



**EUREA**  
**European meta databases of E-**  
**Academic resources**

**D5.3 - WP5: Report about the Market**  
**Analysis**

**Report from AVNet - K.U.Leuven**  
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*eContent*

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## Introduction

The aim of the EUREA feasibility project is to determine the best conditions of implementation, commercial operating and perpetuation of a European cross-border mutualisation system of academic e-resources of the highest quality. A full work package is devoted to the development of a business plan. K.U.Leuven is in charge of this. In order to elaborate a business plan, we first undertook a concise market analysis, from which you will be reading the results in this report.

In the first chapter we investigate the target market of the EUREA database. We split the market in three divisions: higher education institutions, companies and private persons. We also investigate the market for e-learning providers and which role branding can play in the success of EUREA and its selling process.

For this market analysis we asked the partners to fill out a questionnaire we set up with the aim to find out what the wishes, expectations and questions are on which the partners want an answer.<sup>1</sup> All partners, except Munich, filled it out and explained their answers during a phone call.<sup>2</sup> We give a survey of the results of this questionnaire in the second chapter.

Thirdly, we have a look at which existing repositories might be interesting to compare with. We identified seven interesting databases:

- ARIADNE
- EducaNext
- HEAL
- IVIMEDS
- MERLOT
- MIT OpenCourse Ware
- TEN-A

All of them are databases with digital learning materials. We also identified four interesting cases from the Netherlands:

- Espelon, a digital publishing house for higher education in the Netherlands
- LOREnet, a project with the aim to demonstrate that a digital repository for higher education in the Netherlands is possible
- DAREnet, a meta database with scientific articles from scientists of Dutch universities
- Cream of Science (Keur der Wetenschap)

These case studies will bring us to a better understanding of how the EUREA meta database can best be organised.

In the last chapter we conclude which elements are important for the business plan.

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<sup>1</sup> Cf. appendix 1.

<sup>2</sup> With 'all partners' in the second chapter, we therefore indicate all partners who filled out the questionnaire.

# 1. The e-learning market

## 1. Target market

Several studies show that the market for e-learning knew a large expansion during the previous years. There's a general expectation that it will keep on growing.<sup>3</sup> This is also the trend in universities and higher education institutions. In North America almost every institution of higher education conducts some form of e-learning. Australia has adopted e-learning technology to bridge the large distances between the population centres. The United Kingdom, Europe and Japan also use a lot of e-learning technology. Moreover, interest is growing in other regions around the world.<sup>4</sup>

In a first step we should focus on the LERU partners. After the database is integrated at the LERU group, the target group can be expanded to other universities, companies and private persons.<sup>5</sup>

### a) Higher education institutions

Very recently, a survey commissioned by WebCT pointed out that 93% of European universities plan to expand their use of e-learning over the next two years and a further 74% said e-learning already plays a major role or believe it will within the next three years. "The survey also revealed that just under 50% of universities consider increased quality of education as the major benefit of e-learning followed by greater access to education and greater cost efficiencies. 63% of universities also plan to partner with other institutions to create joint e-learning courses, suggesting a shift towards greater collaboration between universities both nationally and internationally, as well as a rise in the importance of distance learning initiatives and the need for flexible e-learning solutions."<sup>6</sup>

The need to exchange and reuse learning materials will therefore increase. The development of qualitative, digital learning materials is expensive. That's why there are several initiatives to develop learning materials together, share and exchange them, e.g. ARIADNE and MERLOT.<sup>7</sup> On the one hand, teachers need concrete digital content they could use for their course materials, which asks for a repository with granular learning tools and learning objects. On the other hand, institutions search for solutions for growing ICT costs. A solution to this problem might be ready-to-use modules, learning arrangements with accompanying services.<sup>8</sup> The EUREA database will concentrate on both kinds of learning materials. To secure its long-term future,

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<sup>3</sup> M. VAN GELOVEN – R. KOPER – J. VAN DER VEEN, *E-learning trends 2004* (Stichting Digitale Universiteit; <http://www.du.nl/digiuni/download/A358A70F-94BB-A7CC-8EF69E3CEF37470F.pdf?CFID=534791&CFTOKEN=76724796>), Utrecht, 2004, p. 6.

<sup>4</sup> WebCT, *Learning Without Limits* (<http://www.webct.com/service/ViewContent?contentID=17980017>), p. 1.

<sup>5</sup> Cf. *infra*, p. 8.

<sup>6</sup> <http://webct.com/service/ViewContent?contentID=25504954>

<sup>7</sup> Cf. *infra*, pp. 14-17.

<sup>8</sup> M. VAN GELOVEN – R. KOPER – J. VAN DER VEEN, *o.c.*, pp. 16-17.

effort must be put into ensuring that the content can be retained in a usable state as long as it's pedagogically relevant.<sup>9</sup>

## **b) Companies**

Today, e-learning is used more in companies than in education institutions. A recent study of e-learning in Europe pointed out that the three largest customers of e-learning products are banks and financial institutions, IT sector and training, telecommunication.<sup>10</sup>

## **c) Private persons**

E-learning products are not only demanded by higher education institutions and companies, but also by individual learners. However, the learners' will to pay for e-learning depends on cultural conditions. In the USA, education fees are common practice. German and Swedish learners though are not used to pay extensive fees for education. The pricing model which will be established for the EUREA database should consider these national aspects. Furthermore, it has to be taken into account that the user of an e-learning product is not always the one who chooses and/or pays for it.<sup>11</sup>

## **2. Market for e-learning providers**

The market for e-learning providers is very intransparent due to the heterogeneity and the multitude of existing providers. One reason is that many providers do not exclusively offer e-learning products, but belong to different market domains. Basically, we can distinguish academic and commercial research and development (R&D) e-learning providers. Academic R&D institutions often offer rather complex content, as a result of which their products are often meant for small target groups. Commercial providers on the other hand mostly offer fast-to-produce and easy-to-sell technology which can be created cost-efficiently. They sell aesthetically very attractive packages and user interfaces at relatively low prices. Mainly, they focus on supplying e-learning products for professional training.<sup>12</sup>

E-learning providers can be divided into five different segments: content providers (often publishing houses), application providers, hardware providers, service providers and full service providers who offer all-in-one solutions. In Europe, content and application providers represent the biggest market share.<sup>13</sup>

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<sup>9</sup> E. BARKER - H. JAMES – G. KNIGHT – C. MILLIGAN – M. POLFREMAN – R. RIST, *Long-Term Retention and Reuse of E-Learning Objects and Materials* (Report Commissioned by the Joint Information Systems Committee), Version 1.4

([http://www.jisc.ac.uk/uploaded\\_documents/LTR\\_study\\_v1-4.doc](http://www.jisc.ac.uk/uploaded_documents/LTR_study_v1-4.doc)), 2004, p. 5.

<sup>10</sup> Thea PAYOME, *E-Learning im europäischen Vergleich* ([http://www.wissensmanagement.net/online/archiv/2002/09\\_1002/e-learning.shtml](http://www.wissensmanagement.net/online/archiv/2002/09_1002/e-learning.shtml)), 2005.

<sup>11</sup> Gabriela HOPPE – M. H. BREITNER, *Business Models for E-Learning* (Paper for the Multikonferenz Wirtschaftsinformatik 2004; <http://www.iwi.uni-hannover.de/publikationen/dp-287.pdf>), Hannover, 2004, p. 7.

<sup>12</sup> *Id.*, pp. 2-3.

<sup>13</sup> *Id.*, pp. 3-4.

### **3. Branding**

The EUREA meta database needs to make sure that the information about the quality of the offered products and services is outstanding in every circumstance. If we want to sell a product or service repeatedly and not just once, we have to meet our own propositions all the time. Otherwise the word spreads and we'll lose potential customers. One way to make repeated sales of services and products possible, is branding. A brand name establishes trust and helps establishing a good reputation. For the customer, this quality assurance is a real added value. Universities that have provided education for centuries have established such a brand name.<sup>14</sup> For the EUREA meta database we want to use a LERU label, i.e. a label of the organisation of which all the EUREA partner universities – with their own brand name - are members. The League of European Research Universities (LERU) isn't well known enough to have a ready-to-use LERU brand.<sup>15</sup> We should take advantage though of the existing university brands and make clear that the combination of these into one brand makes it very strong and promising. There are two possible strategies to reach this: a sub-brand strategy and a monolithic strategy.

#### **a) Sub-brand strategy**

In a sub-brand strategy, you always use a product label in combination of a company's brand, e.g. Cornflakes from Kellogg's, where Kellogg's owns several product labels and Cornflakes is one of them. You use the company's name to guarantee quality.<sup>16</sup> We could therefore in a first phase choose to create a LERU label as a sub-brand of the several partner universities. Every university offers its material with its own name on it and the new LERU label. This makes it easier to introduce the LERU label. In a second step (or right away), we could go on with the monolithic strategy.

#### **b) Monolithic strategy**

This is a strategy which focuses on the organisation behind the different products and services, i.e. LERU. All communication happens with the organisations brand, i.e. the LERU label.<sup>17</sup>

A brand has some tangible and not-tangible components:<sup>18</sup>

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<sup>14</sup> J. HASEBROOK – W. HERRMANN – D. RUDOLPH, *Perspectives for European E-Learning Businesses* (Cedefop Reference Series, 47), Luxembourg, 2003, pp. 94-95.

<sup>15</sup> Cf. *infra*, p. 13.

<sup>16</sup> F. COERTJENS, *De rol van marketingcommunicatie bij merkenbouw* (Master thesis, K.U.Leuven, Faculteit Sociale Wetenschappen. Departement Communicatiewetenschappen) (in English: The role of marketing communication at brand constructions), Leuven, 2002, p. 64.

<sup>17</sup> *Id.*, p. 65.

<sup>18</sup> SMITH – BERRY – PULFORD, *Strategic Marketing Communications*, 1997, p. 222, in F. COERTJENS, *o.c.*, p. 47.

<b>Tangible components</b>	<b>Not-tangible components</b>
<ul style="list-style-type: none"> <li>- The product itself (design)</li> <li>- Brand name</li> <li>- Brand logo</li>   <li>- Functional properties (quality, advantages)</li> </ul>	<ul style="list-style-type: none"> <li>- Reliability</li> <li>- Psychological pay-off (brand promise)</li> <li>- Added values (what you associate with the brand)</li> <li>- Quality of differentiation (we're different than the other databases)</li> </ul>

In the dissemination and promotion of EUREA we should take into account these aspects of a brand. It could help then to construct a Brand Memory Identity, a description of the ideal memory a user of EUREA should have of the LERU brand.<sup>19</sup>

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<sup>19</sup> J. BERGVALL, *A Brand is a Memory* (<http://www.allaboutbranding.com/index.lasso?article=389>), 2003.

## 2. Results of the questionnaire

### 1. The aim of the EUREA database

The three most important aims of the EUREA database, according to the partners, are:

- Developing European e-learning and teaching, in order to face the international competition in the field of education.
- Enhancing the mutual knowledge of academic and research communities.
- Offering students a possibility to take courses from 'experts'.

### 2. The attitude of the partners towards the offer of e-learning materials

Most partners agree that there should be several steps in developing the database. In a first step we should focus on the LERU partners. After the database is integrated at the LERU group, the target group can be expanded to other universities, companies and private persons. A payment system should then be developed, followed by a discussion whether other universities are allowed to put materials in the database themselves, or this will stay restricted to the LERU partners. While attracting other European universities to join the partnership the high quality of the e-content should be guaranteed. Reflection about quality issues in e-learning should be promoted. One partner suggested that EUREA should have its own sharing quality benchmarks, visible for future partners. In the initial phase every university should promote the database in its own institution. Each partner should emphasise the quality label in its own university. We should also investigate how we can connect to other databases, e.g. Globe.<sup>20</sup> In a second phase we should develop one strategy to promote the database on a European level.

There are two models that came out of the questionnaire:

1. We exchange learning materials within the LERU group. This means all simple learning materials (e.g. lecture notes) in the database are free of charge within the LERU group. All partners agreed on this point. For more complex materials, such as tutorials and all materials/extra services (e.g. tutoring, translation) with which a lot of work is involved, there should be some kind of system which guarantees a 'fair trade'. One should get another complex learning material in return which justifies the work done for the offered learning material. For courses ECTS can be used.
2. The second option also bears this division in mind between simple and more complex course materials. Simple materials should be offered for free. More complex materials and every added service and value would be offered against payment. In this option in a further stage also companies and private persons could be given access to the simple learning materials. A payment system for additional services could then be developed.<sup>21</sup>

<sup>20</sup> [http://taste.merlot.org/documents/articles/globe\\_press\\_release.pdf](http://taste.merlot.org/documents/articles/globe_press_release.pdf)

<sup>21</sup> In Sweden universities are not allowed to charge European students. Every private person who wants to take a course is also considered as a student. Only companies can be charged. In Finland, there is also no tuition fee as such for degree students. A number of further education non-degree programmes though may be subject to fees.

The two models could be used together, depending whether the user belongs to the LERU group, if all partners agree fully with the first model, i.e. they won't receive payment from a partner, only from private persons and companies. This should be a decision of the LERU board.

Most of the partners indicated that they don't want to specify different prices dependent on the country the user comes from. Perhaps this could nevertheless be considered for developing countries.

### **3. Learning materials**

As to the kind of materials which could be offered, not all partners were convinced that 'academic and scientific actuality in Europe related to a subject (announcements of conferences, debates, etc.)' is useful to offer, as there exist other information channels for it.

Concerning the level on which the universities are prepared to offer study material, all partners are willing to exchange study materials on bachelor's and master's level. Exchange of courses on these levels would also be possible for most of the partners. Complete programs are only possible for a few partners. As for the other levels, it depends whether there are materials available.

### **4. Possible services**

It would be possible to do an examination when a student has taken an on-line course. In most of the cases this service can't be offered for free. A student should have to pay some kind of an examination fee, unless perhaps a bilateral agreement should be created. In a first phase the certificate must have the label of the university which offers the course. An additional LERU label could be possible. In a later phase, it might perhaps be possible to have a certification with the LERU label only.

Several other services could be offered, e.g.:

- Peer review: It could be possible to guarantee the quality of the shared materials by doing a peer review on every material before it's put in the database or before it gets a LERU label, but this would slow down the 'publication' of the learning materials. Then there's also the question who should do the reviewing. It could be done by an editorial board, but out of which persons will it exist? You need experts in all the offered domains. Moreover, not only the content, but also the pedagogical aspect is very important. Who will evaluate this aspect? We therefore suggest the service mentioned below.
- A possibility for user and expert comments: This could be in an Amazon like way, in which users comment why they liked/didn't like the material, but it's also a possibility to guarantee quality. We could use a system where one or two known people from the same field of education, experts, write a short comment on the material. The author of the material has to ask those two persons himself to give a user comment. This wouldn't be obligatory for each material and can happen after it's been put in the database. A good expert comment would be the guarantee for quality then.

- A system for awarding the best learning materials: Most of the partners are not convinced that it should be offered. There are a lot of questions here: who should award the price? Isn't it a very politically sensitive matter? What would the price consist of? If we should choose to have a system of awarding best learning materials then, probably the only feasible model would be something like 'learning material of the month' with an honourable mention on the homepage of the database. Maybe it could stimulate teachers to put good learning materials in the database. As the partners indicated, this awarding system isn't a priority and could be looked at again in a later phase.
- All partners agreed that there should be some guidelines of what we expect from each material. There should also be a list of metadata (e.g. abstract, description of the material, how to use in education, etc.) which should be filled out for each learning material. It should be checked, e.g. by a central agency,<sup>22</sup> if this is properly done for each material. This would be an additional value and guarantee of quality.
- Print-on-demand: Four partners thought this might be a good idea.
- It was suggested that there should be an indication of new records.
- Translating the materials won't be possible at the universities themselves. Maybe it could be done by the central agency, although this might also be not advisable. It might be better to make a translation in the environment where the learning material is developed as it contains often very specialized content. The central agency can't have experts in all fields of education. Maybe there should be a correcting service of the translated materials then. The problem remains then how to motivate the teachers to translate their learning materials.
- The database should be easily searchable on different parameters, such as subject, university, language, kind of material, author.

## **5. The difference with other repositories**

The EUREA database would be different from other available repositories, because it will offer high quality with a LERU quality label. As a European database it would be a counterweight for American databases and provide a model of a Europe of knowledge.

## **6. Awareness of resistance**

All partners answered there's resistance of teachers against the use of technology and a database with shared learning materials. There are several reasons for this resistance:

- they're not familiar with the use of technology (digital literacy)
- there's no special budget for developing e-learning materials; few incentives for teachers
- an e-learning material doesn't give academic prestige; it doesn't have the same value as a scientific article does
- conflicts with other teachers and therefore not prepared to share materials
- the not-invented-here syndrome: teachers don't want to use materials not developed by their institution or by themselves

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<sup>22</sup> Cf. *infra*, pp. 11-12.

## **7. Threats and success factors**

The major stumbling blocks while setting up and maintaining the database could be:

- Lack of usable materials (not prepared to share and to develop materials)
- Lack of interest from teachers (not-invented-here syndrome)
- Lack of guidance by faculty board and director
- Unwillingness to invest in proper support
- Inability to advertise available course modules and resources
- A too strong link to national academic programs with insufficient crediting possibilities for foreign students
- Lack of determination of what the pedagogical objectives are for each learning material
- Not being able to agree on quality criteria for e-resources and to guarantee this quality to the users

The key success factors could be:

- Overcoming all obstacles explained above
- The availability of a devoted professional team, from market analyst to developers and a security manager
- High quality (and branding)
- The scope of the learning topics
- The visibility of the proposed materials and programs
- To have a database which is used and has several translations of the materials
- To have a system of payment

## **8. Business model**

We presented four different business models to the partners.<sup>23</sup> Model A is a European University with a dominant role for a central agency. It takes over a number of functions of the participating universities. This model is the most ambitious one. In model B, a European partnership, the Central Agency has less influence, so that universities hand in only a small part of their autonomy. In the model C, a European consortium, universities keep the initiative and maintain fully their autonomy. The concrete actions are situated at interuniversity level. The central agency coordinates and provides services. In the last model, a broker model, the central agency functions as an intermediate between producers and consumers. Therefore, universities have to hand in a small part of their autonomy.

All partners, except one, chose business model C, a European consortium, as the model to attain in the near future. In this model of a European consortium, a rather small central agency is needed, which will operate as a database and a bookkeeper, coordinating, keeping track of the data and know-how exchanges and providing additional services (e.g. a translation service could be an option). Only a relatively limited staff would be needed.

Motivations to choose a European consortium were the large autonomy of each partner university, the rather small investments needed and the cooperation between the universities. A European consortium appears to be an appropriate, feasible model, as all partners indicate that their university won't be prepared to hand in much of their

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<sup>23</sup> Cf. appendix 1, p. 30.

autonomy. In the future it would be advisable though to expand the central agency and give it more influence, e.g. the central agency could then present the learning materials to interested companies. This would be a combination of business model B (a European partnership) and C (a European consortium), in which the interaction between the partner universities should still be possible.

## 9. Central agency

The location of the central agency is a political issue, which should be decided by the LERU board. Two partners suggested Leuven as it is the official address of LERU. Some funding by each university would be needed. This could be an annual fee in order to stay a member of the EUREA database. There could also be a board then, with representatives from all partners, which takes all the important decisions. A legal status for the central agency is necessary. Possibilities are a limited liability partnership (LLP), a non governmental organisation (NGO), a non-profit corporation, a cooperative and a spin-off.

## 10. Funding

Funding from the partner universities won't suffice. Other financial means will be needed. Possibilities are:

- Other public funding, e.g. from a EU funds for an implementation project
- Private partners:
  - o University presses
  - o Publishing houses
  - o Technological actors

We should attract private partners if they offer better or cheaper services than the partners together are capable to offer, e.g. 24/24 maintenance.

This will need further investigation.

## 11. Possible fields of education

All partners agreed on starting with medicine to participate at the EUREA database. The number of students varies between 100 and 4000. Several other domains are possible in a next step:

Domain	Interested partner
Arts/Humanities:	Leiden, UniMi
- Archaeology	Leiden, UHEI, K.U.Leuven
- European History of Art	UHEI, K.U.Leuven
- Sinology	UHEI
- Japanology	K.U.Leuven
- Musicology	K.U.Leuven
- Ancient History	UHEI, K.U.Leuven
- Latin Philology of Medieval and Modern Times	UHEI
- German as a foreign Language Philology	UHEI
- Dutch as a foreign Language	K.U.Leuven
- French	K.U.Leuven
- Art History East Asia	UHEI

- Epigraphic	UHEI
- Science of history	UHEI
Philosophy	Leiden
Theology	Leiden, UHEI, K.U.Leuven
Law	Leiden, K.U.Leuven
Social and behavioural sciences	Leiden, Helsinki, K.U.Leuven
International Relations	UniGe, K.U.Leuven
Educational Science	UHEI, K.U.Leuven
Interpreting Studies	UHEI, K.U.Leuven
Psychology	UHEI, K.U.Leuven
Life science (part of Medicine?)	UniGe, KI, K.U.Leuven
Physics	UHEI, ULP, UniGe, K.U.Leuven
Mathematical and natural sciences	Leiden, K.U.Leuven
Computational Linguistics	UHEI
Experimental sciences	ULP
Engineering	ULP, K.U.Leuven

## **12. Interests of students and academic staff**

Students are interested in lecture sheets in a virtual learning environment and communication tools. They're getting used to blended learning. In the future they might need more and more the possibility to practice on their own. They're not willing to pay for it, as most of them already pay tuition fees.<sup>24</sup> Branding might not be needed for students from the participating universities. They rely on their teachers. It's therefore more important to reach this last group. There is some interest in e-learning materials in almost every faculty by some leading individuals. We should really work on the branding for this target group. A lot of teachers don't know the LERU network or don't know we're partner of it. If we want a LERU label as a brand, we need to get teachers familiar with it.

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<sup>24</sup> Students of the Karolinska Institutet and degree students of the University of Helsinki don't pay tuition fees. In the University of Heidelberg tuition fees will be introduced next academic year.

### 3. Case studies

We will first give an overview of the databases which we think are interesting for benchmarking. We chose seven databases:

- ARIADNE
- EducaNext
- HEAL
- IVIMEDS
- MERLOT
- MIT OpenCourse Ware
- TEN-A

Secondly, we'll have a closer look at four interesting cases from the Netherlands:

- Espelon, a digital publishing house for higher education in the Netherlands
- LOREnet, a project with the aim to demonstrate that a digital repository for higher education in the Netherlands is possible
- DAREnet, a meta database with scientific articles from scientists of Dutch universities
- Cream of Science (Keur der Wetenschap)

Thirdly, we'll have a look at the European Foundation for Quality in eLearning (EFQUEL), a new initiative from three successful European e-learning projects.

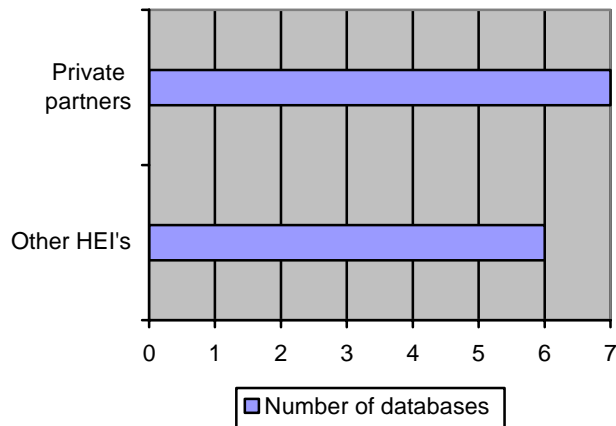
#### 1. Survey of interesting databases

Three of seven databases are American. There are two medical databases, one in the field of information and communication technology and business administration and four databases in different disciplines. Two databases are not operational yet. In the appendices 2-8 we give a survey of each of the databases. We draw some general conclusions here:

- Five databases have the same aim as the EUREA database in some degree: ARIADNE wants to be a European knowledge pool; EducaNext and MERLOT want to support the academic community to increase the excellence of higher education and research; HEAL aims to provide free learning materials of the highest quality for educators and IVIMEDS aims to share learning materials among partner institutions. The aims of TEN-A could be these of EUREA in a second phase when commercialising the database: to provide e-learning exchange services at trans-European level for companies and lifelong learning for professionals in order to strengthen the competitiveness of the European industry.
- The target group of EUREA will initially be restricted to LERU teachers and students. The seven databases all have a larger target group.
- It's hard to find information about the organisation and partnerships of the repositories. Three of the databases use a model with a yearly participation fee and obligations for the partners. They are a not-for-profit company with a steering committee and an executive board, reliant on the willingness and ability of the individual teachers. IVIMEDS is a not-for-profit company with a

dominant role and a large independence. This model reminds us of business model A, a European University.<sup>25</sup> TEN-A uses a brokerage and delivery model with paying services as it has commercial purposes.

- As for partnerships, the chart below shows the several partnerships:



**Figure 1: Partnerships**

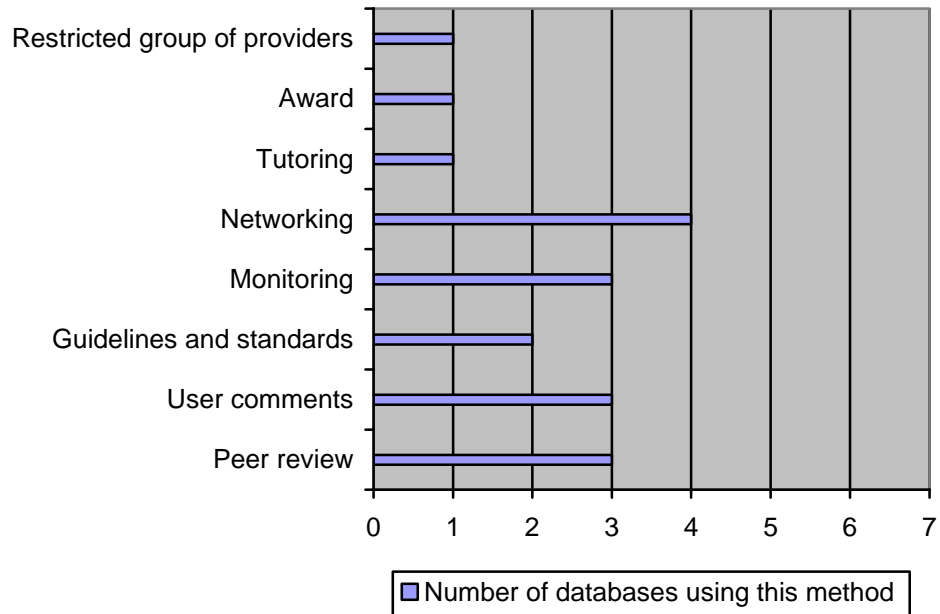
All seven repositories have private partners and all but one have other higher education institutions as partners.

- A lot of different kind of materials are offered:
  - Tools
  - Learning materials: electronic textbooks, recorded lectures, presentations, lecture notes, case studies, quizzes, videos, sets of images, virtual patients, simulations, animations, tutorials, drills and practices, reference materials, calendars, assignments, problem sets and solutions, etc.
  - For a lot of the materials of MIT you only can use them efficiently if you're a student at MIT.

Four of the seven databases offer these learning materials free of charge, but just in one case translations of some learning materials are available. In most cases creditation isn't possible.

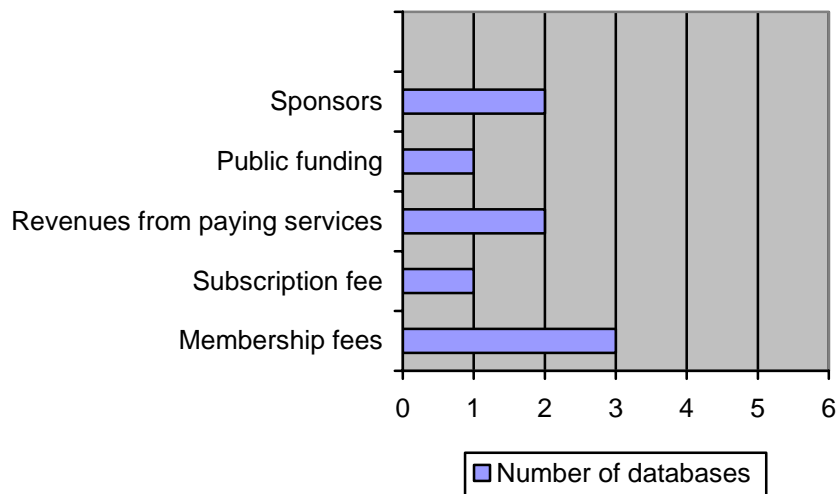
- The different repositories guarantee quality by using different methods. The chart below gives a survey of them:

<sup>25</sup> Cf. appendix 1, p. 30.



**Figure 2: How do the databases guarantee quality?**

- The repositories rely on different kinds of funding. We couldn't find any information on EducaNext's funding, therefore the number of database is here only six:



**Figure 3: Which funding do the databases have?**

- **General conclusions:**

All seven databases have private partners. Moreover, only MIT has no other higher education institutions as partner. Concerning funding, three out of six databases ask membership fees (ARIADNE, IVIMEDS and MERLOT). MIT doesn't work with members; HEAL depends on public funding. Only those two databases with the clear aim to sell products (TEN-A and IVIMEDS), rely on revenues from paying services. Sponsors are only available at two of the American databases.

Different business models are used: a brokerage and delivery model, a model with membership fees, a model in which all materials are free for everybody and some blended models. TEN-A has a brokerage and delivery model, which reminds us of

model D, a broker model.<sup>26</sup> It means they want payment for products and services. IVIMEDS also charges products and services, but has a more blended model, as they also ask a membership fee. EducaNext, MIT and HEAL offer all materials free of charge for everybody. ARIADNE and MERLOT offer free materials as well, but ask a membership fee of their partners. Moreover, ARIADNE makes a distinction in the kind of material that's offered. Not everyone has free access to every material. The author can give access to one of four groups: only himself, everyone on the server, members of ARIADNE or everyone.

Quality is mostly guaranteed by networking between different repositories. They want to guarantee you always find what you're looking for. MIT chooses very consciously not to offer materials other than their own. They think this is the best way to guarantee quality. Three databases (EducaNext, HEAL and MEROT) offer user comments, peer review and check the materials after they're placed in the repository (monitoring).

## ***2. Espelon, a digital publishing house***

At 13.04.2005, we went to a presentation of Cascade, one of the products of Espelon. It became clear that Espelon as a digital publishing house for higher education in the Netherlands was an interesting case. For this reason, we contacted Ton Muns, director of Espelon.<sup>27</sup>

Most of the tools and learning materials result from SURF or DU projects. Espelon is never the client for developing learning materials. A central infrastructure was developed. From the institution's learning environment a link can be set to this central infrastructure in a way that the userid and password don't need to be filled out again.

The targets of Espelon are higher education institutions. Companies aren't a target group, but when a company wants to use Espelon's materials they sell them. The prices for companies are higher than for higher education institutions.

Espelon doesn't focus on specific educational domains, but not all of them are available yet. There's more interest from the domains of economy, psychology and health care than from other domains.

Motivation of the teachers to use the materials must happen in the institutions themselves. Espelon keeps records of logging into the system. By communities of practice Espelon stimulates contacts and the exchange of good practices between teachers.

Espelon received funds from the 'Digitale Universiteit' and SURF for three years. After developing a business plan, Espelon asked two million Euros, but they received less. After three years the organisation has to be financially independent by charging

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<sup>26</sup> Cf. appendix 1, p. 30.

<sup>27</sup> Cf. appendix 9.

institutions for its products and services. Espelon probably will need more funds than three years to become financially independent.

With the received funds Espelon pays for the infrastructure and personnel (4,5 FTE). Among the staff there's a pedagogical expert specialised in e-learning, a media scientist, a PR responsible, someone responsible for the infrastructure, an accountant and one director. They also make use of temporary employees and experts in the offered domains. For every tool they make use of an expert to sustain it.

Very recently, Espelon was evaluated by the share holders. They found some positive things, as a good service and infrastructure, professionalism and a good name reputation. But they also found some negative points: One problem found, is the scalability of the products. Materials which were created for a small group are often not professionally applicable for large groups. The major negative point though is that besides the sales and services Espelon provides, it has two other functions. Espelon needs to spread information about what's possible with digital tools and it needs to convince the teachers who suffer from the not-invented-here syndrome. Espelon is too small to perform these three functions. It implies they need to do a lot before they can attract a customer. For a small firm as Espelon this is too much and they need more funds and personnel to realise this.

From this conversation, we draw some general conclusions:

- Espelon has problems in becoming financially independent. This is partially a consequence of the extra functions Espelon has. The EUREA database will also have to perform these functions. This implies we will encounter the same difficulties in convincing teachers to use the database. Another reason why Espelon has financial problems, might be, as suggested by the partner in Leiden, that their target group, Dutch higher education institutions (HEI's), might be too small. As in EUREA, Espelon addressed only partners (of the DU from where the materials came) in the first phase. In a second phase they try to sell their products to others (Flemish HEI's). There's one big difference though: Espelon offers learning materials to the HEI's against payment, whereas EUREA wants to offer them for free to the LERU partners.<sup>28</sup> This means that EUREA won't receive payments, which will make the starting up from the database difficult. On the other hand, companies will be a target group, which isn't the case with Espelon. This selling process though can only start in a second phase.<sup>29</sup> We therefore repeat our suggestion of asking at least a yearly member fee from the participating LERU partners.
- Espelon doesn't need to put funds aside for the development of learning materials, as they're all the result of projects, and yet they're having financial problems. We therefore suggest that in the first phase, there will be no funds put aside for developing new materials to save money.
- For all materials we should consider the problem of scalability.

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<sup>28</sup> Cf. *supra*, pp. 8-9.

<sup>29</sup> Cf. *supra*, p. 8.

### **3. LOREnet**

LOREnet started last April and has a duration of nine months. The aim is to demonstrate that a network of digital repositories for higher education in the Netherlands is possible by collecting, cataloguing and disseminating electronic learning materials.<sup>30</sup> Since they want to make a meta database with learning materials for higher education, there is some overlap with EUREA. For that reason, it might be interesting to follow up this project and look for differences and similarities.<sup>31</sup> Given that the project has only a duration of nine months, it will probably be ended before a continuation project of EUREA can start. Therefore, we could learn from their failures and successes. Maybe cooperation is possible?

### **4. DAREnet and Cream of Science (Keur der Wetenschap)**

DAREnet is a Dutch project with the aim to make scientific information of all Dutch universities available for everybody in a network of repositories. It started in Januari 2004 and the meta database now gives free access to 47.000 digitised documents. With DAREnet the visibility of access to scientific work is enlarged. Moreover, the universities are capable to strengthen their profile as knowledge institutions.<sup>32</sup>

Cream of Science started in November 2004 and ended last April. The aim was to incorporate complete lists of publication of 150 prominent, Dutch scientists in DAREnet with as much full text documents as possible.<sup>33</sup> They were approached with the idea that it was an honour to be asked to put your materials in the repository. Once several prominent scientists agreed, several others asked themselves to put their materials in the database as well. Since this method worked so well, it will probably be used again for LOREnet. We suggest using this method as well for filling the EUREA database.

### **5. European Foundation for Quality in eLearning (EFQUEL)**

The European Foundation for Quality in E-Learning (EFQUEL) is a new initiative from three successful European e-learning projects (SEEQUEL, EQO and SEEL). The following text is taken from their website:<sup>34</sup>

“The European Foundation for Quality in E-Learning is supported by the European Commission and by CEDEFOP, and it is built on long experience and expertise in the field of quality development in European e-learning. The Foundation will serve as

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<sup>30</sup> Cf. LOREnet project proposal, version 0.7, 29.03.2005.

<sup>31</sup> At 24.05.2005, there was a presentation of the project in Utrecht, the Netherlands. Our partner from Leiden will report to Leuven about it.

<sup>32</sup> <http://www.darenet.nl/>

<sup>33</sup> [http://www.unimaas.nl/publicatie/2005/pub1/keur\\_der\\_wetenschap.htm](http://www.unimaas.nl/publicatie/2005/pub1/keur_der_wetenschap.htm) (in Dutch) and

<http://www.uvt.nl/diensten/bibliotheek/projecten/keurderwetenschap.html> (in Dutch).

<sup>34</sup> <http://www.qualityfoundation.org>

sustainable and proactive network and will provide valuable services to the European e-learning community. It will support transparency, open participation and leadership for a broad range of topics. The purpose of the Foundation is to involve actors into a European community of users and experts in order to share experiences on how e-learning can be used to strengthen individual, organisational, local and regional development, digital and learning literacy, and promote social cohesion and personal development.

The European e-learning quality portal will serve as a single access-point to resources on quality, including services for searching, comparing and analysing quality approaches. The portal will enable dialogue between researchers, organisations, and users (e.g., learners, teachers, decision- and policy-makers). The Portal will provide quality services on:

- Recent information and expertise;
- Recommendations;
- Adaptation mechanisms for quality strategies.

One of the first issues EFQUEL will address is setting up a European e-learning quality mark, relevant for many stakeholders in European e-learning: e-learning service and product/providers, individual users, learners, educational organisations, territories, regions and cities. It will address all educational sectors and define categories of analysis combined with indicators. It will be capable of integrating existing quality marks to assure interoperability for already accredited organisations. Based on a conceptual framework of quality, a specific working group will design the European e-learning quality mark.

The Foundation aims to become a self-sustainable platform aiming at improving quality in e-learning on a European level. We invite you to join the Foundation in order to:

- benefit from existing networks and expertise in development of quality,
- bring your experience and interests by joining one of its working groups,
- be able to offer your services through the EFQUEL infrastructure - as well as use the EFQUEL services. “

Since we want to offer high quality learning materials, it's good to investigate what quality means for learning materials. This is exactly what EFQUEL aims to do. Therefore, we should follow up this initiative and consider collaboration. If for example they succeed in setting up a European e-learning quality mark, then EUREA should concentrate on achieving this quality mark for its materials.

## 4. Conclusion

We undertook this market analysis to help us elaborate a business plan for EUREA. Therefore, we want to draw some general conclusions here which we will take into account while developing the business model.

In the first chapter, we investigated the target market and learned that the interest for e-learning is growing since several years. The need to exchange and reuse learning materials increases. The EUREA meta database will sustain this development. EUREA should create a unique position in the market by offering high quality. This quality should be offered in combination with a strong brand, the LERU label. LERU isn't well known enough to have a ready-to-use LERU brand. In a first phase we could use a sub-brand strategy, followed by a monolithic strategy or we could start with the monolithic strategy right away. We should take into account the tangible and not-tangible components of the brand.

In the second chapter, we gave a survey of the results of the questionnaire which the partners filled out. A lot of suggestions and ideas came out of it. For example, the business model could be that of a European Consortium with a distinction between the kinds of material that are offered. We made a differentiation between simple and complex materials.

In a first phase only the partners should have access to the materials. Every partner should therefore promote the use of EUREA in its own university. This promotion should be teacher minded, to show them what the LERU label stands for, which possibilities digital materials offer and which advantages reusing materials have. Teachers should be convinced to put materials in the database. Therefore, there should be concrete actions against the not-invented-here syndrome and personal conflicts and actions promoting incentives to motivate teachers and to give academic prestige to digital learning materials. In this first phase we could start with networking and creating cooperation bonds with other repositories, in order to make sure that each search gives a satisfying search result.

In a second phase EUREA could be commercialised by giving access to the repository against payment to companies and private persons. Paying models will have to be developed then.

The quality of the learning materials is very important, in order to make the difference with other repositories. This quality could be guaranteed by developing a pedagogical script and a list of quality criteria. A system of informal peer review (user comments, expert comments and user ratings) will help to guard the quality as well. An additional value could be given to the repository by offering additional services. Most of them will be offered against payment, e.g. assessment and translation.

In the last chapter, we looked at some case studies. We had a look at seven databases and concluded that all seven have private partners. Different business models are used, among which blended revenue models, e.g. membership fees and brokerage.

Quality is mostly guaranteed by networking between different repositories. EUREA could become part of e.g. GLOBE and put metadata available in this network.

We also investigated four Dutch initiatives. There is some overlap between LOREnet and EUREA, since LOREnet aims to create a meta database with learning materials for higher education. For this reason, we need to follow up the project and cooperation should be considered. A comparison with Espelon made clear that we will have the same difficulties in convincing teacher to use the database and put materials in it. We suggest using the method of Cream of Science to get materials in the database, i.e. approaching teachers with the idea that it's an honour to be asked to put your materials in EUREA. We also suggest not foreseeing a budget for developing new materials so as to save money. For all materials we should consider the problem of scalability.

Since we want to offer high quality learning materials, it's good to investigate what quality means for learning materials. This is exactly what EFQUEL aims to do. Therefore, we should follow up this initiative and consider collaboration.

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## **Appendices**

## **Appendix 1: Questionnaire**

In the EUREA-project K.U.Leuven is responsible for workpackage four, which consists of developing a business model. In order to do this, it is necessary to undertake a market analysis. Please help us with this task by filling out this form. There is not enough time to pass this questionnaire on to other people than yourself at this stage. Therefore, please try to fill in the questionnaire yourself as completely as possible.

Name:

Function:

University:

**1. How does the overall development strategy and priority of your university meet the overall objectives of the EUREA project (e.g. the importance of e-learning in the strategy of your university)?**

**2. What should be the aim of the EUREA database? What does your university want to realise with it? One or more answers are possible.**

Offering free learning materials to the benefit of lifelong learners of the LERU-universities

Offering free learning materials to the benefit of lifelong learners all over Europe

Developing attractive paying services to promote the courses of your own university

Exchanging and giving access to tutors to highly-valuable material for teaching

Offering students a possibility to take courses from 'experts'

Enhancing the mutual knowledge of academic and research communities

Offering students and tutors a possibility to take part in discussions about the content of the gathered e-resources

Developing European e-learning and teaching, in order to face the international competition in the field of education

Allowing individuals and organisations to access an extensive list of academic and scientific resources related to a specific subject

Creating a “LERU” publishing house, with an editorial committee consisting of members from all LERU universities

Other:

**3. The attitude of the university towards the offer of e-learning materials:**

a. Who’s the target group?

Students

select one group of students by clicking on it:  
Students from the own institution

Academic staff

select one group of teachers by clicking on it:  
Teachers from the own institution

Companies (for training)

Private persons (in the frame of lifelong learning)

Disabled people

b. Which kind of materials is your university prepared to offer? Which ones is your university prepared to offer free of charge, which ones against payment?

Click the left box if you want to offer the material and write down which target group(s) you don’t want to charge and which one(s) you do want to charge. One or more answers are possible.

	Free of charge for ...	Against payment for ...
<b><i>Simple course materials:</i></b>		
<input type="checkbox"/> Lecture presentations (slides)		
<input type="checkbox"/> Lecture notes		
<input type="checkbox"/> Instructive text and assignments		
<input type="checkbox"/> Lists of related resources		
<input type="checkbox"/> Scientific articles of your academic staff		
<input type="checkbox"/> Example examination questions and answers		
<input type="checkbox"/> Exercises and solutions		
<input type="checkbox"/> Academic and scientific actuality in Europe related to a subject (announcements of conferences, debates, etc.)		
<input type="checkbox"/> Audio-visual resources and programs		
<input type="checkbox"/> Video recording of lectures		
<input type="checkbox"/> Educational games		
<b><i>More complex course materials:</i></b>		
<input type="checkbox"/> Tutorials (a program that interacts with users by evaluating user input and providing help where necessary, thus structuring the materials offered according to the user’s individual		

learning progress)		
<input type="checkbox"/> Assembled self-study courses		
<input type="checkbox"/> One or more whole study programs		
<input type="checkbox"/> Other:		

- c. When your institution expects payment for using the learning materials, do you want to specify different prices dependent on the country the user comes from?
- d. On which level is your university prepared to offer study material? Put a cross/crosses in the matrix<sup>35</sup>:

	1 Exchange of study material	2 Exchange of courses	3 Offering of complete programs
A Bachelor's level			
B Master's level: 1. Normal 2. Advanced			
C Executive training **			
D Postgraduate: * 1. Longrunning 2. Refreshing			
E PhD Level			
F Corporate training: 1. On-site university training 2. In-company training			
G Lifelong learning			

\* *The Refreshing Postgraduate courses would be targeted at people who want to update their knowledge in their own field. The Long running Postgraduate courses could be targeted for instance at persons, who have graduated in one field, but are working in another field. By taking up Long running Postgraduate courses, these persons could acquire a better understanding of the field they are working in.*

\*\* *The Executive training level is a level in between the Advanced Master's and both Long running and Refreshing Postgraduate levels. This kind of training is primarily targeted at professionals, who want to acquire scientific foundation for executing their tasks.*

- e. Is your university prepared to offer study accompaniment through a tutor? If yes, free of charge?

<sup>35</sup> Taken from the cEVU Report of Workpackage 1: *Report on business working group meetings*, 2003, pp. 11-12.

- f. When your university offers a complete on-line course, will it be possible for the students to do an examination and receive a certificate? Is your institution prepared to offer this service for free? Which label does your university want the certificate to have (e.g. label of the own university, LERU-label, etc.)?
- g. Is your university prepared to offer learning materials in different languages?
- h. Which services do you think are advisable to offer?
- peer review to guarantee the quality of the shared learning materials
  - print-on-demand
  - possibility for user comments
  - a system for awarding the best learning materials
  - other:
- i. Are you aware of existing resistance in your university against the use of technology? If yes, explain who (e.g. a target group, certain faculties, etc.) resists and why.
- j. What can EUREA add to worldwide available repositories like Merlot<sup>36</sup> and HEAL<sup>37</sup>?

#### **4. Awareness – dissemination - maintenance – promotion**

- a. Read the following explanation of different business models<sup>38</sup>:

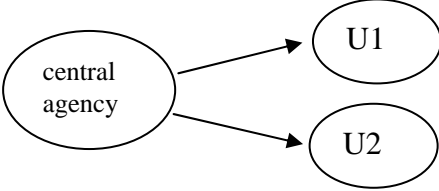
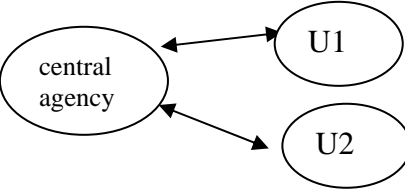
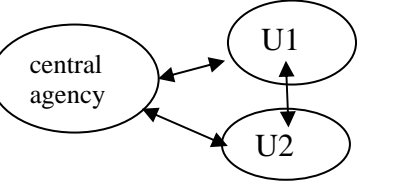
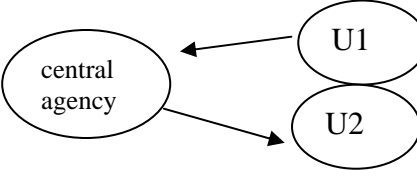
*The models were simplified so that there were only two universities in each example.*

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<sup>36</sup> <http://www.merlot.org/>

<sup>37</sup> <http://www.healcentral.org/>

<sup>38</sup> Based on the cEVU Report of Workpackage 1: *Report on business working group meetings*, 2003, pp. 5-6 and the cEVU Manual, 2004, pp. 12-15.

	<b>Model A: European University</b>	<b>Model B: Eur. Partnership</b>	<b>Model C: Eur. Consortium</b>	<b>Model D: Broker Model</b>
				
<b>Central agency</b>	A central agency plays a <b>dominant role</b> : it takes the initiative for course development, registers (through the participating universities) the students, offers the courses (even full programmes), awards the credits (and eventually certificates) and monitors the activities of student support.	A central agency would operate as a <b>repository for storing the material</b> . Universities offer useful products, which are presented by the agency to interested partners. The central agency has less influence than it has in the model A.	A central agency operates as a <b>database, a bookkeeper keeping track of the data and know-how exchanges</b> . The concrete actions are situated at interuniversity level.	A central agency functions mainly as an <b>intermediate between producers and consumers of courses</b> . Collaborating partner universities can be providers and use the agency to market internally their suitable courses to other partners or externally to education institutions and training organisations.
<b>Autonomy</b>	The agency directly takes over a number of functions of the participating universities, who <b>hand in (at least part of) their autonomy</b> .	Universities <b>hand in a small part of their autonomy</b> .	Universities keep the initiative and <b>maintain fully their autonomy</b> .	Universities <b>hand in a small part of their autonomy</b> .
<b>Investments</b>	It needs <b>substantial investments</b> in technical facilities as well as in personnel and time. The agency will need a large staff and strong central governance to operate properly.	It needs <b>substantial investments</b> . Setting up a central agency would require a large staff, because for instance data and technology have to be updated and made compatible.	Only a relatively <b>limited</b> staff would be needed to maintain the agency database.	The model is not directly dependent on institutional commitments for cooperation; it is more reliant on the willingness and ability of the individual teacher to develop web-based courses. It will consequently need <b>limited investments</b> .

Which business model would your university prefer?

Choose one by clicking here: [Model A](#)

Why does your university make this choice?

How much of its autonomy is your institution prepared to hand in? Give a score from 1 till 5, with 1 none and 5 all.

- b. What would be the most appropriate environment and operating mode of the support centre/central agency (geographical location, funding, legal status, and so on)?
  
- c. Do you want the database to be searchable per university or on subject (with a full integration of the different universities)?
  
- d. Considering the state and the trends of the e-learning market, what would be the more appropriate business strategy to promote the meta database, and to perpetuate the overall mutualisation system?
  
- e. How can we enlarge the partnership to other European Universities, while guaranteeing the high quality of the mutualised e-content?
  
- f. What will probably be the major stumbling blocks while setting up and maintaining a EUREA database?
  
- g. What will probably be the key success factors while setting up and maintaining a EUREA database?



- c. Do you already offer online materials in chosen field of education? If yes, who are the users of it? Give data about the number of users if possible in the next scheme.

	<b>Using online material?</b>	<b>Number of users</b>
<b>Students (own institution)</b>		
<b>Other students</b>		
<b>Academic staff (own institution)</b>		
<b>Other academic staff</b>		
<b>Companies</b>		
<b>Private persons</b>		

- d. Fill in the next scheme for your chosen field of education. The scheme should then represent the **present** situation:

	<b>Interested in e-learning materials?</b>	<b>Needs</b>	<b>Willing to pay ?</b>	<b>Branding needed?***</b>	<b>Competitors in this field of education</b>
<b>Students (own institution)</b>			*		
<b>Other students</b>					
<b>Academic staff (own institution)</b>			*		
<b>Other academic staff</b>					
<b>Companies</b>					
<b>Private persons</b>					

\* For the students and academic staff of your own institution own learning materials are used for free. Is the university willing to pay for e-learning materials from other universities?

\*\* The brand of the EUREA database should be strong and it should be a mark of quality for outsiders, which might be very important for certain countries or target groups, where the names and reputation of individual universities are less known. The same brand should not be used for different purposes. If one would like for instance to deliver high quality material in Europe and pass lesser quality material to other countries, having just one brand would be a bad idea. Instead, there might be separate brands for different purposes and even for different subjects. It is worth considering if branding is as important for each market.<sup>39</sup>

- e. Fill in the next scheme for your chosen field of education. The scheme should then represent how you think the situation will probably be in the **future**:

	<b>Interested in e-learning materials?</b>	<b>Needs</b>	<b>Willing to pay ?</b>	<b>Branding needed?</b>	<b>Competitors in this field of education</b>
<b>Students (own institution)</b>			*		
<b>Other students</b>					
<b>Academic staff (own institution)</b>			*		
<b>Other academic staff</b>					
<b>Companies</b>					
<b>Private persons</b>					

\* For the students and academic staff of your own institution own learning materials are used for free. Will the university be willing to pay for e-learning materials from other universities?

\*\* The brand of the EUREA database should be strong and it should be a mark of quality for outsiders, which might be very important for certain countries or target groups, where the names and reputation of individual universities are less known. The same brand should not be used for different purposes. If one would like for instance to deliver high quality material in Europe and pass lesser quality material to other countries, having just one brand would be a bad idea. Instead,

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<sup>39</sup> Taken from the cEVU Report of Workpackage 1: *Report on business working group meetings*, 2003, p. 19.

there might be separate brands for different purposes and even for different subjects. It is worth considering if branding is as important for each market.<sup>40</sup>

- f. Fill in the next scheme. It should represent the interests of your own students and academic staff in e-learning materials in other domains than your chosen field of education:

	<b>Interests</b>
<b>Students</b>	
<b>Academic staff</b>	

**7. Do you still have some remarks or questions? Write them down here:**

Thank you for filling in this form!

Please send it back to [eurea@avnet.kuleuven.be](mailto:eurea@avnet.kuleuven.be) one day before the agreed telephone call.

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<sup>40</sup> Taken from the cEVU Report of Workpackage 1: *Report on business working group meetings*, 2003, p. 19.

## Appendix 2: ARIADNE

<b>ARIADNE</b>	
Website	<a href="http://www.ariadne-eu.org/">http://www.ariadne-eu.org/</a>
What?	A European knowledge pool
Aim	<ul style="list-style-type: none"> <li>• To foster cooperation between educational bodies through the set-up and exploitation of a truly European Knowledge Pool.</li> <li>• To keep social and citizenship aspects dominating Education, combat an evolution towards making it a mere marketable item.</li> <li>• To uphold and protect multilingualism and the use of national/regional languages in education.</li> <li>• To define by international consensus what aspects of ICT-based formation should be standardized and what should be left local.</li> </ul>
Members	Institutions from 20 countries and individual members
Private partners	Microsoft, Macromedia, etc.
Target group	Europe's learning citizen, academic community, corporate world
Organisation	The ARIADNE Foundation is a not-for-profit organisation.
Accreditation possible?	/
Which materials?	Tools and learning materials
Free of charge?	No, there are membership fees
Translations available?	/
Used Model	
The creator of the material can define who can get access to his material: only he and the others have to ask him, everyone on the server, members of ARIADNE or everyone. ARIADNE itself doesn't claim copyrights. ARIADNE relies on the creative common license.	
How do they guarantee quality?	

ARIADNE relies on the individual responsibility of the creator of the material.

Which funding do they have?

Membership fees for individual members (€50), for public or non-profit institutions (€500-4.500) and for private companies (€2.500-50.000). With these membership fees, the basic infrastructure is maintained. For extra services, you have to pay extra, in order to let a half-time staff member work on it.

### Appendix 3: EducaNext

<b>EducaNext</b>	
Website	<a href="http://www.educanext.org">www.educanext.org</a>
What?	A multilingual, academic exchange portal, using the Universal Brokerage Platform (UBP)
Aim	To serve and support all individuals in the academic community, who are dedicated to increasing the excellence of higher education and research through distributed collaboration.
Members	397 registered institutions from 60 countries
Private partners	Bureau for international Research and Technology Cooperation (BIT)
Target group	Members of higher education, research organisations and professional communities
Organisation	EducaNext is governed by two bodies. First, a Steering Committee is responsible for defining the EducaNext strategy, service planning and supervision, promotion and the general fulfilment of the EducaNext Mission. Second, an Executive Board is responsible for the daily operations of running the service. Its members are appointed by the Steering Committee for one year, after which they are either reappointed or replaced by the Steering Committee.
Accreditation possible?	No
Which materials?	Learning resources such as electronic textbooks, recorded lectures, presentations, lecture notes, case studies, quizzes, etc. from 47 fields of education
Free of charge?	Free and open to any participant of the academic community
Translations available?	No
<b>Used model</b>	
Although any web browser may freely consult the EducaNext catalogue, users who wish to have access to certain learning resources are required to register themselves with the EducaNext portal. Thus “consumers” agree to the conditions under which they may reuse a provider’s content and EducaNext tracks the entire exchange process between providers and consumers so that providers know who is using their content, in the interest of community building.	
<b>How do they guarantee quality?</b>	

- Peer review: EducaNext co-ordinates peer review of online content on two levels – formal and informal. The formal peer review is conducted in a classic way by inviting subject matter experts to assess learning resources in terms of three major aspects: content, usability and instructional design. The informal peer review is conducted with the users of learning resources, be they faculty members or students. They are required to describe their perceptions and experiences of a learning resource right after they have used it. Their descriptions are based on a tripartite inquiry on the technical, pedagogical, and organisational aspects.
- Forum: Large-scale entities like complete online courses need a more comprehensive review process. A team of evaluators with different backgrounds, including experienced instructional designers, media designers, domain experts, programmers, and end users, are invited to take part in a forum to analyse and discuss the strengths and weaknesses of online courses.
- Guidelines and Standards: Quality assurance should be integrated into the whole content creation process. Different guidelines (e.g., quality criteria) and standards (e.g., interface, compatibility, production quality and instructional design) which authors should observe when developing online content are available. Learning resources have to be described with structured *metadata* in order to enable an effective access to the learning resource repository. The metadata model of the UBP can be freely customised. The EducaNext portal allows content providers to choose between providing educational material and educational activities. General metadata attributes such as title, description, etc. are taken from Dublin Core. Some education-specific attributes such as typical learning time, are taken from the IEEE LOM standard. Additionally, proprietary attributes such as educational objective as well as an EducaNext-specific taxonomy of learning resources distinguishing between educational material and educational activities do exist. In addition to ensuring the quality of metadata descriptions, which enable potential consumers to make an appropriate choice of learning resources, EducaNext have published a document entitled “Metadata Quality Guidelines” which is available on the EducaNext website.
- Monitoring: EducaNext Catalogue Managers are responsible for screening the quality of metadata descriptions of learning resources. In their role of catalogue administrators they are able to remove inappropriate descriptions.

Which funding do they have?

Not found.

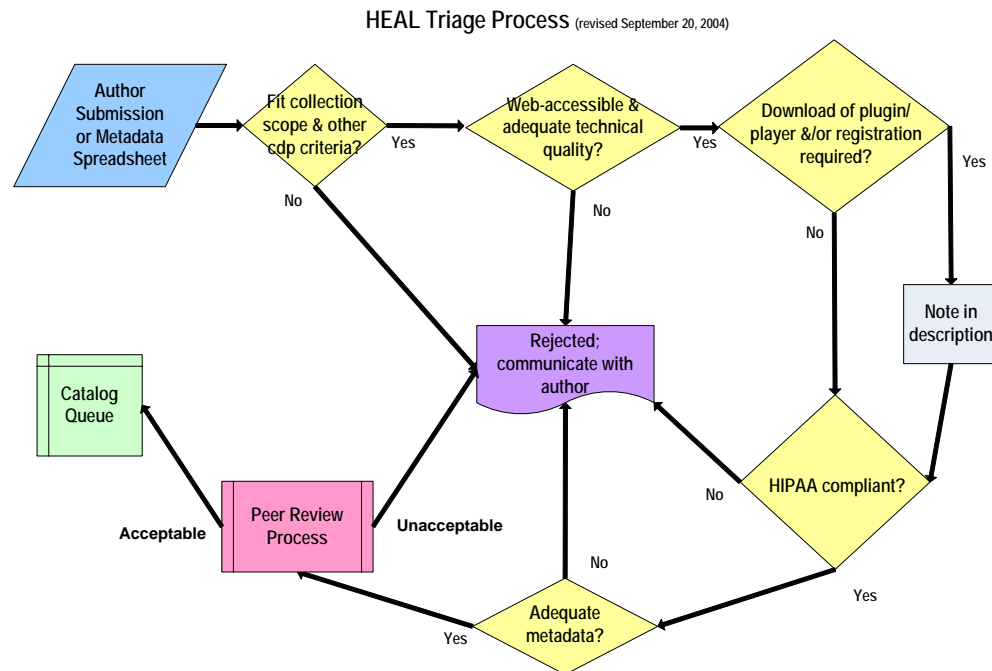
## Appendix 4: HEAL

<b>HEAL</b>	
Website	<a href="http://www.healcentral.org">www.healcentral.org</a>
What?	The Health Education Assets Library is a digital library that provides freely accessible digital teaching materials of the highest quality that meet the needs of today's health sciences educators and learners.
Aim	To provide free digital materials of the highest quality that meet the needs of today's health sciences educators
Members	Institutions of the U.S.A.
Private partners	<a href="#">Knowledge Weavers</a> Office of high Performance Computing and Communications
Target group	Health sciences educators and learners.
Organisation	Run by a council of advisors
Accreditation possible?	No
Which materials?	Resources (sets of images, videos, and audio resources for health sciences undergraduate and graduate education, and a number of consumer and patient health education resources) from all areas of health sciences-related education, including biochemistry, physiology, anatomy, medicine, nursing, pharmacy, dentistry, and allied health.
Free of charge?	Yes
Translations available?	The HEAL collection is initially intended to support health sciences education in North America. Many collections and resources contained in HEAL will be of value to educators and learners beyond these borders. The HEAL collection includes relevant resources from around the world. Resources tend to be in English, but resources in other languages commonly used in health sciences education in North America are also in scope. Metadata is in English.
<b>Used Model</b>	
Each of the health sciences teaching resources in the HEAL repository/referatory is licensed for free use, reproduction, and modification by registered users of HEAL according to the terms of the Creative Commons license associated with that resource. HEAL depends upon authors and its federation partners to share access to collections of	

high quality teaching resources. The value of the HEAL digital library increases with each resource and affiliate collection added to the catalog. A network of affiliate collections facilitates more rapid, diversified expansion than individual publications alone.

### How do they guarantee quality?

- Only materials that have been accepted by the editorial board will ultimately be included in the HEAL collection. There are three selection criteria:
  - Availability: Typically, items selected for inclusion in the HEAL collections must be Web accessible and readily available to users at no charge. Federation partners may have additional authentication requirements.
  - Unacceptable resources: Resources that link to other sites without providing added value such as search tools or organizational structures are not eligible for accession into HEAL. The co-directors reserve the right to exclude resources or affiliate collections at their discretion.
  - Resources submitted but not selected: Resources that are incomplete, do not fall within the scope of the HEAL collection, or are otherwise inappropriate or cannot be processed are not accessioned and the author contacted via email or telephone.
- A professional librarian or HEAL co-director will determine if the resource fits the collection scope and meets other quality criteria. The following diagram illustrates the initial triage:



With these QA mechanisms in place, users can be confident that items in the HEAL collection have been thoroughly screened for functionality and adherence to patient confidentiality legislation. Educational value of resources is assessed using peer review criteria. Approved resources are subject to further review where metadata may be refined by a professional librarian or content expert before they are publicly

available.

- In January 2005, HEAL began its rigorous peer review process of educational materials that have been submitted by authors. Few educators have received scholarly recognition for developing innovative teaching materials. HEAL is proud to initiate a process to provide such recognition. Reviewers will systematically appraise the quality of the materials, which, upon acceptance, will be published permanently in HEAL. Three peer Review Panels are involved in HEAL's review process:

- a. Basic Sciences Review Panel
- b. Clinical Sciences Review Panel
- c. Consumer Health Education Review Panel

Novice reviewers are trained in order to achieve high levels of inter-rater reliability and correct application of review criteria. Self-study training and assessment modules are being developed in collaboration with the Multimedia Educational Resource for Learning and Online Teaching (MERLOT). Reviewers use a standard review instrument ([HEAL Review Form](#)) for the evaluation of the materials. Reviewers can recommend acceptance or rejection of the materials or they can recommend the conditional acceptance of the materials provided that the authors make specific modifications in the materials. Every material is reviewed by two reviewers. If there is a significant disparity in the reviews, the Managing Editor will reconcile the reviews and will make the final recommendation regarding acceptance or rejection. HEAL staff will make the accepted material public including the date of acceptance. Material will be posted under the "HEAL Collection" logo.

- Once a resource or collection has been incorporated into the HEAL collection, further quality checks are periodically performed. If significant technical flaws or content inaccuracies are found, or for any other reason at the discretion of the co-directors, the resource or collection may be deaccessioned from the library.
- To provide faculty with the widest possible variety of resources, HEAL has partnered with other digital libraries and included their content as affiliate collections. HEAL users can search and download content contained in any part of this distributed network of collections through a single online interface. These collections have been subjected to their own quality assurance review and are not reviewed by HEAL's peer reviewers.
- Tools allowing user comments are under development.

#### Which funding do they have?

In July 2003, the HEAL team was awarded \$450,000 from the National Library of Medicine to develop new functionality and training materials. In October 2003, HEAL was awarded an additional \$360,000 from the National Library of Medicine to develop a system for managing multimedia assets within individual health sciences institutions.

## Appendix 5: IVIMEDS

<b>IVIMEDS</b>	
Website	<a href="http://www.ivimeds.org">www.ivimeds.org</a>
What?	The International Virtual Medical School is a “metacampus” comprising a worldwide partnership of leading edge medical schools and institutions working to develop the full potential of e-learning across the continuum of medical education. The database is not operational yet.
Aim	To provide an effective means of sharing digital learning resources among partner institutions
Members	37 medical schools, professional organisations and associations located in 14 countries are partners and associates. IVIMEDS Network Members are medical organisations and associations who share the IVIMEDS vision, but do not have partnership status and the full benefits that go with that. At the moment IVIMEDS partnership is only available to university medical schools and other medical organisations. Membership is not currently available to individual undergraduate students or qualified doctors.
Private partners	Collaboration with organisations and agencies such as the World Bank
Target group	Students and the settings in which students may ultimately work
Organisation	A not-for-profit company with a development board, a steering committee, an executive committee of the steering council and a foundation board.
Accreditation possible?	An IVIMEDS 4-year medical school curriculum and an IVIMEDS postgraduate education programme are planned
Which materials?	Learning materials (e.g. video clips, pieces of text, animated diagrams and virtual patients) from undergraduate through postgraduate to continuing professional development. Priority will be given in the first instance to undergraduate medical education introducing the basic medical sciences in a clinically relevant context.
Free of charge?	No, available on agreed terms with a subscription fee and charges for services
Translations available?	No
Used Model	

Partner Institutions will licence IVIMEDS to configure and use content within the Medical Education Service and the IVIMEDS learning programmes. They will receive royalties paid out of IVIMEDS revenues in an amount linked to the use made of their content and to the subscription revenues earned by IVIMEDS from its use.

How do they guarantee quality?

IVIMEDS recognises the important role of the tutor in e-learning. Students have ongoing support and supervision from staff on-line and face-to-face from staff at their base.

Which funding do they have?

- funding of the partners
- subscription revenues
- revenues from services

## Appendix 6: MERLOT

MERLOT	
Website	<a href="http://www.merlot.org">www.merlot.org</a>
What?	Multimedia Educational Resource for Learning and Online Teaching
Aim	To improve the effectiveness of teaching and learning by increasing the quantity and quality of peer reviewed online learning materials that can be easily incorporated into faculty designed courses
Partners	23 institutions of higher education and 9 academic non-profit organisations; most of them from the U.S.A.
Corporate partners and sponsors	<ul style="list-style-type: none"> <li>• <a href="#">McGraw-Hill</a></li> <li>• <a href="#">Sun Microsystems</a></li> <li>• <a href="#">Blackboard</a></li> <li>• <a href="#">Desire2Learn</a></li> <li>• <a href="#">Ex Libris Ltd</a></li> <li>• <a href="#">IBM</a></li> <li>• IDET Communications Inc.</li> <li>• <a href="#">Macromedia</a></li> <li>• <a href="#">Sentient Learning</a></li> <li>• <a href="#">WebCT</a></li> </ul>
Target group	Academic staff and students of higher education
Organisation	A cooperative of individual members and institutions of higher education
Accreditation possible?	No
Which materials?	Learning materials in 9 categories (simulations, animations, tutorials, drills and practices, quizzes, lectures and presentations, case studies, collections, reference materials) in 15 different disciplines. In addition to offering online learning materials that you can be used in classrooms, MERLOT offers help in finding fellow MERLOT members who are willing and able to share their content expertise with students as Guest Experts from the MERLOT Virtual Speakers Bureau.
Free of charge?	Yes, membership is free. Members can use and add learning materials.
Translations available?	No
Used Model	

Partners have to pay a yearly participation fee (\$5.000–50.000) and have some other obligations:

- In-kind contributions of Faculty members for Editorial Board
- In-kind contributions of co-editor for Editorial Board
- In-kind contributions of “other” activities to advance MERLOT valued over \$250.000
- Each Partner will bear the costs, including salaries and related travel and expenses, of its faculty and other personnel engaged in MERLOT activities.

In return, they can among other things:

- Receive training
- Participate in the leadership
- Get a royalty free license to the use of the ‘MERLOT’ name and brand on partner’s websites with links to the MERLOT website

#### How do they guarantee quality?

- Peer review with an editorial board for each discipline: For this purpose, there’s a set of evaluation criteria which is based on quality of content, potential effectiveness as a teaching tool and ease of use. Each editorial board reviews its collection and "triages" materials as follows:

- Definitely worth reviewing
- Possibly worth reviewing
- Not worth reviewing at this time

The Editorial Board assigns "worthy" materials to two review team members. The reviewers each use the evaluation criteria as a guideline. If there is any significant disparity in the two reviews, an Editorial Board member assigns the material to a third reviewer.

- Rating system for MERLOT peer reviews: The current protocol for Peer Review ratings on MERLOT is to post ratings of 3, 4, or 5 stars and not to post ratings that are 1 or 2 stars. Consequently, when the user sees that no stars attached to the learning material, this could mean that the material was rated poorly by the peer reviewers or the material has not been reviewed.
- User comments with 1-5 star ratings
- The MERLOT Awards Program for Exemplary Online Learning Resources recognizes and promotes outstanding online resources designed to enhance teaching and learning and honours the authors and developers of these resources for their contributions to the academic community by conferring its MERLOT Classics and Editors' Choice Awards. The program began in 2002 sponsored, in part, by McGraw-Hill.
- Policy on removing materials: MERLOT checks all links to the materials in its catalogue monthly. The result is a list of materials found to have invalid URLs. Each material on the list is tested by following the URL provided on its Detail View page. If the material cannot be located on the site of origin and a search does not locate a new URL (either on the site or in Google), an email is sent to the author and submitter of the material, the webmaster of the site of origin if possible, and to the appropriate Editorial Board. If a new URL can be located, the Detail view of the material is updated in MERLOT.

- |   |
|---|
| <ul style="list-style-type: none"><li>• Federated search possible in the collections of MERLOT, ARIADNE and EdNA Online</li></ul> |
| Which funding do they have?   |
| <ul style="list-style-type: none"><li>• Sponsors</li><li>• Yearly participation fee of the partners</li></ul>                     |

## Appendix 7: MIT

<b>MIT OpenCourseWare</b>	
Website	<a href="http://ocw.mit.edu">ocw.mit.edu</a>
What?	A free and open educational resource, supporting MIT's mission to advance knowledge and education, and serve the world in the 21st century
Aim	To make MIT course materials that are used in the teaching of almost all undergraduate and graduate subjects available on the Web, free of charge, to any user in the world
Members	There's no registration process
Private partners/ Sponsors	<ul style="list-style-type: none"> <li>• The <a href="#">Hewlett Foundation</a></li> <li>• The <a href="#">Mellon Foundation</a></li> <li>• Content partners: <a href="#">Universia</a>, <a href="#">Chinese Open Resources for Education (CORE)</a>, <a href="#">Open Learning Support (OLS)</a></li> <li>• Evaluation partners: <a href="#">UNESCO</a>, <a href="#">InterAcademy Council</a></li> <li>• <a href="#">Sapient</a></li> <li>• <a href="#">Microsoft</a></li> <li>• <a href="#">Akamai</a></li> <li>• <a href="#">Hewlett-Packard</a></li> <li>• <a href="#">NetRaker</a></li> </ul>
Target group	Faculty, students, and self-learners around the world
Organisation	<p>MIT OpenCourseWare reports to the Office of the Provost at MIT. The organization is comprised of four main components:</p> <ul style="list-style-type: none"> <li>• The Core Team of MIT OCW employees</li> <li>• Department Liaisons who work directly in the MIT academic departments with faculty, who are funded by MIT OCW, hired by the department, and are physically located in the departments. These DLs directly assist faculty in preparing digital course materials for their teaching, ready materials for Web publication.</li> <li>• Advisory Committees who give feedback and guidance to the leadership and staff of MIT OCW</li> <li>• Four MIT OCW Faculty Liaisons (FL), assigned to the individual schools, who help manage the process for faculty. These FLs work in MIT OCW headquarters and report to the MIT OCW Program Manager. They act as project managers and coordinators, working with the faculty and MIT's 33 department heads to achieve both the faculty's individual, and the department's overall, publishing goals. The FLs also manage a team of Department Liaisons (DLs).</li> </ul>

Accreditation possible?	No, you have to be a student at MIT
Which materials?	Learning materials such as syllabi, calendars, readings, assignments, projects, related sources, lecture notes, problem sets and solutions, exams and video recordings from 900 MIT courses representing 33 academic disciplines and all five MIT schools
Free of charge?	Yes
Translations available?	Yes, some course materials are translated in Spanish and Portuguese by Universia and you're allowed to translate the materials yourself when these translations are accompanied with a specific disclaimer. Translation in Chinese is planned by Chinese Open Resources for Education (CORE).
Used Model	
Because MIT OCW is a strictly voluntary activity, they try to minimize the amount of time that faculty are required to plan, build, and publish their course materials on the MIT OCW Web site.	
How do they guarantee quality?	
<ul style="list-style-type: none"> <li>• They only provide learning materials from their own institution. The intent of MIT OCW is that their Web site should reflect the course materials for what is being taught at MIT. The reason for this policy is that the materials presented on the MIT OCW site are authored by members of the MIT Faculty, and thus, their faculty will take final responsibility for these materials. It would be difficult for MIT OCW to guarantee the accuracy and originality of materials they've received from outside sources. However, they encourage other universities to create their own "opencourseware" in which materials from their courses would be posted online and openly shared with the world. MIT OCW is eager to link to other universities or institutions that have similar goals.</li> <li>• They have developed a substantial evaluation program. The evaluation is focused on understanding specifics in three areas of user behaviour: <ul style="list-style-type: none"> <li>- Access: Who is using MIT OCW?</li> <li>- Use: How are they using it and does it meet their needs (e.g. are they satisfied with the quality of the offered content)?</li> <li>- Impact: What outcomes result from this use?</li> </ul> </li> </ul>	
Which funding do they have?	
<ul style="list-style-type: none"> <li>• Sponsors</li> <li>• MIT OCW Donors</li> </ul>	

## Appendix 8: TEN-A

TEN-A	
Website	<a href="http://www.ten-a.org">www.ten-a.org</a>
What?	Trans-European Net Academy is an online world-class brokerage and delivery service, linking educators and trainers for the exchange and distribution of learning resources. It facilitates the exchange of Learning Resources between organisations whose members are registered users of the services. The database is not operational yet.
Aim	<p>To provide e-learning exchange services at trans-European level for companies. The main objectives of this services are to:</p> <ul style="list-style-type: none"> <li>• assist the exchange and the diffusion of valuable academic knowledge and expertise of renowned European education and training institutions with private corporations and public organisations.</li> <li>• strengthen the competitiveness of the European industry by linking the best expertise of Higher Education Institutions with corporate learning requirements. This can be supported in the framework of Public Private Partnerships.</li> <li>• help increase the quality and efficiency of tertiary education in Europe and to contribute to the continuous education of professionals with emphasis on high demand sectors (e.g. ICT).</li> </ul>
Partners	2 universities, 2 higher institutions and 2 research institutions from 5 countries
Private partners	<ul style="list-style-type: none"> <li>• <a href="#">AllWeb Solutions S.A.</a></li> <li>• <a href="#">imc GmbH</a></li> <li>• <a href="#">INFONOVA GmbH</a></li> <li>• <a href="#">OTE</a></li> </ul>
Target group	Higher education institutions (HEIs), training departments of industrial companies and training organisations selling to industry
Organisation	Not found.
Accreditation possible?	Not found.

Which materials?	All kind of materials e.g. packaged web courses, Power Point presentations, video, live lectures using two-way video-conferencing, electronic textbooks, recorded lectures and presentations, case studies, quizzes, lecture notes, etc. in the fields of information and communication technology and business administration
Free of charge?	No
Translations available?	Paying service?

**Used Model**

The TEN-A brokerage and delivery model aims to cater for the needs of both learning providers (ICT developers and training providers, publishing houses, courseware developers and HEIs) and learning consumers (ICT distributors and implementers, training facilities, HEIs, public organisations, large corporations of knowledge intensive industries such as consulting).

Both groups will benefit from the provision of delivery systems tailored to their individual learning requirements, through the cataloguing and delivering of the following knowledge resources:

- Educational materials, which refer to sharable chunks of reusable content
- Educational activities, which refer to distributed, instructor-supported educational and training activities such as lectures, tutoring sessions, synchronous group collaboration, complete on-line courses
- Research materials, such as research papers, theses or data sets.

The HEIs will act as the content providers of educational content but also as registered content users. Via TEN-A the institution can easily purchase the course from another institution.

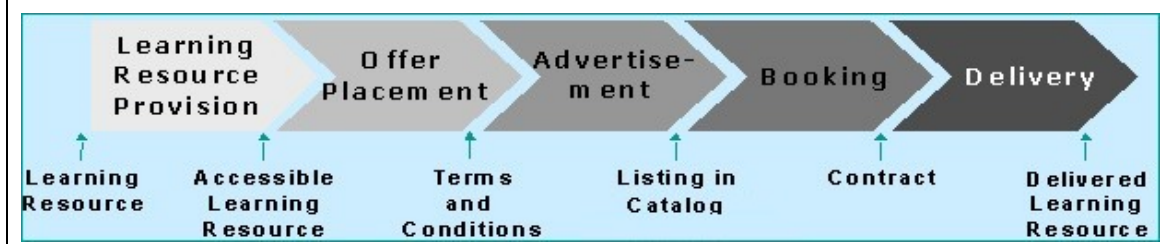


Figure 1: TEN-A Value Chain

The above illustration describes the various steps in the value chain of TEN-A from the placing of a learning resource, offer placement, advertisement and booking to the final delivery of a required learning resource.

**How do they guarantee quality?**

In comparison to many.com firms and in the light of the current economic situation, the EU-funding invokes confidence in the customers. The three main competitors that have been identified are: Saba, Docent and IBM Mind Span (Lotus Learning Space).

Which funding do they have?

The brokerage platform tracks booking and delivery of learning resources in order to provide contributors with a detailed feedback about the usage of their learning resources. Detailed usage statistics serve the grounds for complex business models, which generate a new revenue stream for content providers and the prospective follow-up company. The buyer saves resources in producing the course and the seller gets refunding for the resources spent on producing the lecture content, converting what has traditionally been viewed as a cost centre into a source of revenues.

## Appendix 9: Espelon

<b>Espelon</b>	
Website	<a href="http://www.espelon.nl">www.espelon.nl</a>
What?	An organisation that sells e-learning materials; a kind of publishing house of learning materials
Aim	To stimulate the cooperation between higher institutions in order to realise education innovatism
Members	/
Private partners	Dutch representative of Giunti Labs with Learn eXact
Target group	Higher institutions
Organisation	Not-for-profit organisation. Espelon is an initiative of SURF and the 'Digitale Universiteit' (DU).
Accreditation possible?	/
Which materials?	Learning materials and tools.
Free of charge?	No
Translations available?	No, only Dutch materials
<b>Used Model</b>	
<ul style="list-style-type: none"> <li>• Institutions pay Espelon for hosting, dissemination and support. It's a price per product, per year, per student. Institutions can give the students online access to the learning materials via a website of Espelon or via a link on the own intranet of electronic learning environment. Costs can be lowered by charging the students.</li> <li>• Additional teacher's information is available on a closed part of the Espelon website. Espelon tries to reduce the not-made-here syndrome by giving teachers the possibility to adapt the products to their own wishes.</li> <li>• First support is handled by the institutions; second one by one central support desk.</li> <li>• The selling process starts with addressing teachers and policy employees with workshops.</li> </ul>	
<b>How do they guarantee quality?</b>	
<ul style="list-style-type: none"> <li>• There are strict criteria for the intake of new learning materials. For each learning material a fact sheet has to be filled out, followed by initial interview conversations. The offered material is then checked with the list of criteria. So far, all offered materials and tools were developed in projects of SURF or the DU.</li> </ul>	

- Espelon has a maintenance contract with the developers of the learning material, because they've got the expertise.
- Espelon organises a User Group with teachers and developers from the participating institutions and lead by a paid advisor. Out of this User Group an editing council is formed which decides on the maintenance of products.

Which funding do they have?

- Espelon received funds from the 'Digitale Universiteit' and SURF for three years and an interest-free loan. After three years the organisation has to be financially independent by charging institutions for its products and services. From conversations with people involved with Espelon, became clear that Espelon probably will need more than three years to become financially independent.
- Revenues from buyers: only higher institutions in The Netherlands and Flanders (BE) are addressed. The companies which were involved in the developing projects of the products have the rights to sell their product to other companies, but Espelon doesn't interfere themselves.