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**EdReNe**

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***eContentplus***

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<sup>1</sup> OJ L 79, 24.3.2005, p. 1.

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Please note that the web based version of this document will be updated when relevant.

## 1 Introduction

EdReNe – Educational Repositories Network – is a thematic network co-funded by the European Union. The network brings together repository owners, content providers, and other stakeholders. Members of the network develop, share and document strategies, experiences and solutions on the organisation, structuring and functionality of repositories. The overall goal is to improve the provision of and access to learning resources in education.

The 3<sup>rd</sup> strategic seminar was opened by Deputy director-general Helén Ängmo, Skolverket and Leo Højsholt-Poulsen, UNI•C. They both underlined the importance of a network like EdReNe. The agenda for the seminar can be found in Annex 1 of this report. This report is not strictly structured in accordance with the agenda, but instead follows this thematic outline:

- Chapter 2 – Educational repositories in perspective: Three very different initiatives with relevance to the field of educational repositories: a comparative study by OECD on digital learning resources as systemic innovation, Europeana providing access to millions of digitized items from museums, libraries, archives etc. and finally, a teacher driven streaming video service for learning.
- Chapter 3 – Repository strategies of national broadcasters: For the first time, it is possible to read about and compare the repository strategies of five national broadcasters. Representatives from the five countries met at the EdReNe seminar and it is key issues from their presentations which can be found in this chapter.
- Chapter 4 – Educational Repositories 2009: The current state of the art is constantly moving. This Chapter includes an update and a summary of the preliminary results of the two EdReNe workshop series: “Standards and interoperability” and “Rights issues”.
- Chapter 5 – The first two years: Four EdReNe members draw attention to the significant results of the EdReNe network. The four members added recommendations to be used in the last project year and a continuation of the network. Together with the results from the group session this Chapter presents valuable advice both to members, the network and repository owners in general.
- Chapter 6 – New associated members: EdReNe invites all stakeholders interested in sharing experiences and opinions on repositories of learning resources to join the network as associated members. At this seminar three new associated members gave a presentation of their work within the field:
  - Universitat Pompeu Fabra, Barcelona, Spain
  - Agenzia Nazionale per lo Sviluppo dell'Autonomia Scolastica (ex Indire), Italy
  - SMART Technologies, UK.
- Chapter 7 – The final chapter of this report summarizes administrative issues, primarily addressed to members of the network.
- Annex 1: The agenda for the seminar.
- Annex 2: The list of participants.

## 2 Educational repositories in perspective

Three very different initiatives with relevance to the field of educational repositories is presented in this Chapter: a comparative study by OECD on digital learning resources as systemic innovation, Europeana providing access to millions of digitized items from museums, libraries, archives etc. and finally, a teacher driven streaming video service for learning.

### 2.1 Beyond textbooks: Digital learning resources as systemic innovation

The study called “Beyond textbooks”, is a comparative study. The host of the study is OECD - a global organisation with 30 members, including e.g. the United States and Korea.

Some of the preliminary results from the study were presented by Jan Hysten. He has performed the study as a consultant for CERI (Centre for Educational Research and Innovation, Directorate for Education).

The final report will be published in the near future.

The aim of the study was to review the process of systemic innovation, e.g. how countries initiate ICT-based innovations related to DLR and what factors influence the success of policies aimed at promoting such initiatives.

All OECD member countries were invited to join the study. In the end it was the 5 Nordic countries. The methodology chosen included background reports from each country, review visits and review reports by experts (12 experts have been involved during the study).

First of all, what is a digital learning resource? Only a subset of the learning resources is digital learning resources (another subset is text books). At the moment the number of digital learning resources is growing which makes it very interesting to look at them and how they are used in schools.

Definition of innovation: A very broad term has been used “Innovation is change introduced with the aim of improving the education system”. We cannot know for sure whether innovation has an effect (long term) we can only look at the “aim” of innovation. Is innovation done the radical way or incrementally? The study tries to look at both ways. Furthermore, innovation occurs on many levels, the study focused on the systemic level.

#### *Main Findings*

- **Initiation phase:** It is clear that “try and see what happens” is a dominating strategy. There was limited use of research or involvement of the stakeholders when new initiatives were launched.



**Jan Hysten presents the OECD study: Beyond textbooks.**

- In the implementation phase, not much use of pilots (as one would expect based on practice from other areas). “You put something on the net and then instead you use incremental development”.
- Scale-up: quite easy for digital learning resources, an extra user can be added with marginal cost. The key issue is sustainability (when the funding has stopped). Several initiatives started with public funding but turned into small commercial companies.
- Monitoring and evaluation: not so systematic, mostly done by web statistics and user feedback, very few studies with external evaluators.
- Use of knowledge base: not much to build on, however, it has not been build up either. Resulted in peer learning and policy borrowing (across countries).

### Enablers

- Political interest in ICT in education. High in all countries in mid 1990s, faded in some countries though and remained strong in others (e.g. Denmark and Norway)

<b>Political interest influences teacher's motivation</b>			
	<b>Access</b>	<b>Competence</b>	<b>Motivation</b>
Denmark	71.3	93.3	70.9
Finland	63.3	84.9	57.8
Iceland	58.8	88.2	29.4
Norway	68.1	90.9	72.8
Sweden	67.9	93.3	41.4
EU 25+2	60.7	82.0	68.4

Source: Empiricia 2006

An interesting table (three questions behind each figure). There is a clear link between political interest and the motivation among teachers. Norway and Denmark deviates from the other countries.

- Digital competence seen as key skill.
- Digital commons, everyone should be able to use it, a strategy seen in e.g. Norway.

### Barriers

Lack of resources or if teachers lack know-how on how to evaluate DLRs still seems to be important barriers. Another barrier is lack of overview of on-going innovation - much is going on but the teachers generally do not know anything about it.

### Drivers

Drivers include effective demand from schools and public funding to development projects or as public tenders to publishers. It seems to be very important to have entrepreneurs to work from the “inside” on these issues, to have continuity over the years (when politics change etc.).

### *Recommendations*

In the report, recommendations for the governments are given at three levels. Governments should

- create enabling conditions e.g. facilitate access to DLR, provide supporting services like the Danish UNI-Login, a national single sign on solution for the educational sector or the Norwegian NORLOM, an example of a national IEEE LOM application profile.
- foster innovation (e.g. promote cooperation between public and private partners for DLR development),
- And be leaders of innovation.

For further information on these, see the presentation.

### *Conclusions*

- Successful ICT-based innovations spread fast – individuals can have systemic impact! Groups of two-three teachers can really have an influence (cases of that in the report).
- Difficult to plan scale-up: end-users decide.
- A limited knowledge-base is not a barrier (same with stakeholders) – but important to have peer learning and policy borrowing.

### *Questions*

How many teachers were involved in the study? Not that many, the study has been conducted by a group of experts. Some teachers were interviewed when the experts visited the countries, in some countries 2-3 teachers in others 15-20 when e.g. a school was visited.

Would it be fair to conclude that a long formal training is not the way forward? That is very much depending on which people you are talking about.

You looked at the aims rather than the results, were there any? For how long would the governments tolerate missing results? There is no clear answer to that question.

Did systemic innovation have an impact on the quality of teaching? The teachers were not the subject of the study.

Peter Karlberg (Sweden) added: The study is made on statistics etc. that are already available. There could not be any new findings, it is more the comparison. In e.g. Sweden we do not have any studies on impact.

Leo Højsholt-Poulsen added that the OECD considers to perform a more detailed study benchmarking (ICT use, digital learning resources) a larger number of countries, e.g. to look at the benefits of ICT in education.

Further information:

- The final report will be published on the following address:  
<http://www.oecd.org/edu/systemicinnovation/dlr>
- Link to the presentation: <https://files.itslearning.com/data/826/open/CO15/678.pdf>

## 2.2 Europeana – access to millions of digitized items from European museums, libraries, archives and multi-media collections

Europeana is a place for inspiration and ideas. At the moment it is just a prototype, still it links to 4.2 million digital objects from more than 1000 organisations. When version 1.0 will be ready in 2010 it will link to more than 10 million digital objects.

This Section provides background, status, development and relations to educational resources as seen by Leif Andresen, Danish Agency for Libraries and Media.

Europeana should be the single, direct and multilingual access point to the European cultural heritage (European Parliament September 27, 2007).

It should be noted that although Europeana has to be a unique source it is not all in one database. Europeana is a distributed solution.

### *The political level*

The European Commission has a general interest in digital information, the new ways to deal with information, to put the content where the users are and not least the new opportunities to engage users. Museums, libraries etc. need to stay relevant to the people, giving them the kind of information they want in the place they want to access it.

The first Commission initiatives to promote interoperability started more than 10 years ago. Google announced Google Print only 5 years ago (in December 2004). Google (and Microsoft) introduced limitations on how widely accessible the material is. In this way public domain material is moved into the private domain. The content need to be public domain as the intention is to enable material to be put to new uses, to create new services, especially within a learning context. The strategy chosen by Google has influenced the decisions taken in Europe.

Furthermore, in April 2005 the Presidents of France, Germany, Italy, Poland, Hungary and Spain wrote a letter to Jose Manuel Barroso. They noted Europe's engagement and dialogue with the rest of the world throughout recorded history and suggested it was vital to ensure that Europe's cultural and scientific heritage took its rightful place among the information resources of the digital world. They proposed a European digital library as the access point for this material. They also recommended developing a strategy to co-ordinate digitization activities going on across Europe to prevent duplication. They suggested a greater collaboration between the technical research going on across Europe to develop open source software and establish best practice methodologies.

The Digital Libraries initiative (September 2005) is addressing these issues among others. In August 2006 the Commission recommended to Member States to create a European Digital Library (EDL). The outcome (July 2007-March 2009) was the EDL Thematic network and the prototype web portal: Europeana.



**Leif Andresen explains how Europeana is developing.**

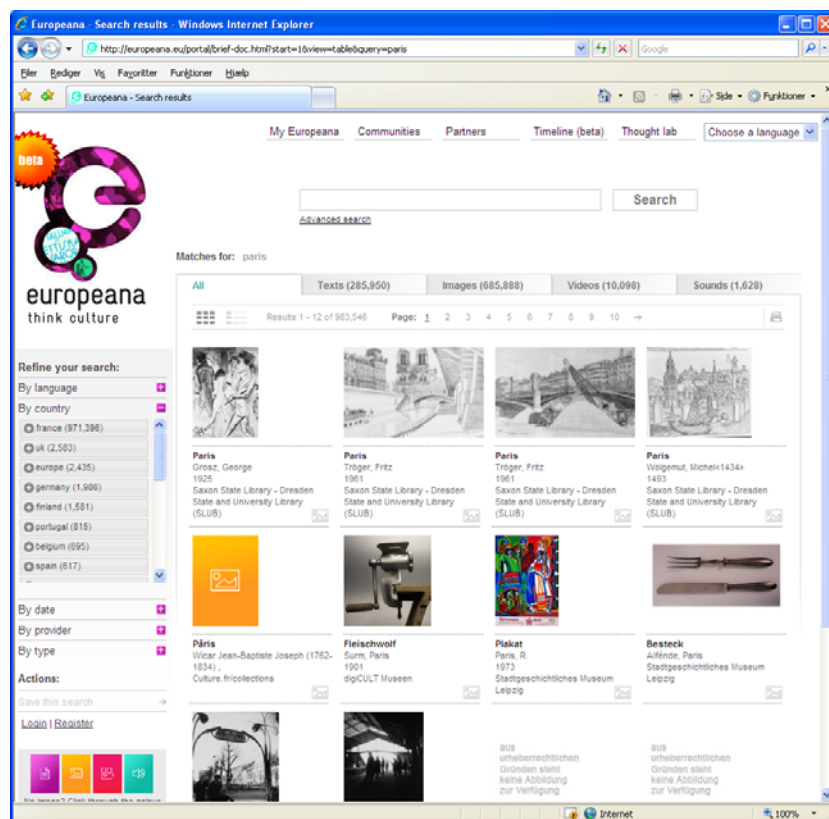


Figure 1 Europeana.eu – a search on “Paris”.

### *Stakeholder level*

The EDL foundation is the legal entity behind it all. Each of these organizations communicates and endorses Europeana’s objectives to their members – which includes just about every cultural heritage organisation in Europe.

EDLnet brings together an operational network of 100+ partners. EDLnet promotes technology transfer, standards and practices across the heritage domains and between Member States. EDLnet did also prepare the prototype and has written the specifications for the future operational service.

Europeana v1.0 is the successor network to EDLnet. It turns the current prototype into an operational service. It creates automated work flows and processes for the ingestion of content and management of a full scale business operation, end-user marketing, sustainability, together with longer term financing solutions. Started February 09 ends July 11.

EdReNe is an obvious candidate to play a more active role in relation to Europeana, to ensure the development of user interfaces and machine interfaces according to the needs of teachers, pupils and students. EdReNe is also an obvious candidate for connecting Educational Repositories as suppliers to Europeana. Some of the members ought to join Europeana v. 1.0 as partners: no fee, travel is funded.

### *User engagement level*

When the Europeana prototype was launched officially November 20<sup>th</sup>, 2008 it received huge interest - an average of 10 million hits per hour, peaking at 13 million. As a result the site froze; it took 10 minutes to execute a search. The site was taken down and re-launched in test mode in December.

### *Technical requirements, sources and projects*

The requirements to the content providers include: The digitised object must be available on a website at the object level through a permanent direct link. Furthermore, the objects should have some metadata (for the general interface). A set based on Dublin Core has been defined. The metadata should be exposed for harvesting on an OAI PMH server.

Content is provided for Europeana through different aggregators, e.g. for the film archives in general and for each country (the national libraries). Culture.fr is the largest aggregator, providing content from about 480 organisations in France, including the Louvre and the Musée d'Orsay

A lot of projects focusing on different problems within the different domains:

- EuropeanaConnect: a set of technical work packages delivering components essential for the operational Europeana.eu as a truly interoperable, multilingual and user oriented service. One problem which should be solved is multilingual search – to find all objects matching e.g. a specific city it is necessary to search for the city in different languages e.g. Munich, Munchen.
- Europeana Local ([www.EuropeanaLocal.eu](http://www.EuropeanaLocal.eu)) is an aggregator (no portal). Helps local and regional museums, archives, audio visual collections and libraries to bring their content to Europeana.
- EFG ([www.EuropeanFilmGateway.eu](http://www.EuropeanFilmGateway.eu)) creates an European Film Gateway (a portal) and makes more film accessible to Europeana.
- Athena ([www.AthenaEurope.org](http://www.AthenaEurope.org)) is an aggregator (no portal). Helps museums bring their content to Europeana.
- APENet creates European Archives Portal and makes more archives accessible to Europeana.
- PrestoPrime is a network of excellence for the preservation of audio visual archives and will deliver content to Europeana.
- STERNA, building a distributed digital library focusing on natural science, natural history, and biodiversity material.
- See forthcoming projects in the presentation.

### *Europeana in education*

Culture and cultural heritage is much more than museums, libraries, archives and multi-media collections, many other sectors have digital collections. An important sector is the educational sector, especially educational repositories as they establish connections between the different objects which will be very relevant in the future. One of the goals for the educational repositories should therefore be to supply metadata for Europeana.

In addition, the educational sector is an important *user* of cultural heritage – so this sector represents key users of Europeana. Teachers, pupils and students can use Europeana not only typing in single words, but also using the more sophisticated features such as creating their own collections. EdReNe should also be aware of the possibility to use Europeana as a database you can search in from your own user interface (machine-to-machine interface)

### Questions

Do you cooperate with Flickr, Google, etc. like your colleagues in the States? No formal discussions with Google yet. It is important that Europeana is open for Google indexing as well. However, to index a service as Europeana a special interface must be set up for Google and that is not done yet. You can provide metadata where the object itself is part of Flickr.

How do you handle rights issues? Europeana does not exclude objects with copyright. The strategy is to inform about the usage rights for the individual object including access control. There is a need for general agreements in the different countries between e.g. libraries and content providers; moving in this direction is endorsed by the commission.

### Further information

- Link to the presentation: <https://files.itlearning.com/data/826/open/CO15/667.ppt>
- Link to europeana: <http://europeana.eu/portal/>
- Link (provided by Maria Loi) to a website with information on legal aspects in relation to Europeana. <http://www.arrow-net.eu/>

## 2.3 Kunskapshubben – an innovative teacher driven initiative

Martin Claesson gave a presentation of the initiative: Kunskapshubben. Martin is employed at Årstaskollen, a public school in Stockholm with 620 pupils (ages 6-15).

Teachers and parents grew up with books; now children grow up in a total different setting. They have adopted technology in a very different way than the older generations. Furthermore, the internet provides new (and often free) tools for distribution and communication and the cost of storing and producing digital material has decreased rapidly.

Digital media are changing the schools!

At Årstaskollen many creative teachers wanted to reach out to the children and do things in a different and more creative way. They wished to improve the school's performance.



**Martin Claesson from Årstaskollen presented Kunskapshubben**

Today the teacher is still the single most important factor in education. In a classroom environment you are talking to the pupils, writing on the whiteboard etc. but when the pupils leave the classroom you cannot do that. You have to connect with them and their parents in a different way. Remember that parents might not have the up-to-date knowledge to help their children.

Kunskapshubben is a knowledge hub with more than 100 online video clips, a local learning platform and a communication tool. All the video clips have been produced by teachers! It is mainly short presentations aimed at pupils and parents. It started with one teacher, then a small group expanding with even more teachers.

The clips can be downloaded to your iPhone/iPods. However, the children mostly use the streaming facility on the website.



The screenshot shows the Kunskapshubben website. At the top left is the logo, a colorful wheel with the text 'KUNSKAPSHUBBEN en del av Årstaskolan BETA'. To the right are links for 'Startsida | Hjälp | Kontakt' and a search bar. Below the header is a blue navigation bar with menu items: 'Startsida', 'ÅK 5 - Årsta'13', 'ÅK 8 - Årsta'10', 'För alla', 'Musik', 'Av elever', and 'Vi gillar på Youtube'. The main content area features several video thumbnails with text descriptions:

- MUSIKPREMIÄR PÅ HUBBEN:** A man with tattoos is pointing at a whiteboard with a multiplication table. Text: 'Har du problem med att komma ihåg multiplikationstabellerna? Då har vi hjälpen för dig! 2-9:ans tabell finns nu som låtar att lyssna på här. Dessutom kan du givetvis tanka ned dessa som mp3:or så du kan ta dem med dig överallt! >> Klicka på mig'
- Gösses Science Lab:** A man in a lab coat is in a science lab. Text: 'Nu är Gösse tillbaka med ett nytt avsnitt - Plasma, en ljus idé. >>Se film'
- Rotkäppschen:** A girl in a red hat is talking to a boy. Text: 'Undrar du hur Rödluvan funkar på tyska? Kolla då in våra duktiga elever i 6:an som filmatiserat den! >>Se film'
- Tanka ned till din lur:** A smartphone displaying 'MODERNA SPRÅK Svenska'. Text: 'Nu finns alla filmer att ladda ned till din mobil / iPod / iPhone mm. Under kategorierna Åk5, Åk8 och För alla i menyn finns länkarna i den gröna undermenyn.'

On the right side, there is a 'Kunskapshubben' section with a welcome message and information about digital content like podcasts and videos. Below that is a 'Synpunkter? Skriv till oss!' section with a feedback form icon and a 'Denna sajt kräver' section with an Adobe Flash Player download button.

Figure 2 Kunskapshubben – a teacher driven initiative started in 2008 in Sweden. More than 100 video clips have been produced during the first year.

Kunskapshubben is based on Flash, including the streaming service. Flash is easy to use for both teachers and the children (widespread). From the beginning the school bought a video camera and established a small studio. The expenses were a total of 4000 Euro. The school did not hire anyone to help. A colleague helps the teachers with the editing of the video clip.

The teachers do not receive any extra payment – the time spend is gained later. The clips shorten the time needed for teaching - you do not have to explain the same subject matter many times for the children. They can watch the clips e.g. at home in their own pace. The children are positive, e.g. when the homework includes watching a clip. When the video clip is shown again in class it is much easier for them to understand the subject matter.

Furthermore, it does not take 5 hours to produce a video clip, it takes 50 minutes (...a whiteboard and a camera).

Some examples:

- A teacher explains about scales and measurements in a very creative manner:  
[http://www.arstaskolan.se/kunskapshubben/podcast\\_arkiv/podcast.shtml?item=54](http://www.arstaskolan.se/kunskapshubben/podcast_arkiv/podcast.shtml?item=54)
- Little Red Riding Hood – performed by pupils: drama and German language teaching.  
[http://www.arstaskolan.se/kunskapshubben/podcast\\_arkiv/podcastws.shtml?item=112](http://www.arstaskolan.se/kunskapshubben/podcast_arkiv/podcastws.shtml?item=112).  
One effect of producing this clip is that the children can show the result to others. The parents gave permission to put this clip on the internet. In general the clips with children are not published.

The teachers at Årstaskollen added good stuff from YouTube to Kunskapshubben. As Martin phrased it “Although we are good we cannot do everything”. The school shares their clips on YouTube as well. A Creative Commons license is used.

It is important to note that the clips complement teaching in class – it is not a replacement!

Further information:

- Link to the presentation: <https://files.itslearning.com/data/826/open/CO15/679.ppt>
- Link to the website: [www.kunskapshubben.se](http://www.kunskapshubben.se)
- Link to the schools website: [www.arstaskolan.se](http://www.arstaskolan.se)

### 3 Repository strategies of national broadcasters

During the last 3-5 years many European countries have been creating online video archives. Many of these initiatives are meant for or used by schools. For that reason it becomes very relevant for the EdReNe network to learn more about them and their strategies. One of the interesting observations is that five different countries do not result in five different strategies. There are many similarities to be found in the presentations made by:

- It's all about connections: successful use of online content in the classroom, The Netherlands
- DR strategies, Denmark
- UR strategies, Sweden
- YLE strategies, Finland
- Strategies of French broadcasters

#### 3.1 It's all about connections: successful use of online content in the classroom, The Netherlands

Dalida van Dessel, NIBG, gave an introduction to the initiatives and strategies in The Netherlands.

NIBG is the audiovisual cultural heritage institute of The Netherlands. They hold a business archive of the Dutch public broadcasters with 70 % of all the audiovisual material in The Netherlands, which is 700.000 hours of television, radio, music and film and 2.000.000 photos.

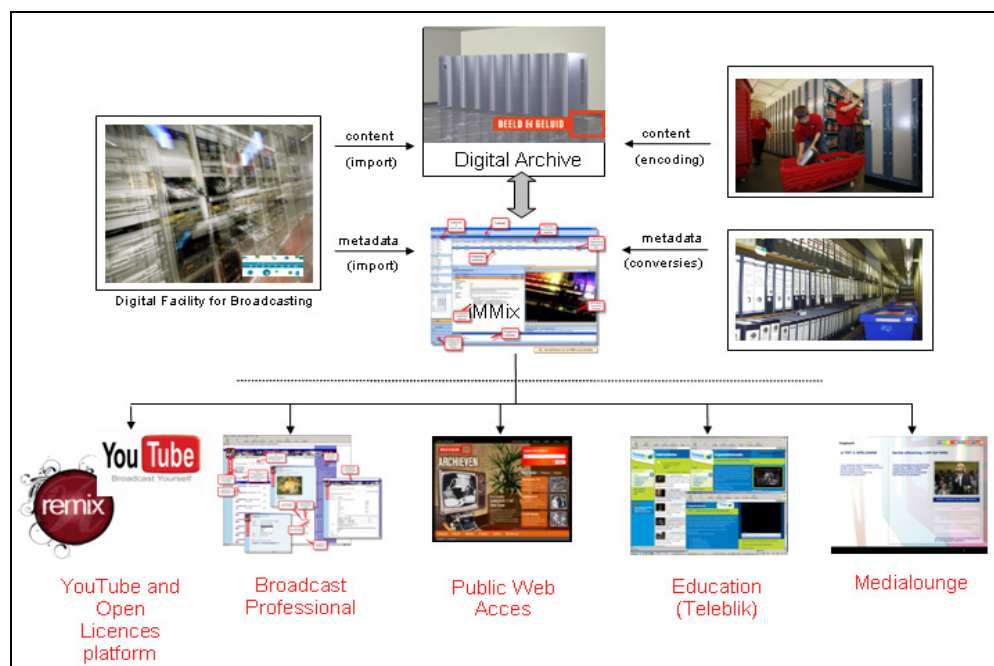
One of the goals of NIBG is to have as much content available to the public, research etc. as possible. However, at the same time they are required to sell some of the content. The business model chosen is to provide value-added services, see below.

NIBG has 10 years of experience in the field of education. It started with CD-ROMs, then the first streaming services. They provide services for all levels of education. Generally speaking the same content is presented in different context.

Currently 25.000 TV programmes, documentaries, home videos, etc. are available online. This material can all be searched and viewed via the frontend by broadcast professionals, academics and the general public. Once the material is digitized it can be used from different front ends – synergy is important to keep the costs down. See below.



**Dalida van Dessel presented the new Dutch initiative: ED\*IT.**



**Figure 3 A 100 % digital production process has been implemented.**

**Left:** When something is broadcasted it goes directly to the archive including metadata. It happens within ½ hour (then you can download it). The archive also includes material from other sources.

**Right:** Digitization of tapes and paper based metadata.

**TeleBlik** is done in cooperation with Kennisnet (technical provider) and Telia (educational broadcaster in The NL). This project started 5 years ago. The same source material is used in ED\*IT (see below) but different metadata.

In the following we will take a closer look at ED\*IT, a new educational service to be launched in September.

ED\*IT comes in two versions: ED\*IT basis (primary education) and extra (secondary education) - Same content, different metadata.

ED\*IT provides access to 10 different content databases and tools to stay updated (an overview of new material), to share, upload (e.g. your own photos), edit, search, remix, and to create e-lessons. These tools are behind login and have been developed for this purpose or provided by partners.

One of the tools allows the teachers to make their own video clip, e.g. to cut out a piece of the clip. Actually the user does not cut the clip/make a new clip. The user simply adds time codes. This model was chosen for copyright reasons (it is not a new clip) and technical reasons as well (it is much easier).

All metadata is mapped to the Dutch IEEE-LOM scheme. The metadata itself is provided by the partners. SCORM is used for packaging e-learning material (with link to the clips behind login). Although problems with this solution SCORM provides one standard to work with. A partner has provided the necessary application.

The rights issues have taken quite some time to solve. The agreement is based on an old Dutch educational exception and has been negotiated with the 5-6 large rights holder organizations. As a result, access to the tools and services in ED\*IT is only provided for education in The Netherlands. In return the rights holders receive a fair compensation.

Furthermore, they will always be mentioned when the clips are presented. A specific agreement has been made for higher education which allows students in Belgium to use the clips as well.

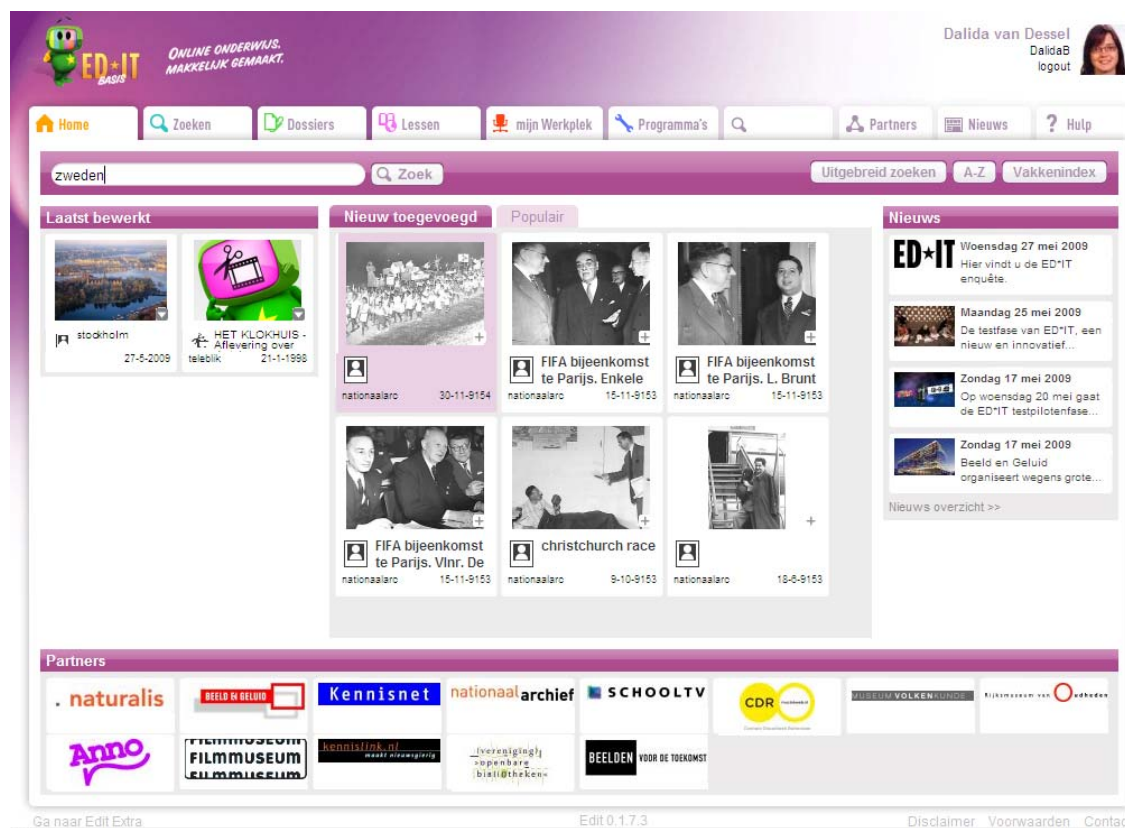


Figure 4 ED\*IT Basis, Dalida van Dessel has been logged in. From this page she has direct access to new clips and the different tools from the bar at the top.

Revenues include subscriptions for schools (see below), contribution from NIBG, and subsidies from government for e.g. digitising content.

Content is provided in three packages:

- The basic service is free; it includes content and basic metadata.
- ED\*IT Basis and ED\*IT Extra - surplus value services upon that. They include tools, dossiers, educational metadata, index, etc. The price is 2 euro 85 cents pr student in secondary education. Less than 2 euro per student per year in primary.
- ED\*IT can be extended even further by buying ready made e-lessons.

Further information:

- Link to the presentation: <https://files.itslearning.com/data/826/open/CO15/672.ppt>
- Beta version used for demo: <http://beta.edit-basis.nu> – official service URL: <http://www.ed-it.nu/>

### 3.2 DR – Education and repositories

This Section is based on a presentation given by Ole Hjortdal, DR on education and repositories. First of all, DR (Danish Broadcasting Corporation) is Denmark's oldest and largest electronic media enterprise. The corporation was founded in 1925 as a public service organisation. DR is an independent, licence financed public institution.

DR is obliged to broadcast education programmes and services. Special attention should be given to motivate for further education. The initiatives are a supplement to the primary school and the general education. DR must use a wide range of technological platforms for the programmes and services, including the Internet.

Education is core business for a public broadcasting company as DR. However, only 50 % of costs are covered by licenses (both web and TV). It is required that the remaining 50 % is co-financed by partners (e.g. the Ministry of Education, museums, funds, EU, EBU, publishers etc.)

Within education DR works with: Educational TV-programmes (with topics like globalisation, climate change etc.), campaigns (like anti-bullying) and web-based educational materials (e.g. dr.dk/skole for primary schools, dr.dk/gymnasium for secondary).

The amount of content delivered on the web is growing, partly because it is a flexible platform (clips from many different areas can easily be combined), partly of cost-benefit reasons – you obtain more content for the same budget compared to e.g. a traditional TV-programme.

#### *Case dr.dk/skole for primary schools*

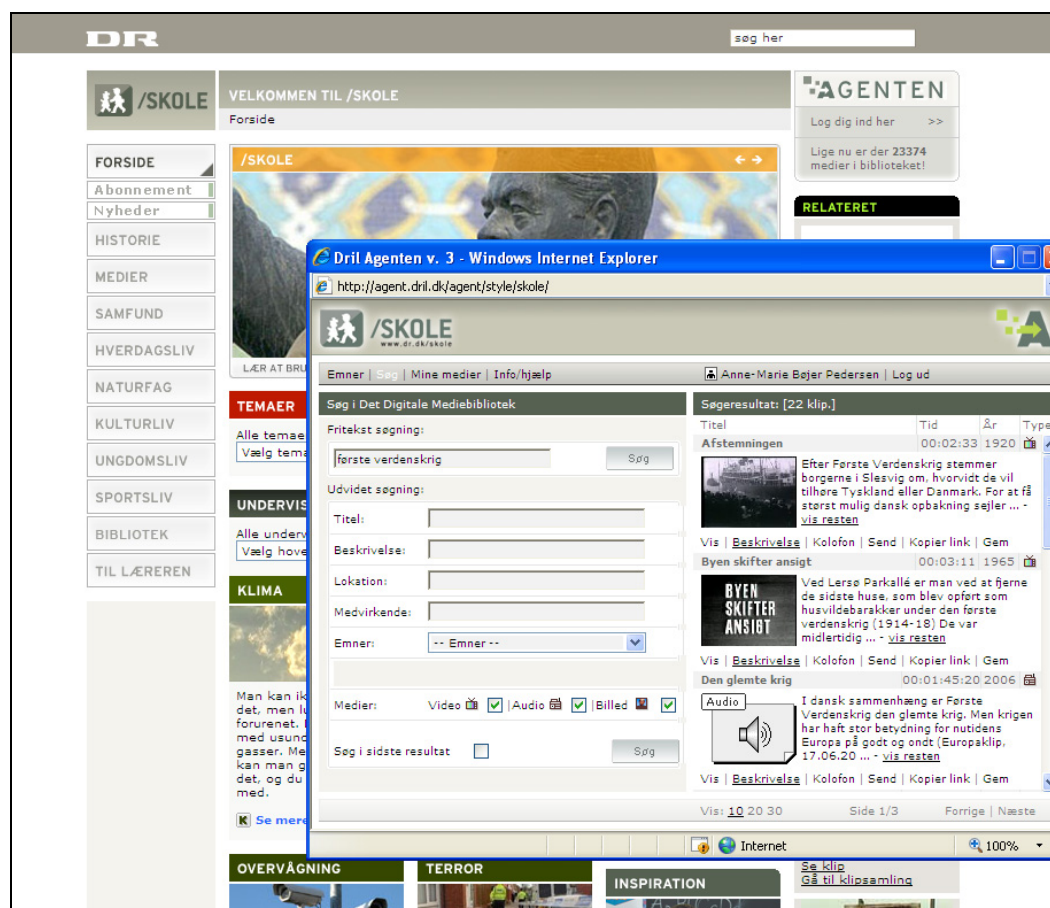
The subscription based service was launched January 1<sup>st</sup> 2005. It is the result of a development project with the Ministry of Education. The budget was 5 million Euros. It represented a new educational and technical concept for use of film clips, audio and stills in education. It is based on access to and digitization of DR Archives.

Many different partners have been involved in this project. UNI•C has provided infrastructure for the distribution of new material to a local server at the schools (every night) and thereby reducing the prerequisite for a stable broadband access (e.g. when 25 pupils access the video archives at the same time). Another very important relation is the successful cooperation with the 36 different right holders' organisations. The fact that this service is behind login has facilitated the negotiations.

Furthermore, the CFUs (regional pedagogical service centres) have assisted with teacher training/courses and school books etc. have been provided by publishers.



**Ole Hjortdal presented the Danish /skole service - one of the first online educational video services in Europe.**



**Figure 5** The agent of dr.dk/skole. The more than 23.000 clips are organised in different categories (history, society, everyday life, science etc.). For each category there is a set of themes, e.g. World War I under history. A theme contains relevant clips, sound clips, facts, timelines, assignments, ideas for the teacher, etc. In this example the user searched for video clips related to “the first world war”.

Ole Hjortdal gave many different examples; especially how DR uses Hip Hop in education deserves a few words. The Hip Hop material has been prepared together with the municipality of Copenhagen. The purpose was to motivate immigrants to take more active part in learning. It all started by field studies and interviews. During these some of the children answered “if hip-hop was used to teach us about Danish culture we would be happy”.

The result was a complete theme with clips, learning material about the “language”, old versus new flow (rhythm), a small tool where the pupils can work with the vocal, instruments, etc. The vocals can be made using pda’s or mobile phones.

860 out of approximately 2000 primary schools subscribe to the service. In secondary schools the ratio is 77 of 200. The prices are based on the number of students, e.g. it costs 900 Euro per year for a school with more than 1000 pupils/students. One of the challenges in the near future is that teachers are not using the material enough (although the growth in whiteboards seems to help). Limited access to adequate computers in the schools might be one explanation.

Ole Hjortdal added that DR has to improve the product as well. There must be more interactive tools. At the moment there is a simple workshop where the teachers can organize/collect clips for the students – like a simple PowerPoint tool, but nothing further.

DR is moving in the Web 2.0 direction with more user involvement – “from viewing to interaction/production” - as with the Dutch ED\*IT. However, first the website is moved to a standard CMS system and reorganised in cooperation with teachers.

Ole Hjortdal concluded by expressing a vision of “free access” to the archives. It could be a possibility in the near future.

Further information:

- Link to presentation: <https://files.itslearning.com/data/826/open/CO15/670.pdf>. The Bonanza project might be explored further.
- The hip hop educational resources includes an English language part: [http://www.dr.dk/skole/ungdomsliv/tema/hip\\_hop\\_US/default.asp](http://www.dr.dk/skole/ungdomsliv/tema/hip_hop_US/default.asp)

### 3.3 UR strategies

In Sweden there are three broadcasting companies, UR the educational company is the smaller one. Cecilia Boreson and Daniel Elliott gave an introduction to the strategies chosen by UR.

At the moment UR is still a very traditional broadcasting company: TV, Radio and Web. However, the future strategy is an area for discussion within UR at the moment, i.e. how to create interesting TV programmes, the use of the web etc.

Some of the popular websites made by UR are:

- RUM a project inviting people to work with digital storytelling. It is very interesting to see how people choose to tell their own story. Close to 500 small stories. The students and teachers like this website; it is very easy to use. <http://www.ur.se/rfb/>
- URSmart is a pilot project working with digital learning objects on the web. However, is this the right way to do it and is should UR be a learning object publisher? These questions are being considered. In the meantime the website can be found at [www.ursmart.se](http://www.ursmart.se)
- Spelhalan should be mentioned as well, it is a very popular website with educational games. [www.ur.se/barn/spelhalan/](http://www.ur.se/barn/spelhalan/)



**Cecilia Boreson and Daniel Elliot introduced an alternative approach to making a full-feature online video service.**

UR cooperate, analyse, do research etc. to connect better with the curriculum, it could be improved even further.

*Copyright issues is a barrier*

When UR produce a TV or a radio programme which should be used online copyright issues is a problem. On TV it is shown 1-2 times, but on the web it can be watched many times. Furthermore, the teachers require access for a long period of time (not just 6 months). After the 6 months UR distribute the programmes via password protected services – actually 30 different ones – meant for different target groups. Metadata (IEEE LOM) is exported to these services. There are 8908 clips in UR’s archive “Mediebiblioteket”. However, due to copyright

issues only 655 are accessible to everyone (the public). The schools can access app. 4500 of the clips. FLOD.nu is an example where the clips are used (also content from other producers). [www.resurs.folkbildning.net](http://www.resurs.folkbildning.net) is another example.

### *UR as a provider for end-user systems*

As presented above the schools connect with different providers, not with UR directly. UR does not believe they should produce these systems. Other partners, publishers etc. should deliver these services in cooperation with UR. UR should not be a competitor to the private market.

To implement this strategy, standards and a connecting service are required. UR tries to copy the strategies found in social networks without becoming a system provider as MSN or FaceBook, e.g. user generated metadata.

An example: If a person has access to FLOD.nu and he rates a TV programme, all the tips/evaluation should be available on the other systems drawing upon UR's services. To ensure this, an evaluation module from UR is included by javascript in FLOD.nu. All the evaluations will actually be saved on and fetched from the UR server. It is implemented by using the same login across the providers' systems, Jason, javascript and an URI identification of objects. The infrastructure will be ready at the end of 2009.

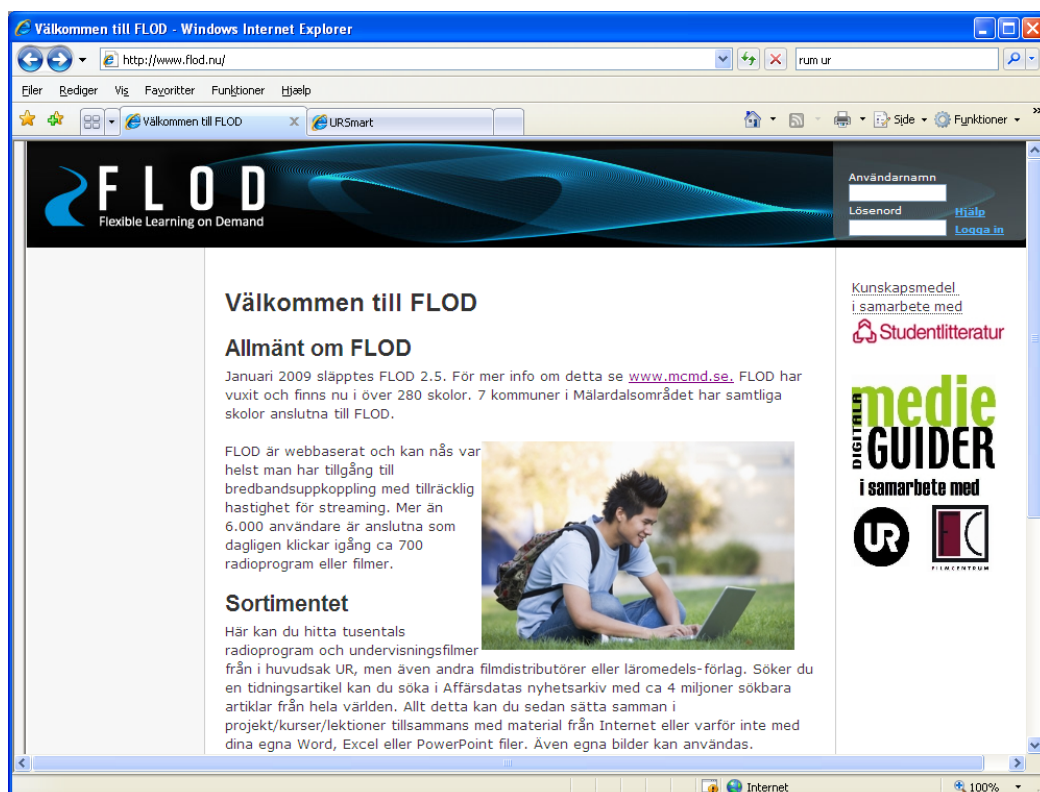


Figure 6 More than 280 schools have access to FLOD. UR is one of the content providers.

Further information:

- Link to presentation: <https://files.itslearning.com/data/826/open/CO15/671.ppt>

### 3.4 YLE strategies

This Section is based on a presentation given by Gunilla Palmén, YLE, Finland.

YLE is a public broadcasting company with 4 TV channels including one for the Swedish speaking minority group, radio channels and services on the internet. On the internet the users find TV and radio programmes, archive material for general use, news services etc.

YLE's public service strategy is to inform, educate, entertain, and lately to ENABLE. YLE will build upon partnerships to make the content available to the greatest possible number of Finns. YLE will also develop new distribution methods together with others e.g. publishers. To support this strategy YLE seeks general copyright agreements that permit broad cooperation with other distribution, telecom and media companies.

Since 2008 rights to online distribution via listed known media have been added to the agreements. The rights are added with no end-date (= unlimited).

#### VETAMIX

The archive material is accessible for teachers through Vetamix (in Swedish – a language minority in Finland; the service is maintained by 2-3 people) and opettaja.tv (in Finnish, this service is maintained by 60 people). The target group is teachers in Finland. It will be extended to pupils and parents later on. Vetamix is for free, everyone has to register but anyone can do that.

Vetamix includes:

- Digital media archive: Thousands of learning objects (content as video clips, audio files, animations etc.) have been included, primarily YLE material. The learning objects are tagged with 5-10 keywords. The keywords are the basis for the connections on Vetamix. It has intentionally been implemented in a way that is not “too” connected to the curriculum. Furthermore, a user generated folksonomy is used. Vetamix must be easy to use for the teachers, it should be their words. From now on the teachers decide which content they want in Vetamix. The teachers just have to write to the editors.
- A lesson mixer: It is a simple presentation tool – like Word - the teachers can produce web pages with clips, links, texts etc. A specific focus area is to teach them about copyrights. All mixes will be checked as they are stored on YLE's server. It is possible to check everything because the target group is small: 3-4000 teachers. If a mix is published on Vetamix anyone can use it and reedit it with the same tool. YLE has engaged 10 teachers to share mixes on the platform. In this way Gunilla Palmén hopes that other teachers will be encouraged to share their own mixes. The 10 teachers have also been asked to consider which templates might be needed in the future. At the moment it is just an “open form” template.



**Gunilla Palmén tells about Vetamix and the many exciting features.**

- Personal folders: The personal folder is used to save bookmarks, mixes and discussion entries. The users can create a personal profile (e.g. indicate subjects they teach). Based on this profile the search engine will recommend relevant content.



Figure 7 Vetamix.yle.fi.

Teachers can comment on everything, including clips, keywords, mixes etc. directly or in public. To support the teachers, a coach visits schools and show them how to use Vetamix, a service which can be recommended for other video repositories.

Further information:

- Link to presentation: <https://files.itslearning.com/data/826/open/CO15/673.ppt>
- Link to Vetamix: <http://vetamix.yle.fi/>

### 3.5 Strategies of French broadcasters

Rosa Maria Gomez de Regil, CNDP, gave an overview of the initiatives in France.

CNDP is an agency under the French Ministry of Education (further information can be found in the presentation).

CNDP is a national member of Scérén, a network of regional and local centres supporting France schools. Teachers from Scérén visit schools – teachers want teachers to tell them about services. If e.g. a teacher from the local centre discovers that a school does not use the services they have access to, the teacher visits/contacts the school to find out what happened.

Some general characteristics of video repositories in France:

- Video classifications include thematic, curriculum and educational categories.
- Access to the video clips is facilitated through search engines and/or browsing.
- Display of video clips is according to newest videos, anti-chronological order, front page emphasis, and actuality (thematic).
- There is publication control of the audiovisual contents and the importance of the content management strategies must be stretched because of the growing amount of content.

A successful use case is facilitated by national high bandwidth coverage, up-to-date computers at the school and at home, content which is usable by teachers, content granularity (teachers ask for small pieces instead of larger) etc.

Some examples:

- Canal-U.tv – <http://www.canal-u.tv> - The content is well organised and has good access points. It is produced by the Ministry for Higher Education. Access to the content goes through form based search and themes. It includes federation of sources coming from different producers. Clips are presented with the IEEE-LOM metadata (French app. Profile).
- Jalons - 3 archives and a commercial service too. Access by subscription. Two organisations manage the logins. A guided tour of Jalons can be found in English on the starting page of the website.  
<http://www.ina.fr/archives-tele-radio/professionnels/jalons.html>
- MédiaSCÉRÉN – digitization of these archives started a couple of years ago. The service is intended for teachers in all disciplines, for their students and for producers of documentaries, the audiovisual collections of the SCEREN-CNDP embrace about 100 years of cinema and television dedicated to education. Since 2007, about 4.000 rare documents were referenced and described from the original printed sources. Also, some



**Rosa Maria Gomez de Regil presents the many impressive initiatives in France.**

2.000 video clips from broadcast productions of the CNDP will soon be available on line. <http://media.scren.fr/index.php?id=6&=&L=1>

- Curiosphere a service provided by France5. It includes 1450 general knowledge videos. It is a free streaming service meant for teachers, pupils, parents etc. Practical guides are included. <http://www.curiosphere.tv>.

### Lesite.tv

Lesite.tv is a commercial service provided by France5. This service extends Curiosphere.tv. It includes 2500 French curriculum linked videos and more functions when logged in e.g. lesson planning, activity guides and download. The videos can be downloaded and put on the schools intranet to provide easier access. New developments include a community zone and facilities to edit and cut videos. “Lesite.tv pour tous” is another new service with accessible videos (the audio track is complemented by sign language). The metadata does not yet exist in standardised format. The existing metadata will be mapped to both LOM and Dublin Core.

In 2008 Lesite.tv had 4000 subscribers, including 20 % of the secondary schools in France. In primary school the price per pupil per year is less than 2 Euro. The service can be bought and used outside France as well.



Figure 8 Lesite.tv

### *Use of educational videos*

Teachers are asking for video support - the video opens a door when connecting with pupils and students. It catches their attention and curiosity. Furthermore, a video can explain a subject matter (in a different way) and thereby support individual learning. However, it requires a change in teaching habits. The teacher has to plan the use of videos in the lesson sequence and perhaps he/she even has to change his/her own role in teaching and become a mediator?

Further information:

- Link to presentation: <https://files.itslearning.com/data/826/open/CO15/674.pdf>
- A long list of relevant French web sites can be found on page 7 in the presentation.

## 4 Educational repositories 2009

First of all, it is recommended to take a look at the comprehensive website: [www.edrene.org](http://www.edrene.org). The website includes recommendations, templates, roadmaps and documents describing state-of-the-art solutions. By using the information at the website existing repositories can cut some corners, and new repositories may have a less costly and much less complicated path in life.

This Chapter includes:

- The current state of art for repositories is constantly moving. Leo Højsholt-Poulsen gave an update. Furthermore, Maria Loi, AIE, added comments on the present situation in Italy where legislation is driving publishers to produce digital books. Andrew Kitchen, Becta, gave some valuable information on a new ecosystem strategy for discovery, delivery and sharing of digital learning resources; and the work on a new content packaging profile for education.
- The two workshop series: Standards and Interoperability and Rights issues are coming to an end. Tommy Byskov Lund gave a summary of the preliminary results.

### 4.1 Current state of the art

One of the major outcomes of EdReNe is the “State of the Art report”. All EdReNe members are invited to update the relevant section of the report with new results and/or findings.

Leo presented some of the results from the report:

- In most countries learning resources for schools are paid by “public” money in one way or the other. In general public support strategies for digital learning resources can be categorized in two groups based on who receives the financial support: 1. providers and/or 2. the end-users:
  - Korea ([www.edunet4u.net](http://www.edunet4u.net)) [1+2]
  - Hungary ([sdt.sulinet.hu](http://sdt.sulinet.hu)) [1+2]
  - Also initiatives in France, Spain and Norway [1]
  - Austria and Italy [2]
- There is a huge variety of repositories across Europe.
- Some repositories include only digital resources others include both digital and traditional resources (as in e.g. the Danish repositories).
- Approximately 80 percent of the repositories include both metadata and data.
- Most repositories do not require a membership.
- Success indicators can be learned from Eduhi.at with 300.000 visitors per day or Lektion.se (10.000 new members in a month). Britannica Online is a very successful commercial initiative. Leo added that this spring the number of visitors was doubled in the Danish repository Materialeplatformen; the explanation seems to be advertisement in *printed* media targeting teachers.



Figure 9 A small number of the European educational repositories.

Further information:

- Link to the State of the art report: <http://edrene.org/results/currentState/index.html>

#### 4.1.1 Content packaging profile for education

Becta has initiated the development of a content packaging application profile for education. Becta is doing this in conjunction with a new standards body in the UK called the Information Standards Board (ISB). It has been made apparent that there is an increasingly urgent need for educational content providers and learning platform vendors to agree upon interoperable standards for digital content.

The content packaging profile project will tackle this issue through engaging with industry to determine an agreed way forward and implement the profile.

Further information on the project:

- <http://www.escs-isb.org.uk/news/news/Content-Packaging-Profile-work-update.htm>

#### 4.1.2 Ecosystem strategy in the UK

Becta has just published a strategy paper titled ‘Promoting an ecosystem for the discovery, delivery and sharing of digital learning resources’. This paper has been written in consultation with a wide selection of stakeholders within the UK and derived from the many experiences Becta have noted throughout Europe.

It must be noted that the strategy is deliberately quite high level and the more in depth details will be dealt with in forthcoming publications.

Further information:

- <http://industry.becta.org.uk/display.cfm?resID=40418&page=1713&catID=1621>

#### **4.1.3 New legislation drives Italian publishers to produce digital school books**

Maria Loi, AIE, presented the very interesting Tremonti Law. Within the school year 2011-2012 all textbooks used in Italian schools must have an online and downloadable digital version. That is, a textbook can either be completely digital or a mixed version, printed plus digital. All publishers must comply with this new law. Furthermore, the technical features/requirements to the digital “textbooks” will be determined by the Ministry of Education.

To comply with this new law is a big challenge for the Italian publishers:

- Technical specifications: The law is not clear in defining the digital version of the printed book. Although a specific set of characteristics for the digital version has been delivered much interpretation is still left to the publisher, e.g. is it pdf? Is it interactive pdf?
- Costs: The assumption is that a digital book will be less expensive to produce than a printed book, not taking into consideration the costs related with the technological infrastructure that must be established to deliver digital content. Furthermore, it is still unclear whether new interactive and costly content will be required as well.
- Change driven by law and not by the market: All the publishers must follow these new rules otherwise their books cannot be chosen by the teachers. This law will change the market strategy for educational publishers. All publishers are now studying new kinds of textbooks to be compliant with the new legislation in 2011. At the moment it is not possible to foresee which business models will be chosen by the publishers. It might be added that in Italy it is the families that buy the textbooks for their children.

The users of these new books might be facing problems too:

- Availability of broad band is still an issue both at home and in a very large number of Italian schools.
- To print at home might be more expensive than buying the printed book.

Further information:

Link to presentation: <https://files.itslearning.com/data/826/open/CO15/663.ppt>

#### **4.1.4 Learning objects and repositories in Italy**

Maria Loi, AIE, also provided a brief update on the most important Italian initiatives: Gold (see also Section 6.2), Digiscuola and InnovaScuola.

The National Agency for Innovation in Schools (formerly INDIRE) is behind the Gold initiative. The aim is to collect and share the best practises, digital materials and tools produced by teachers of all grades in the primary and secondary schools. The Gold database includes more than 4,000 entries. 700 best practices selected at the regional level have been awarded a prize at the national level and the material has been further enriched with multimedia features.

Digiscuola is the first public funded initiative creating a national repository with commercial learning objects. The learning objects are produced by educational publishers and new digital content producers. The pilot phase of Digiscuola:

- Project period: school years 2006-7 and 2007-8
- 550 schools, 3.300 teachers and 33.000 students.
- Each of the 1650 classes involved received 1 interactive whiteboard, 1 projector and 2 laptops.
- Pupils of each school have been provided with a 30 € virtual purse for each discipline per year to acquire learning objects (curricula subjects were limited to Italian language and Math) and use them in a virtual collaborative environment.
- A total of 4 million € was allocated to the schools (around 8000 € per school).

The repository is based on LOM metadata provided by the publishers along with learning objects. DOI (Digital Object Identifier) has been recommended as the standard identifier for the learning objects uploaded to the platform. The platform includes a virtual learning environment and an e-commerce service enabling schools to purchase learning objects. The learning objects are SCORM compliant to facilitate content re-use on multiple learning platforms. Furthermore, the Digiscuola project includes teacher training to support the use of technologies in their daily teaching activities and a specific training on new didactical approaches based on the use of digital content.

Within the school year 2009-2010, the initiative continues under the new name InnovaScuola. InnovaScuola includes a more advanced platform with new features and an extended number of users. The most important innovations:

- Availability of platform services to primary and secondary schools in all parts of the country.
- Extension of subjects from original two (Italian and Mathematics) to entire national curriculum.
- The VLE will include new features for teachers to create and share educational content that will be licensed under Creative Commons.

A call for proposal for schools were opened and the best educational projects were granted a maximum funding per school of 10.000 € plus 3 interactive whiteboards, 3 laptops and a training course for teachers on how to use the provided technological devices.

Content produced in the projects should be made available to others via the platform.



Figure 10 The website for InnovaScuola.

The overall budget was 7 million € of which 3.5 million were dedicated to projects and 3.5 million to the purchase of IT devices.

Further information:

- Link to Gold: <http://gold.indire.it/gold2/>
- Link to InnovaScuola: <http://www.innovascuola.gov.it/>
- Link to presentation: <https://files.itslearning.com/data/826/open/CO15/663.ppt>

## 4.2 Standards and interoperability – a summary

The last EdReNe workshop focusing on standards and interoperability has now been held. In one of the presentations at the strategic seminar Tommy Byskov Lund, UNI•C, gave a summary of the work and the preliminary results. This section of the report is based on his summary.

First of all, the objective of the two workshops was to discuss best practice examples drawing on the use of existing technical standards. That is, which standards are used among EdReNe members, experiences, barriers, proven benefits and obstacles? The objective has not been to invent new standards.

### *National IEEE LOM application profiles*

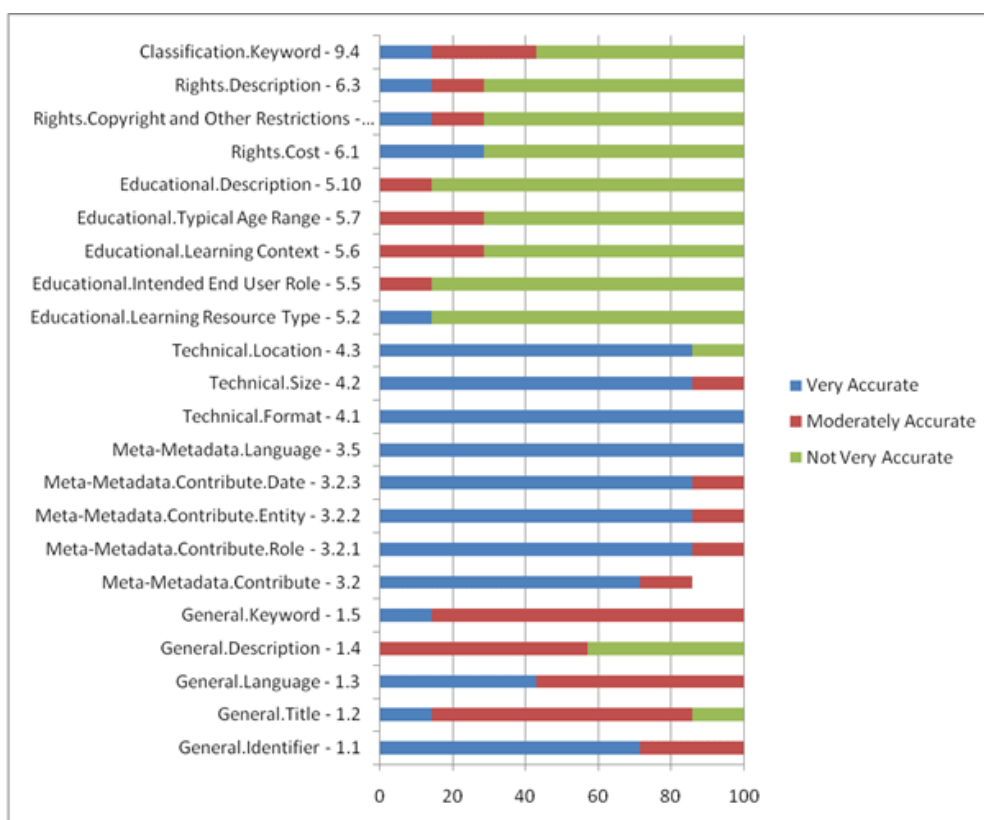
From the presentations and group sessions during the first workshop it was evident that by now many European countries have established a national IEEE LOM application profile. Widespread use is not always the case and defining vocabularies and mapping to curriculum is work in progress in most countries. The current version of LOM does not solve all needs and several examples of application profiles mapping different specifications are emerging. It is discussed whether LOM is too complicated for the purpose, would the users be better off with another solution?

### *User stories*

During one of the workshop a number of user stories seen from the perspective of different types of stakeholders were collected in order to identify what is considered the most important user needs. These stories will be matched and correlated with existing standardization and interoperability initiatives in the forthcoming thematic synthesis report.

### *Automated metadata creation*

Simplifying the process of metadata creation by automatic tools has high priority as it is an expensive solution when metadata must be provided, validated and/or revised by experts. However, the EdReNe discussions and survey (see Figure 1) show that tools for (semi) automatic metadata creation must still be improved. Especially, when addressing the educational metadata.



**Figure 11 Perceived accuracy of auto generated metadata.**

The content of a number of “simple” elements (file size and type, dates, user details etc.) are already automatically generated in many repositories – the biggest potential to be realized in the near future concerns title, keywords and description elements. A study lead by the

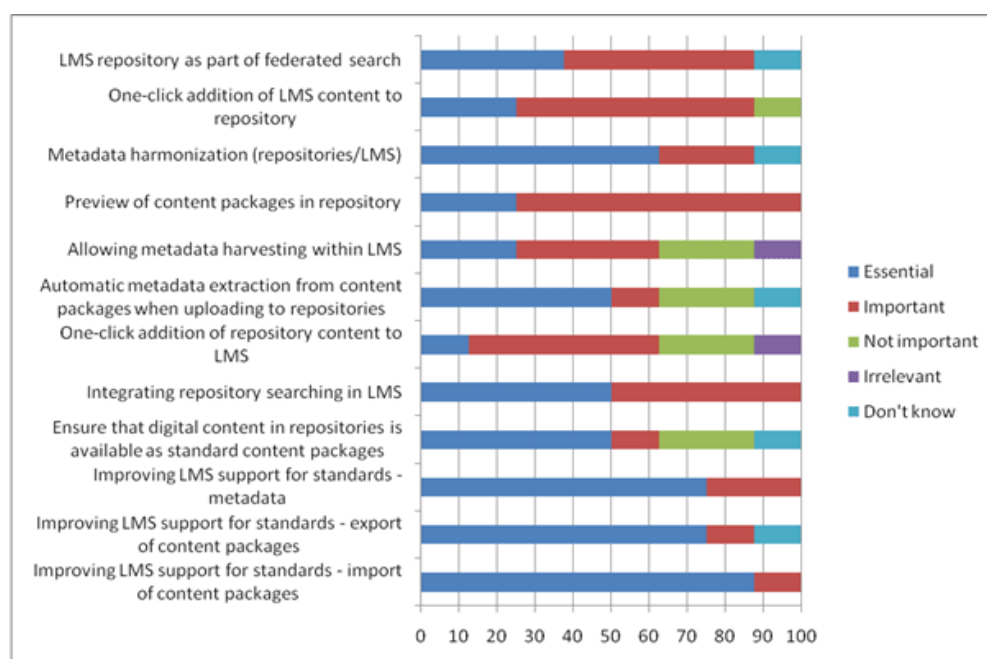
EdReNe member Intrallect on automated metadata creation might be of general interest, see <http://www.intrallect.com/wiki/index.php/AMG-UC>.

When speaking of metadata, it should be added that OAI-PMH has evolved into a de facto protocol for metadata harvesting. Harvesting as a method is more frequently used than federated search when metadata from different repositories is included / one of the main reasons being able to present end users with reproducible search results.

### *LMS as a barrier to content flow*

The task of unlocking the content currently stored in VLE/LMS mandates better standard support by these systems – or alternatively that educators will move completely towards open systems instead. Sharing and remixing across different platforms is still too difficult for the average teacher.

At the strategic seminar Peter Karlberg pointed our attention to another area where LMS are facing a problem in the near future. A study in Sweden revealed that the three most common LMS do not support children with special needs. The systems are not accessible at all.



**Figure 12 LMS integration.**

### *Interoperability*

There is consensus on a growing need for ensuring interoperability. One of the important keys to this will undoubtedly be efficient authentication and authorization systems. Various national approaches has been presented and discussed during the workshops. An interesting outcome of this discussion has been that the success of such initiatives is often much more dependent on political decisions (such as mandatory use of specific solutions etc.) than the actual technical implementation.

### *Conclusions*

From the presentations and discussions during the workshops, it is clear that there are still a number of barriers to overcome when it comes to dealing with standards and interoperability in relation to educational repositories.

It seems evident that irrespective of the user perspective taken, current educational standards often do not meet primary user needs. The reasons for this are very diverse depending on whether you want to find, use, produce or reuse digital content, but it underlines the importance of designing for humans first, machines second and reuse building blocks from widely adopted standards instead of developing new ones. The sheer number of existing standards and differences in their implementation by different providers of tools and content currently seems to have almost made it necessary in some cases to focus on the interoperability between the standards and specifications themselves instead of focusing on the original problem.

Further information:

- The thematic synthesis report will be finished in July 2009 and published on edrene.org.
- Link to the presentation: <https://files.itslearning.com/data/826/open/CO15/668.ppt>

### **4.3 Rights issues – a summary**

Rights issues are an important area to address when working with educational repositories. In EdReNe two workshops have investigated a small subset of the relevant issues. This section contains a summary of the discussions and results as presented by Tommy Byskov Lund.

The objectives of the workshops were to identify, discuss, document and produce guidelines, agreements and roadmaps for issues concerning intellectual property rights concerning repositories of learning resources. These objectives have not all been reached.

From the presentations and discussions during the workshops, it is clear that there are still a number of barriers to overcome when it comes to dealing with rights issues in relation to educational repositories.

#### *Guidance to teachers*

Many barriers have to do with *providing clear guidance* to teachers – both when they are sharing their own content and reusing others'. Group sessions on how, when and in what situations such guidance should be provided, revealed that a number of



**Tommy Byskov Lund presents the results from the workshop series on Rights Issues.**

initiatives exist already. However, the initiatives tend to be either i) related to a specific project rather than for example general teacher training modules, or ii) focused on only a (minor) subset of the problems relating to sharing and remixing content.

Most initiatives concerning rights issues and digital educational content concentrate on educating pupils and teachers to understand and comply with current copyright law. One of the conclusions from the discussions during the workshops was however, that there is an equally important task in having legislation and/or licensing models that will actually meet user needs and expectations.

#### *Creative Commons*

The legal side doesn't move very fast while user behaviour and expectations towards being able to reuse and remix content have indeed seen dramatic changes during recent years.

Successful initiatives like for example Creative Commons are dealing with some of the issues in relation to especially teacher produced material but do by far solve all problems. Even though Open Educational Resources seem to be flourishing, there are a number of issues relating to mixing content under different licenses – but there seems to be a consolidation around a few licensing schemes also in this case.

While licensing issues are almost inevitably sorted out in concrete projects it is still rare to see coherent strategies across the entire educational sector (or public sector in general).

It is also clear from discussions that there is a clear link between current approaches to content licensing and the need for the publishing industry to develop new business models for online content.

These trends will be further linked and analyzed based on the collected examples of projects and initiatives aiming to bridge the gap between legislation and actual use of digital content in schools.

Further information:

- The thematic synthesis report will be finished in August 2009 and published on edrene.org.
- Mind map on rights issues for repository owners:  
[http://www.mindmeister.com/maps/show\\_public/4934046](http://www.mindmeister.com/maps/show_public/4934046)
- Link to the presentation: <https://files.itslearning.com/data/826/open/CO15/668.ppt>

## 5 The first two years

Four members of the EdReNe network were asked to look back and give a presentation focused on the first two years. The experiences and recommendations for the EdReNe network will be used in the planning of the third project year and in a possible continuation of the network. The members and the presenters were:

- UNI-LJ-FMF, Matija Lokar
- AIE, Maria Loi
- Kennisnet, Henk Nijstad
- Becta, Andrew Kitchen

Furthermore, this Chapter includes a short summary of the group session “looking ahead”.

### 5.1 EdReNe helped improving a new Slovenian repository

Matija Lokar from the University of Ljubljana (UNI-LJ-FMF) gave a presentation of the lessons learned in the EdReNe network.

#### *General comments*

Already at the first EdReNe meeting Matija Lokar noted that the members of the network have very different backgrounds, positions and opinions. This diversity has proven to be the most important single aspect of EdReNe. By attending the network you gain insight into several issues you are not aware of, Matija pointed out. At UNI-LJ-FMF the insight is used in the new repository project SIO, e.g. their focus has shifted from the more technical issues to obtaining simplicity and user friendliness. At the strategic level several decisions were confirmed by the network. Most of the problems in e.g. the SIO project have been considered already by another member of the network. At the same time UNI-LJ-FMF can also pinpoint several new aspects of those problems to the network members which then again can revise their solutions.



**Matija Lokar talks about the benefits of the EdReNe network.**

The EdReNe network meetings facilitate valuable discussions, sometimes tending to be slightly unfocused as the members have many things they wish to discuss. The presentations are always useful – “each one carried at least one thing to remember”. The good guidance, summaries and working documents provided by UNI•C staff must be mentioned as well. And then of course it was a great opportunity for UNI-LJ-FMF to host one of the workshops in

Ljubljana. The awareness about e.g. copyright issues in the local community was very valuable.



Figure 13 The new Slovenian repository: SIO. SIO is in the testing phase at the moment. It will be launched in the school year 2009-2010.

*The most important benefits of attending the EdReNe network as pointed out by Matija Lokar:*

- What constitutes a repository: “bare bone” repository versus the portal type, only metadata or content as well? Among the EdReNe members many different approaches have been implemented with varying success. For SIO the decision has been to make a central portal. Technically the solution is an interface layer on top of a “bare bone” repository.
- Definition of a good repository: Should it be measured by technical perfection? Number of learning resources? Number of users? This is important of course. However, what really matters is the number of **returning** visitors as this fact shows the usefulness and vitality of the repository. Sustainability becomes a very important issue as well.
- Importance of user communities: In general the assumption used to be that a repository should just be a good storage of teaching materials. However, user communities are important as well – they make a repository vital.
- The EdReNe network helps to stress the importance of adhering to standards: Well aware of the importance, the experiences from other countries still gave UNI-LJ-FMF a better opportunity to tell partners/ministry etc. that standards are important.
- Rewards for contributions from teachers: inspiring models ranging from “point to spend” to “sponsored prices”.

- Quality control is a complex issue: One possible solution is to collect all the resources and accept that the resources will be at different levels of quality. Describe the resources and then perhaps in the future you will be able to filter out some resources based on established quality control/criteria.
- Legal issues: Agreements between repository owner, maintainer, authors, and users are important. It must be clear who is responsible for what. Unfortunately this has to be done by each country as the repositories and the legalization is too different.

Perhaps the most important lesson is that there are so many things to consider. Each EdReNe workshop brings new issues and challenges. The technology and the society change – dealing with repositories is a never ending story!

Based on this, EdReNe should continue its fruitful work in the coming years. It is suggested to have a workshop every 1-2 year focusing on educational repositories. Proceedings should be included. The state of the art report should be renewed regularly and an EdReNe community site should be considered (news, questions, opinions, answers).

Further information:

- Link to the repository: [www.sio.si](http://www.sio.si)
- Link to presentation: <https://files.itslearning.com/data/826/open/CO15/664.pptx>

## 5.2 EdReNe experiences used by educational publishers in Italy

After this update Maria Loi added a few words on the EdReNe contributions as seen by AIE. AIE coordinates a working group of educational publishers. The purpose is to inform and update publishers on innovation, discuss new trends, address policy makers etc. From the very beginning of EdReNe experiences from the network have been brought into this group. In particular:

- Government policies on repositories and free/commercial content available.
- Use of digital content in schools and the digital content market in EU countries.
- Standards used for digital content and features of digital content available through repositories.
- Copyright issues – publishers are very careful when publishing digital content as control of distribution is difficult, experiences from EdReNe have been brought into the group.

Finally, Maria Loi suggested that the EdReNe network should discuss worst practises: “Top of the flops” to understand them and avoid doing the same mistakes.

Further information:

- Link to presentation: <https://files.itslearning.com/data/826/open/CO15/663.ppt>

### 5.3 EdReNe as a learning network

Jan Kees Meindersma, Kennisnet, presented some highlights of EdReNe:

- First of all, awareness that “we are not alone out there”. Along the path we meet the same challenges and we choose similar solutions for these challenges. However, together we will create and share even better solutions!
- In comparison with many European projects, EdReNe is not about creating new technology solutions or trying to create a market for European learning objects. It’s about a learning network. For Kennisnet this has led to e.g. the reuse of the vocabulary bank from BECTA.
- Benchmarking - “are we still on the right track”? Confirmation that Kennisnet’s ‘Educational Chain Model’ is the right approach for The Netherlands at this moment.

*Finding: If you really want to learn from each other, you need to invest in each other.*

*EdReNe creates the setting for this ... and not only on repositories and learning objects...*

The EdReNe network has given Kennisnet new and valuable contacts. It has also given new insight and knowledge, especially about:

- Business models and market dynamics.
- User interfacing (saw many nice user interfaces).
- User engagement, e.g. lektion.se and klascement. The software from klascement is now going to be used in some areas of the Dutch schooling system.
- Use of metadata, development and implementation of standards and authoring tools.
- Copyright issues.

*Suggestions for the remaining EdReNe sessions*

In order to bring even more outside knowledge, to get people (even) more prepared, get (even) sharper discussions and share the learning more thoroughly, Kennisnet had a few suggestions. It was suggested to invite three persons from the network to prepare the session that is to influence the agenda, prepare homework for the participants and to moderate/mediate the sessions.

Possible thematic subjects (like the “national broadcasters” at this seminar) could be authoring tools, user interfaces or repository services. A thematic subject could also investigate the impact of interactive whiteboards on learning objects, e.g. is there a need for additional metadata? Interoperability and Repositories (the suppliers are developing their own repositories, how are we going to interact with those?).

Finally, it may be added that Kennisnet supports the idea of sharing worst practices as presented by Maria Loi, AIE.

Further information:

- Link to presentation: <https://files.itslearning.com/data/826/open/CO15/666.ppt>

## 5.4 EdReNe - Becta's experience so far...

The following section is based on a presentation made by Andrew Kitchen, Becta (information about Becta can be found in the presentation).

EdReNe is a very knowledgeable network with an impressive mix of different nationalities and perspectives. Although Andrew Kitchen was sceptical of the network's goals at the beginning, the network has proven its value.

Events are proving to be valuable to those who actively participate. The events facilitate many very useful discussions about core topic areas and the common problem areas are evident!

Furthermore, relationships between ministries are beginning to develop. However, the workshops (events) must not be held to close after another workshop, if everybody should have a chance to come to all the workshops they have an interest in.



**Andrew Kitchen puts the EdReNe network in perspective.**

What Becta found useful:

- The experiences gained from other EdReNe network members and projects have been used when giving advice to projects in England. Examples provided in the following overview:

### Gaining experience from other network members and projects

Becta is a policy maker and values practical experience from the real world to inform this. Here are a few things that have helped us define policy:

<p><u>Search/Repositories</u></p> <ul style="list-style-type: none"> <li>•LRE (Belgium)</li> <li>•EduRep (Holland)</li> <li>•Spindeln (Sweden)</li> <li>•LeMill (Estonia)</li> <li>•Agrega (Spain)</li> </ul> <p><u>Sharing strategies</u></p> <ul style="list-style-type: none"> <li>•Klascement.net (Belgium)</li> <li>•EDUNET/KERIS (Korea)</li> <li>•OER Commons (USA)</li> </ul>	<p><u>Access Management</u></p> <ul style="list-style-type: none"> <li>•FEIDE (Norway)</li> <li>•UNILogin (Denmark)</li> <li>•ENTRÉE (Holland)</li> </ul> <p><u>Other</u></p> <ul style="list-style-type: none"> <li>•Persistent identity &amp; resolution (AIE Italy)</li> <li>•Commercial content licensing (Britannica UK)</li> <li>•GLOW (Scotland)</li> <li>•Calibrate/Celebrate/Melt and now ASPECT</li> </ul>
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- When formulating the Ecosystem strategy that enables the discovery, delivery and sharing of digital learning resources (see also Section 4.1.2), the practical experiences of other European ministries were gathered and translated into the UK market setting, some of the approaches were integrated with those of Becta, etc.
- Building trusted relationships with other European ministries: As one result Kennisnet and Becta have been discussing the possibilities of a more formal agreement between the two organizations.

- In general contact building is invaluable.
- The feedback and support Becta received for some of their work, e.g. the Interactive Whiteboard Common File Format, the quality principles (from the former Curriculum online) and the research on drivers and blockers to sharing digital learning resources.

Becta suggests the following for the coming year:

- Further contact building and research sharing between more of network members – in both ways. Should language be a barrier we might look for funding to translate articles etc.
- Identification of the crucial topic areas, 2-3 killer topics that all network members would benefit from if they were to be solved.
- Some formal ministry-ministry relationships being created, where it makes sense to work together on common goals.
- Interest and support for Becta's Content Packaging Application Profile work that has just begun and continued interest and support of Becta's Interactive Whiteboard Common File Format work.

Becta believes there is good reason to continue the network. It would be unfortunate to disband a network that has taken lots of effort to build and when value is beginning to be returned. In the future the network could be used to showcase and link to other European/World projects, create working groups on common issues etc. However, the following must be addressed:

- Some workshop/strategy meetings have been too close together. They should be no more than quarterly in frequency.
- Virtual meetings could be utilized to discuss less pressing matters and the It's Learning platform could be utilized to a greater extent.
- EdReNe would probably still need some EU funding.
- The network would need to be well supported by a group of organisations that constitute the core of the network.

Further information:

- Link to presentation: <https://files.itlearning.com/data/826/open/CO15/665.ppt>

## 5.5 Looking ahead – results from group session

Four topics were discussed during the group session: themes to be considered for the final workshop on repository strategies, themes and suggestions for the final workshop on engagement of users, dissemination and online collaboration. This Section contains a summary of the suggestions made by the EdReNe members.

### *Repository strategies – suggestions for the final workshop*

The following themes were suggested:

- Quality for users: How can data on usage be collected and evaluated? What is the best way to handle recommendations/feedback from the user community (experienced and novice users)?
- Repositories versus VLEs versus whiteboards. Overlap or cooperation. The national broadcaster theme showed that some of the broadcasters are making their own tools to supplement the video repositories, including tools to assemble learning resources.
- Long term strategy discussion, e.g. challenges presented by new and future technologies, can we prepare for these changes?

### *Engagement of users – suggestions for the final workshop*

Engagement of users can be addressed in many ways. The following is a list of possible models/solutions which can be explored further in EdReNe:

- Content/information could be presented based on user profiling and personalization. Before the workshops the members should prepare user profiles of teachers with the relevant characteristics, e.g. front-runner (early adopters), normal teacher, etc.
- User involvement: Set up user groups and listen to their needs; let them influence the development; keep users as close as possible. Inspiration and experiences could be acquired by inviting teachers from the eduhi.at project to the final workshop. The teachers should present their needs and working practices regarding repositories.
- “Being where the customers are”:
  - What can we learn from social networks? How can repository content be present in social networks (to attract new and active users)? An expert of social networks could be invited to the workshop.
  - Investigate how repository functions could be used from within a VLE or other it-systems where the teacher has to be on a daily basis. Invite VLE-experts to explain and discuss their vision on 'user engagement'.
- How do we get users to come back, to stay and to use the repository? Can we learn from internet marketing? An expert could be invited. The differences in culture across Europe should be kept in mind.

### *Dissemination*

Different suggestions to strengthen the dissemination of EdReNe results:

- Articles for EU newsletter, e.g. the e-learning newsletter.
- Members’ own websites should present the work of EdReNe.
- Incorporate findings of EdReNe in conferences locally, in particular teachers undertaking post graduate studies. Make third level aware (teacher education).

- Members should update their information on the EdReNe site such that it reflects recent activity in each country.
- Asia - Europe Network could be established.
- Strengthen the representation of EdReNe in EUN e.g. conferences.

### *Online collaboration*

Important to improve online collaboration or knowledge sharing as the number of meetings will be reduced in the future. However, it is the face to face meetings that are the real value of EdReNe. The continuation of face to face meetings is essential for the continued success of the network.

- **Online knowledge sharing:** share information when you have read an interesting article, advice, found a new link etc. The tool must be easy to use and it must not be 10 clicks away in a “members’ zone”. Twitter is suggested and/or social bookmarking
- **Preparing for a meeting:** the agenda should contain further information, links etc on each topic/presentation/speaker. List the members attending 3-5 days before the meetings
- **Online collaboration:** It was agreed that unstructured discussions online are rarely productive. Online tools would best be employed as a means of developing sub-groups or themes, thematic groups for a thematic network.
  - Based on a ranking questionnaire establish thematic groups with opt in and invitation function.
  - Ability to create new groups if new/minority interest areas appear.
  - Group member profiles.
  - Identified outputs/deliverables for each group.
  - Each group has a moderator.
  - Key issues go forward to a clearing house (UNI-C) to be raised at the face to face meetings.
  - Possible tools: Google wave, Elluminate.

## 6 An introduction of new associated members

EdReNe invites all stakeholders interested in sharing experiences and opinions on repositories of learning resources to join the network as associated members, read more at <http://edrene.org/join/index.html>.

This chapter gives a short introduction to the three new associated members and their work within the field:

- Universitat Pompeu Fabra, Barcelona, Spain.
- Agenzia Nazionale per lo Sviluppo dell'Autonomia Scolastica (ex Indire), Italy.
- SMART Technologies, UK.

### 6.1 Universitat Pompeu Fabra, Barcelona

Marina Losada Yañez and Olga Monterde Rubiras gave a short introduction to Universitat Pompeu Fabra (UPF), Barcelona.

UPF is a state-funded university. It was created in 1990. Today it has three campuses, 8437 undergraduate, 2992 postgraduate students, the faculty is 1334 and the administrative staff counts 580.

At the moment EHEA – European Higher Education Area is a great challenge for the university. The goal is to create a common European higher education system by 2010.

At UPF they are introducing the library as “a learning and research resources centre” - one centre with library, IT and media services. The library has a collection of 575.000 volumes, 34.500 electronic books and 11.150 electronic journals. The UPF digital repository holds 3.370 documents (see below).

The Factory is another important centre at UPF. The Factory is a teaching and learning support service aimed to provide a response to emerging needs, both of teaching staff and of students, in order to carry out their academic activities, in the new environment resulting from the implementation of the EHEA. The Factory includes relevant staff/support, information resources, hardware and software necessary to create e.g. multimedia teaching materials.

UPF has many different repositories:

- e-Repositori: UPFs own digital repository with 3.374 documents. All documents are open-access and subject to the Creative Commons license. The repository collects, disseminates and preserves, in digital form, the intellectual output that results from the



**Orland Cardona Perez introduces Olga Monterde Rubiras and Marina Losada Yañez**

academic and research activity of the UPF and also the scientific magazines and the institutional publications.

- RACO, Catalan Journals in Open Access, is a cooperative repository that enables open access to full-text from articles of scientific, cultural and erudite Catalan journals. 206 titles, 54.142 papers. The repository works with OJS – Open Journal Systems.
- TDX, Theses and Dissertations Online, is a digital cooperative repository of doctoral theses presented at some Spanish universities. 6.632 e-dissertations from 20 universities. This repository has more than 360.000 queries per month.
- RECERCAT, Research Repository of Catalonia, is a cooperative archive of digital documents (articles, research reports, working papers, final theses). A total of 8959 documents under the Creative Commons license.
- MDC, Digital Memory of Catalonia, a cooperative repository that enables easy open access to ancient journals, photographs, maps, posters, ex-libris etc. The main purpose of MDC is to increase the visibility and searches of the Catalan heritage. 28 collections within this repository and 300.000 images. This initiative cooperates with Europeana.
- MDX, Repository for Learning Materials, a new initiative to gather and sort the learning materials produced in Catalan universities for purposes of distribution, reuse, archiving and institutional advertising. The repository both include facilities to store documents and metadata (Dublin Core) on a common server and facilities to harvest metadata from institutions that have their own repository and wants to keep it. A common search interface is offered. Further information can be found in the presentation.

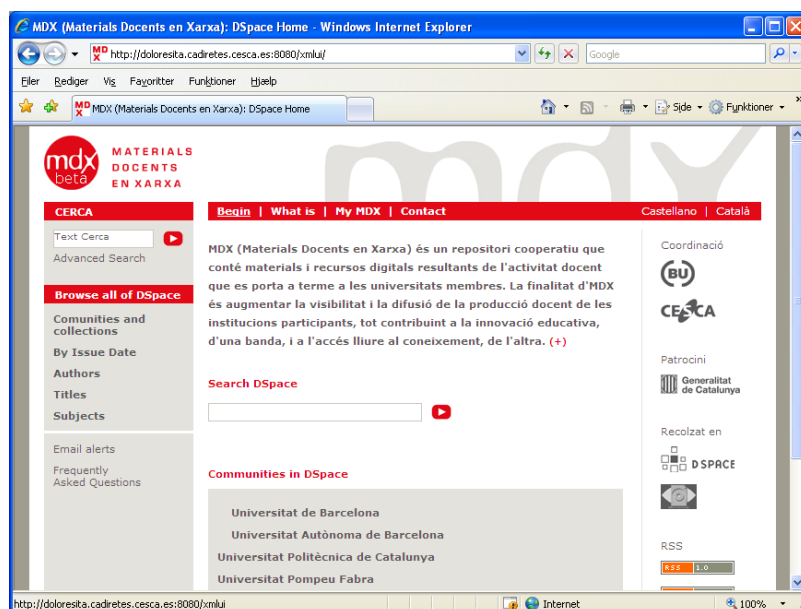


Figure 14 MDX repository of learning materials.

UPF looks forward to share experiences from the university level with EdReNe members, e.g. experiences from supporting the preparation of teaching materials at a university, management of digital repositories and interuniversity cooperation.

Further information:

- Link to the presentation: <https://files.itlearning.com/data/826/open/CO15/676.pdf>

## 6.2 Agenzia Nazionale per lo Sviluppo dell'Autonomia Scolastica (ex Indire), Italy

Silvia Panzavolta and Antonella Turchi presented INDIRE. INDIRE is an autonomous national research institute supervised and financed by the Italian Ministry of Education. It is located in Florence with 18 regional offices all over Italy.

The institute's main tasks are:

- To provide students, teachers, scholars and decision makers with information about educational resources, projects and technologies in order to facilitate educational innovation and dissemination of best practices.
- To manage e-learning environments for teachers and school personnel in-service training and initial training (until now, INDIRE has trained about 600,000 teachers via the e-learning platforms).
- To promote teacher training on interactive whiteboards; to administer the LLP (lifelong learning program); to administer the alternating training system (documentation and management) and provide annual monitoring reports on the system's state of the art.
- To carry out research projects in the educational field and to cooperate at European and international level with similar organizations.



The new member INDIRE was represented by Silvia Panzavolta and Antonella Turchi.

The keyword is quality in education.

### *General comments on the repositories managed by INDIRE*

INDIRE address almost all the stakeholders in education from students to decision makers. The type of information available through INDIRE is just as impressive: research reports, bibliographic information, educational material, etc.

The flow of information differs across the repositories and systems:

- Top-down: the information is selected, collected and described by expert clearing houses (e.g. in the BIBL repository – bibliographic information on educational sciences) or by experts on the subject (e.g. e-courses, articles). Then it is offered to the users.
- Bottom-up: the information/knowledge is selected, collected and described by users (mainly teachers), then it is judged by experts and afterwards it is offered to users (e.g. GOLD, HANDITECNO repositories, community PUNTOEDU)



**Figure 15** The database on disability information for special needs teachers, <http://handitecno.indire.it/>, includes semantic search facilities and a possibility to ask a consultant (human) for advice.



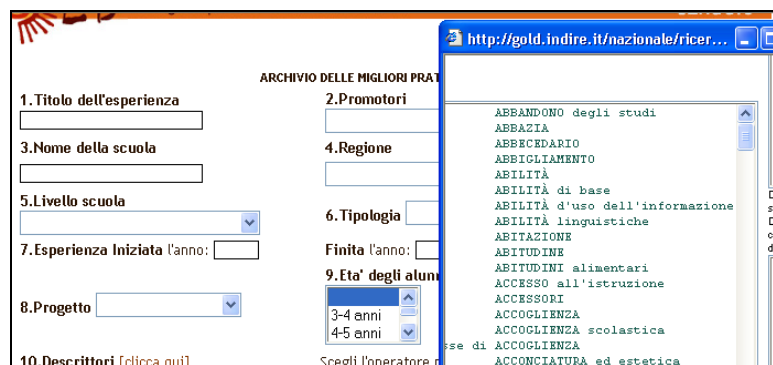
**Figure 16** The GOLD Database on educational best practices includes a video repository (some protected, some semi-protected, others are free), <http://gold.indire.it/gold2/>.

- Mixed: the information is selected, collected and described both by experts and users. Through a collaborative work it become shared knowledge (e.g. EDULAB) and redirected to users. This modality is the most constructivist one.

The architecture includes full-text databases, bibliographic databases and even structured environments without a repository but with a strong human interaction for retrieving/creating information and knowledge.

The majority of information is described through metadata. The metadata schemas used are standard ones (or subsets of them, but not the same subset in all the databases): LOM for Learning Objects and assets and ISBD (International standard for bibliographic description).

All repositories have subject indexing through either/and a thesaurus (4 thesauri: EET, LRE see below, TESE, Youth literature thesaurus) or authority subject lists. Different types of search are supported: Google-type, advanced search etc. Furthermore, semantic web is a research area with the intention of building a bridge between natural and controlled languages.



**Figure 17** The LRE thesaurus has been developed by INDIRE, initially in 5 languages. Now the thesaurus exists in 18 language versions. It is used in the largest EU repository (LRE portal) and by national repositories too (i.e. Ireland, Austria, Israel, and Italy).

Many repositories, many facilities and many users that do not know how to use them – in response to that, INDIRE has chosen to support the teachers/users with small samples/collections of resources that can be used directly, e.g. a small and relevant collection of images.

INDIRE adopts an open-source policy, though sometimes services are not addressed to everyone but to specific communities (of teachers, students, etc.) who are identified by a specific profiling system.

INDIRE is applying Creative Commons licenses to some of its objects in order to facilitate their re-use, i.e. digital assets (images) shared in the European LRE portal and educational best practices.

Further information:

- A short video about INDIRE: <http://www.indire.it/galleria/videoteca/materiali/80anni/index.html>
- Link to the presentation: <https://files.itslearning.com/data/826/open/CO15/677.ppt>

### 6.3 SMART Technologies

As the EdReNe meeting was behind schedule Peter Claxton from SMART Technologies gave a very short presentation of the company. It could be noted that SMART sees themselves as *a software company* and Notebook as the tool linking things together.

Peter Claxton pointed our attention to the fact that the huge number of whiteboard users will produce a large amount of user generated content for whiteboards. SMART Technologies has an updated authoring tool on the way. Their strategy for user-generated content involves both checking and moderation.

Furthermore, SMART is cooperating with BECTA (the common file format project) and they are in contact with the EUN whiteboard group. Their new content portal to be launched later this year will allow teachers to download content both as Notebook files and in the common file format.

## 7 Administrative issues

This Chapter includes information relevant to members of EdReNe.

### Finances

Leo Højsholt-Poulsen mentioned two important requests which have already been e-mailed to all the 22 founding members:

All founding members have been asked to fill-in a statement forecasting spends of the original grant. The template provided (by e-mail) for the statement should be used. The statement must be submitted to UNI•C at the latest at the end of July.

Furthermore, a detailed financial statement is also required. The statement must include all meetings, destinations, and participants. For every event there must be a separate entry/line for each person attending. It must include all expenses up to May 1<sup>st</sup>, 2009. Conversion rates must be added if not in Euro (in the Excel sheet you can find a note on this). This detailed financial statement is a new requirement from The Commission.

Leo Højsholt-Poulsen added: “You will not receive any further funding until UNI•C has received this financial statement.” This strategy is endorsed by the management board of EdReNe.

### The website

Remember that the proceedings from a seminar or workshop always can be found at [edrene.org](http://edrene.org).

### The members' zone

In the members' zone you find all the materials, including the papers which are not public. Click on general information and to find: contracts, work plans, newsletters, all the deliverables, progress reports and address list.

A first draft of the white paper can also be found in the members' zone. The white paper is meant for policy makers. All comments are welcomed. Please note that this version of the paper is **not public**, it is the first draft and much is still missing.

### Presentations

Leo Højsholt-Poulsen has presented EdReNe at a number of conferences. However, the number of presentations reported by network members is still low. Please remember to notify UNI•C when you are presenting EdReNe at a conference or seminar. This number is one of the measures that are reported to The Commission as part of the contract.



Leo Højsholt-Poulsen addresses the EdReNe members.

## Annex 1: Agenda

The 3rd strategic seminar took place at Långholmen Konferens Alstaviksvägen, Stockholm from June 3rd-4th 2009.

Based on valuable suggestions from the EdReNe members the agenda for this strategic seminar included two general themes with new perspectives for the discussions in the network. The agenda also included invited input from members (“looking back”), introduction of three new associated members and administrative issues and planning.

The agenda was as follows:

Wednesday June 3 <sup>rd</sup> 2009		
9.30	Welcome to Stockholm  Introduction to the seminar	Deputy director-general Helén Ångmo, Skolverket  Leo Højsholt-Poulsen, UNI•C
9.45	<i>Theme: Educational repositories in perspective</i> The CERI/OECD study: Digital learning resources as systemic innovation  Europeana – access to millions of digitized items from European museums, libraries, archives and multi-media collections <i>- status, development and relation to educational resources</i>	Jan Hysten, Metamatrix  Leif Andresen, Europeana representative
11.30	<i>Group session:</i> Educational repositories in perspective	Participants
12.30	Lunch	
13.30	Looking back: <i>What have we learned from the network so far?</i>  Brief presentations from network members:  UNI-LJ-FMF, Matija Lokar AIE, Maria Loi Kennisset, Henk Nijstad Becta, Andrew Kitchen	EdReNe members
14.30	EdReNe current State of the art	Leo Højsholt-Poulsen, UNI•C
15.00	Coffee break	[Parallel: EdReNe management board meeting, 1 hour]
15.30	Summing up from the two workshop series:  Standards and interoperability  Rights issues	Tommy Byskov Lund, UNI•C and EdReNe members
16.00	<i>Presentation of new members:</i> Universitat Pompeu Fabra, Barcelona  Agenzia Nazionale per lo Sviluppo dell'Autonomia Scolastica (ex Indire), Italy  SMART Technologies	Marina Losada and Olga Monterde, UPF  Silvia Panzavolta and Antonella Turchi, Indire  Peter Claxton, SMART Technologies

16.30	Administrative issues and project update	Tommy Byskov Lund & Leo Højsholt-Poulsen, UNI•C
17.00	First day finishes	

Thursday, June 4 <sup>th</sup> 2009		
09.00	<p><i>Theme: Repository strategies of national broadcasters</i></p> <p>It's all about connections: successful use of online content in the classroom</p> <p>'DR strategies'</p> <p>'UR strategies'</p> <p>'YLE strategies'</p> <p>Strategies of French broadcasters</p>	<p>Dalida van Dessel, NIBG, The Netherlands</p> <p>Ole Hjortdal, DR, Denmark</p> <p>Agneta Sommansson, UR, Sweden</p> <p>Gunilla Palmén, YLE, Finland</p> <p>Rosa Maria Gomez, CNDP, France</p>
12.30	Lunch	
13.30	<i>Learning café on broadcaster strategies</i>	Participants
14.30	Coffee break	
15.00	<p><i>Group session:</i></p> <p>Looking ahead: what do the policy makers and EdReNe members expect from EdReNe's next year</p>	EdReNe members
16.30	Evaluation and further planning	EdReNe members
17.00	Seminar finishes	

## Annex 2: List of participants

18 of 22 founding members were represented. In addition 8 associated members participated. Together with the invited guest speakers a total of 52 persons attended the strategic seminar.

Name	Organization	Country
Adam Bates	Encyclopaedia Britannica Education	UK
Aimur Liiva	TLF	Estonia
Alison Hudson	IML	Sweden
Andrew Kitchen	Becta	UK
Anna Grabowska	pro-med	Poland
Anne White	NCTE	Ireland
Antonella Turchi	Indire	Italy
Astrid Leeb	Education Highway	Austria
Bernhard Racz	ENIS	Austria
Cecilia Boreson	UR	Sweden
Christian Metz	CNDP	France
Christina Szekely	Skolverket	Sweden
Christine Jack	NEN	UK
Dalida van Dessel	NIBG	The Netherlands
Daniel Elliott	UR	Sweden
Dr. Peter Jaklin	FWU	Germany
Elisabeth Bækken	utdanning.no	Norway
Eugenijus Kurilovas	ITC	Lithuania
Fabrizio Giorgini	Giunti Lab	Italy
Fiona Iglesias	North West Learning Grid	UK
Friedhelm Schumacher	FWU	Germany
Gudrun Stock	European Commission	Germany
Gunilla Palmén	Vetamix/YLE	Finland
Henk Nijstad	Kennisnet	Netherlands
Ilona Krammer	Veritas	Austria
Iztok Kavkler	UNI-LJ-FMF	Slovenia
Jan Hysten	Metamatrix	Sweden
Jan Kees Meindersma	Kennisnet	Netherlands
Jens Viggo Moesmand	BFU	Denmark
Jim Ayre	EUN	European network
Jim Henderson	Learning and Teaching Scotland	UK
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