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Content

***eContentplus* programme**

GUIDE FOR PROPOSERS

Part B: DESCRIPTION OF OBJECTIVES AND WORK PLAN

EUREA – Implementation Initiative

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<http://europa.eu.int/econtentplus>

Part B – Description of objectives and work plan

eContentplus

[EUREA-II]

[European metada-base of e-academic resources
Implementation Initiative]

Description of Work

Proposal abstract

The EUREA-II project aims at developing a European cross-border mutualisation system of digital scientific resources of the highest quality available within the League of European Research Universities (LERU) which gathers twelve leading European Research universities.

Nine of the LERU universities will join forces to pool their high quality scientific and scholarly digital resources into an extensive interoperable and multilingual metadata-base, beginning in the first stage with the fields of life sciences and “orchid subjects”(small research fields of high cultural importance).

A sustainable management structure will ensure the perpetuation of the pertaining system through the setting-up of a European support centre as well as local teams within each university. A strategy of definition and improvement of the content quality will be elaborated and deployed, as well as an appropriate legal framework for the provision and use of digital content. A flexible and interoperable appropriate technical structure will be implemented in order to integrate these requirements. Internal and external promotion of EUREA II will be achieved through the development and the deployment of a communication strategy.

Means to give the project a mature business dimension, essential to its perpetuation, will be investigated through the development of paying services, the establishment of partnerships and the definition of the best conditions to create a LERU publishing house in the framework of Open Access publishing initiative.

Project Summary

Objectives (maximum 140 words)

Within the League of European Research Universities (LERU), the EUREA-II project has been designed as a major instrument in a large scope European initiative to promote excellence in research and the concept of research-based education, EUREA-II being the research side of this initiative, while the e-LERU virtual campus project being its educational side.

Through EUREA-II, nine LERU universities wish to address the scattering and lack of visibility of their significant amount of research content. By offering wide access to their latest insights in research, the partners will increase the cross-border use and reuse of their available content by researchers, students, teachers, etc, while raising their international profile as leading institutions in research. They intend to support the Open Archive Initiative trend, through the creation of a devoted publishing house.

Description of the work (maximum 250 words)

The work will be carried out by trans-European expert-teams through a distributed coordination network and the overall coordination of the ULP, by taking into account the respective needs and specificities of the partner-universities previously identified through a feasibility study (February to November 2005).

The work will focus on setting up a technical system that meets the needs for quality marking, intellectual property right protection, translation requirement, access regulations and additional services for users and content providers. Specific work packages in closed inter-relations will address these various requirements. This will lead to a long-term content quality strategy. A solid legal basis will be achieved through the elaboration of an appropriate legal framework for the provision and use of scientific content. Besides, a set of services for the users and content providers will be created, in the form of training sessions, practical guides or online tutorials.

An appropriate sustainable management structure will be set up, consisting of a European support centre and of local support teams within each university.

A content management process will be refined and implemented so as to enable the evaluation and coordination of the collect of resources (guideline for the inventory) and addition of the metadata (definition of a registration system and an upload procedure).

The possible business opportunities will be investigated (development of paying services and creation of a LERU publishing house in the framework of Open Access publishing).

Strong emphasis will be laid on promotion actions, both internal and external to the partner universities.

Milestones and expected results (maximum 70 words)

Year 1 consists of the ground implementation. Technical infrastructure, quality strategy, legal framework, content management process, services, sustainable management and business developments will be mostly defined on M14. Year 2 will focus on refinements, corrective actions and promotion, through the first set of e-resources, with a restricted access to LERU users. The full deployment and sustainability will be achieved on year 3, with the opening to non-LERU users.

Indicators (maximum 70 words)

The partnership will control the progress made by setting up indicators of higher accessibility level (ie number of registrations), increase in cross-border use of the content (ie number of searches from outside source university), higher legal awareness (ie number of IPR help requests), quality improvements (ie percentage of user comments), higher awareness of EUREA service inside and outside the partner universities (ie number of references to EUREA on independent search engines).

1 Rationale

1.1 Description of the issue

- A significant mass of content available within the universities

The universities have played a major role in the development of ICT from the beginning of internet. Quite naturally, they became major actors in the provision of cultural and scientific digital content on different levels: institutional, national programmes, European research project, private initiatives and individual participation of researchers. As a result, the number of scientific and cultural digital materials available within academic institutions is increasing exponentially.

Access to the content is difficult...

However, the research digital material is often underused. Its access is difficult and often restricted and/or its use is not promoted. Moreover, it is scattered between different institutions, so that research stakeholders, academics, students and, more generally, any interested audience cannot benefit from it, simply being unaware of its existence.

...while the stakes are high

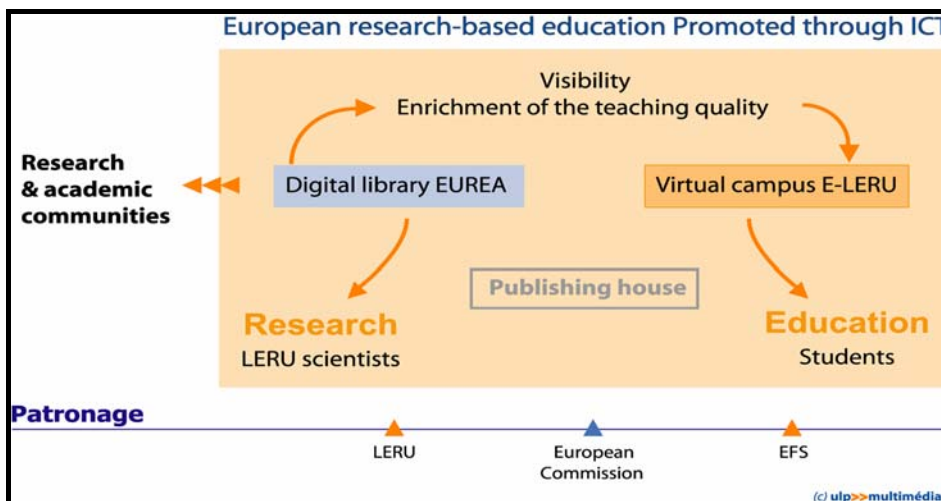
While it could be the window case of a Europe of knowledge, research digital content is lacking European or international visibility. Besides, European universities have to face extremely strong initiatives from the American research and academic community. In an increasingly competitive international context, the visibility of research outcomes is the *sine qua non* of the universities' international positioning. Besides, improving access to the available content enables the universities to enrich their teaching further with quality scientific resources.

One of the solutions found to circumvent this lack of visibility lies in Open Access publications (OA). Indeed, while the internet offers a perfect medium for the distribution of scientific material, the price of commercial publishers (electronic) scientific publications has gone upwards and will continue to do so. OA publication offers a promising alternative to the classical means of distribution of scientific digital material and therefore to the increase of its accessibility.

- A favourable political framework and a successful feasibility study

The LERU (League of European Research Universities) answer this problem by developing a long-term initiative of LERU collaboration promoting excellence in European research and a higher-education based on research and attractive at the international level". This movement links two great European processes: the building of a European research area (ERA) and the creation of a European higher education area (Bologna process).

The EUREA project is one of the instruments of this LERU research-based education initiative, dealing with the scientific side of the concept. The e-LERU virtual campus, which focuses on higher education through the creation of joint e-modules between teachers of different partner universities, is the educational side of the initiative.



With EUREA, nine of the twelve LERU universities have decided to join forces to mutualize their scientific digital content into an extensive and interoperable metadata-base. To increase their chances of success, they conducted a 10 month feasibility study in 2005 (EUREA-I), financed by the European eContent¹ programme, which demonstrated the pertinence of objective and allowed them in determining the best conditions for the implementation of such a mutualization process.

The outcomes of the feasibility study underlined the need for a significant initial human and financial effort to set up the metadata-base and overcome the distance between partners as well as the lack of collaboration between the various departments involved, and to overcome the cultural and historical reluctance of the academic community to share resources. This reluctance is especially strong when it comes to sharing educational resources. This explains why, while the feasibility study primarily focused on academic resources in a broader sense (including both scientific and research content and pedagogical resources), the partners agreed that the chances of success for the project would be more important if the scope of the metadata-base was restricted to purely scientific content, especially content related to research outcomes.

EUREA-I led to the creation of an efficient trans-European work organization over the partner universities, with work-groups and well identified experts on various aspects of the project (IPR, technical issues, etc).

A general architecture came out of the study, with the layout for an appropriate IPR policy, a technical model through the identification of each partner's needs and constraints and the elaboration of a technical pilot system, and a business model. EUREA-I also allowed the partners to identify the solutions to overcome the difficulties previously mentioned:

- an appropriate external and internal promotion strategy that will show the advantages of sharing digital content for their universities, for themselves as individual researchers and for the profile of European research in general,
- a strengthening of the collaborative work through an increased number of physical meetings.

The commitment of the partner universities to the EUREA-II project and to this global strategy materializes in the creation of a European support centre financed in its entirety by the universities right from the start of the implementation. This financial commitment will be a strong asset to ensure the sustainability of the system.

- The uniqueness of the EUREA metadata-base

Numerous scientific repositories already exist in Europe. However, the foreseen EUREA metadata-base distinguishes itself from these repositories by the strength and size of its supporting consortium, which guarantees both the quality level of the content and the provision of a critical mass of content. Indeed, the number of participants to the project, currently 9, is likely to increase when the LERU network grows from 12 to 24 members (2006), thus increasing the mutualized content while keeping the same level of quality.

1.2 Analysis of demand

The LERU network is committed to research-based education as 'the vital link between new knowledge created by the research base and its application in innovative technologies and processes'.² 'Europe has largely lost its former pre-eminence in fundamental research in favour of the USA. While the quantity of European fundamental research is comparable to that of the USA there is a significant shortfall in overall quality and certainly a major shortfall in its overall impact.' An answer has to be found to counter American preponderance. 'Universities have proved to be the most cost-efficient locations for performing fundamental research. If European universities are not seen to be competitive with the best in the USA, and increasingly those in Asia, Europe will fail to attract the best young talents and may lose much of its own.' It is vital then that the results of European high-quality research are made visible and widely accessible.

Without access to the latest research findings, researchers would find themselves lagging behind or repeating work already done in previous research elsewhere. However, the benefits of accessing scientific resources clearly reach beyond the (rather) restricted circle of researchers; in fact they include the whole academic

¹ For more information, see EUREA website, <http://eurea.leru.org/home/>

² This and next citations are taken from the LERU Report: Opinion of the League of European Research Universities. Growth, research-intensive universities and the European Research Council, March 2005, pp. 4-6.

community. Indeed, it is a stake of the utmost importance for European universities to feed their teaching with the latest insights in research. Likewise, through the promotion of research-based education, they will have an impact not only on the quality of teaching throughout Europe but also on the strengthening of European research.

It is therefore imperative that a solution should be found to ensure the provision of easy online access to scientific research results and scholarly content of the institutions in Europe where research of the highest level is carried out. Those scientific and scholarly materials will therefore no longer be reserved to subscribers of expensive scientific journals only. A much larger public should gain access to them.

The EUREA metadata-base will therefore also meet the need for free access to high-quality digital content of countries that do not produce much content or do so only marginally when compared to the world production, e.g. developing countries.

2 Objectives and Proposed Solution

2.1 Description of the objectives and the proposed solution

2.1.1 Objectives

The objectives of the partner-universities, through the constitution of a multilingual metadata-base of the scientific content available in European universities of the LERU, is to strengthen their international profile as knowledge institutions by:

- Enhancing the collaboration and mutual knowledge of both research and academic communities;
- Improving the accessibility and speed of dissemination of scientific results and scholarly content;
- Enlarging the visibility of scientific and scholarly work by aggregating currently scattered content and therefore reaching a critical mass of content.

2.1.2 Proposed solution

The feasibility study proved that it was essential for the success of such a project to find a solution that would meet the diversity and specificities of all the partners involved.

- **An extensive interoperable and multilingual metadata-base of high quality scientific content**

The EUREA-II project will lead to the implementation of an extensive interoperable and multilingual European metadata-base of scientific and scholarly high quality digital material. Access to the content will be free so as to remain within the scope of the universities' public service mission.

The project will initially focus on gathering materials belonging to two main categories:

- Medicine and life sciences are the only fields represented in all the partner universities and therefore the mass of digital content available in these fields is significant.
- "Orchid" or "orphan" subjects are small research fields of high cultural importance. Collaboration on these subjects will facilitate internationalization and will raise their quality and their impact to a higher level.

- **The management structure of this European metadata-base will rely on:**

- a common European support centre that will undertake the access to the material, the maintenance of the database, the IPR support, quality control, the promotion and strategic consolidation of the metadata-base and the coordination and stimulation of collaboration.

- local teams in each partner university to collect material, provide support to teachers and researchers, control the quality of the pertaining material, and promote the database internally.

- **A networked coordination structure** : as regards the project management, blocks of coordination have been identified, enabling all the partner universities to work as a real network on the project.

- **A content management process** : that will describe content management from the content provider's and the user's points of view. It will speed up and secure the collecting of a critical mass of content.

- **A high quality level of the pertaining resources** through the definition and the implementation of formal quality processes

- **Services to support users and content providers**

- **A business development of the system**: the economic sustainability of the portal will be investigated, through the development of paying services.

- **A promotion strategy**

- **A watch on innovations** in every field involved
- **An Open Access Publishing work axis** which could lead to the creation of a LERU publishing house.

2.2 Description of the underlying data, data sources and related IPR issues

The content provided will include:

- Source resources (for instance, operations via ICT);
- Collections of pictures in the medical field;
- Simulations;
- PhD theses, notably unpublished theses;
- Research articles;
- Databases (epigraphy, audio database of semiotic languages, etc.).

The content will be sourced (within the LERU universities) from the:

- Individual researchers and teachers,
- Projects of electronic archives and databases carried out within the LERU network (“Leuven Database of Ancient Books”, “Epigraphische Datenbank”, MediaD[4], etc.),

It will be collected either directly or through library resource databases and institutional repositories.

During the feasibility study the partners conducted an inventory of the digital resources, both pedagogical and scientific, available in their universities. The difficulties encountered by the universities to conduct it proved the necessity of involving a reasonable amount of human resources to encourage the content providers to participate. A second inventory will be conducted, on the ground of the first one, which will enable the universities to « drain » the content, and therefore to reach the required critical mass of content more quickly.

QUANTITY

The inventory conducted during the feasibility study, which was restricted to medicine, showed the impressive amount of digital content available within our universities (470 collections of pictures, films, textual documents and datasets, library content excluded). It showed that a significant part of the digital material available is research material used both in a research-oriented context and a pedagogical context.

The involvement of the LERU libraries in the implementation project - which hosts among the largest collections of scientific resources in Europe and are experts in the field of information literacy, retrieval and management - will enable a faster access and identification of high quality content. Moreover, this currently wide basis of content providers will be further enlarged when the LERU increases to 24 members.

QUALITY

The members of the LERU have been selected to take part in this non-profit association according to quality and quantity criteria in research. Maintaining high quality in research and putting the profits of research back in education is therefore a major stake in the LERU's general strategy. As a consequence, ensuring the quality of the content provided through the metadata-base is at the heart of the EUREA-II project, and constitutes one of its strongest assets to attract the academic and research community to use it.

In order to reach this target quality issues will be a major axis of the implementation project, through a dedicated work package. It will lead to the definition of formal quality processes that will receive the agreement of all the partners for it to be ratified. The partnership will also take into account the main trends as regards quality standards in Europe.

LEGAL ISSUES

From the start the partners were convinced of the importance of this issue and faced it consequently.

During the implementation, the specialized legal departments of the KU Leuven will be in charge of the work package dedicated to legal issues, in collaboration with all the legal departments of the participating universities. The clear definition of the needs elaborated during the feasibility study enables the consortium to have a clear image of what actions must be taken on legal issues (IPR, identity management, contractual issues, liability, etc.) and the necessary corresponding resources. These actions will include an assessment of the legal situation of any content brought by a partner to the EUREA meta database, an increase of the awareness in the academic community on legal issues, the elaboration of a legal policy for the metadata-base, and a strong collaboration between the legal coordinating team and the technical implementation team.

2.3 Multilingual and/or multicultural aspects

2.3.1 Multilingual aspects

In order to reach the largest audience and ensure the use of scholarly content in a wide cultural context the consortium undertakes to provide a critical mass of content in English. This will be easily attainable in our project since a significant part of the research resources are produced in English. However, in order to promote their respective languages, the partner universities are willing to encourage the provision of resources in at least two languages (one of them being English). The consortium has also envisaged the development of translation services that will require an analysis of the needs and will lead to the elaboration of a translation scheme.

2.3.2 Multicultural aspects

- An evenly distributed work structure between the 9 partner universities will ensure that each university's specificities are taken into account during the project through strong local relays.
- The legal issues will be looked from taken account of from a multicultural perspective. Each participating country's situation will be assessed with regard to its legal framework for the treatment of digital content.

3 Expected results

3.1 Expected results

The EUREA metadata-base will provide a sustainable and effective portal, by setting up an operational technical infrastructure that will ensure access to high-quality scientific material with well-defined metadata, multilingual access to the content, including multilingual content, up-to-date material, a licensing scheme for each material, quality management of the portal.

The content provided through the EUREA metadata-base will be free, so as to remain in the framework of the universities' public service mission.

The EUREA-II project will lead to 9 major outcomes.

3.1.1 A common sustainable management structure for the metadata-base

- The support centre will undertake the access to the material, the maintenance of the database, the legal support, quality control, the promotion and strategic consolidation of the metadata-base and the coordination and stimulation of collaboration.

The support centre will be supported by a steering committee, trans-European work groups keeping on developing LERU collaborations around various issues (IPR, technical, etc), local support teams, located in each partner university.

- The local teams will collect material, provide support to teachers and researchers, control the quality of the pertaining material, and promote the database towards the academic and research community.

3.1.2 A technical system

The implementation of the metadata-base will cover the development of a metadata-base, a Web portal, a multilingual search-engine, an implemented legal policy.

3.1.3 An appropriate legal framework

The functioning and the development of the metadata-base will raise diverse legal issues. To ensure the development of an appropriate legal framework the partners will develop:

- a licensing scheme for the material provided through the metadata-base;
- a practical guide, translated in seven languages, for users of the metadata-base;
- legal training materials and training sessions for stakeholders in order to empower academic and research communities as regards legal issues.

3.1.4 A strategy of definition and improvement of the quality of the content

To define a minimum quality level of the resources and to improve their quality over time the partners will develop a grid describing the e-resources, a set of quality specifications, a process to improve the quality of the resources, refined strategies for the LERU quality label, informal quality process regarding the quality of

the content provided and the validity of metadata, three types of material provided (Cream of Science, LERU labelled, other material).

3.1.5 A content management strategy and system

To collect and to add the metadata and catalogue descriptions of the resources the partners will develop grids of description for the suitable resources, a catalogue of resources, a pilot registration system, an operational system for uploading resources, adopt a common vocabulary / vocabularies for content description of materials.

3.1.6 A well-defined and mature business dimension

In order to insure the sustainability of the metadata-base and to open-up its access the partners will produce:

- reports on access regulations and membership policy
- feasibility studies on Open Access Publishing and paying services

These studies which will be carried out by refined test pilots of Open Access Publishing and paying services. Open relationships with important stakeholders in the field of research and other scientific repositories will be developed to guarantee the largest access to the metadata-base.

3.1.7 A set of services aiming at supporting the content creators (internal promotion)

A set of services will be developed in order to support the content creators such as:

- a set of practical guidelines for the local support teams, especially for the work packages Technical Infrastructure, Legal Issues and Content Management Process.
- the development of a communication device enabling an efficient communication within the local support teams and between the local support teams and the support centre;
- a report on internal promotion strategy;
- a well-defined translation scheme ;
- online tutorials for users, suppliers and potential peer-reviewers.

3.1.8 A strategy of development taking into account new trends and initiatives

Throughout the implementation of the metadata-base, a watch will be carried out to follow the main changes in the fields related to the different work packages, e.g. a future proofing watch, a legal watch and a library watch. This library watch will be led by library experts. Through these activities, the libraries will be strongly involved in the project.

3.1.8 An international awareness of EUREA through communication campaigns

To highlight EUREA various communication tools will be developed: yearly happenings; a multilingual website; E-newsletters and brochures; a communication guide; a multilingual leaflet describing the project; participation in conferences and workshops; a collection of papers.

3.1.9 The conditions off creation of a LERU publishing house, in the framework of Open Access Publications

The EUREA consortium will further explore the development possibilities offered by Open Access publication and the opportunity of LERU-label Open Access journals, especially in the fields identified as “orchid subjects”. The consortium will notably study the possible ways to connect it to high profile research

3.1.1 Performance and success indicators

Higher accessibility level, measured by

- Number of user registrations: significant increase expected between Y2 and Y3
- Number of materials inquiries: significant increase expected between Y2 and Y3
- Number of materials downloaded: significant increase expected between Y2 and Y3
- Average time lag between upload of material and first download: significant decrease expected between Y2 and Y3

Increase in cross-border use, measured by

- Number of user registrations, searches and downloads from outside the source university: significant increase expected between Y2 and Y3

Higher IPR awareness, measured by

EUREA-II

- Number of IPR help requests in proportion to the number of uploads: significant decrease expected between Y2 and Y3
- Average handling time per IPR-related help request: significant decrease between Y2 and Y3

Quality improvement, measured by

- Percentage of user comments in proportion to the number of materials: significant increase between Y2 and Y3
- Percentage of invited peer reviews in proportion to the number of materials: significant increase between Y2 and Y3

Higher awareness of EUREA service, measured by

- Number of users within member universities: significant increase between Y2 and Y3
- Number of user registrations outside member universities: significant increase between Y2 and Y3

Higher awareness of EUREA outside the partner universities, measured by

- Number of references to EUREA and EUREA materials on independent search engines: significant increase between Y2 and Y3

Higher accessibility level, measured by

- Number of user registrations: significant increase expected between Y2 and Y3
- Number of materials inquiries: significant increase expected between Y2 and Y3
- Number of materials downloaded: significant increase expected between Y2 and Y3
- Average time lag between upload of material and first download: significant decrease expected between Y2 and Y3

Increase in cross-border use, measured by

- Number of user registrations, searches and downloads from outside the source university: significant increase expected between Y2 and Y3

Higher legal awareness, measured by

- Number of IPR help requests in proportion to the number of uploads: significant decrease expected between Y2 and Y3
- Average handling time per IPR-related help request: significant decrease between Y2 and Y3

Quality improvement, measured by

- Percentage of user comments in proportion to the number of materials: significant increase between Y2 and Y3
- Percentage of invited peer reviews in proportion to the number of materials: significant increase between Y2 and Y3

Higher awareness of EUREA service, measured by

- Number of users within member universities: significant increase between Y2 and Y3
- Number of user registrations outside member universities: significant increase between Y2 and Y3

Higher awareness of EUREA outside the partner universities, measured by

- Number of references to EUREA and EUREA materials on independent search engines: significant increase between Y2 and Y3
- Number of user registrations outside member universities: significant increase between Y2 and Y3

3.1.2 Sustainability of the project

• A strategic framework with a long-term objective

EUREA-II comes within the scope of a larger academic project within the LERU (League of Research Universities) that promotes research-based education, and aiming at highlighting the excellence of European research that feeds quality higher education. This initiative has clear objectives that meet great European trends such as the ERA process, the Bologna process, and the development of the information society. Synergies between various projects (EUREA and e-LERU) are made possible, new promising initiatives come up, that are strongly supported by the LERU institutions. This strong framework becomes the incubator of various projects, such as EUREA and e-LERU, which can then develop in closed synergies and mutually reinforce. It legitimates EUREA by anchoring it in a larger vision, which brought organizations like the European foundation of Science or the Council of Europe to support and/or help to disseminate the results of the project and thus guarantees its sustainability.

• A financial commitment of the partners to support the project

This strong political commitment of the consortium is confirmed by the financial support of the universities, which agreed on financing the EUREA support centre with their own funds from the start of the project (estimated cost 25 000 euros per year per university, with a three-year commitment). This financial commitment guarantees the financial sustainability of the metadata-base after the end of the project.

- **An institutional infiltration that guarantees a long-term foothold of the project**

- The EUREA feasibility study has shown that the sustainability of an implementation project such as EUREA-II, involving collaboration between universities, lied in its ability to intimately “soak in” the institutions, not only on a managerial and administrative point of view, but also to the individual level of academic communities (students, researchers, teachers, administrative staff, etc.). Thanks to the previous feasibility study and to the analysis of the existing brakes toward such an initiative, the EUREA-II project could entirely be planed in this perspective: a significant effort will be put on assisting the content providers in the uploading of their resources, involving the various universities’ departments (IT centres, libraries, legal departments) and explaining and promoting the project within the universities (events, guides, internal communication campaigns, etc.).

- **A communication strategy implemented within all the partner universities and on national, European and international levels**

An important communication work will be carried out, in order to take into account the mutual interests of the various target audience and to adapt the messages transmitted internally and externally to different contexts. To this aim, a communication strategy will be elaborated before the realization of the communication media. This strategy will be implemented within each partner university according to their specific needs.

- **Extremely favourable conditions to the progressive growth of the consortium**

The LERU will increase to more leading universities (24 in 2006), which means that the amount of partners and dissemination of know-how within EUREA will grow in the close future.

- **Development of a commercial dynamics to provide EUREA with a good positioning on the market**

A work package is devoted to the business development issues in the EUREA-II project. These paying services attached to the material will help lighten the universities’ financial burden and stimulate the metadata-base. Partnerships with private partners will be sought.

4 Project work plan

4.1 Introduction and general description

In order to reach the objectives of the EUREA-II project, the consortium will proceed by conducting 8 project-specific work packages (in addition to the more general ones: management of the project, assessment of progress and results, and project-level awareness and dissemination activities). The scope of the project, the interconnection between the different work packages and the high number of partners led the consortium to set up a distributed coordination system. Moreover, the project leader and Steering Committee will take over the management of the project. An advisory board will be set up to follow the project, give advice and disseminate the results of the project. This board, which will be constituted during the first three months of the project, should include actors from different fields:

- Stakeholders in the European academic field, notably experts from Eastern Europe universities or students’ organization such as ESIB,
- The European research field (for instance, the European Science Foundation),
- Quality experts (European initiatives such as EFQUEL).

At the end of the EUREA’s feasibility study, it appeared that some issues, because of their scope and crucial importance to the project’s success, still had to be refined. Therefore, parts of the work plan will be dedicated to the refinement of these studies.

Three main stages of the project have been identified:

1. **Ground implementation:** The technical infrastructure as well as the ground elements of the other work packages (notably Quality, Legal Issues, Content Management Process and Services) are defined during the first year of the project. On month 14, a first version of the harvester is handed over to the partners. The support center’s core structure is set up.
2. **First stage of deployment of the metadata-base where the system is tested and refined within the LERU universities:** Once this first version of the harvester is ready, the first batch of content

from the member universities can be integrated to the metadata-base. The technical design is refined and from month 16 to month 22, the consortium integrates the interested new LERU members, which become content providers. The local support teams are set-up and an efficient system for internal communication between the European support center and the local support teams is ready. The access regulation and membership schemes are ready.

3. **Second stage of deployment of the metadata-base:** the access to the metadata-base is opened to other users (outside the LERU).

The **WP technical infrastructure** (2, University of Helsinki) will refine the technical model that has been defined and tested during the feasibility study. This model (harvesting) relies on a central database, which holds the metadata of the locally stored digital content. Actual individual resources are located elsewhere, in the LERU-universities' own repositories. Thus, the central repository is only holding the metadata, and facilitates information retrieval functions for digital content. The choice of the harvesting system was made because it does not imply huge technical changes in each university and enables evolutions in the device.

The team in charge of this WP will develop the web interface and services, notably by finding a technical solution that meets the needs for quality marking (quality label, users' comments, etc.), licensing schemes (definition of an upload system), translation scheme and access regulations (WP3, 4, 5 and 7). On M14 of the project, a first version of the harvester will be handed over to the partner universities. A pilot will then be set up for user authentication. The evaluation of the global system will take place until M19. A technical watch will be carried out throughout the project to identify new technical opportunities to implement in the metadata-base.

As regards the **quality of the products** (3, Karolinska Institutet), the consortium will define a minimum quality level of products and processes and find the means to ensure its sustainability in time. This will lead to the identification of the target-products, that is to say the categories of products that have to be assessed and the criteria against which they will be assessed. A report on quality specifications will have to be handed over to the technical team (WP2) on M6. Workflow processes will be drawn to meet the pertaining criteria.

The WP on **legal issues** (4, K.U. Leuven) will give a solid legal basis to EUREA and provide the partners with the necessary elements to devise a secure legal framework. An analysis of the legal requirements for a European-wide scientific content metadata-base will be carried out on all the relevant issues. Its results will be integrated in the definition of requirement specifications (WP2, task 2.3 "Requirement specification" and WP6, task 6.3, setting up of an operational procedure for uploading resources). A second task of this work package will consist in the development of a practical user guide for all users of the metadata-base, which will be needed for WP5, task 5.5, online tutorial course). The propositions made by the WP coordinator will be evaluated by a group of legal experts from all the partner universities, set up at the beginning of the project. This group will notably follow-up developments of the relevant regulatory framework.

The **WP Services** (5, Heidelberg University) will provide services to the content providers and users of the metadata-base. This will especially lead to a precise definition of guidelines for the local support teams, using input from almost all work packages. These teams will be fully operating on M21. This work package will also undertake to find means to ensure communication between these local support teams and the European support center, through an appropriate knowledge management structure (with the input from WP9). A communication pilot will be tested on M17. Specifications for the setting up of a translation service will be integrated in the technical design on M4. Internal promotion actions will be undertaken, whose climax will be reached during synchronised local happenings within each university that will take place every year (M18 and M29). Eventually, gathering the outcomes of WP 2, 3, 4, and 6, the WP team will create an online EUREA tutorial for the users, suppliers and potential peer-reviewers.

The **Content Management Process** (6, Leiden University) will notably coordinate the inventory of the cultural, scholarly and scientific resources, starting with an evaluation of the outcomes of the EUREA 1 repository and its collection process. Guidelines will be elaborated to facilitate the management of the inventory. Extra attention will be paid to the timing of the inventory with the internal promotion actions carried out in WP 5. In order to adequately manage and administer the content of the repository, a registration system has to be set up. The WP team will establish the functional criteria the registration has to meet, before handing them over to WP2. Eventually, an operational procedure for uploading resources will be developed for research staff members. This task will integrate the deliverables of the interconnected WPs (2.5, 4.4, and 5.4).

K.U. Leuven will coordinate the WP on **Business Development Issues (7)**. This WP will handle all business related issues. This will lead firstly to a precise scheme for opening EUREA to non-LERU members by determining access regulations and financial implications. The WP team will work on consolidating the consortium through partnerships. The creation of a LERU publishing house will be investigated in the framework of Open Access publishing. A pilot will be tested, taking account of its implication on the other work packages (notably WP2). Paying services will be investigated, whose promotion will be carried out by the WP5 coordination team. The feasible services will be tested through pilots on M8, and a final report will be made available on M23.

Another essential task of WP7 is the definition of the most appropriate structure of management and support. This task will be coordinated by the university hosting the support centre, with the work package leader acting as a strategic consultant. The support center will be progressively set up during the implementation project, in order to have a common sustainable structure at the end of the project, relying on a long-term strategy.

The **WP8**, also coordinated by K.U. Leuven, aims at involving LERU libraries in the project by providing them with a framework for collaboration and helping them in gaining mutual knowledge. The tasks carried out within this work package will enable them to share their already available resources efficiently to better support LERU institutions' research effort and research-based education. Three sub-tasks will be carried out in parallel. A library group will be constituted that will give advice and support to all the other work packages. This group will also work on interoperability, by mapping the different existing systems. A pilot will be conducted, that will test the linking of the existing repositories and their interoperability with the EUREA metadata-base. More generally, the WP 8 team will collaborate throughout the project with WP2, 3, 4, 5, 6 and 7.

The last project specific **WP (9)**, coordinated by the University of Milan will consist in synchronising the scientific watches carried out in the pertaining WPs and to conduct future proofing actions.

The ULP will coordinate the **Management WP (1)**. The ULP, notably through the project manager, will undertake the coordination of the different work packages and therefore ensure the project's success. It will also undertake the writing of the Consortium Agreement, which will be signed by all the partners by M6. The project manager will work in close collaboration with the University of Geneva, which will coordinate the **Assessment and Evaluation WP (11)**.

Finally, the ULP will coordinate the **Dissemination work package (10)**, which has a strategic impact on the project (see below 4.4).

4.2 Work package overview

Work package Overview

Work package No ³	Work package title	Lead Contractor No ⁴	Person-months ⁵	Start month ⁶	End month ⁷
1	Management of the project	1	41,8	M1	M30
2	Technical Infrastructure	4	124,7	M1	M30
3	Process Quality	8	44,4	M1	M30
4	Legal Issues	6	36,2	M1	M30
5	Services	3	88,3	M1	M30

³ Workpackage number: WP 1 – WP n.

⁴ Number of the contractor leading the work in this work package.

⁵ The total number of person-months allocated to each work package.

⁶ Relative start date for the work in the specific work packages, month 0 marking the start of the project, and all other start dates being relative to this start date.

⁷ Relative end date, month 0 marking the start of the project, and all ends dates being relative to this start date.

6	Content Management Process	5	53	M1	M20
7	Business Development Issues	6	127,9	M1	M30
8	Library Involvement	6	42,8	M1	M30
9	Future Proofing	7	12,7	M1	M30
10	Project-level awareness and dissemination activities	1	28,8	M1	M30
11	Assessment of progress and results	2	1,5	M1	M30
			602		

4.2.1 Work package description

Work package Description

Work package number :	1		Start date:	M1			End date:	M30	
Work package title:	Management								
Applicants involved:	ULP	UniGe	UH EI	Helsinki	Leiden	Leuven	UNI MI	KI	Edinburgh
Labour effort (in months) per applicant:	41,8	0	0	0	0	0	0	0	0
Objectives									
Planning, organizing, monitoring the progress and controlling each aspect of the project in a continuous process, so as to reach the objectives in compliance with the commitments.									
Description of work									
1.1 Coordination of the project (M1-M30)									
<ul style="list-style-type: none"> The management will be taken over by the project manager and the steering committee. They will be supported in this mission by the University of Geneva (quality insurance). The large scope covered by each work package will require the setting-up of a decentralized coordination structure. In each university, a local management team will be set up: a person in charge of the monitoring and a financial/administrative assistant (optional). 									
1.2 Setting-up of the advisory board (M1-M3)									
An advisory board will be set up at the beginning of the project (for the composition and role, see "Workplan").									
1.3 Writing of the Consortium Agreement (M1-M6)									
1.4 Progress Meetings									
The kick-off meeting (Strasbourg, M1) will lead to the constitution of the steering committee, an overview of the project, the presentation of the management, dissemination, and assessment and evaluation methodology. The progress meetings will take place in Leiden (M6), Stockholm (M12), Edinburgh (M20) and Helsinki (M30). Each meeting will be followed by a report. The 3 intermediate meetings will enable the partners to assess and bring the necessary changes. During the closure meeting, the various partners will assess the project, and will eventually adopt new common objectives.									
(Inter-) Dependencies, milestones¹ and expected result									
The kick-off, intermediate and closure meetings are important milestones for the management of the project. The steering committee will meet during each of these meetings, and will discuss and validate the results obtained for the various WP. The setting-up of the support center will be dependant on the outcomes of all the other work packages. Its activities will be validated by the Steering Committee. Expected result: Reaching the objectives in compliance with the commitments.									
Deliverables									
D 1.1: An intermediate report describing how the commitments have been met, i.e. the planning, the costs and the obtained results.(M15)									
D 1.2 : A final report describing how the commitments have been met, i.e. the planning, the costs and the obtained results. (M30)									
D 1.3 : A consortium agreement signed by all the partners (M6)									

¹ Milestones are control points at which decisions are needed, for example concerning which of several technologies will be adopted as the basis for the next phase of the project.

Work package number :	2		Start date:	M1		End date:	M22		
Work package title:	Technical design								
Applicants involved:	ULP	UniGe	UH EI	Helsinki	Leiden	Leuven	UNI MI	KI	Edinburgh
Labour effort (in months) per applicant:	8,1	7,5	7,6	58,3	7,4	7,2	13	7,5	8,1
Objectives									
<p>The EUREA feasibility study has enabled the partners to identify the need for a strong commitment of the IT centers to the project, a technical model that still needs some refinement, the need for a consensual technical model to ensure the project's success.</p> <p>This WP will implement the best suitable technical solution for interoperability in digital material. The approved model is built on providing an overall interoperable structure of metadata. The technical infrastructure is a distributed hybrid model where there is a central repository, with only referrals and pointers to the digital objects and material. Metadata of these objects will be harvested to the central repository. Locally the material will be placed on OAI compliant repositories.</p>									
Description of work									
<p>2.1 Survey on existing repositories (M1 – M3): Finding out what kind of repositories (softwares) is on the field and what system the partner universities use. The educational repositories have already been mapped during the pilot phase. Now the survey will be conducted on scientific resources repositories. This mapping will include available OAI compatible repository softwares, available harvester softwares, various resource formats (e.g. pdf . doc etc.) in use by the partners, learning platforms used among LERU universities and the possible interfaces needed for interoperability, parties at partner universities who are responsible for the maintenance of these repositories.</p>									
<p>2.2 Setting-up of a European work group (M2): An engineer from the Helsinki university travels within the 9 partner universities to identify the right contact persons, present and explain the project. A real European technical team is created. The level of cooperation will be ensured by regular videoconferences, and 2 face-to-face meetings with the work package co-coordinator (University of Milan).</p>									
<p>2.3 Requirement specification: M1-M8</p> <ul style="list-style-type: none"> - A needs analysis, specifying the needs and the functionalities required of the system will be provided. (core functions of the system, additional services and functionalities). The additional services are in connection with the results of pilot phase and WPs (legal issues, quality, content management, services and business development issues). - Support, functionality and maintenance analysis will be provided. - Harvester softwares will be mapped (which services can be provided with existing open-source software and which services need programming resources?) Various methods for user profiles and authentication will be considered (eg. shibboleth). - Each partner establishes the list of its university's specifications that have to be taken into account for the global infrastructure. - Coherence with the e-LERU's virtual campus infrastructure will be gained. The Helsinki team will work with the University of Milan, which is in charge of the design of the e-LERU's virtual campus infrastructure, in order to establish the requirements necessary to integrate both systems. - Finally the requirement specifications will be delivered to partners for evaluation and approval. 									
<p>2.4 Common metadata format M1-M3</p> <p>This task will provide an overall interoperable structure of metadata (standardized form DC used as the harvested metadata format). Metadata converting and mapping will be discussed to find out the possibilities of implementing the tool for metadata export.</p>									
<p>2.5 Technical Implementation of the harvester M9-M14</p> <p>Based on the results of requirement specification, the harvester will be implemented in phases:</p> <ol style="list-style-type: none"> 1. Selecting the suitable software based on the specific requirements; 2. Programming and customizing for the needed additional services; 3. Local testing and evaluation; 4. Graphic user interface. This task will be carried out in partnership with the team in charge of WP10 (Dissemination); Partner interoperability testing and evaluation; 5. Finishing the implementation; 6. Writing a report of results of implementation and evaluation; 7. Handing the harvester over to the partner universities and European support center. 									
<p>2.6. User profiles and authentication M15-M18</p> <p>This task will plan the federation and conduct a pilot for user authentication.</p>									
<p>2.7. Evaluation of the system, usability M15-M18</p> <p>The WP team will gather the feedback from the users (academics, teachers, students, administrators), and use the evaluation criteria set up by the process quality team. A report will be provided.</p>									
<p>2.8. Final tuning up of harvester M18-M20.</p>									

2.9. Follow up on future (M20 – M30)
A technical watch will be led on various aspects, notably cross-lingual retrieval and automatic metadata generation.
(Inter-) Dependencies, milestones¹ and expected result
The work package particularly needs to operate in cooperation with the work packages content management, services, legal issues and quality. The milestones for this work package are the report on specifications on month 8 and the harvester that will be ready M14 and handed over to central support center. An evaluation report will be done on M19.
Deliverables
2.1 A survey of existing software available (M3)
2.2 A report of requirements specification (M8)
2.3 A first version of the harvester (M14)
2.4 An evaluation report (M19)

Work package number :	3	Start date:	M1	End date:	M13				
Work package title:	Adressing quality of products								
Applicants involved:	ULP	UniGe	UH EI	Helsinki	Leide n	Leuve n	UNI MI	KI	Edinbur gh
Labour effort (in months) per applicant:	1,9	5,9	1	5,8	0,9	0,9	5,6	21,4	0,9

Objectives

The objective of this work package is to define a minimum quality level of products and processes and to find the means to ensure its sustainability in time.

Description of work

This work package will identify the target-products that is to say the categories of products that have to be assessed and the criteria against which they will be assessed, taking account of what has been done before (What?) and define the workflow process to meet the pertaining criteria (Who and how?).

3.1 Setting-up of a work group of the representative stakeholders (quality representatives within each university and external experts): M1

3.2 Identification of the products: M1-M2

3.3 Investigation on possible existing related quality criteria used in the European Union and partner organisations: M1-M4

3.4 Definition of objective quality criteria: M5

3.5 Definition of possible levels of quality and development of guidelines: M5

3.6 Writing of a report on quality specifications: M6

3.7 Definition of the workflow in determining quality, including definition of the method used to review and which actors participate to it: M7-M9

3.8 Definition of the process to improve (feedback) the quality: M10-M11

3.9 Quality label issues: M12-M13

3.10 Follow-up and refinement: M14-M30

(Inter-) Dependencies, milestones¹ and expected result

This work package will require a good level of cooperation from the other universities. It is strongly linked to the WP2, technical design, as the report on quality specifications should be made available for the task 2.3. The team in charge of this work package will see to it that the work is carried out taking accounts of the other work packages, notably with content management process and future proofing.

The report on quality specifications is an important milestone for this work package. It will have to be validated by the Steering Committee.

A minimum quality level of the products provided through EUREA and processes to reach it will be defined, as well as the means to make it sustainable, notably through the setting-up of a LERU label.

Deliverables

D 3.1: Set of quality specifications

D 3.2: Report on the workflow process

D 3.3: Quality label set of rules

¹ Milestones are control points at which decisions are needed, for example concerning which of several technologies will be adopted as the basis for the next phase of the project.

¹ Milestones are control points at which decisions are needed, for example concerning which of several technologies will be adopted as the basis for the next phase of the project.

Work package number :	4			Start date:	M1		End date:	M30	
Work package title:	Legal issues								
Applicants involved:	ULP	UniGe	UHEI	Helsinki	Leiden	Leuven	UNIMI	KI	Edinburgh
Labour effort (in months) per applicant:	1	1	1	0,9	0,9	28,4	0,9	1	1,2
Objectives									
Ensure the legal compliance of the development and operation of the meta-database. Handle all legal issues that are relevant for the implementation of the meta-database of scientific content and provide the partners with the necessary elements to devise an adequate and secure legal framework.									
Description of work									
<p>4.1. Legal watch (M1-30): A legal expert group will be set up gathering experts from all partner universities. During the whole duration of the project, this legal expert group will follow-up developments of the relevant regulatory framework which could be important for EUREA and will evaluate the propositions made by the WP4 coordinator.</p> <p>4.2. Legal policy development / legal requirements analysis (M1 – M9) : This task consists of an analysis of the legal requirements for a European-wide scientific content meta-database and a definition of the relevant legal requirements issues; research areas include : the protection of personal data, databases and/or intellectual property rights, identity management and contractual issues, issues regarding the liability of actors involved, etc.</p> <p>4.3. Legal coaching of implementation (M1 – M20): advising on legally compliant ways to implement the technological solutions of EUREA; evaluating proposed technological solutions on their compliance with the legal requirements.</p> <p>4.4. Development of a practical user guide (M4-17): The WP4-team will elaborate a practical guide (paper and electronic version) for all users of the meta-database, e.g. content providers.</p> <p>4.5. Dissemination of legal results (M14 – M30): This task consists of developing legal training materials and offering training sessions to stakeholders (teachers, content providers, librarians, etc.). A plan of action for the dissemination of legal results will be written first and after validation by the Steering Committee will be carried out.</p>									
(Inter-) Dependencies, milestones¹ and expected result									
Through this work package we expect to give EUREA a solid legal basis. The WP will need input from various WP's, more specifically from WP's 2, 5 and 6 for evaluating proposed services or technological infrastructure from a legal point of view and WP 2, 5, 6, 8 and 10 for the dissemination of legal research results. Milestones are the consortium meetings on which the reports will be submitted for approval to the Steering Committee and the evaluations of the legal results by the expert group.									
Deliverables									
D 4.1.1: Preliminary report legal watch (M15) D 4.1.2: Final report legal watch (M30) D 4.2: Analysis of legal requirements and definition of all elements of the legal infrastructure (M7) D 4.3: Legal coaching of implementation; advising on legally compliance of EUREA (M20) D 4.4.1: Draft version of practical user guide (M13) D 4.4.2 Final version of the practical user guide (M17) D 4.5: Training material for stakeholders and plan of action for dissemination (M15)									

Work package number :	5			Start date:	M1		End date:	M30	
Work package title:	Services								
Applicants involved:	ULP	UniGe	UHEI	Helsinki	Leiden	Leuven	UNIMI	KI	Edinburgh
Labour effort (in months) per applicant:	5,2	5,1	31,9	5,2	10,3	10,1	4,9	10,4	5,2
Task 5.1 Setting up local support teams (M1-M20)									
This task will result in a needs analysis for the development of local support structures (M1-M2) and a standard scheme of elaborated common requirements (M13-M16). Subsequently a scheme for a set of guidelines will be developed for the partners that will take into account the deliverables of this and other WPs (2/4/6) (M17-M20).									
Task 5.2 Knowledge management structure (M12-M20)									
An internal communication system will be developed targeting on communication within the local support teams as									

¹ Milestones are control points at which decisions are needed, for example concerning which of several technologies will be adopted as the basis for the next phase of the project.

<p>well as between local support and central support. After a needs analysis has been conducted (M12-M14), a software selection will take place (M15-M16), the communication pilot will be presented and tested by the partners (M17-M18). The system will be readjusted (M19-M20)</p> <p>Task 5.3 Internal promotion (M4-M30) Taking the synergies of Task 5.1 and 5.2 into account the coordinated internal promotion within the partner universities will be planned. Setting up a synchronised local yearly happening will be the central issue of this task. The planning of the event will take into account the expectations of our partners (Setting up a web-presence, brochure etc. (M4-M17)). The first happening will take place on M18. The second happening will take place on M28-30.</p> <p>Task 5.4 Development of a Translation scheme (M1-M9) Finding a way of dealing with the aspects of multilingual metadata and content. This will include a description of requirements (M1-M3), recommendations on controlled vocabularies, corrective methods etc. for metadata as well as (M4-M7) and concept for content translation issues.(M5-M9)</p> <p>Task 5.5 Tutorial on EUREA usage (M15 – M21) Creating an online tutorial for the users, suppliers and potential peer-reviewers. Depending on the target group the tutorial addresses information retrieval abilities, raises the awareness for IPR questions, will explain the possibility of content provision, maintenance or peer review procedures.</p>
<p>(Inter-) Dependencies, milestones¹ and expected result</p> <p>The WP will need input from almost all WPs regarding the definition of guidelines. For the knowledge management structure we see interdependencies with the WP Future Proofing, for internal promotion a close collaboration with WP 10 Dissemination is necessary. The timing of events, public as well as internal, between this WP and WP 10 Dissemination is crucial and demands a firm linking between these WPs.</p> <p>Milestones are the first happening for internal promotion, the software decision for the knowledge management structure, and the response of the partner universities concerning the proposed guidelines.</p> <p>For 5.1. we expect a concise compendium of guidelines, for 5.2. a functioning communication tool, for 5.3. elaborated internal promotion, 5.4. should give us answers for our multilingual challenges and 5.5 should lead to an integrated online course for various target users.</p>
<p>Deliverables</p> <p>D. 5.1. Set of Guidelines for local support. D. 5.2. Knowledge management structure D. 5.3. Report on internal promotion strategy D. 5.4. Translation scheme D. 5.5. User-tutorial</p>

Work package number :	6			Start date:	M1	End date:	M30		
Work package title:	Content Management								
Applicants involved:	ULP	UniGe	UH EI	Helsinki	Leiden	Leuven	UNI MI	KI	Edinburgh
Labour effort (in months) per applicant:	3	3	6,5	6,4	21,8	2,9	2,8	3	3,6

<p>Objectives</p> <p>The WP (work package) on Content Management will evaluate and coordinate the process of collecting and adding the metadata and catalogue descriptions for the resources that are to be uploaded to the repository, firstly by developing a pilot registration system and secondly by refining this system in order to contribute to an adequate uploading process and usability criteria for final users. The WP will affect the access modes for the repository and define the stakeholders, i.e. local support teams, contributing scientists, scientific and scholarly groups of users.</p>
<p>Description of work</p> <p>Task 6.1 Coordination of the inventory of cultural, scholarly and scientific resources The focus on cultural, scholarly and scientific sources requires a shift in the target group of contributors to the repository as the aim of EUREA-1 was to identify sources to be used mainly in e-learning: Evaluation of the outcomes of the EUREA-1 repository and its collection process (M1), Elaboration of guidelines to conduct the inventory (M1 – M4), Management of the inventory (M8 –M10), Elaboration of a catalogue of resources (M3 – M4), Updating the catalogue (M19 – M30)</p> <p>Task 6.2 Definition of the functional specifications for the pilot registration system (M6 – M10) In order to adequately manage and administer the contents of the repository a registration system will have to be set up. The current WP on Content Management will establish the functional criteria the registration system has to meet: Setting up recommendations for the local technical implementation of a registration system by interacting with the</p>

¹ Milestones are control points at which decisions are needed, for example concerning which of several technologies will be adopted as the basis for the next phase of the project.

requirement specification of WP 2. (M3 – M6) and developing a formal upload process (M6 – M10). The outcome will influence the technical implementation of the harvester and the uploading process in WP 2.

Task 6.3 Setting up an operational procedure for uploading resources (M6 – M25)

In order for the partners to be able to upload their resource data, or rather the corresponding metadata, to the EUREA repository an operational procedure will be developed for research staff members. This part of the WP is a continuous process of refinement based upon the deliverables of the interconnected WPs and will match the time schedule of the technical implementation of the harvester (WP 2).

(Inter-) Dependencies, milestones¹ and expected result

The WP on Content Management particularly needs to operate in cooperation with the WPs on Technical Infrastructure, Dissemination, Process Quality, Legal Issues and Services. The strong interactivity with WP 2 aims to coordinate the impact of the deliverables of non-technical WPs into WP 2. Conversely the technical boundaries defined in WP 2 will have to be taken into account by the tutorials of WP 5. This integrating function partly coincides with the overall process quality of WP 3. A first major milestone will be the deployment of the pilot registration system, after which a general refinement in a technical sense and in terms of usability is required. The follow-up in task 6.3 will optimise the upload process and lead to the deployment of content access in M14 for LERU users as the second major milestone. This managerial part between the affiliated WPs will continue during the remaining project period.

Deliverables

- 6.1. An overall process model of the EUREA system
- 6.2 A list of functional specifications for the registration system for the resources (resource catalogue)
- 6.3 A pilot registration system
- 6.4 An operational system for uploading resources
- 6.5 A model for searching data in the repository for different target groups

Work package number :	7			Start date:		End date:			
Work package title:	Business Developments								
Applicants involved:	ULP	UniGe	UH EI	Helsinki	Leide n	Leuv en	UNI MI	KI	Edinbur gh
Labour effort (in months) per applicant:	34,7	8,9	9	8,9	8,9	31,1	8,5	9	8,8

Objectives

The work package will handle all business related issues, like access regulations, membership policy, partnerships, the definition of the most appropriate structure of the EUREA support centre and a study and pilot testing of possible business developments, like Open Access Publishing and paying services.

Description of work

7.1. Determining access regulations and membership policy (M1-15): This task will lead to a precise scheme for opening EUREA to non-LERU members by determining access regulations and financial implications (membership fees).

7.2. Establishing partnerships (M1-30): The WP-team will work on consolidation the consortium through partnerships.

7.3. Definition of the most appropriate structure of management and support, coordinated by the university hosting the support centre (M1-30): This task will be carried out mainly by the partner who will be hosting the support centre, with the work package leader acting as a strategic consultant. This task will result in a first report after 6 months that will form the basis of a pilot phase in which the support centre will be deployed. The pilot phase will then be evaluated after the first year. During the remainder of the project, the work in this task will consist of a continuous refinement of the business model. The final result of this task will be a report on the long term sustainability strategy for the support centre.

The support center will be progressively set up during the implementation project. Year 1, one person will be hired and will work on finding ways to ensure the sustainability of the whole system (visits to the partner universities and gathering in hosting university). He/she will work under supervision of the project coordinator and WP7 coordinator. An engineer from the hosting university will work from M6 to M12 to contribute to the technical issues. This engineer could work under the co-responsibility of Helsinki and ULP. Year 2, a manager and an engineer are working full time for the support center, under the responsibility of the project manager and the steering committee. Year 3, the support center is operational and does not rely on external financing anymore (university financing). A final report on the sustainability strategy for the support centre is delivered, and submitted to the Steering Committee's approval.

7.4. Study and pilot testing of Open Access Publishing (M1-17): Within this task, the feasibility of Open Access

¹ Milestones are control points at which decisions are needed, for example concerning which of several technologies will be adopted as the basis for the next phase of the project.

<p>Publishing will be investigated taking into account the implications for the other work packages. It will be tested with a pilot and evaluated. Recommendations for implementation in the meta-database will be made, based on the evaluation.</p> <p>7.5. Study and pilot testing of paying services (M1-23): Within this task, the feasibility of paying services will be investigated. An intermediary will be submitted for approval to the Steering Committee. After the validation by the Steering Committee, the feasible services will be tested with a test pilot, evaluated and refined. They will gradually be implemented in the meta-database.</p>
<p>(Inter-) Dependencies, milestones¹ and expected result</p> <p>Through this work package we expect to give EUREA a solid economic basis. The WP will need input from almost all WP's, more specifically from WP's 2, 4 and 10 for determining access regulations; WP 4 and 10 for the establishment of partnerships and WP's 4, 5, 6, 8 and 9 for the study of future business developments. The results from 7.1 (access regulations), 7.4 and 7.5 will be needed for task 2.5 and 5.3.</p> <p>Milestones are the consortium meetings on which the reports will be submitted for approval to the Steering Committee and the evaluations after each planned test pilot.</p>
<p>Deliverables</p> <p>D 7.1.1 Report on access regulations (M9)</p> <p>D 7.1.2 Report on membership policy and on 7.2 the search for and establishment of partnerships (M15)</p> <p>D 7.2.1 Sponsor file (M5)</p> <p>D 7.2.2 Final report on the search for and establishment of partnerships (M30)</p> <p>D 7.3.1 Business analysis of the support centre – First version (M5)</p> <p>D 7.3.2 Business analysis of the support centre – Mid-term evaluation of the pilot (M13)</p> <p>D 7.3.3 Final report on sustainability strategy for support centre (M30)</p> <p>D 7.4. 1 Requirements analysis for Open Access Publishing and 7.5 paying services (M8)</p> <p>D 7.4.2 Recommendations for Open Access Publishing (M17)</p> <p>D 7.5. Final report on paying services (M23)</p>

Work package number :	8			Start date:	M1		End date:	M30	
Work package title:	Library Involvement								
Applicants involved:	ULP	UniGe	UH EI	Helsinki	Leide n	Leuv en	UNI MI	KI	Edinburgh
Labour effort (in months) per applicant:	0,9	5,8	0,9	10	0,8	12,7	0,8	10, 1	0,8

<p>Objectives</p> <p>The aim of the WP 8 is to get the LERU libraries involved and committed to EUREA-project and enable them to share their already available resources efficiently to better support LERU institutions' research effort and research based education. As experts in the field of information literacy, information retrieval and information management, the team will support the other work package teams and enable the existing resources to better support research and research-based education. Special attention will be paid to interoperability, training for understanding and accessing content, the content management process and open access publishing.</p>
<p>Description of work</p> <p>8.1. Library watch (M1-30): A library group will be composed with library experts. During the whole duration of the project, this library group will give advice to and support the work packages 2, 3, 4, 5, 6 and 7.</p> <p>8.2. Interoperability (M1-15): This task consists of three subtasks: 1) defining common cataloguing rules; 2) reviewing library software and its potential for interoperability with EUREA; 3) mapping current library systems and resource databases used in the partner universities with a focus on linking the existing systems and databases (test pilot where the interoperability with the EUREA meta-database will be tested as well).</p> <p>8.3. Libraries, research and research-based education (M1-30): In this task the WP8-team wants to fulfill the specific information role of libraries in research and higher education. The team will collaborate with the teams of WP4 on legal issues for the training sessions to stakeholders; with the WP5 on services for the development of a tutorial on EUREA usage; with the WP6 on the content management process for the development of this process; with the WP7 on business developments for the research and pilot on open access publishing. For this task with four subtasks two common reports will be written with an overview of the work done by the WP8-team. The reports with the specific information and outcomes of the different tasks will be provided by the corresponding work packages.</p>
<p>(Inter-) Dependencies, milestones¹ and expected result</p>

¹ Milestones are control points at which decisions are needed, for example concerning which of several technologies will be adopted as the basis for the next phase of the project.

¹ Milestones are control points at which decisions are needed, for example concerning which of several technologies will be adopted as the basis for the next phase of the project.

There is a strong interdependency with almost every work package, more specifically 2, 3, 4, 5, 6 and 7. The WP8-team will provide input for all these work packages. Milestones are the reports which will provide the input from the libraries to the other work packages and the test pilot. The expected result is that the libraries will be strongly involved in the project and a solid basis for long-term, extended collaboration between the university libraries on the one hand and between the libraries and EUREA on the other hand will be given.
Deliverables
D 8.1.1 Intermediary report of the library watch and of 8.3 libraries, research and research-based education (M16)
D 8.1.2 Final report of the library watch and of 8.3 libraries, research and research-based education (M30)
D 8.2.1 Report on common cataloguing rules (M5)
D 8.2.2 Review of library software (M8)
D 8.2.3 Survey on current library systems and resource databases (M4)
D 8.2.4 Evaluation of the test pilot (M15)

Work package Description										
Work package number :	9			Start date:	Month 1	End date:	Month 30			
Work package title:	Future Proofing									
Applicants involved:	ULP	Genève	Heidelberg	Helsinki	Leiden	Leuven	Milan	KI	Munich	Edinburgh
Labour effort (in months) per applicant:	3,5	0	0	0	0	0	6,2	2,9	0	0
Objectives										
<p>The objective of the WP is to coordinate the watch on new trends that would be done in each WP, so that EUREA can benefit from them and keep up with the latest innovations. In detail, the partnership has:</p> <ul style="list-style-type: none"> • To study the further most appropriate developments of EUREA metadatabase in the European and international framework (anticipate future developments and taking actions to realign the project to the external trends) • To monitor the elearning market trends and technological changes. • To survey and monitor the evolutions within the domain of scientific materials for anticipating market trends and investing in a suitable technology • To develop a data collection system to regular update the partnership regarding possible future trends for EUREA II. 										
Description of work										
9.1 Collaborative watch										
Objective: collecting the partner's watch and re-distributing the info amongs the partners.										
The work will be conducted on different work axis with by a work group gathering experts from the coordinating universities (Milan, KI and ULP), in collaboration with the other WPs, to have a complete framework of new trends and to keep track of the developments that could impact on EUREA project (repository and harvesting technology, libraries, online publishing initiatives investing the possibility to set up a LERU publishing house, quality initiatives). In each WP devoted decentralized experts will carry out the watch regarding to their specific expertise and send the data to the FP coordinator, who is in charge of collecting, surveying and reflecting the data and writing regular reports.										
9.2 Prospective:										
The work group will synchronise all the information collected in task 9.1. It will prioritize them and then animate the network on the new trends through meetings and debates. To facilitate this iterative process three physical meetings of the work group will be organized during the project, as well as a monthly virtual meeting.										
(Inter-) Dependencies, milestones¹ and expected result										
Relations with other WPs: WP2 (technical infrastructure) ; WP3 (process quality) ; WP4 (legal issues) ; WP5 (services) ; WP6 (content management process) ; WP7 (business development issues) ; WP8 (library involvement). Milestones: The progress meetings 2-5 where the outcomes will be discussed by the partners										
Results: Regular reviews of the new trends to take into account and to their possible benefit for EUREA (1 report delivered prior each progress meeting) ; decisions made by the SC concerning the possible EUREA's evolutions (one annual report).										
Deliverables										

¹ Milestones are control points at which decisions are needed, for example concerning which of several technologies will be adopted as the basis for the next phase of the project.

D 9.1 Reports I: 2 reports (watch+prospective), delivered 1 month after the progress meetings 2 and 3 (M7, M13).
 D 9.2 Reports II: 2 reports (watch+prospective), delivered 1 month after the progress meetings 3 and 4 (M21, M31).

Work package number :	10			Start date:	M1		End date:	M30	
Work package title:	Project-level awareness and dissemination activities								
Applicants involved:	ULP	UniGe	UHEI	Helsinki	Leiden	Leuven	UNIMI	KI	Edinburgh
Labour effort (in months) per applicant:	16,7	1,3	2	1,3	2	1,3	1,2	1,3	1,7
Objectives									
<p>Communicating the purpose and the scope of the project towards a wide-range of users and content providers, so as to attract their interest in the project and disseminate its results. Circumventing the natural and cultural reluctance of academics to the sharing of content will ensure the sustainability of the EUREA metadata-base. This WP will therefore have to go further than classical dissemination actions and will set up a real dissemination strategy.</p>									
Description of work									
<p>The dissemination work package will be divided into two different stages. This work package will be carried out in synergy with the work package 5 (Services) and will thus reinforce the internal promotion strategy by an appropriate external strategy.</p> <p>10.1 – M1-M4: The team in charge of this work package will elaborate a communication strategy which will identify the specificities of the target groups (academics, students, librarians, private companies, etc.). It will then reflect on the message the consortium wants to deliver (in constant collaboration with the partner universities). These messages will be developed for instance through articles according to the target group. A visual identity (graphical charter and logo) for the metadatabase will be designed, in compliance with the defined messages.</p> <p>In partnership with all the universities, the ULP will identify and define the lines of action and the measures that will have to be implemented on national levels, taking account of national specificities. These actions will have to be synchronised in time with the different phases of the project to increase their efficiency.</p> <p>Guidelines will be written for the graphic conception of the EUREA portal, in synergy with the WP2.</p> <p>A report will present the communication strategy that will have to be validated by the Steering Committee.</p> <p>This strategy will be refined after the first outcomes of the work package 5 on internal promotion. A communication watch will be carried out throughout the project (with a stronger effort in the first 5 months of the project) to identify the best opportunities for the project to be disseminated. The watch will enable the partners to identify the workshops and conferences where the project should be presented.</p> <p>10.2 – M3-M30:</p> <p>This communication strategy will be implemented during the second stage of the work package.</p> <p>10.2.1 A communication guide will be created and distributed throughout the universities. A person from the team in charge of the work package will travel to each partner university to explain the chosen strategy to the project's stakeholders. (M5)</p> <p>10.2.2 Communication media will be elaborated: EUREA's existing website will be updated and some parts will be translated into the 6 languages of the consortium (M3), and a colour leaflet (M6) will be updated once during the course of the project (M20). The communication messages conveyed will be updated and refined according to the outcomes of the other work packages. The coordinating team will also ensure a follow-up of the partnerships established by the business development issues work package, to make sure that the project's dissemination benefits from them. It will make sure that the promotion of EUREA within each work package is in compliance with the established communication strategy.</p> <p>10.2.3 The coordinator of the work package as well as the co-coordinator will participate in workshop and conferences to present the project. A short collection of papers will be produced at the end of the project (M30).</p>									
(Inter-) Dependencies, milestones¹ and expected result									
<p>This work package will be executed from the start of the project and during its whole duration. It will work in total synergy with WP 5 (Services), taking especially into account task 5.3 (Internal promotion). The updates of the messages the consortium wants to convey will take account of the outcomes of the other work packages. On the design of the EUREA portal, the WP coordination team will work in synergy with WP2.</p>									
Deliverables									

¹ Milestones are control points at which decisions are needed, for example concerning which of several technologies will be adopted as the basis for the next phase of the project.

D10.1 Report on the chosen communication strategy – with graphical charter and a logo (M4)
D10.2 Updated and partly translated website (M3)
D10.3 Brochures (M6 and M20)
D10.4 Collection of conferences' papers (M30)

Work package number :	11	Start date:	M1	End date:	M24				
Work package title:	Awareness and evaluation								
Applicants involved:	ULP	UniGe	UH EI	Helsinki	Leide n	Leuve n	UNI MI	KI	Edinburgh
Labour effort (in months) per applicant:	0	1,5	0	0	0	0	0	0	0
Objectives									
The Assessment and Evaluation has the objectives to (1) continuously providing feedback to the project management, (2) checking the overall progress of the project, and (3) ensuring the deliverables are of satisfactory quality.									
Description of work									
Assessment and evaluation is a continuous process involving corrective actions. Quality evaluation, as measured by criteria provided by external party (e.g. EFQUEL, ISO), will be applied on the deliverables. At milestones M6, M12, M18 and M24 project evaluation reports will be delivered.									
(Inter-) Dependencies, milestones¹ and expected result									
The assessment and evaluation is dependent on all WPs of the project. The main milestones are: Milestone 1: Project meetings. Active and completed WPs will be assessed and evaluated. Milestone 2: System architecture. The design of the system will be validated in terms of standards and interoperability (OAI-PMH). Milestone 3: Resource uploading. The workflow will be assessed and evaluated to check its conformity with the initial requirements (interoperability, IPR issues, usability). Expected results are, through corrective actions, improved quality of the project management and deliverables of the different WPs.									
Deliverables									
D11.1 A list of corrective actions (delivered at the project meetings)									
D11.2 A report describing the results of the qualifications of the WPs (upon completion of the WPs)									
D11.3 Final report (at the end of project)									

4.2.2 Deliverables List

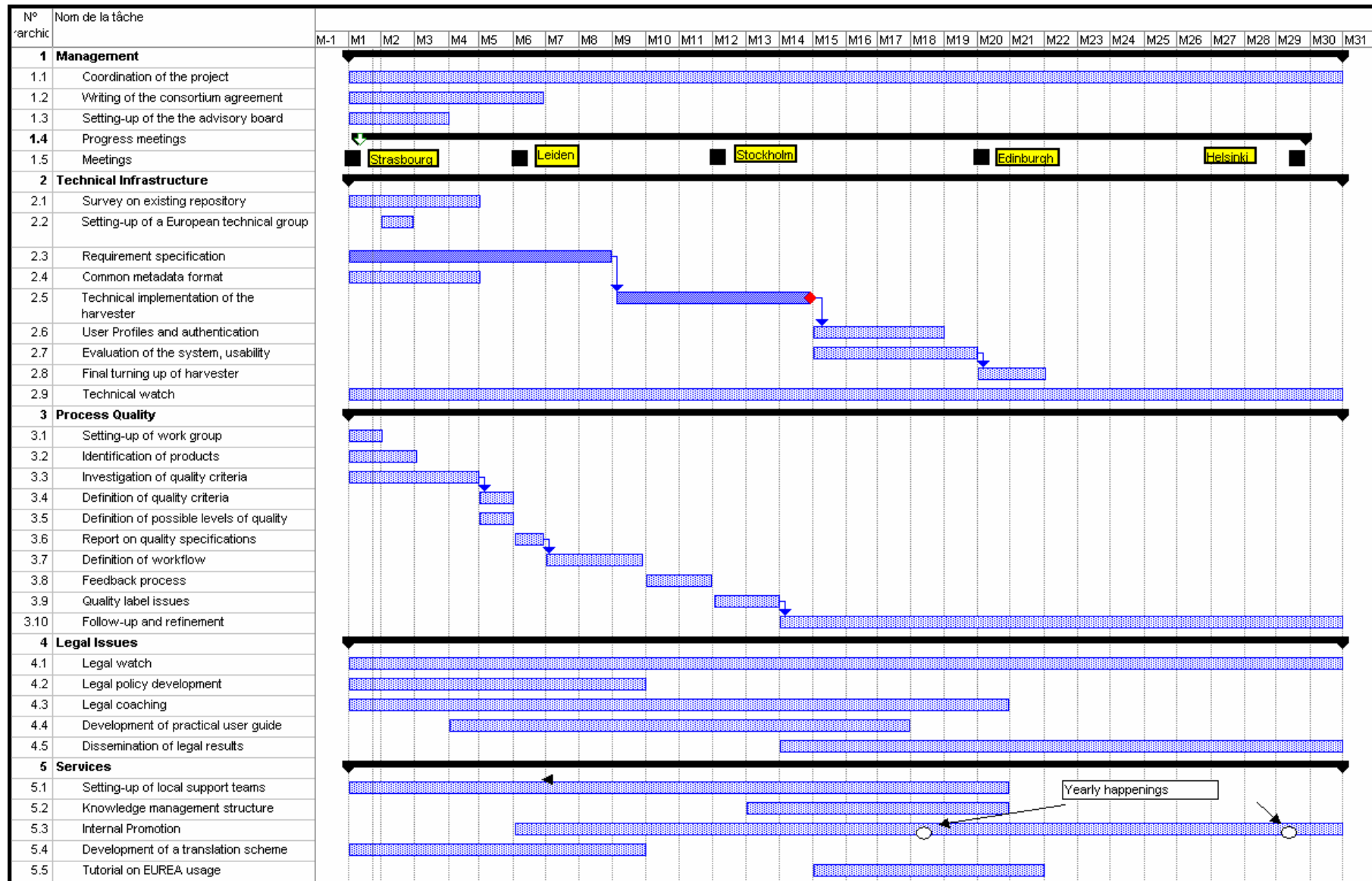
Deliverables List				
Deliverable No	Deliverable title	Delivery date	Nature	Dissemination level
D 1.1	An intermediate report	M15	R	CO
D 1.2	A final report	M 30	R	CO
D 1.3	A sustainability scheme for the support center. (M12)	M 12	R	CO
D 2.1	A survey of existing software available M3	M 3	R	CO
D 2.2	A report on requirements specification M8	M8	R	CO
D 2.3	The harvester	M14	D	PP
D 3.1	Set of quality specifications	M6	R	CO
D 3.2	Report on the workflow process	M9	R	CO
D 3.3	Quality label set of rules	M13	R	PP
D 4.1.1	Preliminary report legal watch (M15)	M15	R	CO
D 4.1.2	Final report legal watch (M30)	M30	R	CO
D 4.2	Analysis of legal requirements	M7	R	CO
D 4.3	Legal coaching of implementation	M20	S	PP
D 4.4.1	Draft version of practical user guide	M13	S	CO

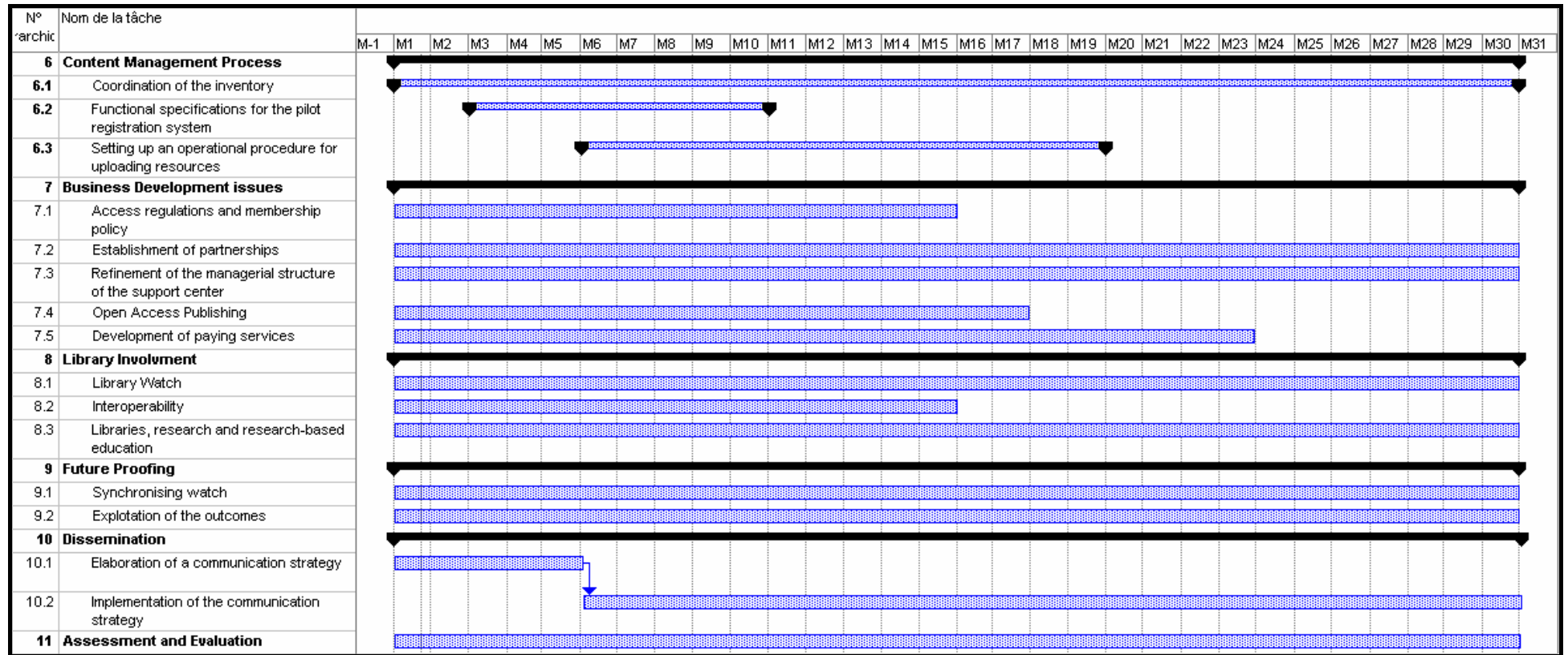
¹ Milestones are control points at which decisions are needed, for example concerning which of several technologies will be adopted as the basis for the next phase of the project.

EUREA-II

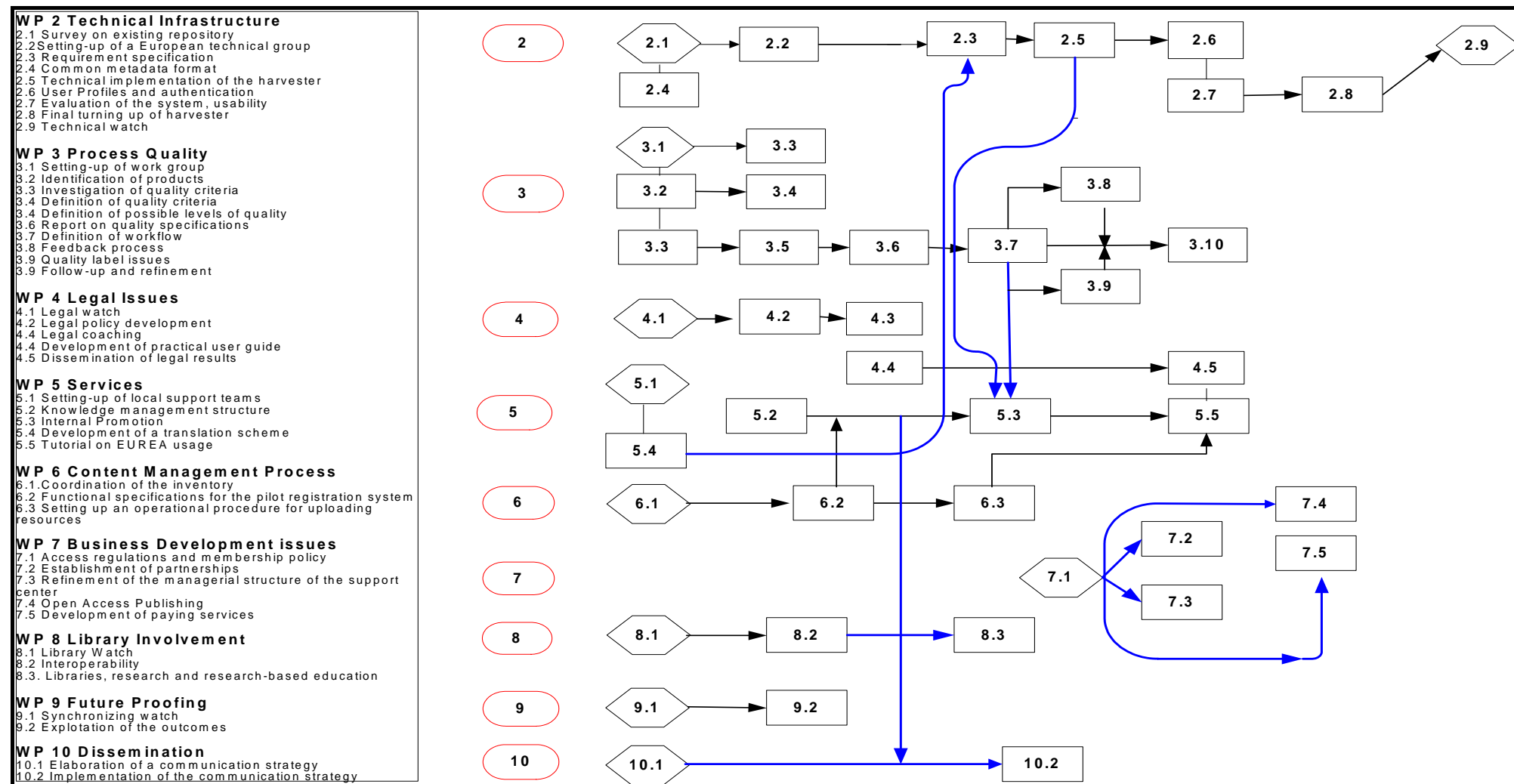
D 4.2.2	Final version of the practical user guide	M17	S	PP
D 4.5	Training material and plan of action for dissemination	M15	S	PU
D. 5.1.	Set of Guidelines for local support.	M20	S	PP
D. 5.2	Knowledge management structure	M20	S	CO
D. 5.3.	Report on internal promotion strategy	M13	R	CO
D. 5.4.	Translation scheme	M9	O	CO
D. 5.5.	User-tutorial	M21	S	PP
D 6.1.1	An overall process model of the EUREA system	M1	O	CO
D 6.1.2	Functional specifications for the registration system	M4	O	CO
D 6.2	A pilot registration system	M10	O	CO
D 6.3.1	An operational system for uploading resources	M19	O	CO
D 6.3.2	A model for searching data in the repository	M6	O	CO
D 7.1.1	Report on access regulations (M9)	M19	R	CO
D 7.1.2	Report on membership policy (M15)	M15	R	CO
D 7.2.1	Sponsor file (M5)	M5	O	CO
D 7.2.2	Final report partnerships (M30)	M30	R	CO
D 7.3.1	Business analysis of the support centre – First version	M5	O	CO
D 7.3.2	Business analysis of the support centre – Mid-term evaluation	M13	O	CO
D 7.3.3	Final report on sustainability strategy for support centre	M30	R	CO
D 7.4.1	Requirements analysis for Open Access Publishing	M8	O	CO
D 7.4.2	Recommendations for Open Access Publishing	M17	O	CO
D 7.5	Final report on paying services	M23	R	CO
D 8.1.1	Intermediary report of the library watch	M15	R	CO
D 8.1.2	Final report of the library watch	M30	R	CO
D 8.2.1	Report on common cataloguing rules	M5	R	CO
D 8.2.2	Review of library software	M8	O	CO
D 8.2.3	Survey on current library systems and resource databases	M4	O	CO
D 8.2.4	Evaluation of the test pilot (M15)	M15	O	CO
D10.1	Report on the chosen communication strategy – with graphical charter and a logo	M4	R	CO
D10.2	Updated and partly translated website	M3	S	PU
D10.3	Brochures	M6, M20	S	PU
D10.4	Collection of conferences' papers	M30	S	PU
D11.1	A list of corrective actions (delivered at the project meetings)	6,12, 20 29	O	CO
D11.2	A report describing the results of the qualifications of the WPs (upon completion of the WPs)	M30	R	CO
D11.3	Final report	M30	R	CO

4.2.3 Project plan : the Gantt diagram





4.2.4 Graphical presentation (flowchart)



4.3 Dissemination and awareness

The Louis Pasteur University will coordinate the WP dissemination (WP 10). A proper dissemination and communication of EUREA-II will be necessary to overcome the brakes to the sharing and the opening of scientific content which are still numerous in European Universities.

Therefore, ULP will develop an appropriate communication strategy: by taking into account the specificities and interests of the target users, of the content providers and of the various potentials supporters of the project, a panel of messages will be developed as a function of the promotion and dissemination needs. The appropriate media will be developed and put at the disposal of the partners. A communication action plan will then be submitted by the ULP to the partnership. In this preparatory stage, ULP will work closely with the Heidelberg University, which will be in charge of the internal promotion of EUREA. The agreed communication strategy will then be deployed by all the partner universities, through the distribution of a communication guide and communication seminars given by the ULP in each partner university.

EUREA's existing web site will be updated and adapted to a multilingual audience. The wide distribution of a colour leaflet presenting the project will disseminate the project among national, European and International audiences. To strengthen the international spreading of EUREA, the coordination team will participate in workshops and conferences to present the project. A short collection of papers will be produced at the end of the project.

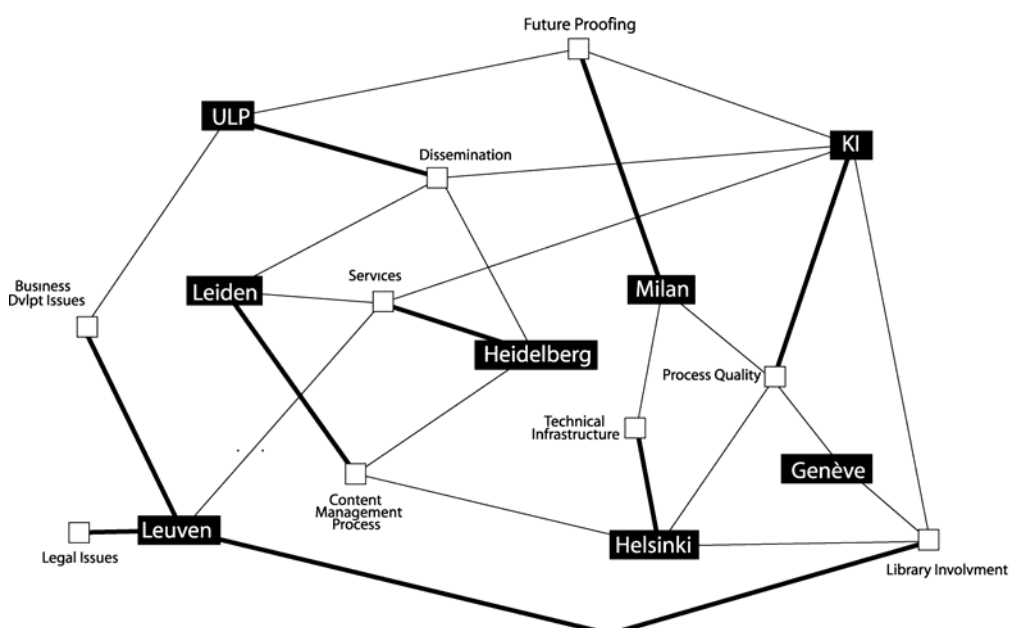
The coordinating team will make sure that the promotion of EUREA within each work package is in compliance with the established communication strategy.

4.4 Project management

The management of the project will consist in the continuous planning, organization, monitoring of the progress, and control of each aspect of the project, so as to reach the objectives in compliance with the commitments.

The management will be taken over by the project manager and the steering committee, supported by the University of Geneva (project assessment). The project manager will be recruited by the ULP before the kick-off meeting and the steering committee will be set-up during the kick-off meeting. The ULP will also recruit a financial and administrative assistant. The project manager will follow very closely the development of the project by visiting the partner universities.

- The large scope covered by each work package will require the setting-up of a decentralized coordination structure. Each work package will be managed by a coordinator, who will be supported by two co-coordinators (2 different universities). A work group devoted to a work package will be set up gathering the coordinator and the 2 co-coordinators. See the scheme below:



4.5 Description of consortium and key personnel

ULP (1)

The University Louis Pasteur (ULP) has more than 18000 students and is a member of the LERU. Through its scientific contributions, ULP is one of the foremost French and European universities. Its scientific involvement is strengthened by the interdisciplinary nature of its research and its close and long-standing collaboration with the [CNRS](#)⁸, [INSERM](#)⁹, and [INRA](#)¹⁰. The ULP is exploring new scientific fields at the interface between chemistry and physics, medicine and ICT. It is also involved in the biotechnology, materials and environment sectors.

<http://www-ulp.u-strasbg.fr/>

ULP Multimédia

ULP Multimédia has been a central department of Strasbourg Louis Pasteur University (ULP) since 1998. This service uses the facilities of the Educational Science unit to develop the use of ICT in education, scientific and technical communication and research. ULP Multimédia has developed various fields of activity and skills in the fields of digital work environments, distance learning, multimedia and in television.

Alain Jaillet is an expert and researcher in the field of Education Science (Sciences de l'Éducation et de la Communication laboratory). As a specialist in the use of new technology in Education, he has managed the ULP Multimedia department since 1998 and has the responsibility of developing the use of ICTs within the university.

The University of Geneva (2)

From the time of its creation in 1559 by Jean Calvin, right up to the recent discovery by University astrophysicists of extrasolar planets, the University of Geneva, a multifaceted institution of higher learning, has continued to grow and develop while maintaining its longstanding tradition of excellence with an international angle. With its more than 15,000 students, it is, after Zurich, the next-largest University in Switzerland, and its numbers are constantly on the rise.

Prof. Nadia Magnenat-Thalmann has pioneered research into virtual humans over the last 20 years. She obtained several Bachelor's and Master's degrees in various disciplines and a PhD in Quantum Physics from the University of Geneva. From 1977 to 1989, she was a Professor at the University of Montreal in Canada. She moved to the University of Geneva in 1989, where she founded MIRALab.

She has received several scientific and artistic awards for her work in Canada and in Europe. In 1997, she has been elected to the Swiss Academy of Technical Sciences, and more recently, she was nominated as a Swiss personality who has contributed to the advance of science in the 150 years history CD-ROM produced by the Swiss Confederation Parliament, 1998, Bern, Switzerland. She has been invited to give hundreds of lectures on various topics, all related to virtual humans. Author and co-author of a very high number of research papers and books, she has directed and produced several films and real-time mixed reality shows. She is editor-in-chief of the Visual Computer Journal published by Springer Verlag and editor of several other research journals.

UHEI (3)

The University of Heidelberg looks back on six centuries of scholarly and scientific achievement making it one of the oldest universities in the world. Today, the University numbers over 400 professors, more than 3,500 non-professorial teaching and research staff, and approximately 25,000 students (including about 20 percent of international students). The original four Faculties have swelled to twelve. Theology, law and medicine have been there from the outset, but the original Faculty of Philosophy has since diversified into the humanities, cultural studies, the social sciences, the natural sciences and the biosciences. The interdisciplinary approach of the Ruperto Carola as a full-scale, classical, research-oriented university with a broad range of subjects - from ancient history to zoology - has led to the foundation of interdisciplinary research centres covering fields like Biochemistry, Neurosciences, Scientific Computing, South Asia or American Studies among others.

⁸ Centre National de la Recherche Scientifique

⁹ Institut National de la Santé et de la Recherche Médicale

¹⁰ Institut National de la Recherche Agronomique

Norbert Gretz

Name/Date of Birth/Marital status/Nationality: Gretz, Norbert, MD, 16th May, 1954 Married, German
Education: 1974-1980 Studying medicine at the Ruprecht-Karls-University, Heidelberg **Qualifications:** 1980 Board certification; 1980 M.D.; 1983 Full Registration in England; 1983 Diploma in Sports Medicine; 1984 Diploma in Medical Informatics, 1991 Diploma in Internal Medicine; 1991 Diploma in Nephrology; 2000 Professor of Internal Medicine; 2001 Professor of Experimental Medicine **Experience in:** internal medicine, research, (genetic and transgenic animal models, statistics), teaching (molecular imaging, genetics, information retrieval) **Papers published:** 156 PubMed entries **Involvement in other relevant projects:** Several contracts with BMBF, DFG; EC projects: BIOMED2, FP5 (coordinator); industry

Helsinki (4)

The University of Helsinki is the biggest university in Finland. It was founded in Turku 1640 and moved to Helsinki 1828. Today it has 11 faculties, 38 000 students and personnel of 7300. The university has four campus areas in Helsinki, and various facilities in 20 other districts.

Currently the IT department hosts video server <http://video.helsinki.fi>, where it broadcasts live streams as well as has a media archive of past events. Usually all the major events and some of the seminars are streamed live. The university has multiple videoconferencing equipments and an MCU to host multipoint meetings. Streaming and recording from live videoconferencing is also possible, even from multiple conferences at once.

The Educational Centre for ICT acts as a development unit for the Finnish Virtual University and coordinates the use of information and communication technology in University of Helsinki. The centre has specialised in teacher training, strategic planning and technical and pedagogical support services on videoconferencing, virtual learning environments and ICT.

Janne Sariola, M.A. is the Head of Educational Centre for ICT at the University of Helsinki. Sariola is coordinator the development of the virtual university in the context of the Helsinki University and expert secretary of the Finnish National Virtual University, consisting of 21 Finnish higher education institutions. He has been involved in the establishment of several innovative projects in the field of educational technology. He has also worked as a senior advisor at the Ministry of Education focusing on the national strategy of research and education.

Leiden University (5)

Leiden University (in Dutch: Universiteit Leiden) is the oldest university in the Netherlands. Originally founded in 1575, Leiden University has grown to become one of Europe's top academic institutions. It has acquired a firmly established position among the top research institutes of Europe in many fields, including the natural sciences, medicine, social and behavioural sciences and the arts. As to education Leiden University strongly believes that the education it offers benefits directly from its high quality research, carried out in the forty research institutes. While remaining faithful to its historical mission, Leiden University offers outstanding international students an intellectually exciting learning environment with high academic standards. The focus is not just on knowledge transfer but also on debate and critical thinking whereby students' ability to think independently is greatly stimulated.

Today, Leiden University consists of nine faculties. It is an employer to more than 5,000 people and has well over 17,000 students. The faculties offer many educational programmes taught in Dutch or English. IT facilities are used widely in support of these programmes. Since 1999 several IT projects in the faculties have been supported by a university innovation programme. Leiden has joined several European initiatives such as Coimbra and LERU.

Marc Dupuis read English and Slavic languages and literature at Leiden University. Primarily a linguist he specialised in experimental phonetics. In 1988 he received a PhD degree in the Faculty of Arts. From 1987 till 1997 Marc worked at the State University of Groningen, where he started his ICT career as a programmer, project manager and trainer. In 1997 Marc returned to Leiden, where he became director of the Computer Department and the Language Centre of the Faculty of Arts. Since 2001 Marc has held a position in the Central Office of Leiden University. Currently, Marc is the university programme manager for education supported by ICT.

Leuven (6)

The **Katholieke Universiteit Leuven** is the largest university in Flanders and one of the eldest in Europe. It has over 25000 students and employs over 14000 people. It has participated in numerous European projects. In EUREA-II, four internationally active K.U.Leuven departments will be involved:

- **AVNet** is a central support unit at K.U.Leuven with extensive expertise in internationally networked e-learning and knowledge dissemination.
- The **Interdisciplinary Centre for Law and Information Technology** (ICRI) is a research centre within the Faculty of Law. It comprises three different research teams which deal with Information Technology Law, Electronic Communications Law, Legal Informatics and Information Retrieval.
- The **Centre for Intellectual Property Rights** (CIR) aims at gaining profound knowledge in patent, trade mark, design and copyright law, more in particular in new and evolving areas of intellectual property law (e.g. the protection of software, standardisation, e-publishing and e-learning) and the general problems of patents, trade marks, designs and copyright.
- The **University Library** aims at making all information for research and education at the university available and accessible. It is an innovating organisation, focussing on the development of new, more specifically digital services and products.

Wim Van Petegem (Ir, PhD, °1964) is director of AVNet at the K.U.Leuven since July 2002. His main research interests are in e-media, educational technology, international networking, networked e-learning, open and distance learning, and development cooperation.

University of Milan (7)

For about 20 years CTU has been the Television Center of the Milan University. Since the first 90s the Center changed its activity and its name: it became the “Center of learning technologies” and took its first steps on distance education through audiovisual media and on online education. After some other experiences in distance learning, CTU mainly focused its activities on using the Web as integration and enrichment of classroom didactics (web-enhanced) by planning in five years a University eLearning platform, called Ariel. In 1999 CTU changes its name again in “Service Center for technologies and distance multimedia university didactics”. Since 2001 CTU plans, carries out and manages big size projects in the University, for example “Progetto Matricola”: informatic alphabetisation of the new students. CTU can plan, manage and assess web-enhanced, distance and blended learning projects; it can also carry out offline and online digital videos, organize workshops and training courses. CTU also participates into some national and international researches on strategies and organization of eLearning in the universities. www.ctu.unimi.it

Manuela Milani works at CTU, eLearning centre of the Milan University since January 2002 and she is responsible for the Progetto Matricola, a blended learning project that aims to support the students at the beginning of their academic studies to obtain the linguistic and technological competence needed to enrich their curriculum. Since 2004 contact person for Unimi for the following projects: EUREA (eContent; 2005) and eLERU (eLearning, 2005-2007). Her main research interests are in the analysis of the cultural dimensions involved in the processes of designing, teaching and learning online.

Karolinska Institutet (8)

A Medical University

Karolinska Institutet (KI) is one of Europe's largest medical universities and it is also Sweden's largest centre for medical training and research. The mission is to improve the health of mankind through research, education and information.

ICT at KI

KI has recently implemented a large ICT project, where the main outcome has been a portal for all courses within the undergraduate programs (today about 700 courses). In parallel an “ICT workshop” was set up, which helps teacher to produce animations, short web programs etc. This facility is run by the KI University Library (http://verkstan.kib.ki.se/index_se.html). The library also hosts and runs the educational platform used at KI.

Beside the Library, the Department of Learning, Informatics, Management and Ethics (LIME); <http://www.lime.ki.se>) develops and investigates the effects of computer technologies within learning. Their mostly used production is the portal Web-based Simulation of Patients (Web-SP). At this department the professor of Medical education holds its chair.

The ICT initiatives within teaching at KI are within a network under the supervision of the Board for Higher Education (with Vice-Dean Jan-Olov Höög as running director).

Jan-Olov Höög

Affiliation: Department of Medical Biochemistry and Biophysics, Karolinska Institutet, SE-171 77 Stockholm, Sweden

Academic exams/ Positions at Karolinska Institutet

Dr. Med. Sc. (PhD), Karolinska Institutet, 1985

Director for the Biomedical undergraduate program, 1995-2002

Professor in physiological chemistry, since 2001

Vice-Dean of higher education, since 2002

Publications

110 titles (whereof 2 under referee judgement) and 8 pedagogical titles.

The University of Edinburgh (9)

The University is one of the oldest in the UK having been founded in 1583 and with a long tradition of providing high quality first and higher degrees in most subjects, including all professions. It has a very substantial level of research in all subjects with almost all staff active in research at national or international levels. This is reflected in the standing of the university in the top six in the UK in research, and top in Scotland, in both quantity and quality. The research income of the University exceeds €300M per annum. The teaching of the University is equally good, with all subjects rated at 'excellent' or 'highly satisfactory' in national quality assurance audits. The university has very strong international relationships in both teaching and research, and draws staff and students from all countries of the world. It is an active member of such international groupings as LERU, Universitas 21 and the Coimbra Group.

Jeff Haywood is Professor of Education & Technology, School of Education, Director of the Scottish Centre for Research into On-Line Learning & Assessment, and Deputy Head of Information Services. He is Chair of the Coimbra Group e-Learning Task Force.

David Dewhurst is Professor of e-Learning, Assistant Principal for e-Learning & e-Health and Director of the Learning Technology Section, Medicine & Veterinary Medicine.

Both have wide experience in leading national and international projects in e-learning, funded by the EC, the JISC, and the UK Higher Education Funding Councils.

4.4 Contribution to programme objectives

The EUREA-II project will lead to the implementation of a metadata-base of high quality scientific resources available in nine leading research universities. This is obviously compliant with the objectives defined in the eContentplus programme to "facilitate access to and use of digital content".

The project will indeed have a significant impact on the accessibility and usability of the existing scientific content. The project will notably ensure:

- The advancement of the quality of content through the definition of quality criteria and workflow processes that will guarantee the long-term quality of the resources provided.
- The provision of better conditions for accessing and managing material.
- The metadata-base will provide a framework to gather in one place content initially scattered between several institutions and will provide access to the content produced by individual researchers.
- The content provided through the EUREA metadata-base will be free, to fit in the universities' public service mission.
- The technical means to ensure interoperability between the different sources of digital content will be provided. The basis for this solution has been made in the feasibility study and the approved model is built on providing an overall interoperable structure of metadata. The technical infrastructure is a distributed hybrid model where there is a central repository, with only referrals and pointers to the digital objects and material. Metadata of these objects will be harvested to the central repository. Locally the material will be placed on OAI compliant repositories.
- A content management process will be set up that will enhance best practice related to digital content between providers and users. Significant means will be dedicated to the design of an appropriate licensing scheme of the material, thus authorizing the use and re-use of the content.
- The multilinguality issue is considered, notably through the establishment of a translation scheme. A significant amount of resources will initially be provided in English so as to be accessible to the great majority of users.

4.5 Community added value and contribution to EC policies

The overall aim of the EUREA project is, by definition, European: improving the international influence of our European Universities by increasing the visibility of research outcomes of leading universities, by highlighting the excellence of research feeding quality higher education. The project's connection of the project to the LERU network, which aim is to promote a European research of excellence, as well as the support of the European Science Foundation and of the Research division of the Council of Europe emphasize the European dimension of the project (see the letters of intent).

The EUREA and e-LERU projects which are in tight synergy are both instruments of the deployment of a large scale initiative to promote research-based education: EUREA being the research and scientific side, and e-leru the educational one. This large scale initiative meets directly two major European challenges: the Bologna process and the development of a European Research Area (ERA). This LERU initiative links these two processes, thanks to the strength of the consortium (nine leading universities and probably even more leading universities in 2006 thanks to the planned enlargement of the LERU to 24 members), and the strong commitment of all the partners to the EUREA and e-LERU projects (the partner universities are ready to completely fund the EUREA support centre).

Moreover, EUREA will be a direct instrument to develop the European Information Society through an open access to a high quality critical mass of scientific outcomes from the 9 partners' universities, all leaders in European research.

As a direct consequence of the scope of the challenges and of the project, 9 nationalities and 7 languages are represented in the consortium. This European diversity has proved during the feasibility study (February-January 2005) to be a richness rather than a barrier. Trans-european work groups were indeed created in order to prepare the EUREA implementation on the various challenging aspects of the project. The efficiency of their work is demonstrated in the proposal by the addressed complexity of the project and by the distribution of the coordination structure. This efficiency is the direct result of a merging of the interests and needs of the partner universities, as regards the development of ICT in the universities, and led today to the constitution of a strong European LERU task force, distributed over 8 countries.

Thanks to this task force, several studies on fundamental European issues have already been conducted during the EUREA's feasibility study, and will be continued during the implementation stage: metadata formats, technical solutions suitable to achieve full interoperability and adaptability of the system and compliance with the diversity of the needs and specificities of the partner universities, IPR awareness and policy, business opportunities on such an initiative, quality assessment of the content, and last but not least, change management in order to support European universities in their adaptation to the international competitive context in research and higher education.

4.6 Contribution to economic development and social objectives

Numerous studies have been conducted during the last 20 years in European countries, regarding the appropriateness of European research and education systems, which all concluded that it was an absolute necessity for these systems to be reformed to adapt to the new constraints and needs of our developed countries. The Bologna process as well as the ERA or the eEurope plans are direct European answers to these adaptation needs.

Indeed, the ageing of the population in developed countries and the fast technological evolutions which revolutionize the usages, needs and work methods, European universities are not "providing" enough well-qualified citizens anymore. The prospective analyses all predict a dramatic brain shortage in Europe within ten years if no deep changes of European educational and research systems occurred. In a competitive context for research and higher education, students and researchers can now choose from a wider range of training possibilities. The previously mentioned mis-adaptation of European universities in comparison with the dynamism of American, Australian and Japanese universities, led to a worrying lack of visibility of European universities on the emerging research and higher education markets. As a consequence, European universities seriously may "loose" their students. Therefore, it is not only education or research *per se* that are threatened, but also our cultural and intellectual specificities and values as well as our economic competitiveness.

EUREA is the direct answer of the LERU universities to this issue. Through EUREA, they intend first to modernize and adapt to new needs and trends, and second to improve their international influence. By encouraging researchers and academics to share their content and by opening the access to this content, they

do not only ease the access to research outcomes (pre-requisite to a strong European research), but also create the appropriate framework for a change in the research and educational usages within universities. Moreover they intend to improve the quality of higher education by feeding it with research outcomes: academics will find in the EUREA meta database some high-quality scientific resources with which they will enrich their courses.

Open Access Publication which will be supported by the EUREA partnership through the creation of a devoted publishing house, could have a significant impact at the international level. Indeed, OA promotes the easing of the process of publication of the research's outcomes. The large scope of the research-based education promotion project in which grew the EUREA project constitutes a very favourable context to this OA development in the EUREA project.

By gathering their treasures in digital scientific resources and reaching a critical mass of e-resources, the LERU partner universities can increase interest and "open a window" on their strengths. They can also support the economical and cultural development of emerging and developing countries by offering them an easy access to these high-quality scientific resources. The tightening of the links between our European Universities and these countries is also of the utmost importance in the predicted perspective of a decrease of the student numbers in our European universities: students from these countries will be even more welcome in our universities in the near future.

Finally, opening the access to the scientific and scholarly content brings in the intellectual property right (IPR) issue. If not properly addressed, this issue could remain a major barrier in the development of the information society. The discrepancy between European legislations on this issue, as well as a lack of awareness of the new constraints brought by ICT developments, make it hard to progress in the elaboration of appropriate IPR policies for e-content. Thanks to the efficient task force of the partnership and to the importance deliberately given to this challenging issue in the project, significant contributions should be made to the IPR issue in Europe.

4.7 Appendices

4.7.1 Financing Plan

Co-ordinator : ULP

Source of funding	Amount in Euro
Contribution from own resources	334 899
Contribution requested from the Commission	330 661
Total	664110

Geneva

Source of funding	Amount in Euro
Contribution from own resources	205227
Contribution requested from the Commission	0
Total	205227

UHEI

Source of funding	Amount in Euro
Contribution from own resources	190409
Contribution requested from the Commission	187986
Total	376946

Helsinki

Source of funding	Amount in Euro
Contribution from own resources	243863
Contribution requested from the Commission	241984
Total	484395

Leiden

EUREA-II

Source of funding	Amount in Euro
Contribution from own resources	185297
Contribution requested from the Commission	181692
Total	365539

Leuven

Source of funding	Amount in Euro
Contribution from own resources	270628
Contribution requested from the Commission	266600
Total	535778

UNIMI

Source of funding	Amount in Euro
Contribution from own resources	131652
Contribution requested from the Commission	129619
Total	259821

KI

Source of funding	Amount in Euro
Contribution from own resources	187767
Contribution requested from the Commission	183150
Total	369468

Edinburgh

Source of funding	Amount in Euro
Contribution from own resources	122790
Contribution requested from the Commission	119067
Total	240407

4.7.2 Background and reference documents