project
- A dual information platform

I.3 Maximizing the Meta-Foresight application in the regions



Chapter II. The Meta-Foresight digital application: architecture and services

II.1 The architecture

- Data collection
- Data analysis
- Dissemination

II.2 The services

- Services to regional authorities and intermediary organisations
- Customised services to companies

Chapter III. The Meta-Foresight digital application: technical process

III.1 The portal

- III.1.1 From the consultation entry point
- III.1.2 From the administration entry point

III.2 The toolbox

- III.2.1 Reports' management
- III.2.2 The Questionnaire "Data Quest"
- III.2.3 The Data Analysis

The project partners

The guide is accompanied with a CD-ROM, which includes pdf versions of the guide text, the questionnaire, and the data analysis modules of the toolbox.

D13 Final conference

The organisation of the final conference was falling under the responsibility of FUNDECYT. The other partners contributed with ideas on the concept, the agenda, and the persons to be invited. Preparatory work on the conference started in January 2005 with the elaboration of a draft agenda and initial contacts with potential speakers. The agenda was more concretely formulated during the 3rd Steering Committee meeting (21 and 22 March 2005), when the

dates and place were decided: 6th and 7th October 2005, in Cáceres, Extremadura, Spain. FUNDECYT accomplished a series of organisational details for the conference:

- Identification of speakers and availabilities
- Booking the conference room “Garcia Matos” in the “Complejo Cultural San Francisco”, an old convent founded in 1472, fully restored.
- Operation of specific space within the FUNDECYT Meta-Foresight web dedicated to the conference, providing on-line information, in English and Spanish, on the agenda, the venue, the registration possibilities, the accommodation details, and the city of Cáceres.
- Publication of a promotional leaflet for the conference, which was distributed in different international events, such as the IRE plenary meeting hold in Ljubljana in June 2005, and the 9th IRCs’ annual meeting hold in Brussels in June 2005.
- Announcement of the conference in the web sites of the IRE Network, and the IRCs.
- Publication of the conference agenda and a speakers and abstracts booklet (English and Spanish)
- Preparation of a CD-ROM with the conference presentations
- Accommodation arrangements for the project consortium and the speakers
- Catering and official dinner arrangements
- Creation of special table clothing, posters, a couple of three-dimensional logos and merchandising (posters and bags, pens and visiting card purses) for all those who attended the conference.



The conference, entitled “Integrating Regional Intelligence” aimed to bring together policy makers, experts from the European Commission, the academic community, entrepreneurs, managers of successful projects and all those involved in creating learning capacities within the regions and integrating regional intelligence. The event was envisaged as a forum for discussing how experiences from applied projects and research may enhance regional knowledge-based capacities and support regional

intelligence both in the public and private sectors. It began with an analysis of the “Regions in the Europe of Knowledge”, given by representatives of the European Commission. According to the agenda, the rest of the conference was structured in four sessions:

1. Regional Intelligence and the Meta-Foresight Project
 - *Introduction to Regional Intelligence*, Jaime del Castillo, INFYDE
 - *The Meta-Foresight concept and Methodology*, Carolina Grau, FUNDECYT

- *Meta-Foresight software application*, Nicos Komninos, URENIO research unit
- *Transferability to other regions*, Yannis Pierrakis, University of Wales, Cardiff Business School

2. Regional Foresight

- *Open sharing of intellectual capital: a platform for the integration of futures thinking, innovation & technology*, Merlize Palmer, Future Technologies Programme, Welsh Development Agency
- *Thinking in the future in order to act in the present*, Ana Morato, OPTI foundation
- *Regional futures in SPIDER project – preliminary results of the Delphi survey*, Toni Ahlqvist, Finland Futures Research Centre

3. Regional Sources of Knowledge

- *Using future tools in regional development policies – the FUTURREG project*, Martin Rhisiart, Cardiff Business School
- *Learning regions in the New Economy*, Carlos Roman, Institute of Regional Development, University of Seville
- *Strategic Intelligence and Regional Innovation in an enlarged Europe – gaining a competitive edge*, Jacek Walendowski, Technopolis Group
- *Imagination Society – An alternative model for development*, Juan Pastor, Gabinete de Iniciativa Joven

4. Networking for Innovation

- *Mutual Learning Platforms for the regions*, Guenter Clar, Steinbeis-Europa-Zentrum
- *Activities and achievements of the RICAI network*, Eusebio Gainza, LEIA Foundation
- *Presentation of the European Association of Regional Observatories*, Jorge Villar, FUNDECYT



OPTI Foundation (Spain), Finland Futures Research Centre (Finland), Institute of Regional Development, University of Seville (Spain), Technopolis Group (Belgium), Young Initiative Office (Spain), Spanish Ministry of Education

These sessions relied on the presence of more than twenty personalities, between speakers and chairpersons, representatives of INFYDE (Spain), URENIO (Greece), University of Wales (Wales),



and Science (Spain), STEINBEIS (Germany), LEIA Foundation (Spain), FUNDECYT (Spain) and the DG Research and DG Regio of the European Commission.

Nearly one hundred people from different European countries (Spain, Germany, Greece, Portugal, Poland, Italy, United Kingdom, Belgium, and Finland) participated in the conference.

The participation of the partner organisations in the final conference concerned 12 persons, as follows:

| | |
|----------------------|------------------------------|
| Luis Casas Luengo | FUNDECYT |
| Carolina Grau | FUNDECYT |
| Maria Martín | FUNDECYT |
| Conhca Civantos | FUNDECYT |
| Nicos Komninos | URENIO research unit |
| Lina Kyrgiagini | URENIO research unit |
| Elena Sefertzi | URENIO research unit |
| Martin Rhisiart | University of Wales, Cardiff |
| Yannis Pierrakis | University of Wales, Cardiff |
| Jaime del Castrillo | INFYDE |
| Carlos Rivera Alemán | INFYDE |
| Gervaise Ropars | Institute Jules-Destrée |
| Pascale Van Doren | Institute Jules-Destrée |

Jaime del Castillo made an introduction on the regional intelligence issue, Carolina Grau presented the overall Meta-Foresight project concept and methodology, Nicos Komninos focused on the features of the software platform, and Yannis Pierrakis outlined the transferability aspects of the application. Pascale Van Doren and Martin Rhisiart chaired one session each, making fruitful comments and enabling the drawing of conclusions. Martin Rhisiart also made a presentation on the use of future tools in regional development and the FUTURREG project.

The overall impression of the conference has been highly positive for both the attendees and for the organisation; it has fulfilled the initial objectives and expectations. The conference succeeded in raising the attention of the regional authorities into intelligence acquisition and management issues.

With the opportunity of the final conference, partners decided to hold a third technical meeting in order to discuss the details for the last deliverables of the project. The meeting took place in Cáceres, Melia hotel, on 6th October 2005, 17:00-19:30, with the participation of all partners participating in the final conference. Main issues discussed were:

- Customisation of the Meta-Foresight application and installation to other regions/organisations: the software will be provided free to the interested parties, but installation and customisation services may be required, which will be charged to the interested organisation
- Software testing procedure and progress was presented by the URENIO representatives
- Overall evaluation procedure, progress, partners' obligations and methodology for consolidation of the findings were presented by the University of Wales representatives
- Promotion material to be produced by the University of Wales was presented

- Final report preparation details were discussed, including the partners' obligations for the technical implementation and financial report.

Apart from the above promotion activities, the Meta-Foresight project and outcomes were presented in a number of events organised by external to the project agents:

URENIO

- 4th IRE Plenary meeting, 7-8 June, Ljubljana
- Workshop of the STRATINC project, (Strategic Intelligence, INTERREG IIIC programme), in Murcia, 13th-14th October 2005.

INFYDE

- "Tools for technology watch and competitive intelligence" seminar realized for GAIKER Technology Centre, Basque country on March 4th, 2005. Presentation of the main contents of the Meta-foresight project. Public assistant: around 25 persons.
- "The futures of Europeans in the global Knowledge Society". A European Millennium Project nodes initiative, April, 13-14, 2005. Louvain-la Neuve, Wallonia, Belgium. The general information leaflet was distributed.
- "Regional Economic Intelligence with a case study: the Meta-Foresight application". Student of Economy, Basque Country University, April 18th 2005.
- Speech: *Economic Intelligence systems*, to "Red de Agentes de Innovación Regional LEGITE" (Regional Innovation Agents Network), Valladolid, Castilla y León, on September 6th 2005, audience 20 agents
- Presentation of the Meta-Foresight software application to the Digital Society Agents Network, September 9th 2005.
- Presentation in the framework of *Regional economy intelligence fostering the SME's competitiveness*. Equal Initiative development Group: "Calidad del Empleo: formación, Adaptación, Organización y Conciliación", on September 14th, audience 18 public assistants.
- *Digital society and equal opportunities for women in labour market: Meta-foresight a case of study*, Equal Initiative development group, on September 29th, audience 16 agents.
- Presentation *Meta-foresight project, an integrated regional economic system*, Interreg III-C Initiative, FUTURREG, Futures for regional development local partner team, October 14th, audience 19 public assistants.
- Presentation about the main content of the Meta-Foresight project in *Vision 2005 Technology Watch and systematic intelligence for innovate on the firms*, realized for LEIA, ZAINTEC and BizKaia County, Bilbao, Palacio Euskalduna 24-25 October 2005, audience around 45 persons.

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- Knowledge society and the issue of regional intelligence inside the "Collège regional de prospective" 2nd meeting, 19th February 2005, and the 3rd meeting, 28th May 2005.
- "The Futures of Europeans in the Global Knowledge Society - A Meeting Place for Europeans Creating Futures", Louvain-la-Neuve, 13th and 14th April 2005.

An issue related to the project dissemination concerns the project logo. Unfortunately, partners overlooked the significance of having a common identity for the project. URENIO and three partners were using the green logo, while FUNDECYT created and used a blue logo in its web site and in all printed materials prepared for the conference. As it was impossible to reproduce the promotion materials and/ or redesign the web sites, the solution adopted was the inclusion of both logos, blue and green, in the 5 Meta-Foresight web sites. In addition, partners committed to use both logos in any future publication related to Meta-Foresight.

ACTIVITY 7 MANAGEMENT

Management work concerned the formulation of a project team within each partner organisation for the co-ordination of day-to-day work, the assignment of tasks to staff members and subcontractors, and the monitoring of the progress of work.

Management activities are consolidated in the seven progress reports, the Interim (deliverable 14) and the final (deliverable 15) report.

Common tasks undertaken by all partners include:

- Signing the contract and submission to the Commission
- Daily management and monitoring of the project
- Participation in the Steering Committee and the technical meetings
- Co-ordination of financial issues
- Co-ordination of work for the activities foreseen and the corresponding deliverables
- Preparation and submission of seven progress reports of the project
- Preparation and submission of the Interim and the Final reports
- Communication with the other partners on technical and managerial issues

Apart from these, the leader organisation, URENIO research unit accomplished also:

- Participation in the Know-REG kick-off meeting and dissemination of the proceedings to the other partners
- Preparation of the specifications for the execution of the project
- Allocation of the first and second pre-financing payments to the partners
- Communication with the Commission/ project officer and the partners
- Design of progress check lists to record the progress made on the deliverables, the results achieved, the difficulties faced and the accumulation of the budget
- Consolidation of the partners' contributions to the final deliverables
- Monitoring the overall progress of work with special attention on the alignment to the Commission rules and the fulfilment of all contractual obligations.

For the progress, the Interim and the Final report, each partner management team provided to URENIO all information related to the progress of activities for the reference period. The

consolidation of this information to a comprehensive report was then performed by URENIO. The checklists, although developed, were not actually used for the recording of the project progress: the partnership decided that it was more convenient to inform on the activities through free text rather than with the use of the checklists.

Regarding data management, all related points of the contract have been addressed, in order to ensure that no intellectual property rights issues would be raised:

- (1) the variables and templates of the Meta-Foresight application have been developed by the partner organisations
- (2) Foresight data derive from a related publication of the Research Committee of Aristotle University of Thessaloniki, which was funded by the Regional Innovative Actions 2000-2006 programme, and is disseminated free
- (3) Benchmarking data used derive from the Benchmarking application developed by URENIO
- (4) Technology watch was based on published data: Cordis Technology Marketplace, EPO patents (espacenet database), Digital Research Centre of Central Macedonia, etc.
- (5) Market watch sections of the application were based on own research (published data on the Internet and bibliography)
- (6) Competence centres section of the application was based on information provided by the organisations referred in the templates
- (7) No data base was purchased regarding technological skills. Instead, data used derive from the open (free) application "Digital Research Centre of Central Macedonia", developed by the Network of laboratories for Quality, Innovation and Sustainable development, where URENIO is a member.
- (8) The entries/ articles of the portal make clear reference to the source of each article
- (9) The copyright of the Meta-Foresight model and the software platform belong in common to the partner organisations

2 Deliverables and results achieved

The Meta-Foresight consortium accomplished all deliverables and produced the results foreseen in the work plan. Specifically, the contributions of partners to the development of deliverables, the overall deliverables of the project and the corresponding results are presented below:

DELIVERABLE 1: KICK-OFF MEETING

- Overall: organisation of the kick-off meeting with the participation of all partners (agenda, list of participants, minutes, presentations)

Results: The meeting set the basis for a smooth co-operation between partners for the execution of the project. Partners gained a common understanding on the project, the focus, tasks and the implementation procedures.

DELIVERABLE 2: REPORT ON THE SURVEY ON EXISTING INFORMATION TECHNOLOGY SYSTEMS

- URENIO research unit: Survey and report on applications for technological skills
- FUNDECYT: Survey and report on applications for technology watch
- University of Wales: Survey and report on applications for benchmarking
- INFYDE: Survey and report on applications for R&D
- Institute Jules Destrée: Survey and report on applications for Foresight
- Overall: Consolidated report including the five thematics. The report includes an introduction on the methodology followed for the survey and five chapters dealing with foresight, benchmarking, r&d, technology watch and technological skills. In general, the five chapters follow the same specifications:
 - (1) an introduction to the corresponding thematic area, the criteria set for the selection of applications, and a general description of the applications referred to the corresponding thematic area
 - (2) analysis of selected applications based on description templates, which describe in detail the selected applications/ projects. Their content is common for all thematic areas and provides the following information: region where the project has run, brief description of the application (identity and objectives of the project, partnership, main deliverables, functions, etc.), intelligence creation methodology (foresight, benchmarking, etc.), supporting information system (if any) and operational characteristics, transferability aspects, contribution to the development of the Meta-Foresight model
 - (3) conclusions session including a table summarising the main features of the identified applications.

The applications/ cases selected for each thematic area are included in Table 4:

Table 4. Selected applications from the survey (D2 report)

| Intelligence creation methodology | Selected projects/ applications |
|-----------------------------------|---|
| Foresight | Prométhée I (RIS initiative) and Prométhée II (PRAI initiative) http://mrw.wallonie.br/dgtre/PROMETHEE.htm |
| | RIS+ Limburg No web site |
| | SIGALE www.sigale.nordpasdecals.fr |
| | R3L initiative - SEEL and RELL projects www.eife-l.org & www.seelnet.org |
| | R3L initiative – New indicators in learning cities and regions No web site |
| Benchmarking | UK Benchmarking index www.benchmarkindex.com |
| | PROBE (Promoting Business excellence) www.dti.gov.uk |
| | EURBEST – European Union Benchmarking, Economic Strategy and Transfer www.eurbest.com |
| | European Innovation Scoreboard http://trendchart.cordis.lu/scoreboard2003/index.cfm |
| | Sustainability for organisations: a guide to best practice in Wales www.bangor.ac.uk/Wales_SCEnE/Site/index.htm |
| R&D | Madri+d portal – r&d service www.madrimasd.org |
| | Steinbeis Foundation www.steinbeis.de |
| | User-oriented information technology USIX national technology agency (TEKES) http://akseli.tekes.fi |
| | Arist www.arist.rhone-alpes.cci.fr |
| | Association of Regional Observatories ARO www.regionalobservatories.org.uk |
| | The Carnegie Mellon Centre for Economic Development (CED) www.smartpolicy.org |
| | Joint-Venture Silicon Valley Network www.jointventure.org |
| Technology Watch | Madri+d portal – technology watch service www.madrimasd.org |
| | Observatorio Pasaia www.observatoriopasaia.com |
| | South West of England Regional Development Agency www.southwestrda.org.uk |
| | Montage www.montage.org.uk |
| Technological skills | Madri+d – human resources service www.madrimasd.org |
| | EURES – the European Job Mobility Portal http://europa.eu.int/eures/index.jsp |
| | European Job-Guide www.european-jobguide.org/fr/index.html |
| | Technical Chamber of Greece database www.tee.gr/ |

Results: The survey gave the opportunity to view approaches and investigate the transferability of results and their contribution to the Meta-Foresight model.

DELIVERABLE 3: REPORT ON THE ANALYSIS OF 5 CASE STUDIES

- ☐ URENIO research unit: Case study analysis for technological skills – Change2IT application
- ☐ FUNDECYT: Case study analysis for technology watch – Madri+d technology watch service
- ☐ University of Wales: Case study analysis for benchmarking – Innovation Scoreboard
- ☐ INFYDE: Case study analysis for R&D –Madri+d R&D service
- ☐ Institute Jules Destrée: Case study analysis for Foresight – Prométhée I and II projects
- ☐ Overall: Consolidated report including the five case studies, including a general introduction and five chapters, each referred to one case study for foresight, benchmarking, r&d, technology watch and technological skills. The cases selected and analysed, the field of interest in which fall each case study, and the partner responsible are presented in Table 5.

Table 5. Case studies report (D3 report)

| Field of interest | Application | Partner responsible |
|----------------------|--|---|
| Foresight | Prométhée I and II programmes http://cpdt.wallonie.be | Institute Jules-Destrée |
| Benchmarking | European Innovation Scoreboard www.cordis.lu | University of Wales, Cardiff Business School |
| R&D | Madri+d portal, r&d section www.madrimasd.org | INFYDE |
| Technology watch | Madri+d portal, technology watch service www.madrimasd.org | FUNDECYT |
| Technological skills | Change2IT (e-Content programme) www.change2it.com | URENIO research unit |

Results: Gaining knowledge in the fields of foresight, benchmarking, R&D applications, technology watch and technological skills and investigation of the possibilities to integrate these instruments to a comprehensive regional intelligence tool.

DELIVERABLE 4A: TECHNICAL MEETING

- ☐ Overall: organisation of a technical meeting for the design of the model with the participation of all partners (agenda, list of participants, minutes, presentations)

Results: Setting the disciplines and the concept for the design of the model.

DELIVERABLE 4B: MODEL DESIGN BRAINSTORMING

- ☐ URENIO research unit: Brief report on the features and outputs of the Meta-Foresight model
- ☐ FUNDECYT: Brief report on the indicators and features of the Meta-Foresight model

- University of Wales: Brief report on the indicators and features of the Meta-Foresight model
- Institute Jules Destrée: Brief report on the indicators and features of the Meta-Foresight model

Results: Structuring the Meta-Foresight model.

DELIVERABLE 4C: REPORT ON THE MODEL DESIGN

- INFYDE: Report on the Meta-foresight model design, stating the generic features of the application. The model design report contents are:

Introduction

1. Justifications
2. Objectives
3. Theoretical fundamentals
4. Modelisation of variables
5. Inputs
6. Processing Meta-Foresight, an integrated system of information
7. Output of the model
8. Conclusions
9. General recommendations

References

List of interviews

Results: Formulation of the Meta-Foresight model.

DELIVERABLE 5: 2ND STEERING COMMITTEE MEETING

- Overall: organisation of the 2nd Steering Committee meeting with the participation of all partners (agenda, list of participants, minutes, presentations)

Results: The meeting gave the opportunity to review the characteristics of the Meta-Foresight model and organise the future steps of the project.

DELIVERABLE 6: META-FORESIGHT SOFTWARE APPLICATION

- URENIO research unit:
 - (1) Report with brief description of the portal, the toolbox and the variables and analysis templates of the toolbox.
 - (2) Meta-Foresight on-line toolbox for the drafting of confidential company report.

<http://www.vrc.gr/metaforesight/Default.asp?LangID=2&AppID=ToolBox>

The toolbox is easily customised in order to include different variables and analysis templates.

- (3) Meta-Foresight portal, designed to provide information for the sectors ICT, food, textiles, metals, plastics, in the fields of foresight, benchmarking, R&D/ innovation, market watch, competences.

http://www.vrc.gr/metaforesight/portal/par_kain.aspx?sect=goun&catid=82&page=0

The portal is easily customised in order to include other sectors and fields of interest. Both, the portal and the toolbox are designed and implemented to run with the use Internet-based technologies. Thus, their content cannot be viewed through a CD, but installation to Internet server is required. They can be reached through the Internet, at the web addresses given above.

Results: An Internet based application integrating foresight, benchmarking, technology/ market watch, R&D and technological skills, combining human intelligence and software tools.

DELIVERABLE 7: ON-GOING EVALUATION

- University of Wales:

(1) First on-going evaluation report, structured in four sections:

- Introduction and methodology
- Desk-based evaluation
- Qualitative analysis: interviews
- Conclusions and recommendations

(2) Meta-Foresight platform formative review

(3) Evaluation of the Meta-Foresight Digital Platform

(4) Overall evaluation report, structured, structured in four sections:

- Introduction and methodology
- Desk-based evaluation and on-line survey results
- Outcomes of the project
- Conclusions

The four evaluation documents are included in one volume.

Results: Assessment of the project progress, the efficiency of activities undertaken, and the functionality of the Meta-Foresight software application.

DELIVERABLE 8A: 2ND TECHNICAL MEETING

- Overall: organisation of the 2nd technical meeting with the participation of all partners (agenda, list of participants, minutes, presentations)

Results: The meeting gave the opportunity to present the Meta-Foresight software features and functions and organise the next steps of the project.

DELIVERABLE 8: META-FORESIGHT APPLICATION TESTING

- ☐ URENIO research unit:

(1) Meta-Foresight company report with the use of the toolbox, divided in two volumes, the questionnaire and the data analysis. The report covers almost all variables of the toolbox. Due to lack of related information, blank have been left some variables referring to the company and the ICT sector. The purpose of the testing was more to check the functionality of the software –operation of partial tools, correspondence between data questionnaire and data analysis variables, successful creation of diagrams and insertion of free text- rather than to provide real consultation to the certain company. Accurate information is provided, based on desk research, but less weight was placed to the assessment of the company performance, from a business consultant point of view.

(2) Meta-Foresight portal, including 117 articles in total,

http://www.vrc.gr/metaforesight/portal/par_kain.aspx?sect=goun&catid=82&page=0

- 49 articles for the ICT sector in the thematic of foresight, R&D and innovation, market watch, benchmarking and competences
- 28 articles on the food sector
- 14 articles on the textiles sector
- 15 articles on the metals sector
- 11 articles on the plastics sector

A volume including the titles of the articles inserted in the portal is also delivered.

Results: The testing resulted to a functional Meta-Foresight web platform.

DELIVERABLE 9: 3RD STEERING COMMITTEE MEETING

- ☐ Overall: organisation of the 3rd Steering Committee meeting with the participation of all partners (agenda, list of participants, minutes, presentations)

Results: The meeting gave the opportunity to organise the details for the Meta-Foresight software testing, the application guide, the conference and the other promotion activities.

DELIVERABLE 10: 5 WEB PAGES

- ☐ URENIO research unit: operation of the Meta-Foresight web page:
www.urenio.org/metaforesight/
- ☐ FUNDECYT: operation of the Meta-Foresight web page
www.fundecyt.es/metaforesight/
- ☐ University of Wales: operation of the Meta-Foresight web page
www.observ.cf.ac.uk/Projects/Current%20projects/metaforesight/About%20Metaforesight/metaforesighthome.html
- ☐ INFYDE: operation of the Meta-Foresight web page
www.infyde.com/areas/metaforesight/

- Institute Jules Destrée: operation of the Meta-Foresight web page
www.wallonie-en-ligne.net/Regions-Connaissance/MetaForesight.htm

Results: Acknowledgement of the project's rationale and outcomes on the Internet.

DELIVERABLE 11: 5 PROMOTION BROCHURES

- URENIO research unit: publication of bi-lingual (English and Greek) leaflet
- FUNDECYT: publication of bi-lingual (English and Spanish) leaflet
- University of Wales: development of Meta-Foresight demo within CD-ROM
- INFYDE: development of an English and a Spanish promotion brochure
- Institute Jules Destrée: publication of a French promotion brochure

Results: Dissemination of the project's rationale and outcomes to regional stakeholders.

DELIVERABLE 12: META-FORESIGHT SOFTWARE MANUAL

- Institute Jules Destrée: development, design and publication of the Meta-Foresight software application manual (English). A CD-ROM including the texts of the manual and the variables and analysis templates of the Meta-Foresight toolbox accompanies the manual.

Results: Dissemination of information on the features and use of the Meta-Foresight platform.

DELIVERABLE 13: FINAL CONFERENCE

- FUNDECYT: organisation of the final international conference "Integrating regional intelligence", Cáceres, 6th and 7th October 2005 (conference agenda, conference promotional brochure, leaflet with the abstracts of presentations and short CVs of the speakers, conference bag)

Results: Dissemination of information on the project concept and the Meta-Foresight application at European regions level. Exchange of views on regional intelligence issues with European organisations.

DELIVERABLE 14: INTERIM REPORT

Common deliverable for all partners is the interim report, which is an assessment of the progress made so far in implementing each of the activities of the work plan, describing the deliverables, results and the difficulties faced, and recording the delays.

Results: Coordination, monitoring and sound financial management of the project.

DELIVERABLE 15: FINAL REPORT

Common deliverable for all partners is the final report, which is an assessment of the overall progress made on the project, describing the activities, deliverables, results and difficulties faced, and recording the delays.

Results: Coordination, monitoring and sound financial management of the project.

3 Progress in relation to the work plan

In March 2005 a four months prolongation of the project was requested and in August 2005 was approved by the Commission, setting the end date of the project the 30th November 2005, instead of the 31st July 2005, and modifying the delivery dates in the workplan. The current session is discussing the progress of the project in relation to the deadlines and the person months set in the modified workplan. According to the amended work plan, the time schedule of the project is presented in Table 6.

Table 6. Meta-Foresight project time schedule

| Activity/ deliverable | 0 f | 1 mr | 2 a | 3 m | 4 jn | 5 jl | 6 au | 7 s | 8 o | 9 n | 10 d | 11 j | 12 f | 13 mr | 14 a | 15 m | 16 jn | 17 jl | 18 au | 19 s | 20 o | 21 n | 22 d |
|---------------------------------|--------|---------|--------|--------|---------|---------|---------|--------|--------|--------|---------|---------|---------|----------|---------|---------|----------|----------|----------|---------|---------|---------|---------|
| 1. Survey | | | | | | | | | | | | | | | | | | | | | | | |
| D1. Kick-off meeting | | x | | | | | | | | | | | | | | | | | | | | | |
| D2. Report on the survey | | | x | | | | | | | | | | | | | | | | | | | | |
| 2. Case studies analysis | | | | | | | | | | | | | | | | | | | | | | | |
| D3. Case studies report | | | | x | x | | | | | | | | | | | | | | | | | | |
| 3. Model development | | | | | | | | | | | | | | | | | | | | | | | |
| D4a. Technical meeting | | | | | x | | | | | | | | | | | | | | | | | | |
| D4b. Model design brainstorming | | | | | x | x | | | | | | | | | | | | | | | | | |
| D4c. Model design report | | | | | | | | | | | x | | | | | | | | | | | | |
| D5. 2 nd SC meeting | | | | | | | | | | x | | | | | | | | | | | | | |
| 4. Software development | | | | | | | | | | | | | | | | | | | | | | | |
| D6. Software application | | | | | | | | | | | | | | | x | | | | | | | | |
| 5. Evaluation | | | | | | | | | | | | | | | | | | | | | | | |
| D7. On-going evaluation report | | | | | | | | | | | | x | | | | | | | | | | x | |
| D8. Application testing | | | | | | | | | | | | | | | | | | | | x | | | |
| D9. 3 rd SC meeting | | | | | | | | | | | | | x | | | | | | | | | | |
| 6. Promotion | | | | | | | | | | | | | | | | | | | | | | | |
| D10. 5 web pages | | | | | | | | x | | | | | | | | | | | | | | | |
| D11. 5 promotion leaflets | | | | | | | | | | | | | | | x | | | | | | | | |
| D12. Software guide publication | | | | | | | | | | | | | | | | | | | | x | | | |
| D13. Final conference | | | | | | | | | | | | | | | | | | | | | x | | |
| 7. Management | | | | | | | | | | | | | | | | | | | | | | | |
| D14. Interim report | | | | | | | | | | x | | | | | | | | | | | | | |
| D15. Final report | | | | | | | | | | | | | | | | | | | | | | | x |
| 1 st progress report | | | | x | | | | | | | | | | | | | | | | | | | |
| 2 nd progress report | | | | | | | x | | | | | | | | | | | | | | | | |
| 3 rd progress report | | | | | | | | | | x | | | | | | | | | | | | | |
| 4 th progress report | | | | | | | | | | | | | x | | | | | | | | | | |
| 5 th progress report | | | | | | | | | | | | | | | | x | | | | | | | |
| 6 th progress report | | | | | | | | | | | | | | | | | | | x | | | | |
| 7 th progress report | | | | | | | | | | | | | | | | | | | | | | x | |

All activities of the workplan were conducted and the outcomes foreseen were delivered, even with some delays, which are discussed in the next session. Deviations from the initial work plan, in terms of activities content, concern deliverables 4, 6, 7 and 11. In particular:

(D1) Kick-off meeting took place in month 1

(D2) Report on the survey lasted from month 1 to 2, and two revisions of the corresponding report were elaborated, following the instructions of the project officer

(D3) Case studies report lasted from month 3 to 4, and two revisions of the corresponding report were elaborated, following the instructions of the project officer

(D4a) The technical meeting took place in month 5

(D4b) Brainstorming reports on the model design were elaborated during months 5 and 6

(D4c) The Meta-Foresight model design report was finalised in month 11. The partner responsible, INFYDE, enriched the report with recommendations from academics of the University of Basque Country, thus improving the quality of the model design. However, the deliverable provides a generic model, without specifying the Meta-Foresight model variables and correlations between them [deviation from the initial plan]. This weakness was covered later on, at the software development phase.

(D5) The 2nd Steering Committee meeting was held in month 9, with primary goal to discuss and approve the design of the Meta-Foresight model.

(D6) The software development was based on the generic model (D4c). The activity included also the specification of variables and the development of the analysis templates [deviation from the initial plan]. The initial version of the software was delivered with one month delay (in month 15 instead of month 14). The final outcome, following the adjustments dictated by the testing phase, was delivered in month 19 and is in line with the specifications of the contract.

(D7) The on-going evaluation methodology was delivered in month 8. The first on-going evaluation report was delivered in month 11 and the overall evaluation report in month 21. Although, the decision of the second Steering Committee meeting was to develop the overall evaluation report in the form of an academic article with contributions from the project partners, this was not finally done, due to limited project resources (person months and time) [deviation].

(D8) The model testing started in month 14 and lasted 8 months. The toolbox and the portal have been thoroughly tested and are fully operational.

(D9) The 3rd Steering Committee meeting was held in month 13.

(D10) The web promotion started in month 7, with the launching of the URENIO Meta-Foresight web site, which was being updated during the project evolution with the latest deliverables, links to the Meta-Foresight webs of the other partners, articles on regional intelligence. The other partners' web pages were launched later, from December 2004 until June 2005, including information on the project and links to the other partners' Meta-Foresight web pages.

(D11) The publication of the promotion brochures was foreseen in month 14, after the completion of the software platform, with the scope to include accurate technical information on the use of the Meta-Foresight application. Due to the delay in the finalisation of the platform, partners postponed the publication of the promotion brochures until the end of

summer 2005 [URENIO and FUNDECYT published their Meta-Foresight leaflets by the end of August 2005, month 18, and Institute Jules Destrée in month 19]. INFYDE published its leaflet in the month foreseen, providing general information on the project. University of Wales, instead of creating another Meta-Foresight brochure, developed a promotional CD-ROM including a demo of the Meta-Foresight application [deviation from the initial plan]. The CD-ROM/ Meta-Foresight demo was delivered in month 21. According to the plan, promotion brochures should have been in the native language of each partner, while the project leader would develop a bilingual brochure (English and Greek). However, apart from URENIO, FUNDECYT developed also a bilingual brochure and INFYDE created two brochures, an English and a Spanish version.

(D12) The Meta-Foresight software manual was published in month 19. It is a nice publication in a user friendly format, while providing detailed information on the use of the platform.

(D13) The final conference, held in month 20, is considered a success, in terms of thematics covered, organisation, and hospitality.

(D14) The interim report was delivered in month 9 and one revision followed.

(D15) Work on the final report covered two months following the end date of the project, as foreseen.

Management tasks proceeded according to the plan, with the day-to-day monitoring of the project, the submission of seven progress reports, the Interim and the Final report.

In terms of efforts and person days, partners dedicated the adequate resources to accomplish the tasks: 1.444,3 person days were allocated to the project, while 1.614 person days were foreseen. In fact, the person days dedicated to the project exceed those foreseen, especially in the model design, the software development and the testing. However, due to the increased hourly rates in relation to those foreseen in the initial plan, the logistic calculation of person days on the project results to the decreased number of person days declared. Table 7 illustrates the person days foreseen in the initial work plan for the whole duration of the project, and the person days actually spent on the activities undertaken during the reference period.

Table 7. Planned and actual person days (01/02/2004 to 30/11/2005)

| Activity | Partners | | | | | | | | | | Total | |
|-------------------|----------|--------|----------|--------|--------------|--------|---------|--------|-----------------|--------|---------|---------|
| | URENIO | | FUNDECYT | | Un. of Wales | | INFYDE | | In. Jul Destrée | | | |
| | initial | actual | initial | actual | initial | actual | initial | actual | initial | actual | Initial | actual |
| 1. Survey | 21 | 23,8 | 21 | 21,0 | 21 | 20,0 | 21 | 21,0 | 21 | 21,0 | 105 | 106,8 |
| 2. Case studies | 33 | 33,0 | 33 | 33,0 | 33 | 30,0 | 33 | 33,0 | 33 | 33,0 | 165 | 162,0 |
| 3. Model design | 20 | 21,7 | 20 | 18,0 | 20 | 19,0 | 87 | 87,0 | 20 | 22,0 | 167 | 167,7 |
| 4. Model software | 186 | 156,2 | 0 | 0,0 | 0 | 1,0 | 0 | 0,0 | 0 | 0,0 | 186 | 157,2 |
| 5. Evaluation | 104 | 103,0 | 4 | 3,5 | 71 | 54,0 | 4 | 3,0 | 4 | 4,0 | 187 | 167,5 |
| 6. Promotion | 8 | 11,0 | 75 | 75,0 | 8 | 14,0 | 8 | 6,0 | 75 | 75,0 | 174 | 181,0 |
| 7. Management | 126 | 117,3 | 126 | 124,8 | 126 | 28,0 | 126 | 108,5 | 126 | 124,0 | 630 | 502,1 |
| Total | 498 | 466,0 | 279 | 275,3 | 279 | 166,0 | 279 | 258,0 | 279 | 279,0 | 1.614 | 1.444,3 |

Table 8 summarises the progress on the activities undertaken during the project, the deliverables and results, the corresponding person days per partner, and the actual dates of delivery.

Table 8. List of progress on activities undertaken and deliverables produced for the reference period 01/02/2004 to 30/11/2005

| Acti vity No | Activity name | Person-days | | | | | | Deliverables | Deliverable's delivery date | Key results achieved | Result's delivery date |
|--------------------|---|-------------|-----------|------------|----------|----------|-------|---|--|--|------------------------------|
| | | 1 UREN | 2 FUND | 3 UnWal | 4 INF | 5 IJD | Total | | | | |
| 1 | Review of existing information systems | 23,8 | 21 | 20 | 21 | 21 | 106,8 | D1. 1 st SC meeting: agenda, list of participants, minutes, presentations | 1 month (03/04) | Clarification of methodological issues for work on the whole programme. Specifications of activities | 1 month |
| | | | | | | | | D2. 1 consolidated report on the survey on existing information systems supporting the five areas of interest (survey and report on one thematic area per partner) | 2 month (04/04) 8 month (10/04) (revised version) 12 month (02/05) (revised version) | One list of projects and applications identified dealing with information technology systems for the creation of regional intelligence, and description of selected applications (one list and description per partner) | 2 month |
| 2 | Analysis of selected case studies | 33 | 33 | 30 | 33 | 33 | 162,0 | D3. 1 report on the analysis of 5 case studies (1 case study per partner) | 4 month (06/04) 8 month (10/04) (revised version) 12 month (02/05) (revised version) | One consolidated report analysing 5 best practice cases of regional intelligence systems | 4 month |
| 3 | Development of Meta-Foresight model | 21,7 | 18 | 19 | 87 | 22 | 167,7 | D4a. 1 st technical meeting, agenda, list of participants, minutes | 5 month (07/04) | Brainstorming on the features of the Meta-Foresight model | 5 month |
| | | | | | | | | D4b. Model design brainstorming | 6 month (08/04) | Partners' views on the structure of the model and the indicators | 6 month |
| | | | | | | | | D4c. Model design report | 11 month (01/05) | A model integrating foresight, benchmarking, r&d, market watch and technological skills and providing services in these fields | 11 month |
| | | | | | | | | D5. 2 nd SC meeting, agenda, list of participants, minutes | 9 month (11/04) | Monitoring the project and design of future steps | 9 month |

| No | Activity | UREN | FUND | UnWal | INF | IJD | Total | Deliverables | Delivery date | Key results achieved | |
|----|--|-------|------|-------|-----|-----|-------|--|--|---|---|
| 4 | Development of Meta-Foresight software application | 156,2 | 0 | 1 | 0 | 0 | 157,2 | D6. Meta-Foresight software | 15 month (05/05) (initial version) 19 month (09/05) (final version) | Application of the Meta-Foresight software | 15 month |
| 5 | Evaluation | 103 | 3,5 | 54 | 3 | 4 | 167,5 | D7a. 1 st on-going evaluation report | 11 month (01/05) | On-going evaluation report facilitating the follow-up and re-orientation of the project | 11 month |
| | | | | | | | | D7b. Overall evaluation report | 21 month (11/05) | Overall evaluation of the project activities and potential impact | 21 month |
| | | | | | | | | D8a. 2 nd technical meeting, agenda, list of participants, minutes | 17 month (07/05) | Demonstration of the Meta-Foresight software to the partnership. Organisation of next project steps | 17 month |
| | | | | | | | | D8. Testing the Meta-Foresight Application | 21 month (11/05) | A functional Meta-Foresight software application | 21 month |
| | | | | | | | | D9. 3 rd SC meeting, agenda, list of participants, minutes | 13 month (03/05) | Monitoring of the project and preparation of next steps | 13 month |
| 6 | Promotion/ Dissemination | 11 | 75 | 14 | 6 | 75 | 181,0 | D10. 5 Web pages URENIO FUNDECYT Univ. Wales INFYDE In. Jules Destrée | 7 month (9/04) 10 month (12/04) 15 month (5/05) 16 month (6/05) 10 month (12/04) | Acknowledgement of the project's objectives and results, and dissemination of the integrated software application for the development of regions of knowledge | 7 month 10 month 15 month 16 month 10 month |
| | | | | | | | | D11. 4 promotion leaflets URENIO FUNDECYT INFYDE In. Jules Destrée | 18 month (8/05) 18 month (8/05) 14 month (4/05) 19 month (9/05) | | 18 month 18 month 14 month 19 month |
| | | | | | | | | D11. 1 CD Demo Univ. Wales | 21 month (11/05) | | 21 month |
| | | | | | | | | D12. Publication of software guide | 19 month (09/05) | | 19 month |
| | | | | | | | | D13. Final conference | 20 month (10/05) | | 20 month |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| No | Activity | UREN | FUND | UnWal | INF | IJD | Total | Deliverables | Delivery date | Key results achieved | |
|----|------------|-------|-------|-------|-----|-----|---------|---------------------------------|---|---|-----------|
| 7 | Management | 117,3 | 124,8 | 28 | 108 | 124 | 502,1 | 1 st progress report | 3 month (05/04) | 1. Sound management and monitoring of the project at the intra and inter-regional level. 2. Compliance of financial issues to the national and Commission rules. 3. Submission of the 7 progress reports, the Interim and Final reports to the Commission | 3 month |
| | | | | | | | | 2 nd progress report | 6 month (08/04) | | 6 month |
| | | | | | | | | 3 rd progress report | 9 month (11/04) | | 9 month |
| | | | | | | | | 4 th progress report | 12 month (02/05) | | 12 month |
| | | | | | | | | 5 th progress report | 15 month (05/05) initial version 20 month (10/05) revised version | | 15 month |
| | | | | | | | | 6 th progress report | 18 month (08/05) initial version 20 month (10/05) revised version | | 18 month |
| | | | | | | | | 7 th progress report | 21 month (11/05) initial version 21+ month (01/06) revised version | | 21 month |
| | | | | | | | | Interim report | 9 month (11/04) initial version 12 month (02/05) revised version | | 9 month |
| | | | | | | | | Final report | 21+ month | | 21+ month |
| | TOTAL | 466 | 275,3 | 166 | 258 | 279 | 1.444,3 | | | | |

4 Problems/ delays encountered

In general, the evolution of the project proceeded according to the work plan (Table 6), with some little delays. It should be noted that the project initiated in month 1 instead of month 0. This was due to the fact that partners decided to set the kick-off meeting of the project after the KnowREG programme kick-off meeting, in order to incorporate the Commission's approaches in the work programme and have a more clear view on management issues. The organisation of the KnowREG kick-off meeting in the end of February 2004 caused the delay to the organisation of the project's first meeting. The first month of the project was spent more on managerial issues, concerning the organisation of work and communication between the partners for management issues. Delays in relation to the workplan concern:

(D6) Software development: Work on the development of the software application started in November 2004 (month 9) with assignments to external software experts and internal URENIO resources. The task was foreseen to conclude in April 2005 (month 14), but, in fact the first fully operational software version was delivered with one month delay and the final version, including adjustments resulting from the testing phase, was delivered in September 2005 (month 19). The delay in the delivery of the first version was mainly due to the complicated work required for the finalisation of the model variables and the analysis templates. Two main modifications have been made to the initial platform architecture: distinction between services provided to regional authorities/intermediaries (portal) and companies (individualised confidential company report). These modifications, although promising a more efficient software platform, have caused necessary adjustments to the application data base, finally resulting to the delay in the delivery of the software.

(D10) Web sites: Apart, from the project leader, the partners' Meta-Foresight web pages were launched with a delay of 3 months (FUNDECYT and Institute Jules Destrée) to 9 months (University of Wales, INFYDE). This delay was partly related to the decision of the Steering Committee to initiate the operation of the web pages after the finalisation of the model design, in order to demonstrate a comprehensive tool and not just a series of technical reports. University of Wales needed much time to finalize the status of the web hosting of the Meta-Foresight portal and Toolbox, as there have been some uncertainties regarding legal issues if the platform would be hosted by the University server. The request was rejected, thus the Meta-Foresight platform is now available online via a web link to the Urenio web site. INFYDE faced a number of technical problems with the organisation's server and the software developers.

(D11) Promotion brochures: The publication of the promotion brochures was foreseen in month 14. However, only INFYDE handed the deliverable on time. The delay was partly due to the partnership decision to postpone the publication until the development of the Meta-Foresight platform, in order to include accurate technical information on the use of the application. The lack of technical information would eliminate the dissemination value of the leaflets. On the other hand, the inclusion of any technical information without the prior final software version would not be reliable. The further delay after May 2005, when the software first version was finalised, was caused by different reasons for each partner. URENIO faced a delayed delivery from the publisher. The timing for FUNDECYT and Institute Jules Destrée was not favourable, as both partners were overloaded with obligations on other project tasks, the organisation details and publications for the conference, and the design and publication of the

Meta-Foresight guide respectively. University of Wales, having decided to produce a CD-ROM demonstration of the project and its outcomes, instead of another one brochure, had a further delay, waiting for the approval of this decision by the technical meeting which took place on 6th October 2005 (month 20), in the framework of the final conference.

(D8) Meta-Foresight application testing initiated according to the plan, but was delivered with two months delay (on month 21 instead of month 19). The task proved to be much more time consuming than foreseen, because of the increased resources required for the adjustment of the questionnaire and the data analysis templates of the toolbox, the collection of information and the elaboration of the confidential company report, and the selection of appropriate articles for the portal. In addition, two technical problems were faced and caused further delay: the accidental erase of the report in mid October and the attack of the central server of the Aristotle University by viruses, which resulted to stop Internet access for several days in September and October 2005. This delay of URENIO did not affect the overall evaluation process and the evaluation of the platform made by the University of Wales, as the two partners were in close cooperation exchanging almost daily e-mails on the tasks.

There have not been faced any severe and insurmountable problems during the evolution of the project. Difficulties involved in the project are:

Survey and case studies. For the activity “Review of existing information systems”, it was originally conceived to conduct a survey on projects supported by the Innovative Actions Programme, however it was really difficult to identify the initiatives and obtain the necessary information to carry out the reports. Therefore it was considered better for the Meta-Foresight project, in terms of accessibility to the information, to widen the number of initiatives and not to focus only in those supported by the Innovative Actions Programme.

The difficulties faced by URENIO at the survey stage were related to the limited number of existing applications dealing with human resources and competences, the even more limited number of these applications supported by information technology applications, and the lack of methodologies for the measurement of specific indicators for human resources and competences, elements which are valuable for the development of the Meta-Foresight model.

FUNDECYT considered more interesting to have further communication with the coordinators of the selected projects on technology watch, rather than having short interviews with all the coordinators of the different initiatives. FUNDECYT estimated that it would be better to decide which project to focus on and concentrate all the resources on it. There have also been faced linguistic problems: the Technology Watch services normally have a regional or national dimension. It is possible to find initiatives which have their home web pages translated into English but once clicking the “services” button, they automatically change into the regional/national language, which made difficult to understand how the service is actually provided. Therefore, FUNDECYT concentrated on initiatives from English speaking countries and Spain. Besides, problems were faced to arrange the meetings with the persons responsible of the selected case study. A big effort had been done to overcome the situation and obtain such detailed information.

Institute Jules-Destrée faced difficulties to identify best practices of foresight tools developed as structured and sustainable information systems, for three major reasons:

- territorial foresight or thematic foresight are developed under an experimental basis or on limited basis with a lack of updated data or sustainable networking between actors; there is a global lack of information collected on structured and sustainable procedures linked

to foresight intelligence supported by ICT systems, foresight culture staying at a rather low systematisation in that perspective;

- individual efforts of foresight are not really known on a territorial basis and therefore not capitalized towards an integrated system of intelligence;
- when foresight is developed, it is used together with other intelligent approaches like benchmarking, intelligent watch, etc.

Conceptual design of the platform. The features of the Meta-Foresight model concentrated major concern of the working team. Integration of different work methodologies was required (session 1, activity 3). The problematic was approached through several points of view until the final output of the model was systematised. Main problematic was the way to integrate the five intelligence components, foresight, benchmarking, R&D, technology watch, and competences in one single application. The differences among these components, in terms of focus and objectives, information sources, type of inputs (numeric or verbal), processes performed (desk research, analysis and synthesis, statistical analysis, etc.) and type of outputs (reports, graphs, tables, etc.) type of variables, induce the difficulty in the effort to integrate them at the design level, and then transform them to one single software application. The approach adapted, combining human intelligence and software tools, results to an Internet application, formed by a user friendly portal and a sophisticated toolbox.

Technical difficulties to develop the platform relate to the transfer of the Meta-Foresight conceptual design. Thus, most difficulties faced concern the illustration of the toolbox variables and the link between variables and analysis templates. The solution reached was to distinguish variables between qualitative and quantitative. Qualitative variables are divided in two types, according to the options offered for response: (a) multiple choice variables, which are illustrated with charts, and (b) comments, which are analysed with the completion of a text box. Quantitative variables are illustrated with tables and charts. The creation of the portal is quite typical. The sending of newsletters required adequate adjustments to the Aristotle University server.

Difficulties faced at the software testing phase relate to the great number of variables that had to be taken into consideration and analysed. Strong efforts were put in place and prolongation of the task duration was required.

The elaboration of the Meta-Foresight application guide was quite hard, as Institute Jules Destrée project team was not familiarised with the technical part of the platform. Strong efforts were dedicated in order to conceive the technical details and elaborate the description of the Meta-Foresight software platform, and long communication, via exchange of e-mails, with the software developers was required to accomplish the task.

The organisation of the final conference involved some difficulties in the formulation of the agenda and the identification of the appropriate speakers/ experts. Last minute cancellations of speakers worried also the project team, but successful replacements were finally made.

An overall impression of the partnership is that limited resources (time and budget) were available to accomplish ambitious and time consuming tasks. However, the final project outcomes point out that project partners had the adequate scientific and technical competences to overcome barriers and face technical difficulties.

5 Financial issues

The financial management proceeded according to the Community rules and the national legislation existing in each partner region. Exchange of information between partners enabled the monitoring of the project's accounts. Specific attention regarding financial management was placed to adapt the Commission's rules to the respective national accounting systems.

Each partner organisation was responsible for the share of total budget corresponding to the related organisation. The management team operating within each partner organisation was responsible for book-keeping, gathering of original invoices and supporting documents, ensuring conformity with national rules, and executing the payments for the project. In addition, they were checking whether general provisions of the grant letter were fulfilled, supervised the financial work, and controlled the eligibility of expenses.

The financial service of the project co-ordinator, Research Committee of Aristotle University of Thessaloniki, having established a system-database on the Internet for the purpose of on-line monitoring of projects, facilitated financial control of the Meta-Foresight project, as it includes all financial information pertaining to a project: budget, expenses, entry dates of invoices in the project's accounts, dates of payments, and dates of issuing bank cheques for payments.

Total spending on the project sums up to 403.515,85 euros, covering 5.652,15 euros less than foreseen. According to the contract, the Commission contribution, 50% of total budget, was allocated to URENIO research unit, bank account of Research Committee of Aristotle University of Thessaloniki, who directly distributed the corresponding amounts to the partners, through its financial services. Two pre-financing payments were made by the Commission: the first was received and distributed in March 2004 and the second in June 2005.

There are deviations to the distribution between budget categories in relation to the approved budget (Table 9). These deviations did not affect the delivery of expected outcomes, as all activities foreseen have been implemented and the corresponding deliverables have been produced at high quality levels. Specifically, deviations concern:

- (1) Increase of the *staff category* by 8,21%, due to the fact that most part of the work was implemented by internal partners resources, causing a decrease in the subcontracting and dissemination categories.
- (2) Decrease of the *travel category* by 3,02%, due to the fact that some travel and subsistence expenses for the participation of partners in the final conference have been allocated under dissemination category.
- (3) Decrease of the *consumables category* by 44,65%, because very little use of the budget item was used
- (4) Decrease of *subcontracting costs* by 23,2%, due to the fact that internal resources of partners were used for the implementation of the project. Specifically, subcontracting foreseen for the development of the model design (deliverable 5) and the on-going evaluation (deliverable 7) was not used at all, while 3.000 euros less than foreseen was required for the software development (deliverable 6).
- (5) Decrease of the *dissemination category* by 4,84%. Publication costs for the promotion leaflets (deliverable 11) were over-estimated in the approved budget, while web maintenance (deliverable 10) has been declared either under subcontracting (University of Wales and

INFYDE) or under staff costs (URENIO, FUNDECYT, Institute Jules-Destrée), provided that they were developed internally.

(6) Decrease of the *others category*, referring to meeting costs for the organisation of the Steering Committee meetings, by 32,54%, as no need for further spending on the category was required.

(7) Decrease of *indirect costs category* by 1,39%, as no need for further spending on the category was required.

No third party contributions have been received by the partner organisations, apart from FUNDECYT. The final conference (deliverable 13) was partly co-financed by the Extremadura regional authorities, who reimbursed to FUNDECYT the cost for the purchase of goods and services for the organisation of the conference (5.090,89 euros). The co-finance of the conference is extra to the expenditure of FUNDECYT declared in the cost statement. Analytically, third party receipts for the conference are listed below:

| | |
|---------------------|-------------------|
| Booklet Translation | 450,00 € |
| Card case | 349,13 € |
| Bags | 800,40 € |
| Printing Plate | 70,00 € |
| Pens | 300,00 € |
| Printing Plate | 70,00 € |
| Balls | 197,20 € |
| Printing | 2.077,56 € |
| Plotter and Poster | 301,60 € |
| Press | 475,00 € |
| Total | 5.090,89 € |

The cost statements of the partners and the consolidated cost statement present clearly the distribution of expenditure on the project.

Table 9. Budget and expenditure breakdown by category and partner (€)

| Budget category | Partners | | | | | | | | | | Total | |
|---|----------|-------------|----------|-------------|--------------|-------------|--------|-------------|-----------------|-------------|---------|-------------|
| | URENIO | | FUNDECYT | | Un. of Wales | | INFYDE | | In. Jul Destrée | | | |
| | budget | expenditure | budget | expenditure | budget | expenditure | budget | expenditure | budget | expenditure | budget | expenditure |
| Staff (other than permanent civil servants) | 74.700 | 78.958,83 | 41.800 | 41.399,65 | 41.800 | 49.837,77 | 41.800 | 49.759,10 | 41.800 | 41.807,60 | 241.900 | 261.762,95 |
| Staff (permanent civil servants) | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| Travel and subsistence | 6.000 | 5.456,11 | 6.000 | 7.071,37 | 6.000 | 4.525,64 | 6.000 | 6.690,55 | 8.000 | 7.289,48 | 32.000 | 31.033,15 |
| Equipment | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| Consumables and supplies | 2.000 | 2.025,61 | 4.000 | 1.280,17 | 2.000 | 426,71 | 2.000 | 2.010,20 | 2.000 | 899,11 | 12.000 | 6.641,80 |
| Subcontracts | 28.000 | 26.312,36 | 10.000 | 10.474,71 | 10.000 | 3.618,30 | 10.000 | 1.819,80 | 10.000 | 10.000,00 | 68.000 | 52.225,17 |
| Dissemination | 4.500 | 2.690,58 | 4.500 | 6.120,07 | 4.500 | 2.614,61 | 4.500 | 4.389,40 | 4.500 | 5.595,26 | 22.500 | 21.409,92 |
| Other direct costs | 2.000 | 1.755,60 | 0 | 0,00 | 2.000 | 660,15 | 2.000 | 1.631,85 | 0 | 0,00 | 6.000 | 4.047,60 |
| Indirect costs | 8.204 | 8.203,94 | 4.641 | 4.641,00 | 4.641 | 4.317,82 | 4.641 | 4.641,10 | 4.641 | 4.591,40 | 26.768 | 26.395,26 |
| Total | 125.404 | 125.403.03 | 70.941 | 70.986,97 | 70.941 | 66.001,00 | 70.941 | 70.941,96 | 70.941 | 70.182,85 | 409.168 | 403.515,85 |