

International e-learning strategies:
Key findings relevant to the Canadian context

*Monique Charpentier,
Christian Lafrance,
Gilbert Paquette*

COGIGRAPH / TÉLUQ

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LIST OF ACRONYMS

ACE	Adult and community education
ACL	Adult and community learning
AEN	Asia e-Learning Network
AGIMO	Australian Government Information Management Office (formerly National Office for the Information Economy - NOIE)
ARIADNE	Alliance of Remote Instructional Authoring and Distribution Networks for Europe
ARTIST	Appropriation par la Recherche des Technologies de l'IST (project supported by INIST, CNRS, France)
BC	British Columbia
Becta	British Educational Communications and Technology Agency (UK)
CIDA	Canadian international development agency
CLE	Collaboration and Learning Environment (or Collaborative Learning Environment)
CLOE	Cooperative Learning Object Exchange (CLOE) (U. of Waterloo, Ontario - The Centre for Learning and Teaching Through Technology)
CORDIS	Community Research and Development Information Service (European Union)
CNRS	Conseil national de recherche scientifique (France)
DCITA	Department of Communications, Information Technology and the Arts (Australia)
DETYA	Department of Education, Training and Youth Affairs (Australia)
DEST	Department of Education, Science, and Training (Australia)
DFES	Department for Education and Skills (UK)
DUI	Délégation aux usages de l'Internet (Delegation for the Use of the Internet- France)
EC	European Commission or European Community

International E-Learning Initiatives

EDEN	European Distance and E-Learning Network (Norway)
ECAR	EDUCAUSE Center for Applied Research (United States)
EdNA	Education Network Australia
ELI	EDUCAUSE Learning Initiative (United States)
EPP	Educational Partners Program (also referred to as SEPP - SAKAI)
ERA	European Research Area (European Community)
EU	European Union
EUN	European SchoolNet (European Union)
EURAB	European Research Advisory Board
EUREA	European Meta Data Base of E-Academic Resources (European Union)
FP6	Sixth Research and Technology Development Framework Programme, 2002-2006 (European Union)
GLOBE	Global Learning Objects Brokered Exchange
HEFCE	Higher Education Funding Council for England
FEFC	Further Education Funding Council for England
ICT	Information and Communication Technologies
ILT	Information and Communication Technology (JISC)
IEEE	Institute of Electrical and Electronics Engineers
INIST	Institut de l'Information Scientifique et Technique (CNRS, France)
IR	Institutional Repository
IRRA	Institutional Repositories for Research Assessment
IST	Information Society Technology (European Commission)
JANET	Joint Academic NETWORK (JISC) – now replaced by SuperJANET
JISC	Joint Information Systems Committee (UK)

International E-Learning Initiatives

KELIA	Korea e-learning Industry Association
KERIS	Korea Education & Research Information Service
KRIVET	Korea Research Institute for Vocational Education & Training
KADO	Korean Agency for Digital Opportunity and Promotion (KADO)
KPS	Knowledge Pool System (ARIADNE)
LERU	League of European Research Universities (European Union)
LMS	Learning Management Systems
LSC	Learning & Skills Council (United Kingdom)
LOR	Learning Object Repository
LORNET	Learning Object Repository Networks
MCEETYA	Ministerial Council on Education, Employment, Training and Youth Affairs (Australia)
MENESR	Ministère de l'Éducation Nationale, de l'Enseignement Supérieur et de la Recherche
MEHRD	Ministry of Education and Human Resource Development (Korea)
MERLOT	Multimedia Educational Resource for Learning and Online Teaching
MOCIE	Ministry of Commerce, Industry and Energy (Korea)
MOGAHA	Ministry of Government Affairs and Home Affairs (Korea)
MoL	Ministry of Labor (Korea)
NCVER	National Centre for Vocational Education Research (Korea)
NIME	National Institute of Multimedia Education (Japan)
NOIE	National Office for the Information Economy (Australia - now Australian Government Information Management Office - AGIMO)
ODL	Open and Distance Learning
OSP	Open Source Portfolio (formerly OSPI)
ROAR	Registry of Open Access Repositories (e-access, JISC, UK)

International E-Learning Initiatives

RTD	Research, Technological development and Demonstration activities in the European Union
SDTICE	Sous-direction des technologies de l'information et de la communication dans l'éducation - Sub-Directorate of Information and Communication in Education, MENESR (France)
SEPP	SAKAI Educational Partners Program
SILO	Search & Index Learning Objects (Ariadne)
TICE	Technologies de l'information et de la communication en education
ULP	Université Louis Pasteur (Louis Pasteur University, Strasbourg, France)
UK	United Kingdom
UKERNA	United Kingdom Education and Research Networking Association
UKOLN	UK Office for Library and Information Networking
VET	Vocational education and training
W3C	World Wide Web Consortium

1 INTRODUCTION

The purpose of this study is two-fold:

- i) To analyse and compare major international initiatives in the field of e-learning.
- ii) To suggest possible orientations for a Canadian e-learning strategy, specifically concerning its general mandate, governance structure, activities, and other relevant features.

The study examines approaches to the development and implementation of e-learning in selected countries and organizations, highlighting policies and/or initiatives. It also focuses on organizations responsible for developing and implementing e-learning policies and programs, with the view of providing useful insights for the CCL task force working on a Canadian e-learning strategy and its implementation.

2.1 Study Background and Objectives

For over a year, CCL/CCA has been playing a pro-active role in defining elements of a pan-Canadian e-learning strategy, jointly with stakeholders and active members of the Canadian e-learning community.

In July 2005, CCL/CCA held a workshop on e-learning in Canada, in which participants agreed to the following five recommendations:

1. An independent, arm's length, coordinating body is needed for e-learning
2. Strategic funding support is needed to complement institutional and regional initiatives
3. There is a need to develop a strategic communication plan for e-learning
4. There is a need to develop a strategic research plan for e-learning
5. The e-learning community should hold a face-to-face conference on e-learning within six months.

In November 2005, a half-day symposium on a Canadian e-learning strategy was prepared and co-sponsored by CCL/CCA and the LORNET Research Group. The event, which was attended by 150 participants plus Web cast attendees, was organized around two panels: an international panel (grouping representatives from NIME, Japan; UNFOLD, Spain; LionShare, USA; JISC, UK; and European SchoolNet, Belgium); and a Canadian panel (grouping directors from LORNET, BC Campus, Kaleidoscope Project and ATR Centre, University of Toronto). Panellists and participants helped compare the Canadian situation with some prominent international initiatives and identify challenges to meet and possible solutions.

A further meeting, on February 15-17 2006 in Japan of the GLOBE Stewardship Council, to which two (2) LORNET representatives attended, (and a representative from CCL), also helped uncover some of the strengths and weaknesses of Canada towards the e-learning agenda.

One of the conclusions drawn from these events is that, while Canada has played a leadership role and gained international recognition for several initiatives and achievements in e-learning over the last decade (infrastructure deployment, learning methodology, tools and practices; work on accessibility; research on learning object and repositories, etc.), it is starting to trail behind in that very important sector. An e-learning strategy is urgently needed, together with a coordinating body which would respect the provinces' competencies in education while mobilizing federal government agencies and other stakeholders towards clear, scalable, sustainable plans to support the new skills development agenda for the knowledge society and economy.

2.2 Outline of the Report

This report is organized into five (5) chapters.

The present chapter details the purpose of the study and the organization of the remainder of the report.

Chapter 2 briefly describes the approach used and provides an overview of organizations and initiatives surveyed, by country / region and other dimensions such as areas of activity and levels of education. It presents the rationale behind the selection of particular organizations / jurisdictions and the boundaries in the scope of this review.

Chapter 3 presents key findings on international initiatives on e-learning, from a strategy and “policy to practice” perspective. It highlights strategic frameworks, policies, action plans and supporting programs/initiatives set forth by various governments and organizations to enable the development of e-learning. It looks into broader policies which have influenced and supported the uptake of ICT in education and training (knowledge-based society, lifelong learning). It also highlights efforts made by several countries to disseminate e-learning among practitioners and the public in general and to ensure a better interaction between research, policy and practice. All these suggest possible orientations for a Canadian e-learning strategy.

Chapter 4 focuses on organizational structures responsible for supporting e-learning action plans in some countries and, in light of the study findings, propose elements for an e-learning Canadian strategy vision and explores the scope of activities such a strategy should embrace.

Chapter 5 go further in proposing a possible organizational and operating scheme for the Canadian bodies responsible for defining and implementing the e-learning strategy.

Finally, **chapter 6** present some concluding comments on where Canada stands with the help of previous think-tank done by various working groups.

Appendix A contains summary sheets of the organizations and countries surveyed in this document

Appendix B presents detailed information on each organization /initiative surveyed (Summary Sheets).

2 APPROACH AND ORGANIZATIONS / INITIATIVES SURVEYED

This chapter presents the approach followed for documenting this study and presents the rationale which guided the selection of countries and organizations surveyed.

2.1 Approach

The approach used for this study is essentially based on Internet search and documents review.

Web sites from main international initiatives / organizations in the field of e-learning were searched, along with connecting sites of founding or related organizations. The list of countries, organizations and initiatives surveyed is presented in Section 2.2 below.

Documents reviewed include:

- founding documents (statutes, parliamentary decisions,...)
- policy documents (strategic frameworks, action plans...)
- financial and progress reports (annual reviews, evaluation reports, etc.)
- presentations or reports submitted at annual or international conferences
- business plans
- Journal articles and any other relevant material available through the web sites.

Other background studies and documents were also useful. Specifically documents coming from previous CCL and other E-Learning workshops held in Canada, to explore contours of a future Canadian e-learning strategic organization and the analysis of two recent CCL-funded studies of State of the field reviews in e-learning in Canada. Appendix A contains a list of web sites visited and documents reviewed.

A grid was developed in order to collect data on any of the following:

- Organization / Initiative (title)
- Date of creation / Start date

International E-Learning Initiatives

2. Approach and Organizations/Initiatives Surveyed

- Status (not for profit, ...)
- Major stakeholders
- Historical highlights
- Orientations (vision, mission, strategic plan, objectives / orientations)
- Areas / domains of activity
- Target beneficiaries
- Training levels (pre-school, K-12, post-secondary, higher education, vocational, lifelong learning)
- Key activities and services
- Main current projects
- Products and tools developed
- Governance model (organizational structure, composition of CA or steering committees, working groups roles & responsibilities)
- Dissemination and communication strategies
- Operational budget
- Financing sources
- Business model (financial scheme, sustainability...)

Summary sheets on each organization / initiative were subsequently filled out, with the available information. These sheets can be found in Appendix A.

It should be noted that the summary sheets were built specifically for the purpose of this study and do not pretend to give an exhaustive nor complete portrait of the organization / initiative surveyed. The short timeframe for the study and the wealth of information available, led to focus on some elements and/or retain some data or documents, to the detriment of others.

Also, the level of information may vary from one organization / initiative to another. For large, multi-purposes organizations such as JISC, or multi-country wide scale initiatives such as the European Union's e-learning program, which are fully documented through numerous inter-related web sites, a deliberate attempt was made to select information more directly relevant to this study, or to retain only a sample of activities/services or organizational features, to be used as examples or as illustrations of possible models for a pan-Canadian e-learning organization.

Preliminary findings of the study at mid-course were submitted at the workshop on a Pan-Canadian E-Learning Strategy organized by CCL/CCA, which took place on May 23rd in Montreal. Comments from participants and results from the four working sessions held during this event provided useful insights on key findings to highlight in the final report.

2.2 Selected Countries and Organizations

The following countries, national and international (multi-country) organizations and initiatives have been included in the study:

Countries:

- United Kingdom,
- France,
- Australia,
- Korea,

Multi-Country Organizations:

- European Union (EU)
- Asian E-Learning Network (AEN)
- Commonwealth of Learning (COL)

Organizations / Initiatives:

- education.au, Edna Online, DEST (Australia);
- SDTICE and DUI (France);
- JISC, Becta (United Kingdom)
- EDUCAUSE, SAKAI, MERLOT (United States of America)

It was initially sought to limit the scope of the study to specific organizations directly involved in e-learning activities in order to explore how they were governed and funded. However, it soon became evident that the search needed to be expanded to include background information on strategy and policies of Governments and countries responsible for creating and supporting the specific organizations. It was felt that this information was an important addition in the context of establishing milestones for a pan-Canadian e-learning strategy, however realizing that it was ambitious and would surely raise weaknesses of our study.

Given the time frame of this study a selection of countries and organizations was necessary. Among the criteria that guided the selection of countries and organizations we thought interesting to have examples of countries such as United Kingdom and Australia which are federating states and/or territories with autonomous jurisdictional governments. France and Korea were selected to highlight other types of governance schemes. Supra-national organizations (European Union, Asian E-learning Network, and Commonwealth of Learning) were also surveyed to show the huge collaborating efforts of European and Asian countries in developing awareness and pro-active actions for e-learning to become a cornerstone strategy to develop the skills and competencies needed for a knowledge based economy. However, beside these rationales, it is also broadly accepted that the countries selected are among the most advanced and dynamic countries with regard to e-learning strategy/policy and action plans developed.

An overview of selected organizations / initiatives is presented on the following page, with educational levels involved, target clienteles and key products and services offered by each organization / initiative.

As can be observed in the diagram (next page):

With regards to the scope of services and activities:

Most organizations surveyed are multi-purposes and cover a wide range of ICT and e-learning activities / services, from infrastructure, content development to community awareness and development. Among the most encompassing organizations are undoubtedly JISC (United Kingdom) and *education.au* (Australia).

The Sub-Directorate of ICT in Education (SD-TICE), attached to the Ministry of Higher Education and Research in France, is also part of this group. It is responsible for e-learning policy development and for implementing over 70 ICT and e-learning initiatives over a 3-year period (2004-2006), from equipping schools and students with portable computers, to teacher and non teaching staff support, to the creation of thematic virtual universities. The Commonwealth of Learning (COL) and EDUCAUSE in the USA also offer a wide range of tools and services to diversified clienteles.

International E-Learning Initiatives
 2. Approach and Organizations/Initiatives Surveyed

OVERVIEW OF ORGANIZATIONS / INITIATIVES SURVEYED AND SCOPE OF ACTIVITIES/SERVICES	K-12	College	Higher Education	Research Communities	Vocational / Adult / Further Educ.	Industry	Infrastructure support & Networking	Software & Support Services	Standards & Interoperability	Content Development	Learning Objects & LORs	Information, Dissemination	Online Information Resources	Best Practices	Advisory/Consultancy Services	Access to Training Resources	Training & Staff Development	Community Development	International Outreach
Multi Purpose e-Learning Initiatives/Programs																			
Becta (UK)	X	X	X	X	X						X	X	X	X	X				
JISC - Joint Information Systems Committee (UK)			X	X	X	X	X	X	X		X	X	X	X	X				X
education.au (Australia)	X	X	X	X	X	X	X	X		X	X	X	X						X
SDTICE - DUI (France)	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X		
e-Learning Programme (EU)																			
eContentplus programme (EU)																			
TeLearn (EU)																			
COL - Commonwealth of Learning	X	X	X				X		X	X	X	X	X	X			X	X	
EDUCAUSE (US)			X	X		X	X	X	X	X	X	X	X	X	X	X			
LOR - Learning Object Repositories Initiatives																			
MERLOT										X									
GLOBE										X									X
European Digital Library Initiative									X	X	X								X
Other Organization Networking Initiatives																			
UKOLN - UK Office for Library Networking						X	X	X	X	X	X	X		X					
ARIADNE Foundation						X	X	X	X	X	X			X					X
PRO-Learn			X	X	X	X	X			X	X	X	X	X	X	X	X	X	X
European SchoolNet (EUN)	X	X				X	X			X	X	X	X	X					X
e-Twinning of Schools																			
EdNA Online - Education Network Australia									X	X	X	X		X					

Other organizations/initiatives focus on specific domains of activities, such as making digitalized resources available in specific disciplines and/or for specific communities (for example, university teachers and students), research and development on accessibility or the development of learning object and repositories (LORs). ARIADNE (European Union), MERLOT (USA), and UNIT (France) belong to this category.

All organizations / initiatives surveyed (multi-purposes and others) are involved to a variable degree in standards and interoperability issues, some playing a leadership role on the international scene in this field (for example, JISC and *education.au*).

All organizations surveyed also have international activities, which can range from attendance and participation in international conferences, to active guidance and expertise to other countries or international agencies. For example, COL provides guidance and training on matters related to online distance learning to WHO and UNCHR staff; SDTICE France supports other governments such as Mexico and Saudi Arabia in defining policy and implementing ICT in education.

With regards to educational levels:

E-learning policies and programs in all country surveyed encompass the whole spectrum of education and training, from K-12, post secondary and higher education, to vocational training, adult education and community training. Responsibilities with regard to e-learning policy implementation in the different sectors are given to the appropriate Minister or transferred to an arm's length agency depending on the political / institutional tradition of the country. In Korea, corporate training is specifically targeted, along with schools and post-secondary training institutions.

Other organizations / initiatives focus on a more limited range of educational or training levels; for example: European SchoolNet (primary and secondary schooling), ProLearn (adult education, vocational and professional training). As for LOR and content development initiatives, these are usually university driven and involve academic and non academic university and R & D communities.

More recently Government funding programs are supporting awareness and training activities on ICT and the use of ICT for

International E-Learning Initiatives
2. Approach and Organizations/Initiatives Surveyed

training and lifelong learning, for the general public (youth, families, elderly) or adult communities – in addition to those specifically intended at teaching and learning communities (teachers, learners and technical and administrative staff from academic institutions).

3 KEY FINDINGS ON INTERNATIONAL INITIATIVES

This chapter summarizes findings we think of importance in the context of designing a Canadian e-learning strategy. As mentioned earlier, this survey of countries and supra-national organizations is by no means exhaustive. Given the short time frame and the limited resources for this study, the approach was to select the most representative countries and organizations and to analyze their e-learning strategy from key perspectives, among them: policy orientation, program scope, organizational structures / activities, financing and stakeholders.

3.1 E-learning strategies and actions plans in most countries are government initiated

Except for the USA, countries most active in the development of e-learning tools and contents have strategies which were initiated by government, whether through ministries/departments, public funding councils or multi-ministerial committees. Furthermore, as later detailed in sections 3.2 and 3.3, these wide range government action plans translate into initiatives /programs / projects financially supported by significant public funding.

This section looks more closely at government policies and strategies to support ICT and e-learning in four (4) countries:

- United Kingdom and France, on the European side
- Australia and Korea, on the Asian-Pacific one.

A brief introductory remark is made on the differences between the United States, Europe and Asia, in terms of initial impulse and support to e-learning.

The table on the next page gives an overview for the four (4) countries retained in this section, highlighting:

- key government organizations / agencies responsible for defining the e-learning strategy
- key e-learning policy milestones
- key organizations responsible for policy implementation

E-LEARNING ORGANIZATIONS AND POLICY MILESTONES IN SELECTED COUNTRIES				
	United Kingdom	Australia	Korea	France
Key government ministries and agencies	<p>Department for Education and Skills (DfES)</p> <p>Ireland, Wales, Scotland, England Governments' Education Ministers</p> <p>Funding Councils (HEFC, FEFC), FutureLab, NCSL...</p>	<p>Department of Education, Science and Training (DEST)</p> <p>Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA)</p> <p>AGIMO – Australian Government Information Management Office (previously NOIE)</p>	<p>Ministry of Commerce, Industry and Energy – MOCIE</p> <p>Ministry of Education and Human Resource Development (MEHRD)</p> <p>Ministry of Labor (MoL)</p> <p>Ministry of GAHA</p>	<p>Ministère de l'Éducation Nationale, de l'Enseignement Supérieur et de la Recherche (MENESR)</p>
Key Policy Milestones /Documents	<p>1997 – 2004 : States Policy</p> <p>2003 : E-learning National Consultation</p> <p>2005 : DfES e-strategy: <i>Harnessing Technology: Transforming learning and children's services</i> (March 2005)</p>	<p>1998: <i>A Strategic Framework for the Information Economy: Identifying Priorities for Action</i></p> <p>1999 : Adelaide Declaration from the States, Territory and Commonwealth Ministers of Education</p> <p>2000: <i>Learning for the Knowledge Society : An Education and Training Action Plan for the Information Economy</i></p> <p>2004: Australia's <i>Strategic Framework for the Information Economy 2004-2006: Opportunities and Challenges for the Information Age</i></p>	<p>1996: e-Korea Project / e-Campus</p> <p>1998 : <i>Adapting Education to the Information Age</i></p> <p>2001: <i>Towards Education Reform and the Development of Human Resources</i></p> <p>2002 - 2003 : MOCIE – <i>The present Situation of e-Learning industries and means to facilitate them</i></p>	<p>1997: Plan d'action gouvernemental pour une société de l'information (PAGSI)</p> <p>2002: RESO plan ("Pour une REpublique numérique dans la SOciété de l'information" – "For a digitalized Republic in the information Society")</p> <p>2004-2006 : TICE Action Plan (Technologies de l'Information et de la Communication en Éducation)</p>
Key organizations responsible for policy implementation	<p>1998 : Becta - British Educational Communications and Technology Agency : Policy and program advices; bring coherence and synergy between stakeholders; evaluate needs and impacts of policy action plans</p> <p>JISC - Joint Information Systems Committee : centralized and co-ordinated direction for the development of the infrastructure and activities in line with the e-strategy</p> <p>JISC Regional Centres</p>	<p>education.au : responsible for building national infrastructure to provide shared online content and services</p> <p>EdNA online (Education Network Australia)</p> <p>Government agencies in each sector of education</p>	<p>KERIS: Korea Education & Research Information Service</p> <p>KRIVET: Korea Research Institute for Vocational Education & Training</p> <p>KADO: Korean Agency for Digital Opportunity and Promotion</p> <p>KELIA – Korea e-learning Industry Association</p> <p>KALIC – Korea Advanced e-Learning Infrastructure Centre</p> <p>...</p>	<p>Sub-Directorate of Information and Communication Technology in Education (SDTICE), MENESR</p> <p>Délégation aux usages de l'internet (DUI - Delegation for the Use of the Internet) interministerial committee attached to MENESR</p>

USA: a particular case

The United States situation is distinct from the government-initiated support to e-learning generally observed among countries studied. The diversified e-learning activities in the US education sector – technology, tools and content development - and the dynamism of the private e-learning market is a reflection of the innovation potential that comes from the historical proximity of private universities and corporations supporting programs and research.

It was decided to examine in a special section (section 3.8) the specific situation of the United States of America and to look at chosen dedicated organizations.

Europe and Asia: education and/or economic ministries behind ICT and e-learning

Because the US education and the private sectors were often initiators and early adopters of learning technologies and tools (therefore helping the transformation to a “knowledge” economy), this triggered industrial countries on the European continent to develop strategies to stimulate e-learning. It was admitted that economic competitiveness was at stake.

Recognizing that e-learning is the vector of transition to a knowledge economy, governments of European countries, (as well as supra governments or organizations), channelled their efforts mainly through education ministries and institutions responsible for vocational / professional / skill training.

European countries and the European Union were not the only ones to take action. Asian countries also realized the importance of e-learning as a strategic means to adapt and extend education for lifelong learning, a prerequisite in a knowledge economy. In these countries, government support to ICT and e-learning was not the unique prerogative of education ministries: economic development agencies / departments – Ministries of Industry or of Labor were often initiators.

3.1.1 E-learning strategy and policies in the four countries surveyed

United Kingdom

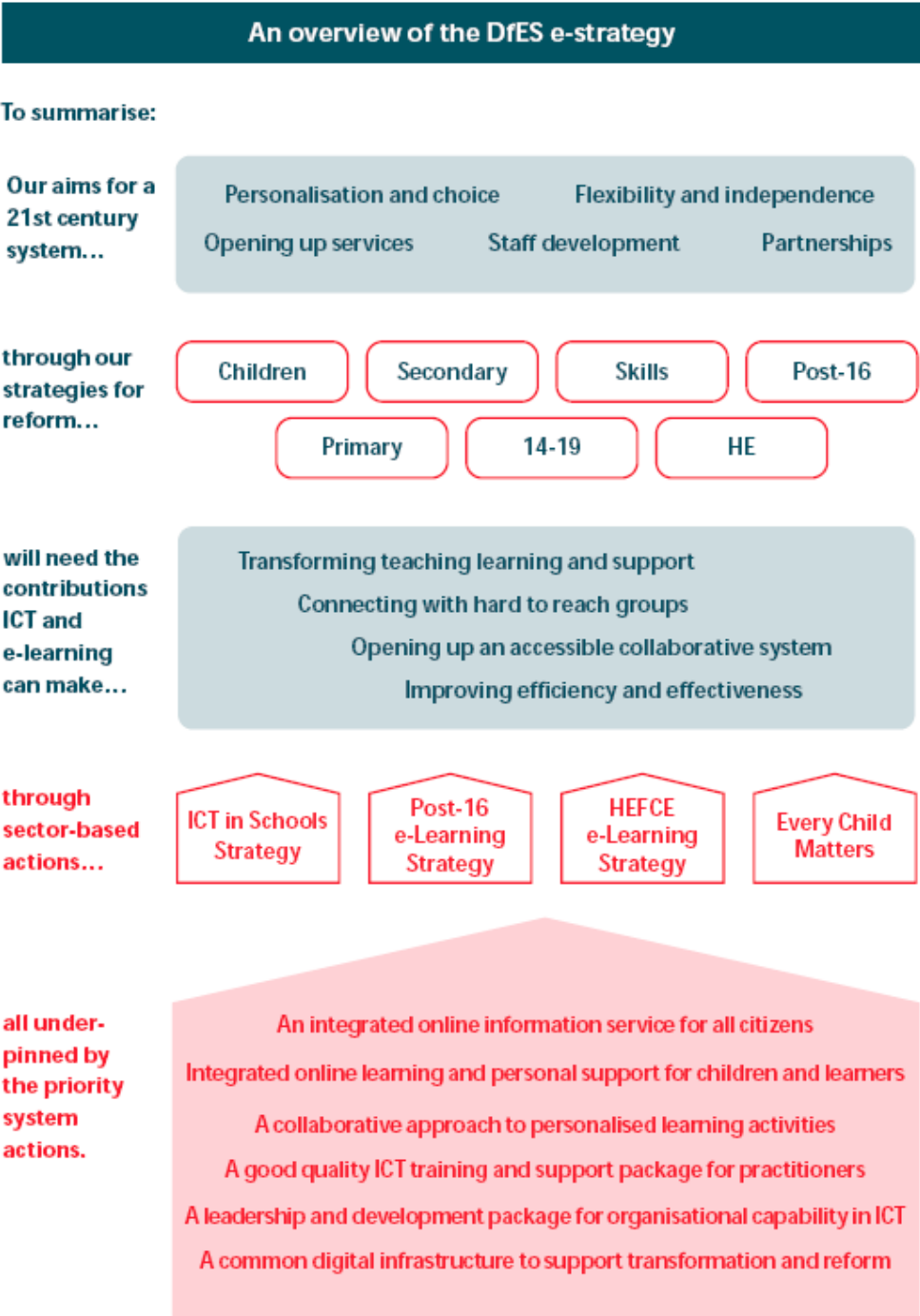
United Kingdom has a long tradition of innovation in education. The Open University and distance learning was a model for many other open and distance learning (ODL) institutions. Since the mid nineties UK States have elaborated strategies and action plans to support ICT in education; as examples Ireland proposed *The Education Technology Strategy of Northern Ireland* (1997), the National Grid for Learning initiative was initiated in Scotland; Wales launched a e-learning strategy in 2001 and England councils and agencies were active in promoting innovative actions to better use ICT in all level of education.

Realizing the needs to coordinate and share knowledge among States' initiatives, Becta (the British Educational Communications and Technology agency) created in 1998 saw its remit redefined in 2003 to support all four UK education departments in their strategic ICT developments, facilitating knowledge transfer among them in order to encourage innovation and improvement, and bring coherence and synergy to UK-wide developments.

Moreover, the Department for Education and Skills (DfES), the UK-England government body responsible for all levels of education, including vocational education and training, conducted in 2003 a national consultation aiming to "unify" e-learning strategies and benefit from experiences and collaborations of the many stakeholders. From this consultation emerged a national e-learning strategy.

Recognizing the importance of ICT in education, in March 2005, the DfES published the e-strategy '*Harnessing Technology: Transforming learning and children's services*'. This ambitious strategy, covering all areas of education and training for the next five years and beyond, encompasses six (6) priority actions, as illustrated in the chart on the following page. These are underpinned by a number of system wide and sector specific actions applying to the schools, 14-19 and lifelong learning, higher education and children's services sectors.

Department for Education and Skills e-strategy, United Kingdom



Source: DfES, *Harnessing Technology: Transforming Learning and Children's Services*, March 2005. Available on the web site <http://www.dfes.gov.uk/publications/e-strategy/annex.shtml>

DfES assigned responsibilities for implementing an action plan and evaluating progress to Becta and the Joint Information Systems Committee (JISC)¹.

As government's lead partner in the strategic development and in the delivery of its e-strategy, Becta has four main roles:

- Strategic adviser to government,
- Co-ordinator of the e-strategy,
- Providing insight through analysis and research,
- Strategic delivery partner.

Moreover, in line with government policy and the e-strategy, Becta is driving with partners the development of a broader agenda in relation to inclusion and special educational needs.

JISC was established in 1993 by the Higher Education Funding Council (HEFC) in order to establish a joint committee to deal with networking and specialist information services. But with the evolution of DfES agenda, e-strategy and ICT in education, JISC needed to address more activities and roles; its priority and activities followed the evolving requirements for ICT in education and the e-learning strategy. JISC is now providing further and higher education strategic guidance, advice and opportunities to use ICT to support teaching, learning, research and administration. More specifically, JISC is providing a centralized and co-ordinated direction for the development of the infrastructure and activities in line with the e-strategy. The committee's experts, along with higher education (HE) researchers, provide tools and services to HE institutions and further education (FE) colleges.

JISC vision is to provide "*ubiquitous and reliable access to an integrated information and communication environment, so that every user – learner, researcher, teacher or administrator – is able to enjoy world class technologies in support of their work and study*"².

¹ There are other organizations partly supported by DfES and contributing in implementing the e-strategy. To name a few: the NCSL National College for School Leadership (NCSL), Futurelab and e-Skills UK. And there is also DfES research funding through the Higher and Further Education funding councils (HEFC and FEFC).

² DfES, *Harnessing Technology: Transforming Learning and Children's Services*, March 2005

France

Over the past decade, the French government has been pursuing a proactive policy aiming at increasing the use of information and communication technologies (ICT) in primary, secondary and further education and, more broadly, at making Internet and ICT accessible to all French society:

- August 1997 : governmental action plan for the Information Society - PAGSI
- Spring 2000: Information Systems and Telecommunications Strategic Plan (S3IT) set up by the Ministry of Education; the plan designed to optimize the ways in which equipment and human resources are used. Six priority projects are defined, including the provision of user support and instruction.
- July 2001 : publishing of the Infrastructure master plan, providing a framework for regional initiatives
- December 2002: launching of the RESO /2007 plan (“Pour une REpublique numérique dans la SOciété de l’information” – “For a digitalized Republic in the information Society”)
- July 2003: the Interministerial Committee on the Information Society (CISI - Comité interministériel pour la société de l’information) determines that, following the experimentation phase (1997 to 2002), the next phase of implementation should be initiated, with the aim of increasing the use ICT in education.
- The CISI puts forward a global plan with respect to infrastructure, services, contents, ICT uses and training, at school as well as in society in general – the 2004-2006 SDTICE Action Plan.

The Ministry of Education, Higher Education and Research (Ministère de l’Education Nationale, de l’Enseignement Supérieur et de la Recherche – MENESR – hereafter referred to as the Ministry of Education) plays a central role in the definition and implementation of this policy. Two (2) departments / agencies - both attached to the MENESR - are involved:

- the Sub-Directorate of Information and Communication Technology in Education (SDTICE - Sous-direction des technologies de l’information et de la communication dans l’éducation) – attached to the Technology Directorate of the Ministry; and

- the Delegation for the Use of the Internet (Délégation aux usages de l'internet – DUI), an interministerial agency also attached to MENESR. Established in July 2003 by the CISI, DUI is essentially tasked with increasing widespread access to the Internet and to ICT.

The principal mission of SDTICE is to increase the educational community's access to Internet and support training for the use of the Internet and new information and communication technologies. DUI is essentially tasked with increasing widespread access to the Internet and to ICT and to coordinate governmental actions regarding the public in general.

The SDTICE 2004-2006 Action Plan encompasses six (5) program areas, each with its set of objectives and projects or initiatives. The first four programs, "Infrastructures and Services", "Content", "Uses, and "Training" are action programs. The fifth program, "Quality support" is an internal one supporting the four first programs. In addition, DUI is responsible for implementing a sixth program, known as the "Youth and families" program.

Program Areas covered by 2004-2006 SDTICE/DUI Action Plan

- 1- Infrastructures and services
- 2- Incentives for the production of digital content for teaching in schools and higher education (Content)
- 3- Technologies in education: ICT uses (Uses)
- 4- ICT training and support (teaching and non teaching personnel)
- 5- Quality: awareness, evaluation and promotion (Quality)
- 6- Youth and families (under the responsibility of DUI: a program to open Internet access and ICT training available to young people, families and the general public at large)

Further details on initiatives comprised in each program area are provided in Section 3.2, Scope of Activities.

The key roles of SDTICE under the 2004-2006 Action Plan are :

- To prepare and implement the main measures for the development of ICT educational practices in schools and in higher education establishments

3. Key Findings

- To monitor the implementation of ICT in higher education establishment, namely during the assessment of the ICT sections in the four-year contracts
- To steer ICT training programs
- To support production of contents
- To develop partnerships and agreements with regional authorities and companies
- To oversee the ICT sections of the SCEREN-CNDP (National Centre for Pedagogical Resources) and the CNED (National Distance Learning Centre)

As for the Delegation for the Use of the Internet (DUI), its role under the action plan is:

- To propose and implement measures for increasing the use of the Internet and ICT
- To provide training for families, children and the general public
- To streamline the measures already established by the government and public establishments
- To support regional authorities and private partners
- To maintain and coordinate public Internet access areas;
- To encourage the distribution of information and exchanges between public and private players.

On the SDTICE's web site, Educnet, which provides detailed information about the ICT in education policy and programmes, there is a mention to the effect that the PAGSI (1997-2002) and the SDTICE 2004-2006 action plans "*have been taken up very enthusiastically, as evidenced by the incorporation of these objectives in teaching programs, the proliferation and sophistication of educational web sites and the involvement of many different bodies in setting up digital campuses. The results obtained have been significant and put France in a strong position internationally*"³.

³ <http://www.educnet.education.fr/eng/plan/bilan.htm>

Australia⁴

The Australian Government has taken a lead role in creating the appropriate environment for all Australians to have access to, and benefit from, what has become known as the information economy. The government has been dedicated to taking advantage of the opportunities provided by the *“information age to improve all Australian’s living standards ... and to ... enhance our competitiveness in the global information economy”*

(source: National Office for the Information Economy, 2002).

Following the establishment in 1997 of the National Office for the Information Economy, the Government launched its strategic framework for bringing Australian into the information age. Australian States and Territories governments decided in 1997 to develop and share content and services in education, for the benefit of the Australian education institutions and the learning communities. They created an arm’s length organization named *education.au*, a national agency.

Education.au *“aims to be a leader in providing innovative learning technologies, particularly shared online content and services. Education.au develops, maintains, enhances and promotes online services, networks and alliances which meet or exceed the expectations of our stakeholders”*.

Among the many services provided by *education.au*, it is worth mentioning:

- Technical Services and Solutions
- Comprehensive Web services
- Scalable Web solutions
- Standards and interoperability : development and promotion
- Web desk services
- EdNA Online (more information below)
- Australia’s career information service (myfuture.edu.au)
- Management of the Government Education Portal

⁴ The analysis of Australian policy and part of the text here produced come from the paper *E-learning in Australia and Korea: Learning from practice*, by J. Misko, J. Choi, S. Yee Hong, I. Sook Lee, Korea Research Institute for Vocational Education & Training and National Centre for Vocational Education Research, September 2005.

Education.au is not the only agency contributing to the *Education and Training Action Plan for the Information Economy* proposed and endorsed in 2000. This action plan covers plans for each educational sector: school, universities and vocational education and training (VET); in each sector, a Government agency is in charge of activities implementation and funding. In each sector, the plans specify areas for action (people, infrastructure, online content, applications and services, policy and organizational framework, regulatory framework).

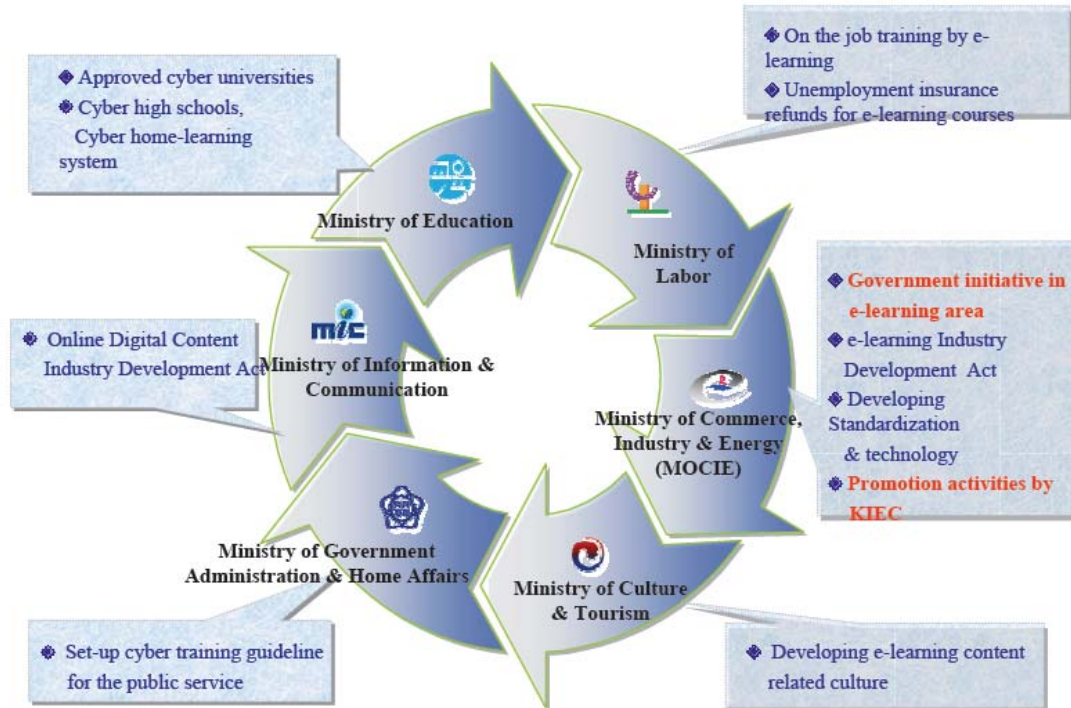
The EdNA Online (Education Network Australia) created in 1995 is a gateway to all educational and training resources and services existing in Australia. It is organized around Australian curriculum and, among other things, the gateway lists all institutions and courses available in Australia. It also provides a database of resources which are useful for teaching and learning. These tools are free to Australian educators. EdNA Online had over 165,000 quality-evaluated resources and 323,000 linked resources (estimation of February 2003). At the same time it also provides funding for internet connection and professional development opportunities for teachers.

Korea

According to analysts, government initiatives in Korea have been crucial for the development of ICT and its fast penetration in all the economic sectors and for the promotion of e-learning in particular. The following chart illustrates the Korean government's roles and actions in promoting e-learning.

Misko & al. list at least six major government programs aimed at improving the status of ICT in Korea [and e-learning promotion] in the last 15 years. Among these programs, the most outstanding is the National Informatization Framework (NIF) established in 1996. The fast development of e-learning in Korea draws on the rapid development of ICT that is heavily supported and funded by the government's ICT policies. However, more directly, the rapid diffusion and growth of e-learning in Korea is attributable to specific government policies to boost e-learning.

Korea Government Policies regarding ICT & E-Learning



Source: PowerPoint presentation by KIEC (Korea Institute of Economic Commerce), Korea EL country report, AEN 2005.

The Ministry of Education and Human Resource Development (MEHRD) and the Ministry of Labor (MoL) have been most influential in the development of e-learning. In 2000, the MEHRD amended the Lifelong Education Law to create online universities along defined standards. This permitted the establishment of diverse lifelong educational institutions, among them, lifelong learning centres attached to universities.

Another important Government initiative was MoL introducing and promoting – by an insurance reimbursement program - Internet training courses that contributed to the expansion of e-learning in corporate training.

Among Korea governmental e-learning initiatives, it is worth mentioning:

KERIS (Korea Education and Research Information Service) founded in 1996 with the mission of raising the quality of education and research through the establishment and operation of a nation wide knowledge and information service system. KERIS is operating EDUNET, an e-learning portal servicing elementary and high school teachers, students and parents. KERIS is supporting various projects including instructional content, learning content and content utilisation support. KERIS has also developed distance teacher professional development centres; 39 centres were active in 2001.

KUACE (Korean University Alliance for Cyber Education) created in 2001 to promote the advancement of e-learning in higher education. The alliance promotes the development of online/cyber universities. In 2004, there were 16 cyber universities created, not counting the 151 traditional colleges and universities (of the 376 Korean institutions) offering online courses and programs.

KRIVET (Korea Research Institute for Vocational Education and Training) through its centre for e-learning advises the MoL regarding e-learning. The MoL subsidizes part of the training expenses to the employers for employees taking web-based courses.

COTI (Central Officials Training Institute) financed by the Ministry of Government Administration is promoting e-learning for Government employees. Korea has 37 training institutes of which 12 were in 2003 offering e-learning programs and all institutes offers e-learning courses as part of the traditional classroom curriculum.

3.1.2 ICT and e-learning supra-national initiatives

Beside national e-learning strategy and action plans developed in European and Asian countries, supra-national organizations are also helping countries with programs and funding to support the transition to a knowledge economy and develop some coordination processes. The European Union programs are the most elaborated. Asian countries benefited from an ASEAN – Association of South-East Asian Nations initiative, the Asia E-Learning Network or AEN, a knowledge network which ceased its operations in 2005 after successfully fulfilling its mission of promoting e-learning in Asia. This section also looks into the Commonwealth of Learning (COL) initiative created to develop awareness on ICT in education

and e-learning for developing countries and to help these countries adapt tools and methodologies to their specific needs.

The European Union's initiatives and programs

European countries pooled their efforts by supporting initiatives and programs managed by European Union (EU) organizations, in collaboration with national entities in each country. Among the many programs to help harmonize and coordinate national policies on common goals, Education and Training became a major integrating component in 2000.

At the Lisbon European Council held in March 2000, the Heads of State and Government set the Union objective of becoming *"the most competitive and dynamic knowledge-driven economy of the world"*. Resolutions of this Council ... *"emphasized the need for adaptation of European education and training systems to the needs of the knowledge economy, and declared the promotion of new basic skills, in particular in information technologies, as one of the three main components of this new approach"*.

The Lisbon Council gave birth to many initiatives such as SOCRATES (school and higher education), Leonardo Da Vinci (addressing vocational education and training), lifelong learning and ICT in education; this last initiative is focused on e-learning. In March 2001, E-learning became an EU action area with the adoption, by the European Commission, of an e-Learning Action Plan: *"eLearning: designing tomorrow's education"* articulated around four (4) action lines :

- *infrastructures and equipment*, to equip schools with multimedia computers,
- *training*, to train European teachers in digital technologies,
- *European quality contents and services*, to develop software and services to speed-up networking of schools and teachers,
- *and cooperation at all levels*.

The Action Plan supports programs financing projects submitted to the Secretariat.

On the other hand, at the Barcelona European Council of March 2002, the Council agreed that the education and training systems in the EU should become a "world quality reference by 2010". The Council called on the European Commission to draw up an eEurope 2005 action plan, which should focus on e-learning -

among other priorities - while ensuring that the digital content is available in the learner's native language.

The e-learning initiative is all encompassing and seeks to mobilize the educational, cultural, economic and social players in Europe, in order to speed up changes in the education and training systems to move to a knowledge economy and digital culture society. It focuses attention on e-learning in schools, universities and the workplace.

The eLearning program for the period 2002 – 2006 runs along four action lines:

- Promoting digital literacy
- European virtual campuses
- e-Twinning of schools in Europe and promotion of teacher training
- Transversal actions for the promotion of e-learning in Europe

One of the major initiatives under this program is the e-Twinning of schools, which supports networking among schools through educational projects between schools in different European countries, Internet-based learning communities and information and tools on the pedagogical and collaborative use of ICT in education.

The European eLearning portal (<http://elearningeuropa.info>) provides the support structure and acts as a hub for promotion and exchange of best practice

As can be seen in the table on the following page, e-learning is also among the European Union's research priorities. The Sixth Framework Program for Research and Technological Development (2002-2006) is supporting research on the contribution of Information Society technologies (IST) to innovation in education and training through its Technology Enhanced Learning (e-Learning) strategic objective. Research aims at lowering the technological barriers and at enabling learners to use existing, widely available technologies as well as new technologies. Making European digital content (e-content) products and services available in the net economy is another important research priority (for further detail, see section 3.6). It should be noted that projects listed in the table are only provided as examples to illustrate the scope and ramifications of the EU's e-learning policy.

Overview of European Union (EU) Initiatives in E-Learning

<p>Overall Strategy & Policy Framework</p>	<p>March 2000: Heads of State and Government of the EU adopt the “Lisbon strategy” to make the European Union “<i>the most competitive and dynamic knowledge-based economy with improved employment and social cohesion by 2010</i>”.</p> <p>Information and communication technologies (ICT) play a key role in achieving these objectives.</p> <ul style="list-style-type: none"> - eEurope 2002 Action Plan (June 2000): e-Learning among priorities - eLearning Action Plan (March 2001): <i>e-learning: designing tomorrow’s education</i> - eEurope 2005 Action Plan (January 2003): seven 'eEurope policy priorities' including eLearning (along with Broadband, eBusiness, eGovernment, eHealth, eInclusion and Security). - “<i>i2010: European Information Society in 2010</i>” (June 2005): a comprehensive strategy for modernising and deploying all EU policy instruments to encourage the development of the digital economy. 		
<p>E-Learning Initiatives</p>	<p>eLearning Action Plan (2002 – 2006) 4 action lines :</p> <ul style="list-style-type: none"> - <i>infrastructures and equipment</i>, to equip schools with multimedia computers - <i>training</i>, to train European teachers in digital technologies - <i>European quality contents and services</i>, to develop software and services to speed-up networking of schools and teachers - <i>cooperation at all levels</i>. 	<p>EU Research & Development – European Research Area Information Society Technologies (IST) are among R& D priorities</p> <ul style="list-style-type: none"> - IST work programme : part of the Framework Programme (FP) for Research and Technological Development - FP6 Research Framework 2002-2006 : IST are among the 7 main thematic priorities - FP7 2007-2013 (planning under way) <p>ICT in education and technology-enhanced learning (e-learning) are among strategic orientations of FP5, FP6 and FP7</p>	
<p>Governance</p>	<p>Directorate General for Education and Culture</p>	<p>IST - Directorate E-Content - Technology Enhanced Learning (TeLearn)</p>	<p>IST - Directorate E-Content - Cultural Heritage (DigiCULT)</p>
<p>Programs</p>	<p>e-Learning Program 2004 – 2006 (December 2003) : a multiannual programme for the effective integration of ICT in education and training systems in Europe Focus : 4 action lines:</p> <ul style="list-style-type: none"> ▪ Promoting digital literacy ▪ European virtual campuses ▪ e-Twinning of schools in Europe and promotion of teacher training ▪ Transversal actions for the promotion of e-learning in Europe (including elearningeuropa - Europe’s eLearning portal) 	<p>Technology Enhanced Learning (TeLearn): Overall goal: Enhancing learning through technologies Focus of research : applications of technologies for user-centred learning, building on the concept of ubiquitous computing and on sound pedagogical principles Objectives:</p> <ul style="list-style-type: none"> - to increase the efficiency of learning for individuals and groups; - to facilitate transfer and sharing of knowledge in organizations - to contribute to a deeper understanding of the learning process by exploring links between human learning, cognition and technologies <p>Cultural Heritage (DigiCULT): Focus of research : use of technologies for long-term preservation of and improved access to cultural heritage Objectives:</p> <ul style="list-style-type: none"> - make it easy for people to find, understand and experience their cultural heritage through digital libraries - keep today’s digital content alive in the future 	

<p>Examples of Projects</p>	<p>European Schoolnet (EUN) 3 work areas : - School networking and services - Policy and Practice - Interoperability and Content exchange EUN Budget 2006: € 3,8 M</p> <p>e-Twinning of schools: strengthening and developing networking among schools, through educational projects, Internet-based learning communities and updating teachers' and trainers' professional skills in the pedagogical and collaborative use of ICT http://www.etwinning.net</p> <p>European eLearning portal (http://elearningeuropa.info) : support structure and acting as a hub for promotion and exchange of best practice</p>	<p>TeLearn - On-going research projects (FP6):</p> <p>CALIBRATE - Calibrating eLearning in Schools. Collaborative use and exchange of learning resources in schools (educational repositories), within the framework of the European Schoolnet (EUN); 17 partners 2005 -2008 (30 months); EU funding: € 3,3 million</p> <p>KALEIDOSCOPE – Concepts and methods for exploring the future of learning with digital technologies. Aim: establish a coherent and strong European Research Area for technology-enhanced learning; brings together experts from many disciplines (Network of Excellence); 76 partners 2004-2007 (48 months); EU funding: € 9,4 million</p> <p>PROLEARN - Network of Excellence Professional Learning. Developing innovative learning resources and their use for professional training in SMEs and larger companies, thus bridging the gap between research and education in universities and professional training and lifelong learning; 19 partners 2004-2007 (48 months); EU funding: € 6,1 million</p> <p>ELeGI - European Learning GRID Infrastructure - Overall aim: to advance significantly the effective use of technology-enhanced learning in Europe; 23 partners 2004-2007 (48 months); EU funding: € 7,5 million</p> <p>TENCompetence - Building the European Network for Lifelong Competence Developing models and tools for the creation, storage and exchange of knowledge resources, learning activities, programmes and network data for lifelong competence development; 13 partners. 2005-2008 (48 months); EU funding: € 8,8 million</p> <p>UP-ARIADNE - Take-up and expansion of the ARIADNE foundation, which endeavours to exploit the results of ARIADNE, a suite of authoring tools, an open e-learning platform and a repository of re-usable learning objects.</p>	<p>DigiCULT : e-Content program(2001-2004) and eContentplus programme (2005-2008): : projects to improve the accessibility and usability of European culture and scientific content, in a multilingual context; interoperability between national digital collections and services is among core objectives. Budget (eContent plus): € 149 M</p> <p>“i2010: Digital Libraries” & European Digital Library: project meant to promote getting Europe’s cultural and scientific heritage digitized and available online. At least six million books, documents and other cultural works will be made available anyone through the European Digital Library over the next five years (2006-2010); co-funding the creation of a Europe-wide network of digitisation centres, building upon the TEL-infrastructure (TEL-the European Library)</p>
<p>Scope</p>	<p>eLearning program 2004-2006: € 44M</p>	<p>IST related research within FP6: €3.62 billion (2002-06) Over research projects funded under FP5 and FP6 Overall budget – TeLearn program 2005-06: € 54 M</p>	<p>eContentplus (4-year) budget: € 149 M</p>

Information sources:

<http://cordis.europa.eu/ist/telearn/index.html> The European Union’s portal on research

http://europa.eu.int/information_society/edutra/index_en.htm - Europe’s Information Society Technologies (IST) Thematic Portal

Viviane Reding, Commissioner for Education & Culture, speaking of the Commission's eLearning initiative, said: "*The Member States of the European Union have decided to work together to harmonise their policies in the field of educational technology. eLearning aims to support and coordinate their efforts and to accelerate the adaptation of education and training systems in Europe.*"⁵

Commonwealth of Learning

The Commonwealth of Learning (COL) – created in 1987 - is an intergovernmental organization established by Commonwealth Heads of Government to encourage the development and sharing of open learning/distance education knowledge, resources and technologies among participating countries. COL is helping developing nations to improve their access to quality education and training.

COL's mission is to promote open and distance learning for development.

COL Mission Statement:

Recognising KNOWLEDGE as key to cultural, social and economic development, The Commonwealth of Learning is committed to assisting Commonwealth member governments to take full advantage of open, distance and technology-mediated learning strategies to provide increased and equitable access to education and training for all their citizens.

Source : <http://www.col.org/about/whatis/mission.htm>

The organization has been constantly inspired and nourished by innovations from UK organizations such as the Open University and JISC more recently. Its main objective is helping to increase the capacities of developing nations to meet the demands for improved access to quality education and training.

⁵ <http://www.content-village.org/articles.asp?id=148>. Europe catching up in e-learning.

Through its own resources and its extensive networks, COL provides a wealth of services and collaborative opportunities for policy makers, institutions and distance education practitioners to encourage, and help enhance, the use of open and distance learning (ODL) policy, systems and applications. COL mission is to transfer this know-how to less developed countries.

By the many services, products and collaborations initiated and supported by COL financing, COL became recognised as one of the world's foremost sources of knowledge on open, distance and technology-mediated learning and its application in developing countries. COL is collaborating with UNESCO, World Bank and other organizations in developing major initiatives in Africa such as SchoolNetAfrica, a professional development programme for directors and principals of Sub-Saharan African teacher training college (following a similar programme initiated in India in 2003).

To summarize, COL promotes ODL and ICT technologies - which is a larger perspective than e-learning - to leverage the education level, skills and competencies of people in developing countries. Through its education mission, COL is focusing on economic development.

The ASEAN Initiative: the Asia e-learning Network (AEN)

In Asia, country awareness on e-learning and the need to develop programs and action plans was initiated by the ASEAN organization. In its 2001 ASEAN+3 (including Japan, China and Korea) meeting, Economic Ministers proposed the Asia e-learning Initiative to promote economic development and human resource training in the region. The Asia e-learning Network (AEN) was created to promote e-learning among the 13 Asian countries and to coordinate actions in specific work areas.

Contrary to the EU which has its own government structure and budget, ASEAN is essentially an association that does not have the same prerogatives and funding capacity as EU. However through ASEAN, countries took the initiative of creating AEN, a knowledge sharing network, where participating countries agreed to establish a cooperative framework for e-learning.

The AEN mission was to:

- Share information on the latest e-learning trends and technologies

3. Key Findings

- Promote interoperability and resource sharing of e-learning systems and contents
- Promote the spread of knowledge on the effective use of e-learning

AEN was able to initiate and finance six (6) experimental projects of collaboration between universities and enterprises to intensify awareness of standards and prompt the participation of Asian countries for developing and improving the standards.

These six experimental projects were:

- Asia e-learning Network Japan-Singapore: "Issues surrounding e-Government and e-Commerce in Singapore and Japan"
- Synchronous and Asynchronous Distance Education of Graduate Programs between AIT and Tokyo Tech.
- Development of "e-Courses" in the Non-Skill-Transfer Fields for E-learning
- International Experiment Project on Asynchronous Collaborative Learning Method
- MJeN: Malaysia Japan e-learning Network Project
- Demonstration for Effectiveness of e-learning Sharable Resources

What is most striking of AEN is its emphasis on e-learning as a strategic means to develop skills and competencies and ensure economic development. The AEN was an initiative of three Economic Ministers (Japan, Korea and Singapore) to promote economic development and human resource training in the Asian region.

3.2 Strategies and supporting programs embrace a wide scope of activities and stakeholders for the knowledge economy

E-learning action plans and programs, all government initiated in the country surveyed, have progressively enlarged their realm of action and are now reaching a wide array of stakeholders and clienteles, within and outside the education sector.

In fact, in what can be referred to as a second phase of strategic planning⁶, many government policies and e-learning programs of supporting organizations now embrace a wide scope of activities. These reach a wide array of group of stakeholders and target audiences, which have evolved and enlarged over the years, with the inclusion of new education levels and sectors (schools, universities, vocational, corporate training, etc.).

This section illustrates the scope of activities and clienteles from five (5) organizations responsible for implementing e-learning strategies and/or action plans, namely:

- JISC and Becta (United Kingdom)
- STDICE (France)
- education.au (Australia)
- Educause (USA)

JISC and Becta (United Kingdom)

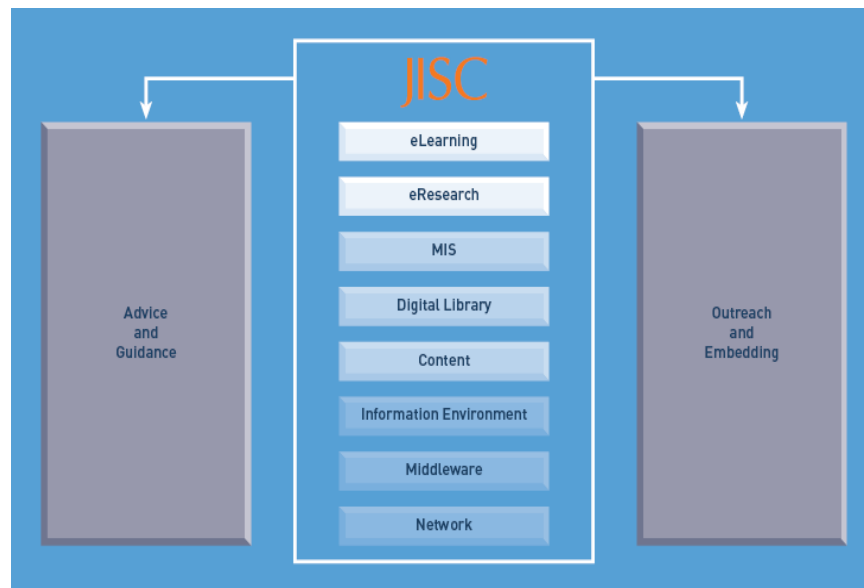
As mentioned previously (section 3.1.1), the UK e-learning strategy defined by DfES is supported and implemented by several agencies. This section looks exclusively at JISC and Becta, the two (2) major agencies responsible for implementing UK's e-learning policy and strategies.

JISC Scope of Activities

As one of the main organizations responsible for implementing the UK e-learning strategy, JISC is active in a wide spectrum of activities (declined in more than 37 services) answering specific needs and objectives.

⁶ It is usually agreed that the first phase was financing infrastructure and equipment in the education sector.

Overview of JISC Activity Areas



As illustrated in the figure above, JISC main activity areas are:

- e-learning: provide practitioners and managers with the tools they need
 - develop and evaluate technologies, tools and standards
 - projects to link schools, colleges and universities
 - guide teachers in finding and using learning resources
 - explore the pedagogy of e-learning
- e-Research: to overcome geographical and institutions in research activities and productions
- e-Administration (MIS): provide tools to support and enhance the business and management functions of education institutions
- e-Resources: linking libraries and other resources services to create a national online educational collection
- Middleware: to support access to libraries and other resources
- Information environment: maintain portal and gateways
- JANET and superJANET5: networking infrastructure

These activities aim to provide:

- Access to high quality resources to support learning, teaching and research

- Research to develop innovative solutions to fully exploit the potential of ICT
- Advice on the creation and preservation of digital resources
- Information about the implications of using ICT, including legal and organizational issues
- Front-line support for the formal education sector through the Regional Support Centres (RSCs)
- Network services and support

In addition, JISC works with other organizations in related areas such as: the creation of learning materials, development of international standards, provision of access to content outside further and higher education and training and staff development.

Becta

Becta's agenda is organized into four (4) programs of work, as detailed in the table (next page) :

- Strategic coordination and advice
- Strategic technologies
- E-Maturity
- Evidence and research

Key Stakeholders and Target Clienteles of JISC and Becta

Let's recall that DfES e-strategy is all encompassing and is directed at all UK society. It is designed to harness technology to the needs of children, learners, parents, teachers, employers and all DfES stakeholders. It embraces all education and training sectors, from early child development to adult education and lifelong learning. It includes system wide and sector specific actions for practioners, learners and all citizens in general.

JISC (funded by all the UK post-16 and higher education funding councils), activities were initially more centered on the use of ITC in higher education and research. Over the years and especially with the greater emphasis placed on further education and non traditional learners, JISC community has expanded. One of its objectives in the 2004-2006 strategy is to promote innovation in the use of ICT to benefit learning and teaching, research and the management of institutions for the Higher and Further education sectors.

Scope of Becta Activities / Programmes of Work

Strategic coordination and advice

- **E-strategy** – co-ordinate and implement the DfES e-strategy, in partnership with JISC
- **Strategic advice** – advise Government and agencies on opportunities & challenges presented by ICT to education
- **Post-16 e-learning strategy** - inform policy and assist in the synthesis and refining of the programme outcomes for the post-16 sector and across the entire learning and skills sector; manage programme assurance for the post-16
- **Post-16 e-learning evidence database** – provide information (documents, research ports...) on research regarding ICT in the post-16 sector

Strategic technologies

- **Data services** – A project to enable improvements in school data collection, reporting and analysis, potentially through provision of a DfES-owned data storage and distribution system
- **Learning services** – A project to provide personalised learning spaces (with e-portfolios), available to every school by 2007-08 (learning platforms)
- **Connectivity services** – A project to conclude work started in 2001 to deliver broadband to every school in England by 2006 and to support future development of the national education network (SuperJANET backbone)
- **Infrastructure services** – A project to enable the creation of a standard technical architecture for schools ICT infrastructure and support

E-maturity : Increase the number of educational organizations making strategic and effective use of ICT; provision of a self-review framework for benchmarking

Evidence and research:

- Deliver a strategic program of research addressing priority issues around the uses and impacts of ICT in education and investigating new technologies
- Work in partnership with others involved in ICT-related research
- Provide advice and guidance to those engaged in research on ICT in education
- Disseminate evidence from research and evaluation projects managed by Becta and other organizations

Source : <http://partners.becta.org.uk>

JISC works in close partnership with the further and higher education Councils (funding partners) as well as with research Councils.

Becta's target clienteles include: government professionals and policy makers; learners, teachers and managers in schools and colleges. Up to 2003, the agency's activities and services were concentrated on post-16 education. With the adoption of the e-strategy, its role was expanded and its activities enlarged to include, among other, the entire learning and skills sector and the development of key strategic relationships with local and multi-national ICT business and industry to support the DfES ICT strategy.

Research and evidence being among Becta's core activities, the ICT research community is a key partner in the development of a comprehensive and high-quality evidential base on the evolution of ICT in education. Becta's e-strategy partners include at the forefront, the JISC, as well as a series of other funding, institutional and research partners.

France e-learning scope of activities

The Sub-Directorate of Information and Communication Technology in Education (SDTICE) and The Delegation for the Uses of Internet (DUI), the two French government agencies in charge of defining and supporting ITC in education, have grant supporting activities covering a large spectrum of issues and stakeholders.

The 2004-2006 SDTICE Action Plan is a **large-scale project**, with initiatives covering a wide spectrum of ICT and e-learning related activities, including digitalized resource development for primary, secondary and higher education, setting up virtual learning environments, teacher and non teaching staff training, standards and interoperability, public awareness and international activities.

Under the three (3) years of the SDTICE 2004-2006 Action Plan, 78 initiatives are to be launched, organized into 30 projects, including 16 new projects. As mentioned earlier and as illustrated in the table on the following page, initiatives and projects have been grouped into five (5) programs (a sixth one - Youth and Families support- is under the DUI).

Scope of the SDTICE 2004-2006 Action Plan (France)

1. Infrastructures and services <http://tice.education.fr/educnet/services/>

Key objective: Provide teachers and students with virtual desks and school bags, as well as the required user support (ease of use).

Programme initiatives include:

- Infrastructures and information systems
- Standardisation and interoperability of infrastructures and group tools
- Digital workspaces
- User support

2. Incentives for the production of digital content for teaching in schools and higher education <http://tice.education.fr/educnet/contenus/>

Key objective: Ensure that the quality and amount of content produced is in line with that required by a country the size of France.

Programme initiatives include:

- Support policy for content publishers; plan to promote digital content publication
- Action plan for the publication of digital teaching materials
- Digital Knowledge Portal and Web TV
- Digital content portal of the National Centre for Pedagogical Resources (CNDP)

3. Technology in education: ICT uses <http://tice.education.fr/educnet/usages/>

Key objective: Detect educational uses and disseminate such uses so that teachers are equipped, at all times, with methods of use adapted or adaptable to their needs

Programme initiatives include:

- ICT & primary school education (support and detection of possible uses)
- ICT & secondary school education (a national team and a team per regional education authority and per subject)
- ICT and higher education (C2i, Digital Campuses, Thematic Digital Universities, etc.)
- SCEREN/CNDP databank of ICT uses

4. Training and support <http://tice.education.fr/educnet/formation/>

Key objective : Promote the broad adoption of a certificate for the use of new technologies in education in teacher training institutions and for training non-teaching personnel, while ensuring that young people also receive training

Programme initiatives include:

- ICT training for teachers (C2i level 2)
- Supervision of teacher training institute (IUFM) contracts
- ICT training for the instructors of the teacher training institutes
- ICT training for non-teaching personnel (support, training on the use of ICT tools)
- Adaptation of professions and functions
- Training of young people (B2i certificate, C2i certificate, Internet and Multimedia Passports, etc.).

5. Quality: awareness, evaluation and promotion (for internal use)

Key objective: Support the four above programmes and provide response to requests formulated by Parliament members and the Revenue Court

Programme initiatives include: Steering change; Steering tools and benchmarks;- Documentation and distribution of information; Educnet website (showcase of the SDTICE undertakings)

Higher education and research centers actively participate in networking and resource sharing projects such as UNT (Université Numérique thématique) or UNR (Université numérique en région), carried out both at the national and regional levels.

***Education. au* Scope of Activities**

As seen earlier, in Australia the e-learning strategy implementation is concentrated in the ***education.au*** organization. This central organization offers a wide range of services and capacities centered on accessing, developing and sharing online content and services.

- Business services (user needs)
- Technical services and solutions
- Comprehensive web services
- Scalable web solutions
- Standards and interoperability
- Web desk services

The main current projects of *education.au* are:

- EdNA Online & sibling websites
- myfuture.edu.au - Australia's career information service
- The Le@rning Federation : Australia / New Zealand, 2001-2006
- Government Education Portal (Commonwealth)
- Interoperability standards development
- <.edu.au> domain name management

Education.au covers by its supporting activities and services all stakeholders of the education sectors (schools, colleges and universities), and to some extent the private sector and Government; *education.au* plays also an active role in International organizations working on interoperability standards and on the economic front by promoting e-learning content and expert services in regional countries.

3.3 Government policies and programs are financially supported by substantial public funding

This section presents indicative figures on government funding to support ICT in education and/or e-learning among countries surveyed. Financial data vary enormously from one country / organization to another, in their presentation (annual reports, three-year plans...), budget classifications (by mission, service, initiative/project) and time horizon (yearly expenditures, two or three-year envelope...). In some instances, it was impossible to find data on government program funding. However, it should be reminded that the objective here is not to compare, but to illustrate the magnitude and the range of financial commitment towards e-learning among countries / organizations surveyed.

United Kingdom Funding

No budget or expense figures were obtained for the overall DfES e-strategy, since public data are not presented by mission. However, DfES in its consulting document *Towards a unified e-Learning Strategy* (2003) affirms that the “Government already provides significant sums for e-learning which will increase to around £1 billion (**CA\$ 2 billion**) by 2005-06, and further funds are invested by organizations from their own resources”.

Available data for Becta and JISC suffice to illustrate the magnitude of UK's investment in education technologies:

- DfES funding of Becta in 2005-2008 is budgeted to £ 25,6 million (**CA\$ 51 million**);
- JISC global expenditures for 2004-2005 were of £64,5 million, or **CA\$ 131,9 million**. Detailed expenses by services are presented in the table below.

It should be noted that **JISC Regional Service Centres⁷ (RSC) budgets** range approximately between £ 200K (CA\$ 409K) and £ 500K (CA\$ 1,0 M) per year, depending on both the size of the region and the “additionality” to core budget, required by the specific funding body. The total RSC budget, including central costs, is about **£ 5M (CA\$ 10,2M) per year**. With RSC Board

⁷ There are 13 RSCs throughout the country, located in their host institutions (in ten cases universities, in two cases FE colleges and in London, the University of London Computing Centre - a non-teaching institution).

approval, RSCs may receive funding for additional work so long as this does not undermine delivery of the core remit.

JISC income comes from all the UK post-16 and higher education funding councils (eight in total); the two most important funding bodies being HEFCE (Higher Education Funding Council for England) and LSC (Learning & Skills Council), which contribute to over 80% of JISC annual income.

JISC 2004-2005 Expenditures by Service

Service	Million £	Million \$CA⁸
Cost of JANET Network	28,3	57,9
Content Services	11,8	24,2
Integrated Info. Environment	6,2	12,7
Organizational Support	6,1	12,5
Central Services	5,2	10,6
Learning & Teaching	3,5	7,16
Support of Research	2,6	5,3
Networking	0,9	1,84
Total Expenditures	£ 64,5	\$ 131,9

Source: JISC Annual Review 2004-2005

Summing-up figures for Becta and JISC, DfES investment in ICT for education and e-learning was around **CA\$ 142 million for 2004-2005**. If one excludes the cost of the JANET Network, which is mainly infrastructure, UK government's investment still represents over **CA\$ 74 million for one fiscal year**. These figures are only for JISC and Becta funding and do not take into account other initiatives and programs of UK States and other Ministry initiatives in some specific and decentralized projects.

France e-learning Funding

It was impossible to obtain financial data on all e-learning programs and projects funded by the two main French governmental agencies, SDTICE and DUI. However, figures on budget allocated to a few initiatives provide a glimpse on the size of such investment:

⁸ British Pound (£) = 2,0447 Canadian Dollars (CA\$)

- Numerical campuses: two requests for digital campus proposals were launched in 2000 and in 2001 in a bid to support and structure the range of open and distance learning (ODL) programs available nationally. The resulting consortia included companies (50) and regional authorities and associations (48). A further 49 partnerships established outside France demonstrated the level of international commitment. A total of 12,1 million euros or approximately **CA\$ 17,1 million**⁹ was allocated to these consortia to design and produce ODL resources.
- Audiovisual and Multimedia Innovation Network: this network was set up in 2001 with a budget of 20,6 million euros or **CA\$ 29,1 million**.
- SDTICE - Protection des mineurs: this program has received a budget of 7,5 million euros or **CA\$ 10,6 millions** for the fiscal year 2004-2005
- Support to the Espace Numérique des Savoirs (ENS) – to develop an online education channel digital resources⁷– the budget allocated to this initiative by the Ministry of Education for 2005-2006 is of 1 million euros, or **CA\$ 1,4 million**; local communities will co-finance this operation with an additional 0,75 million euros, or **CA\$ 1,0 M** for a total of **CA\$ 2,4 millions**.

Australia e-learning Funding

education.au is funded by the Education Ministries of the States and Territories; it sells services to the government and other private and public agencies.

In 2002-2003, *education.au* total expenditures were around CA\$ 7 million, mostly financed by a government grant. In 2005-2006, the budget was close to **CA\$ 20 million**, half of it coming from business revenues. This last figure excludes specific revenue services such as EdNA funding (AU\$ 760,000 or **\$CA 670,000** over a 5 year period), maintenance of the Government Education Portal (AU\$ 250,000 or **CA\$ 205,700** per year) and the maintenance of edu.au (AU\$ 53,000 or **CA\$ 43,600** per year)¹⁰.

In 2001, the Australian government contributed AU\$ 34,1 M (**CA\$ 28,1 million**) for developing online contents over 5 years; this was to be matched by states and territories. Therefore a total of AU\$ 70 million or **\$CA 57,6 million** was made available to develop high quality digital educational content.

⁹ 1Euro = 1,4110 Canadian Dollars (CA\$)

¹⁰ Australian Dollar (AU\$) = 0,8228 Canadian Dollar (CA\$)

National collaborative efforts and investment were also made to develop the Australian vocational education and training (VET) sector capacity. Programs to support flexible learning and especially for applying new technologies in teaching and learning - an initiative known as the Australian Flexible Learning Framework (FLF) – were initiated.

Since 2000, about AU\$ 80 million or **CA\$ 66 million** has been invested in this FLF initiative by the federal, state and territory governments, with 41% of the funds going to the professional development of teachers and trainers in the VET sector, including private and adult and community education providers. In addition, about 42% of the funds have been applied to the development of online content, applications and services. Online and physical resources have been developed to support national curricula and industry training packages. Other funds have gone to other projects¹¹.

Commonwealth of Learning (COL) Funding

Up to 2003, COL's funding essentially came from Commonwealth countries and some government aid agencies. Contributions from Commonwealth countries are made on a capacity and voluntary basis. The global budget of COL for its 3 year planning 2003 – 2006 is **CA \$ 33 million**, of which CA\$ 27,7 million are for programmes activities and CA\$ 5,3 million are allocated to management and related activities. Contributions come from Commonwealth countries on a capacity and voluntary basis.

3.4 Jurisdictional competencies and cultural diversity are not constraints to collaboration

One important issue that seems to have plagued many collaborative pan-Canadian efforts in e-learning is the provincial jurisdictional autonomy in education; therefore, the difficulties of designing strategy and actions plans considering the specificity of each province educational structure¹². With respect to this issue, some lessons can be learned from abroad.

¹¹ Misko & al., o.c., page 15.

¹² Some international studies refer to Canada as a successful example in achieving a concerted vision of ICT for education and lifelong learning, and in overcoming the constraints of a lack of a national Ministry of education. The authors of this report do not share this view.

United Kingdom and Australia do have “provinces /states / territories” autonomous governments with which they share different level of responsibilities. We do not pretend to have made a detailed analysis of government structures and jurisdictional competencies in these countries; but it suffices to acknowledge that these two countries federate territorial-autonomous governments which have, to some degree, their own educational jurisdiction.

In the United Kingdom, JISC and Becta are “collaborating” State initiatives. JISC was an initiative from Secretaries of State of the Higher Education funding councils for England, Scotland and Wales inviting them to form a joint Committee; later Ireland joined the Committee. It is important to note that each UK state has its jurisdictional prerogatives in education and autonomous bodies such as funding councils. Becta is a “federal” agency which supports all four UK education departments in their own strategic ICT developments.

In Australia, the National Framework “Learning for the Knowledge Economy “ and education plans were adopted by States and Territories¹³ and adapted in frameworks and policies reflecting their specific needs. For example, initiatives such as Communication and Information Strategic Plan, Information Economy 2002, Skilling People for an Information Society, and Intelligent Island comprise responses to the national strategic framework for Victoria, Queensland, South Australia, New South Wales and Tasmania. These states opted for whole-of-government approaches to preparing citizens for the new millennium. However each of the states and territories has continued to develop individual specific approaches to ensuring the development of appropriate ICT skills, environments and infrastructure.

For readers who are still sceptical on the possibilities of having collaborative actions in Canada in education – a “culturally-preserved” and sensible domain – the European Union (EU) provides another striking example : an integrated e-learning approach was defined, developed and adopted in the framework of 27 independent counties with highly diversified cultural and educational specificities.

¹³ The States and Territories of Australia are : New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania and the Australian Capital, Territory and the Northern Territory.

It is worth recalling the legal basis on which the EU operates in the education sector. The General-Directorate for Education and Culture acknowledges that:

“Under the principle of subsidiarity, every Member State of the European Union retains full responsibility for the content of teaching and the organization of its own education system. The Community’s role is to contribute to the development of quality in education by encouraging cooperation between Member States and, if necessary, by supporting and supplementing their action”.¹⁴

When looking at action plans developed and the scope of activities initiated and financed by the EU and cooperation realized between Member States on policy issues (lifelong learning, evaluation of the quality of school and university education, benchmarking education and training, mobility of students, trainers, teachers, etc.), one must admit that Europeans do have far reaching programs and policy collaboration that go far beyond those of Canadians.

To understand the motivation behind this huge collaborative effort undertaken in very complex and diversified governmental structures and education structures that characterize EU countries, one should recall the following objective:

“The European Commission seeks to mobilise the educational and cultural communities, as well as the economic and social players in Europe, in order to speed up changes in the education and training systems for Europe’s move to a knowledge-based society”.¹⁵

And the e-learning initiative is one key element in this goal:

“Globalisation, new technologies and demographic developments constitute an enormous challenge; one of the answers to this problem is the access to lifelong learning.”

(Ján Figel, Commissioner for Education, Training, Culture and Multilingualism)

¹⁴ Information and citation taken from the EUROPA web site :

http://ec.europa.eu/education/programmes/elearning/index_en.html:

¹⁵ Ibid.

3.5 E-learning and knowledge management are seen as economic leverage as well as a productive part of the new economy

In most countries / organizations surveyed, e-learning is perceived as an important contributor to the economy and, in several instances, as a profitable economic leverage (Australia, Korea, Japan).

E-learning contributes to the economy in several ways:

- By improving teaching and learning (therefore ensuring better future workers and citizens)
- By developing and adapting skills of workers
- By supporting continuous, lifelong learning
- By helping develop the market for foreign students
- Through content creation, R&D, tools development for the private market and export of expertise

It is worth recalling economic motivation behind e-learning strategies and action plans.

United Kingdom – e-learning economic vision

“The government’s vision is to **make the UK a leading knowledge driven economy**:

- Encouraging economic regeneration or creation especially of knowledge driven industry.
- Integrating defined keyskills into learning, together with other skills and experiences that equip the learners more readily to integrate into the world of work.
- Improving the quality of learning and the demonstration of that quality.
- Improving the standing of learning and teaching within higher and further education.
- Retaining a substantial profitable market share in the education of overseas students”¹⁶.

France e-learning economic leverage

ICT in education being under the jurisdiction of the French Ministry of Education and Research (MENESR), the implementation of this

¹⁶ Source : *Harnessing Technology : Transforming Learning and Children’s Services*, DfES, 2005; document available on their web site.

policy was initially more academic and university oriented. However a certain shift regarding to the economic vision of the knowledge society can be observed. Introducing ICT in education is now viewed as a means to reform education to improve competitiveness and growth.

SDTICE now markets French expertise in ICT in education on the international scene. Three (3) strategic actions have been identified for the period 2004-2007, designed to strengthen France's international presence in the field of ICT in education:

- Assist and promote the deployment, export and visibility of French ICTE projects by organizing a support network and obtaining more financial aid from sponsors.
- Serve as a driving force to promote French ICTE expertise within European and international institutions and to contribute to symposiums and events organized within Europe or elsewhere;
- Respond to international enquiries relating to France's ICTE policy and participate in comparative studies (benchmarking).

Guidance and consultancy is offered to support other countries in defining or implementing ICT in education policies or projects, not only in Francophone countries but also worldwide. France is promoting visibility and export potential of French ICTE projects by organizing a support network and obtaining more financial aid from sponsors.

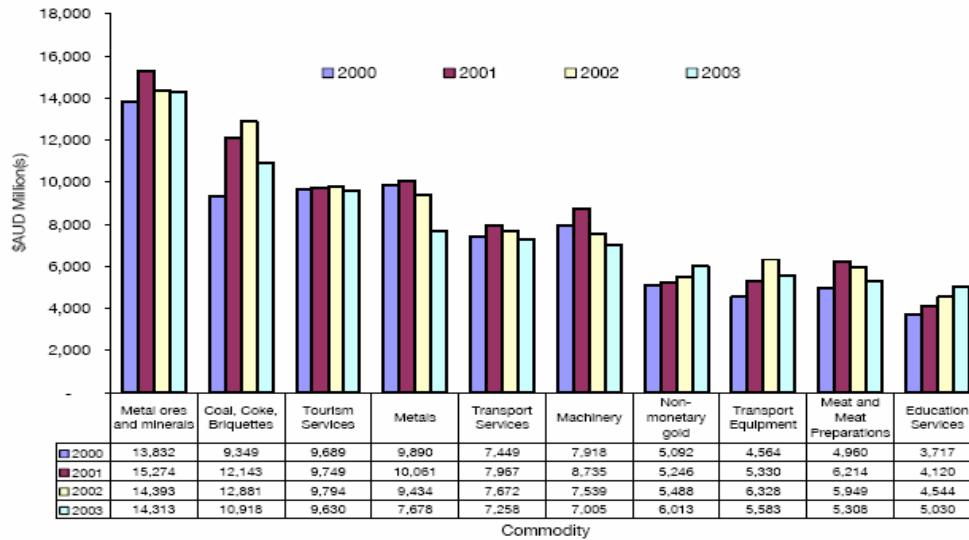
Australia education: a dynamic export sector

Given its geographical and insular position, Australia have a strong tradition of collaborations with its neighbours and incentives to develop new markets. Business services of *education.au* are not limited to the Australian organizations. The know-how developed is exported abroad.

As illustrated in the graphic, education services are among Australia's top ten export commodities and have been steadily growing over the years. In 2003, education services exports amounted to AU\$5,03 billions (**CA\$ 4,1 billions**).

International E-Learning Initiatives
 3. Key Findings

Figure 1
Australia's Top Exports
Calendar Year 2000 - 2003 (AU\$ Million)



In Asia (Singapore, Japan, Korea) training the workforce (including corporate training) forms an inherent part of the ICT and e-learning strategy. The private sector is closely associated to the implementation of the ICT in education and is always included among key stakeholders.

As indicated in section 3.1, **Korea** has adopted a macro-perspective in terms of policy directions and has planned for the expansion of e-learning in all educational and non educational sectors: primary, secondary and higher education, online universities and colleges, corporate training and general public education.

Given the considerable domestic market in terms of population as well as a booming industrial sector, Korean private or state enterprises (i.e. the corporate sector) represent an important target for e-learning. Increased access to Internet and the availability and relative affordability of the latest technology (often produced locally) have contributed to the expansion of ICT for the delivery of all services, including education and training, in both educational institutions and enterprises. Such is the case in Japan, where

corporate training is an inherent part of e-learning policies and action plans.

3.6 Research, a fundamental part in the e-learning strategy

All countries / organizations surveyed put emphasis on research as an inherent or essential component of the knowledge society or the e-strategy framework. One way or another, they have recognized the importance or the need to:

- strengthen research and development in guiding policy and practice in the evolving role of ICT in education and learning;
- focus research efforts on key priorities;
- collect, analyze and disseminate information (documents, research reports, etc.) on the use and effectiveness of technology in education;
- ensure a better interaction between researchers, policy makers and practitioners in order to increase the relevance and impact of research on policy for ICT in education.

In the **United Kingdom**, strong ties have been built over the years between the research, the teaching and the learning communities, with strong government support and funding. JISC and Becta missions and other organizations / associations funded by different councils illustrate the strong involvement and interrelated initiatives of the UK research community in the realm of ICT in education (JISC, Becta, JANET, UKERNA and UKOLN to cite a few).

To stay in the boundary of organization we investigate, JISC is funding research work directed towards innovation in – and improvement of – products, processes, and services. JISC refers this work “as development in order to distinguish it from 'blue-skies' research”.

There are a wide variety of strategic research and development projects underway within the JISC, clustered together in thematic programs:

- Information Environment Programmes covering
 - Digital Libraries in the Classroom
 - Exchange for Learning
 - Focus on Access to Institutional Resources
 - Infrastructure

3. Key Findings

- International Digital Libraries
- Learning and Teaching
- Portals
- Presentation
- Service Provider Development
- Learning Environment Program
 - Building MLEs across FE and HE: Managed Learning Environments for Lifelong Learning 1
 - Building MLEs in HE
 - Interoperability Pilot Program II (Scotland, Wales and Northern Ireland)
 - Linking Digital Libraries with Virtual Learning Environments
 - Managed Learning Environments for Lifelong Learning 2
- Middleware Program
 - Authentication, Authorisation and Accounting
 - Shared Services
- Network Development Program
- Preservation Program
 - Digital Preservation and Records Management
 - Supporting Institutional Records Management
- Research Environment Programmes
 - Autonomic Computing and the Semantic Web

All six (6) JISC sub-committees fund R&D activities, and within the JISC Executive there is a dedicated Development Group that oversees all of them. Individual projects, clusters of projects, and programs have advisory and/or steering groups.

Becta support also research programs focusing on subjects more specifically related to the K12 education level. Becta has sought to strengthen research on ICT in education as a significant aspect of its promotion of ICT. A dedicated web site exists and Becta has established an ICT Research Network which seeks to link the academic research community, policy makers, practitioners, industry, and sponsors of research. Priority themes proposed for the Becta research program are:

- ICT and effective pedagogy;

- the data-rich institution;
- managed learning environments;
- home-school links;
- portable technologies;
- the digital divide.

In addition to the Becta role, the Learning Lab (a Centre of Excellence in the design, development and use of learning technologies) was appointed by the Department for Education and Skill to host the National ICT research Centre for five years. It does conduct research into the impact of ICT on education, training and employability.

Research has always been an inherent part of the **European Union's** strategy for the information/knowledge society in general, and for e-learning in particular.

The first e-learning Action Plan for 2001-2004 identified three priority research areas, with a focus on new models and learning environments:

- *Development of systems*: research into, testing of, and forward studies on new learning environments, from the educational and technological viewpoints. Education methods, organization (learning communities, regions, and organizations) and management of change are essential aspects.
- *Virtual models*: concept of virtual campus, new prospects for European universities, virtual mobility, virtual networks.
- *Individual differences and special needs*: taking account of individual differences and special needs.

Furthermore, as seen earlier section 3.1.2, e-learning is among the European Union's research and development (R&D) priorities. Research efforts proposed under the Fifth Framework Programme – FP5 (1997-2001) and Sixth Framework Programme – FP6 (2002-2006) include R&D work on ICT for learning and Technology Enhanced Learning -TeLearn (refer Section 3.1, table “*Overview of European Union (EU) Initiatives in E-Learning*”)

With respect to the integrated approach for ICT in education and e-learning, the Federation of American Scientists survey of international investment in educational ICT research and development concluded in 2002 that ...“*the European Commission was unique in its co-ordination of research, tool building, and*

communication of research findings, and the way educational ICT research was “seamlessly incorporated” in the overall framework of EC Research and development.”¹⁷

“eLearning for all” is among core goals pursued. Research into innovative e-Learning solutions aim at lowering the technological barriers, enabling learners to use existing, widely available technologies, as well as new technologies emerging from research.

Massive EU funding has been dedicated to electronic educational content creation and exchange and to digital content repositories for learning and cultural preservation.

Enhancing content production and provision in the context of a multilingual and multicultural environment (two relevant features for Canada) are at the core of the eContent program (2001-2004) and eContent plus programme (2005-2008). The overall goal of the actions established within this action line is to investigate and experiment with new partnerships, approaches and solutions for designing and producing high quality, easily localisable e-content products and services (“internationalization”) and having them speedily adapted to the requirements of the target markets (“localization”), while easing further maintenance and re-purposing work.

Collaboration and knowledge sharing between European universities and research institutions, as well as closer ties between research and industry, are at the forefront of the research strategy. An important feature of FP6 was the creation of new funding instruments – such as the Networks of Excellence and Integrated Projects – to assemble a critical mass of expertise and resources to achieve ambitious research objectives.

All research projects funded under TeLearn involve multi-country partner institutions, often grouped into Centers of excellence; several are large scale projects. As an illustration, the recently approved EUREA project – EUROpeanmeta data bases of E-Academic resources, financed within the eContent program¹⁸ will tackle the issue of sharing and promoting digital resources,

¹⁷ Source: Federation of American Scientists 2002. Survey of International Investment in Educational Technology Research and Development, Spencer Foundation, Washington.

¹⁸ Phase 1 – EUREA feasibility study – is now completed (January to November 2005). The European Commission funded 50% of the study.. Planning of phase 2 is under way.

including results of scientific research (articles and reports) as well as conferences and scientific and technological debates. Nine leading European universities member of the LERU – League of the European Research Universities¹⁹ (representing eight nationalities and five languages) are involved in the EUREA project. Their aim is to join their efforts to pool and enhance their high quality digital resources, by gathering them into extensive interoperable and multilingual European multimedia databases, and by developing tools and services to promote and exploit these resources.

3.7 Training and Awareness are Essential Components of an e-Learning Strategy

Proper professional/ teacher training is listed among conditions necessary for successful use of ICT in education, as produced by the UNESCO Division of High Education (2002) – together with consistent policies and standards, accounting for cultural context, adequate infrastructure and attention to pedagogical issues, among other. All countries policies surveyed actively support (and finance) training in ICT and e-learning development activities.

Large embracing support initiatives have been launched for educational staff (teachers, instructors, training professionals) as well as for learners and for non teaching personnel (administrators, technical support staff) from educational institutions. There has also been massive funding for information campaigns and awareness initiatives for audiences outside the educational realm (youth, children, families, adult communities) and for the public in general.

Portals or web sites have been specifically set up for teaching and non teaching communities at different education levels (primary, secondary, post-secondary, university), addressing issues relating to ICT in education and hosting a wealth of reference materials, practical examples of teaching methods, lists of resources, etc.

Some illustrations of these findings are summarized hereafter, taking France as an example of a large scale, coordinated national efforts to inform and train people on ICT in education.

¹⁹ The LERU was created in 2002 and gathers the 12 universities with the highest performance in research in Europe (<http://www.leru.org>). The EUREA feasibility study was led by the Louis Pasteur University (Strasbourg).

France

Several actions were undertaken in France between 1997 and 2002 under the programme “Training for teachers and supervisory staff”. This program embraced a series of measures running concurrently at the local, regional, inter-regional and national levels. Initiatives included, among other:

- Incorporating ICT related training in teacher training institutes (IUFM)
- Holding national conferences focusing on global themes and subject-based topics (ICT in teaching, new skills required of teachers...), aimed initial and in-service training managers and staff
- Training supervisory staff (Ministry of Education inspectors, head teachers, ...) on the uses of ICT in teaching and digital resources and on the changes brought by these technologies
- Training staff in higher education: several initiatives undertaken, aimed at teachers and research/training technicians to support the development and use of ICT in higher education; training for digital campus staff was a special priority

An IT and Internet proficient certificate (B2i) was introduced in 2000 as a way of recognising the ICT skills acquired by primary and middle school pupils. The B2i, which is more a recognition of ability than a qualification, is evidence of the clear commitment to deliver equality of opportunity and reduce the “digital divide” by giving every future citizen a common pool of knowledge. The B2i has become compulsory for all middle schools in 2002 and for all primary schools in 2003.

Several academic web sites and Educnet contain a wealth of practical information and tools and tips on how ICT can be integrated at all levels of teaching - whether subject-based or interdisciplinary, on new options to organize and manage classes, on new communication techniques and shared knowledge (networked group working, e-mail, secure forums), etc. ICT also offers teachers

Support for staff: within each education authority, provision of an Advisor for Information and Communication Technologies (CTICE) who, in turn, can rely on a team of experts to implement ICT in education and e-learning practices.

Moreover, the Delegation on the uses of Internet (DUI) was set up in 2002 in order to urgently meet the challenges of digital literacy and to anchor ICT uses in people's daily lives. The "Youth and Families" Program carried out within the framework of the STDICE 2004-2006 Action Plan and under the responsibility of DUI, aims at making Internet access and ICT training generally available to young people, families and the general public at large. The program seeks to undertake exemplary initiatives in the areas of security, training and new uses.

Awareness and training initiatives undertaken under this program include :

- Internet security and good manners (filters, directories, charters, co-regulation, etc.)
- MAPI project (Digital Public Areas network, Internet and Multimedia Passport, directory of Internet uses, resources, etc.)
- Extracurricular Youth project (intergenerational projects, extracurricular activities, educational leisure activities, etc.)
- Health project (aimed at ill or disabled people, accessibility issues, etc.)
- Increase Internet and ICT use (Internet awareness-raising campaigns, Internet label "Recognized as being of educational value", promotional events, etc.).

3.8 E-learning in the USA are Mostly Bottom-up Private (not-for-profit) Initiatives

As seen throughout this chapter, European and Asian countries' e-learning initiatives are driven by government policies and funding; the e-learning situation in the USA is, in that respect, somewhat different.

This is not to say that there are no ICT policies or e-learning actions and support proposed by central/national bodies, such as the National Education Technology Plan (a first plan produce in 2000 and a second one in 2003) and by State jurisdictions²⁰. In particular there is support to university and colleges coming from States. A survey realized in 2001 showed that:

²⁰ We must however admit that we were unable, in the time frame of this study, to document how these plans were implemented; neither have we found sufficient information to understand how are related national policy orientation and support to the many States policy statement and initiatives.

- *“States are using multiple strategies to expand their postsecondary e-learning capabilities for adult-centered, work-related education and training.*
- *States are developing delivery systems for e-learning, through virtual university and college models, and are establishing digital library models to support e-learners’ quest for information. States are also investing in upgrading the skills of educators so they can employ new e-learning technologies more effectively.*
- *States are promoting access to e-learning through infrastructure investments and financial incentives, including building the virtual highways for e-learning, modernizing their postsecondary institutions, and creating public-private partnerships to leverage and extend resources for building e-learning capacity. Some states are also providing tax incentives for businesses and individuals to participate in e-learning. Many states are reaching across the “digital divide” to reduce barriers and provide e-learning opportunities for the underserved and disadvantaged.*
- *States are exploring ways of assuring the quality of e-learning content, programs, and learner achievement. Emerging principles of best practices are giving states potential tools for quality assurance in elearning programs. Some states are using competency-based credentials as a new currency of learning that recognizes prior experience. Other states are forming skills standards boards to promote performance-based and assessment-based learning.*
- *States are exploring governance issues as they bring e-learning activities into a coherent system. States are exploring ways of ensuring privacy and security in e-learning environments, as well as ways of protecting intellectual property rights in the cut-and-paste age. They are coordinating their new e-learning systems through various entities.”²¹*

But what does differentiate USA e-learning initiatives from other countries is the capacity of non governmental organizations – teacher associations, university consortia and others – to develop and implement e-learning programs and activities on their own and with private funding.

²¹ Thomson, C. et al, *The State of e-Learning in the States*, National Board of Governors Association, June 2001

In terms of strategy, contrary to the situation observed in most other countries, where the approach could be qualified as top-down, in the USA there are many bottom-up e-learning initiatives.

To illustrate some of these US non-governmental e-learning initiatives, we surveyed specific organizations among the many existing ones, namely: EDUCAUSE a higher education association; SAKAI a university consortium; and MERLOT a learning object repository.

EDUCAUSE (USA) Scope of Activities

EDUCAUSE is a not-for-profit association whose mission is to advance higher education by promoting the intelligent use of information technology. EDUCAUSE is a merger of CAUSE (1971), an evolution of CUMREC users group (1962), an annual College and University Machine Records conference; and of Educocom (1964- Interuniversity Communication Council).

Focusing on Higher Education interest, EDUCAUSE is active in a wide range of activities:

- professional development activities
- applied research
- strategic policy advocacy
- teaching and learning initiatives
- online information services
- print and electronic publications, including books, monographs, and the magazines *EDUCAUSE Quarterly* and *EDUCAUSE Review*
- special interest collaborative communities
- awards for leadership and exemplary practices

These activities are realized through many budget independent initiatives such as:

ECAR, the EDUCAUSE Center for Applied Research provides subscribers with timely research and analysis to help higher education leaders make better decisions about IT;

Net@EDU, which promotes the development of advanced networking in higher education through member activities that span the spectrum of academic networking, from administration of

campus networks to local, state, regional, national, and international networking projects;

ELI : the EDUCAUSE Learning Initiative, which supports new collegiate learning environments that use IT to improve the quality of teaching and learning, contain or reduce rising costs, and provide greater access to higher education;

CORE DATA SERVICE: a Web-based interactive database, based on an annual survey that compares institutional IT environments and practices;

NETWORKING INITIATIVES: focused efforts to define and develop emerging network technologies;

POLICY INITIATIVES: the association's legislative and regulatory tracking and advocacy activities involving federal policies that impact IT in higher education;

SECURITY INITIATIVES: resources on computer and network security for the higher education community;

.EDU ADMINISTRATION: covers policies and processes for managing the .edu Internet domain.

EDUCAUSE Funding Scheme

As most leading organizations aiming to promote technology in education, EDUCAUSE revenues come from mixed sources. Government funding is not even among financing sources. Major revenues come from private foundations: initially, the Kellogg Foundation, with a five-year grant of US\$ 750,000; and later funding from the National Science Foundation (NSF), Lilly foundation, Carnegie Foundation, etc.

Complementary to these grants, revenue comes from annual membership and services to members – educational activities, publications and conferences.

Membership is open to higher education institutions, corporations serving the higher education information technology market, and other related associations and organizations. Current membership comprises over 2,000 colleges, universities and educational organizations, and 200 corporations, with 15,000 active members. The 2006 budget is US\$ 13,6 millions or **CA\$ 15,3 millions**. The following chart gives relative revenue sources.

SAKAI

SAKAI is another example of an e-learning initiative without any impulse from government, nor with any government funding. SAKAI is an initiative of four (4) universities (University of Michigan, Indiana University, Massachusetts Institute of Technology and Stanford University) aiming to develop an open source collaborative learning environment, interoperable and portable based on a service-oriented architecture. The project was initiated in 2003 and a Foundation was created in 2005.

SAKAI, a collaborative and learning environment striving to satisfy the often conflicting goals of ease of use, ease of expansion, configuration flexibility, environmental portability and rock-solid production reliability suitable for enterprise deployment. Suitable for use in teaching and learning, research collaboration and ad hoc group communication.

The motivations behind the creation of this consortium are, among other:

- to pool the expertise and tools already existing in universities to develop a flexible multipurpose e-learning management platform answering the latest standards and needs of adaptability to specific university context;
- to be able to benefit from and promote innovations;
- to experiment and learn from a wide collaborative approach in the development of a complex tool.

SAKAI's funding sources come from:

- a grant from the Mellon Foundation (US\$ 2,4 millions)
- university member's fee (ranging from 5,000 \$ per year for small universities to 10,000 \$ per year for larger ones for a 3 years enrolment);
- private partners contributions (no contribution data available)
- university's in-kind contributions (evaluated to 4,4 millions \$US in 2005).

In 2006 more than 90 universities were affiliated to SAKAI, the majority from North America, others from Europe, Asia and Africa,

some contributing in the development of tools. Membership is growing and illustrates the interest of university managers and private enterprises to be part of this initiative.

As far as private enterprises are concerned, their motivation is the ability to offer specific services to institutions / organizations interested in implementing the platform. Business partners offer their experience with open source software to provide hosting, consulting, installation, integration, and support services. Usual support services offered include: adaptations of the platform to the institutions specific needs; training and other related services to IT managers and other staff, including teachers. SAKAI presently (2006) has thirteen (13) business partners, among them: IBM, SUN, Unisys and, Apple.

MERLOT

MERLOT (Multimedia Educational Resource for Learning and Online Teaching) is a free and open resource designed primarily for faculty and students of higher education. It is supported by an ever growing community made up of individual members, higher education, institutional, and corporate partners and affiliates dedicated to improving education.

MERLOT's vision is to be a premiere online community where faculty, staff, and students from around the world share their learning materials and pedagogy.

MERLOT's strategic goal is to improve the effectiveness of teaching and learning by increasing the quantity and quality of peer reviewed online learning materials that can be easily incorporated into faculty designed courses.

This Learning Object Repository was initiated in 1997 by the California State University Centre for Distributed Learning. It was modeled after an NSF funded project²², MERLOT being the result and spin-off of this granted project that California State University decided to maintain. In 1998, four State University systems (Georgia, Oklahoma, North Carolina and California states) created

²² The project was "Authoring Tools and An Educational Object Economy (EOE)". Led by Dr. James Spohre and hosted by Apple Computer, and other industry, university, and government collaborators, the EOE developed and distributes tools to enable the formation of communities engaged in building shared knowledge bases of learning materials.

a consortium representing almost one hundred campuses serving over 900,000 students and over 47,000 faculty.

The consortium recognized the significant benefits of a cooperative initiative to expand the MERLOT collections, conduct peer reviews of the digital learning materials, and add student learning assignments. Each system contributed US\$ 20,000 in cash to develop the MERLOT software and over US\$ 30,000 in in-kind support to advance the collaborative project. In-kind contribution is in the form of sponsored faculty members from diverse disciplines to help develop evaluation standards. At the end of 2000, at least 23 State university systems were affiliated to MERLOT, each contributing US\$ 25,000 and in-kind support.

The California State University maintained its leadership of and responsibilities for the operation and improvement of processes and tools.

Individual MERLOT members support the community by contributing materials and adding assignments and comments to the MERLOT collection. MERLOT partners contribute infrastructure, guidance, and expertise.

This community contributes contents / learning objects to a continually growing catalog of online learning materials, peer reviews, learning assignments, and user comments, organized by discipline into specific discipline communities and created to help faculty enhance their instruction that anyone can use for free.

MERLOT is advancing the current collaborative framework, exploring a variety of business models, and developing its sustainability plan; it is currently engaged in the following initiatives:

- Community Development
- Digital Divide
- Evaluation
- Faculty Development
- GLOBE
- Journal of Online Learning and Teaching (JOLT)
- Learning Management Systems
- National STEM Education Digital Library (NSDL) Grants

- Peer Review
- Virtual Speakers Bureau

Among striking aspects of the MERLOT project are:

- the enthusiastic collaboration of States systems to maintain and develop MERLOT tools and contents, something rarely seen in Canada where universities usually work as silos;
- a very low level of cash funding : around US\$ 120,000 in 1999 and around US\$ 600,000 in 2000
- a strong commitment from affiliated universities to contribute contents in MERLOT and to support the project by in-kind contributions – allocated time of faculty members.

In conclusion, one should add two unique qualities not often found in most non-governmental initiatives in other countries surveyed:

- existence of private Foundations supporting initiatives of institutions / organizations;
- the peculiar capacity of institutions / organizations to rapidly build a critical mass of supporters therefore creating sustainable projects that are attractors to other institutions / organizations where there is no such initiative. In that respect, many Canadian universities are now subscribing to SAKAI and are contributing to MERLOT.

4. SCOPE AND STRUCTURE OF A CANADIAN E-LEARNING STRATEGY: SOME SUGGESTIONS

This chapter is divided in two sections. *Section 4.1* comments on the ways countries surveyed in Chapter 3 are implementing their e-learning strategy, and particularly on the type of organizations responsible for implementing e-learning action plans. *Section 4.2* suggests potential building blocks and scope of activities for a Canadian e-learning strategy.

4.1 Policy implementation strategy observed elsewhere

In reviewing e-learning policies and action plans put in place by countries studied, some common goals as well as some common issues and concerns, were observed.

All countries realized that technologies and ICT were rapidly transforming economies, commanding new skills, competencies and rapid adaptation of people. E-learning has the potential to answer, in a flexible way, adaptation of people in a lifelong learning perspective. The education sector could also benefit from ICT to develop more flexible learning approaches and better ways to render education more accessible.

Therefore e-learning country's policies include:

- programs and actions to support e-learning research activities,
- teachers resource information and training,
- content development,
- incentive programs to address skills and competencies needs in a lifelong learning perspective and public /community awareness.

Where countries diverge are in the ways they implemented programs and organizational structures to answer the needs of a knowledge society.

United Kingdom

In the **United Kingdom**, the "federal" government body – DfES – responsible for all levels of education, delegated the responsibility of studying and counselling the government on its e-strategy and

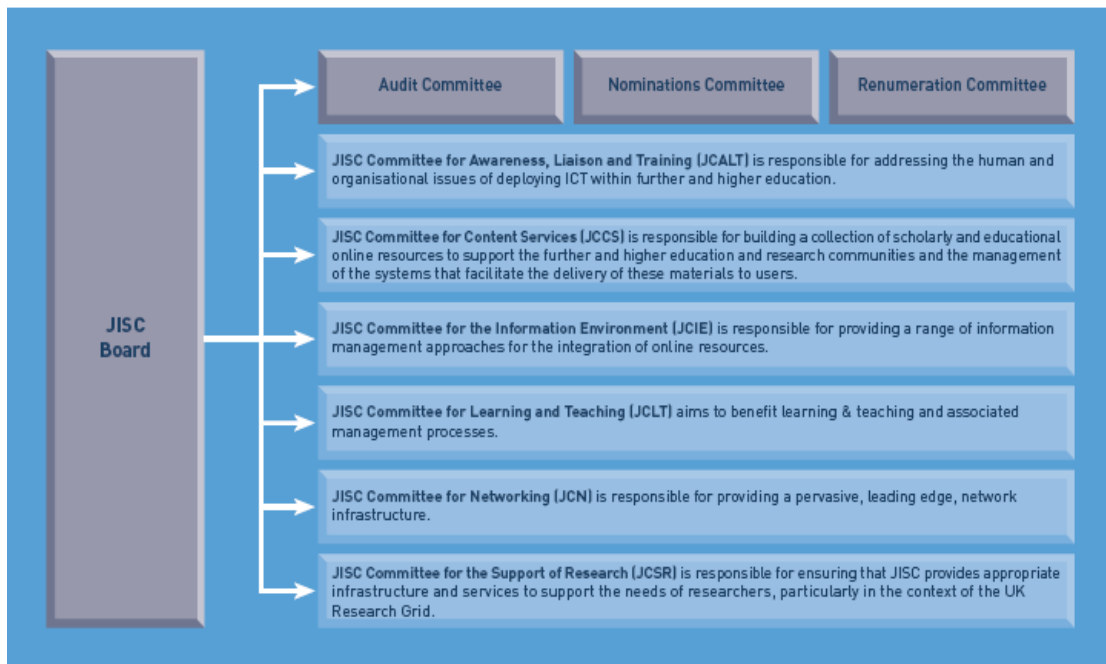
4. Scope and organizational structure of a Canadian e-learning strategy: some suggestions

strategic issues to Becta while JISC support R&D and deployment activities, both arm's length agency.

A summary of JISC organizational structure and functioning shows how stakeholders are part of the management process.

“JISC operates through a committee system whose membership consists of senior managers, academics and technology experts working in UK further and higher education. The JISC committees are supported by an executive, facilitating policy determination and the management of high quality JISC funded services and strategic development programmes”²³.

JISC organizational structure



With funding from the UK further and higher education councils, JISC provides a centralized and co-ordinated direction for the development of the infrastructure and activities, in line with its 5-year strategy. JISC funds support a wide range of projects, services, tools development and infrastructure. These projects originate from a successful response to a circular or tender, inviting organizations to bid for funding.

²³ Source : From JISC's web site, <http://www.jisc.ac.uk/committees>

Moreover to answer specific needs of regions, JISC maintains Regional Support Centres (RSCs).

“JISC Regional Support Centres provide advice on how to integrate ICT and e-learning into educational and business activities, to learning provider organizations throughout the UK. RSCs deliver services regionally, within a national context.”²⁴

JISC provides the UK-level management, coordination and quality framework, ensuring equivalent regional services across the whole UK.

In conclusion, it is interesting to note that, with regard to the e-strategy and e-learning development in UK, government organizations and especially funding council bodies have delegated their roles and financing capacity to these agencies. Therefore, Becta and JISC have the financial means to carry and to support research in their areas of responsibility and to support stakeholders in their specific needs and appropriation process of e-learning technologies.

Australia

Australia designed a more centralized structure to implement its e-learning strategy by creating a nationally owned ministerial company, incorporated as *education.au limited*, an initiative of the Australian States and Territories, to share technology, content and services in education for the benefit of the Australian education institutions and the learning communities. Its unique position gives it the ability to *“involve its stakeholders, the Federal, State and Territory Ministers for Education and Training, through the use of collaborative partnerships, to achieve outcomes related to the major arms of the Company”²⁵*.

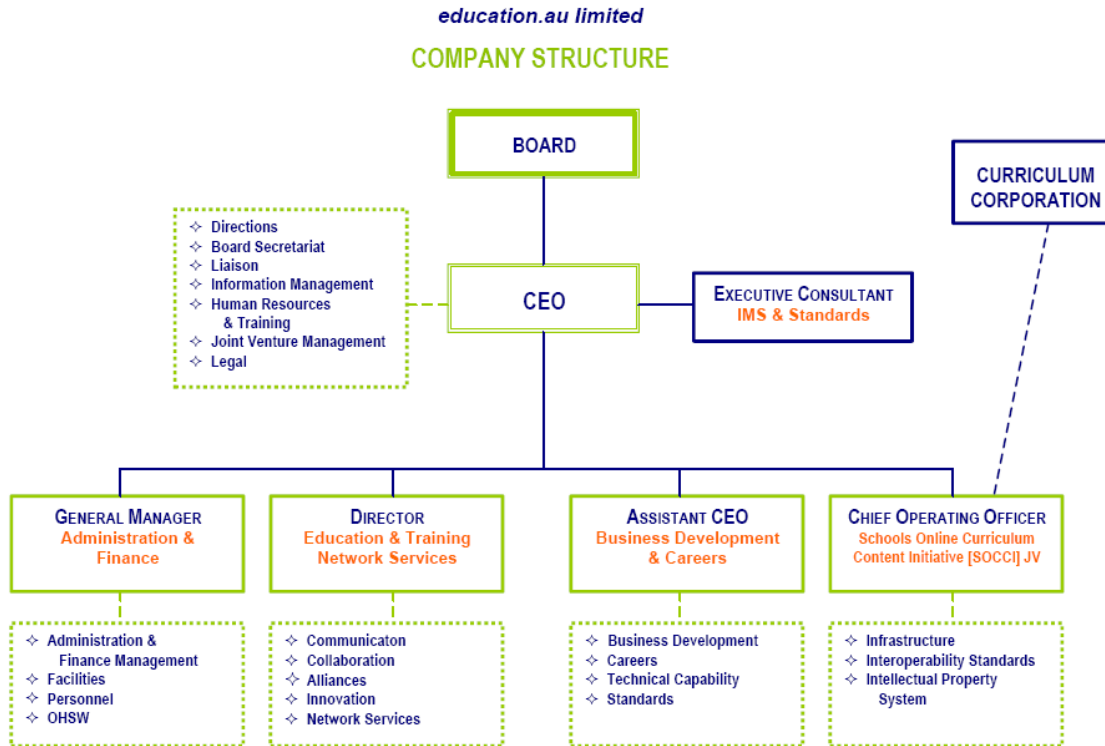
As mentioned in Chapter 3, even if it is not the only organization responsible for supporting the Australian Education and Training Action Plan, since other government agencies work with schools and vocational education in implementing and funding specific activities, *education.au* is a central organization.

²⁴ Source: Information gathered on JISC's web site, JISC Regional Centers http://www.jisc.ac.uk/index.cfm?name=about_rsc

²⁵ Source : education.au limited. 2004 *Capability Statement*. July 2004

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Education.au is organized by business services, each one having a Director and a staff.



As can be seen in the diagram, the scope of activities embraced by *education.au* departments is very large. Overall staff is around 40 persons, a surprisingly low number considering tasks and responsibilities.

A particular feature of *education.au* underlined previously is that part of its funding comes from fees charged for services given to government agencies; specifically the career information service and the management of the government education portal.

France and Korea

The UK and Australian ways of implementing an e-learning strategy contrast with the ways France and Korea implemented their policies and programs. In both these countries, implementation of the e-learning strategy is driven by government ministries.

In **France** the responsibility of supporting the e-learning strategy is under the sole prerogative of the Ministry of Education (MENESR –

4. Scope and organizational structure of a Canadian e-learning strategy: some suggestions

Ministère de l'Éducation Nationale, de l'Enseignement Supérieur et de la Recherche). Two (2) main government bodies are involved : the Sub-Directorate of ICT in Education (SDTICE) attached to the Technology Directorate of the Ministry; and an interministerial agency attached to MENESR, the Delegation for the Use of the Internet or DUI.

These two government bodies are responsible to develop action plans and to support their implementation by launching funding programs addressing specific actions. SDTICE programs and supporting activities are mainly focused on the education stakeholders at all levels (primary, secondary, university); some initiatives / actions promote partnerships with the private sector. DUI focuses on awareness and increased widespread access to Internet and ICT for learners, families and the public in general.

Korea is another example of government driven action plan, but where e-learning policies and programs are shared by ministries covering all the spectrum of economic activities, including education. It is worth recalling that in Korea, e-learning policy and action plans originated from economic concerns on the way to cope with new skills and competencies to be developed and the ways to develop a culture of lifelong learning. The initiator of an e-learning strategy was the Ministry of Commerce, Industry and Energy (MOCIE).

E-learning strategy and supporting activities are spanned through six government bodies:

- the Ministry of Labour: on-the-job e-learning training;
- MOCIE : e-learning strategy, e-learning industry development, standardization and technologies;
- Ministry of Culture and Tourism: developing e-learning content related to culture;
- Ministry of Government, Administration and Home affairs: cyber training for the public service;
- Ministry of Information and Communication: online digital content;
- Ministry of Education: cyber universities and schools and cyber home learning systems.

The United States

In comparison to arm's length delegated agencies and ministry driven action plans, which are alternatives for what can be defined

as a “top-down approach”, another model of promoting e-learning could be characterized as “bottom-up”: initiatives coming from stakeholders.

To our knowledge, this model seems specific to the United States and may be explained by structural and cultural factors:

- the “loose” political coordination of States with regard to education, a State prerogative;
- a higher education sector with a mix of private and public institutions with a tradition of independence in governing their activities;
- a culture of proximity – as was mentioned in Chapter 3 – between college / university institutions and the private sector.

Aside from some State policy orientation, declaration of concerns and specific funding initiatives in the area of e-learning made by federal and State agencies, major initiatives and activities promoting e-learning in the USA seem to come from the many associations of stakeholders. In this respect, EDUCAUSE is one among several US associations dedicated to promoting e-learning in the higher education sector, which was briefly surveyed. As mentioned earlier EDUCAUSE is by no means the only country wide US e-learning initiative stemming from stakeholders initiatives²⁶.

From the many organizations / associations of stakeholders in USA focusing on e-learning, promoting and developing services, the bottom-up model may be characterized by some fundamental ingredients such as:

- they are stakeholders initiatives acting as, and in some cases being, professional associations interested in delivering services and promoting innovation in education for the benefit of their members;

²⁶ As indicated in Chapter 2, other US grass-root organizations promoting e-learning were initially looked into, such as SAKAI, a consortium of universities aiming at developing a new e-learning platform based on standards of interoperability between a wealth of Web services adaptable to specific institutions needs; or the MERLOT learning object repository (LOR), an initiative to collect and federate e-learning contents for the education community. However, these organizations focus on specific areas and a deliberate choice was made to analyze in further detail all-encompassing organizations such as JISC and education.au.

4. Scope and organizational structure of a Canadian e-learning strategy: some suggestions

- they are pro-active in developing applied research and in organizing seminars, conferences and training activities for their members;
- they produce and share information, support publications, produce magazines, etc.

The sole public responsibility of education, or the lack of strong private foundations supporting education, may explain in part why the US grass root or bottom-up model is not observed in other countries. But a more fundamental motivation behind e-learning initiatives in countries surveyed is the acknowledgement that competitiveness was at stake.

Nevertheless, whether top-down or bottom-up, initiatives are fundamentally dependent upon the motivations, the perceived issues at stake and most of all, financing capacity. It is in this last aspect that the USA distinguishes itself. Organizations such as EDUCAUSE are financing their activities through various sources:

- private foundations supporting activities (this situation being quite specific to the USA);
- revenue from membership fees,
- revenue from services offered to members.

4.2 Possible orientation for a Canadian e-learning strategy

This section focuses on two fundamental dimensions of an e-learning strategy:

- i) the vision supporting an e-learning strategy;
- ii) the scope of activities.

It would have been of great help to have a detailed portrait of Canadian provincial e-learning policies or statements and of initiatives supported by provincial and federal governments to better understand where Canada stands. Unfortunately, such a mapping does not exist, except from partial data contained in ministerial reports or study reports. To our knowledge, there is no recent study which has reviewed statements, policies and actions taken, or activities supported by, the federal government and provincial ministries/departments with respect to e-learning, or to ICT in education and other related sectors. Neither is there an up-

to-date compendium of existing ongoing e-learning initiatives and e-learning related research, with a description of activities.

Such a compendium would be of great help to understand missing building blocks and to have a better vision of the organizations and people able to contribute / participate in the implementation of a Canadian e-learning action plan²⁷.

Nevertheless, even though incomplete or fragmented, some information on Canadian and provinces' past initiatives does exist, on which to stand in a first exploration of the vision and scope of a Canadian e-learning strategy.

Vision and scope of a Canadian e-learning strategy

This section takes, as a starting point, the one-sheet summary overview and corollary PowerPoint document produced by CCL for the May 23rd, 2006 workshop. These documents propose a vision and five (5) areas of action – that can be seen as five consecutive steps.

About the vision

The preliminary vision proposed by CCL in its presentation to a Workshop held at the CADE conference, on May 23rd 2006, is:

“To create a reliable, pan-Canadian network of high-quality, online, learning resources in English and French that serve the needs of all the country’s learning communities”.

At this workshop, several participants insisted that the vision should not be too narrow and restricted solely to education (essentially teachers and learners). Also, investments should not be concentrated only in content development and tools for creating and managing online resources.

As seen throughout this study, e-learning strategies of surveyed countries embrace a wide perspective in terms of objective. The vision is to develop new ways of delivering education and training – for all education levels and in the workplace (schools, universities, private companies, public sector, etc.) in order to answer the needs of adaptation – developing new skills and competencies - and more

²⁷ Such a compendium should be produced to help identifying expertises and organizations able to develop and implement action plans, the next step after having traced the strategy contour.

flexible ways of acquiring new competencies in a lifelong perspective.

Developing a knowledge economy and ensuring countries competitiveness are core elements of the vision statements.

A wide vision of an e-learning strategy does implicitly acknowledge that many stakeholders and clientele are concerned and that actions should cover more than the development of learning content.

Each policy and action plan surveyed included activities to develop awareness of communities and stakeholders, to support the development of norms and standards, to develop state-of-the-art tools and contents, and to support and advise teachers and trainers in the use of these tools, contents and methodologies.

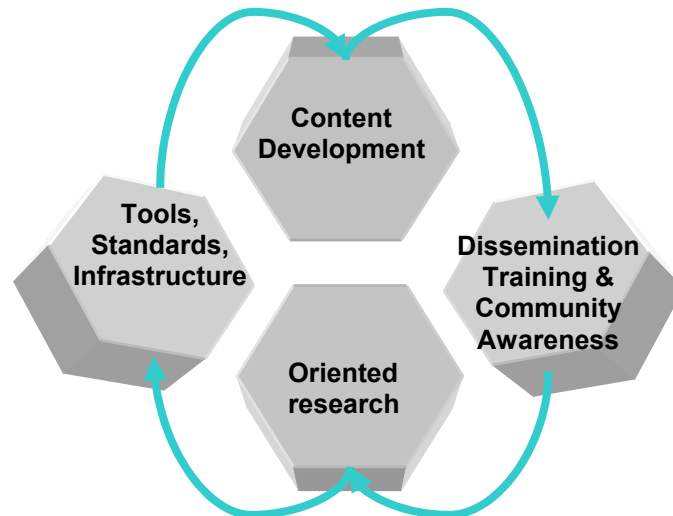
It is therefore recommended that the Canadian e-learning strategy vision include these general objectives. Previous position papers prepared by CANARIE, Industry Canada and other stakeholders such as The Conference Board of Canada, are directly in line with other countries visions surveyed in this study; these should be used as a start point.

About the scope

The five areas or steps proposed initially by CCL for the pan-Canadian e-learning strategy are each associated with core activities, proposed actions and identified stakeholders. Starting from this valuable effort, as illustrated in the figure below, we propose that the e-learning strategy should be articulated around four (instead of five) complementary areas:

- **oriented research**, to develop the Canadian expertise in all the related fields of e-learning and to contribute in the international innovation process;
- **tools, standards and infrastructure development-deployment** related to e-learning;
- **content development** at all educational levels and in all workplace sectors or community organizations;
- **dissemination, training and community awareness**, which comprise the development professional communities as well as e-learning training for authors, designers, teachers and trainers .

Building blocks of a Canadian e-learning strategy



The CCL proposition includes one additional areas / issues : *Understanding the problem*. In our view, the issue of understanding what works and what doesn't, of evaluating the needs of communities and evaluating activities' quality fall in the socio-pedagogical research domain and would be covered under the Research component. We have rephrased "Deployment" to include the organizational, as well as the professional training, awareness and technical issues involve in the actual Dissemination of e-learning innovations in all sectors.

Specific types of activities should be covered in these different areas. For example²⁸:

Research activities should support individual investigators and research centres working on:

- Socio-pedagogical research
 - Learning design
 - Evaluation pertaining to efficiency of e-learning
 - E-Learning Implementation and deployment processes
- Techno-pedagogical research
 - Innovative tools and services

²⁸ The suggestions are not meant to be exhaustive.

4. Scope and organizational structure of a Canadian e-learning strategy: some suggestions

- Ontologies and semantic approaches to learning objects
- Digital libraries and repositories of e-learning content
- Digital rights management

Development of tools, standards and infrastructure, where academic applied research and private R&D meet, would be supported by partnership's program funding. Among the possible fields of research are:

- the development of protocols and standards
 - for interoperability
 - for digital rights management
 - digital repository interoperability
 - for learning designs
- the development of tools such as:
 - web service LORs with federating functionalities
 - automatic and semi-automatic meta-referencing of learning resources
 - efficient search engine with ranking capabilities
 - adaptable and interoperable platforms for knowledge and learning management

Concerning infrastructure, CANARIE funding and provinces' counterpart contributions seem to have put Canada among leading countries for networking capacity and Internet access, but access to broadband networks in certain regions, with affordable costs is still an issue.

Digital content development on the contrary is an important issue when comparing Canada to other countries. Support programs and incentives for teachers and other specialized staff at all education levels (K12, college, university, technical and vocational training institutions) should be implemented to develop digital contents and populate learning objects repositories (LORs).

Developing digital contents does not mean specifically and only to develop courses; there are already numerous online courses developed by teachers in many institutions in Canada. There must be incentives for more professors to contribute to e-learning materials since it is well known that only a small percentage of teachers are interested in ICT and are e-knowledgeable.

It is also important to recognize that digital contents of quality and of usability are a step further than usual web courses. Most of the time, contents need to be technically updated and broken into more manageable chunks of information; and need to be correctly referenced. Teachers will need help to accomplish these tasks: these are competencies of instructional designers (for the first part) and of professional librarians for the referencing part.

In most other economic sectors, it is an agreed fact that ICT did create new ways of doing productive tasks and these new ways were commanding new competencies and a mix of working resources/competencies. In the education sectors, some new competencies are now developed, but few institutions realize that to produce efficient digital contents, teachers should work with instructional designers and specialists in document referencing. Programs and incentives to develop team works of these specific professionals would help the development of effective LORs.

E-learning is a new way of delivering knowledge and training, where the focus is on the learner and its ability to learn. It is a pedagogical shift of perspective for teachers. New ICT tools are used and teachers as well as learners need to be familiarized with these tools.

Finally, **awareness** must be raised in all community strata by stimulating projects and specialized activities addressing specific communities. For example, France has put in place thematic digital universities to stimulate the production of courses and digital contents in specific disciplines. These thematic digital universities are formed by the consortium of regional universities working together to develop contents. Similar projects could be developed in the education and/or cultural sectors in Canada, and also in economic sectors, especially those where SMEs dominate and cannot afford investing in eLearning activities.

4 A PROPOSED ORGANIZATIONAL STRUCTURE

This chapter draws on lessons learned from countries surveyed and on the organization scheme suggested in CCL's preliminary strategy framework, to go a step further and propose a more elaborated organizational structure for implementing an e-learning strategy in the Canadian context.

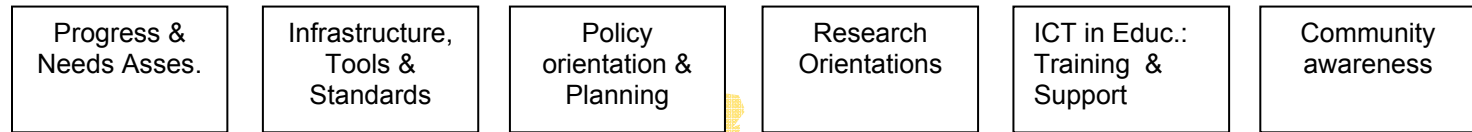
Once agreed on the building blocks and on the scope of activities of a Canadian e-learning strategy, action plans should be determined taking into account provinces and regional specificities and needs. Because of the central importance of language in the learning process, learning resources and initiatives should be supported equitably for both official languages. Moreover, in Canada the education jurisdictional responsibility is a sensible issue that must not be neglected. To give the best chance of success to a Canadian e-learning strategy, provincial responsibilities in education must be respected and regional and cultural needs must be recognized and taken into account in elaborating action plans.

Building on the CCL suggestion to create Regional Centres, we would suggest that these **Regional Centres be the fundamental organizational structure with which action plans would be elaborated and activities would be managed**. A Canadian e-learning strategy should be implemented in a decentralized structure where six (6) e-learning Regional Centres (see the diagram on the next page) would be created and a central coordinating structure would define and ensure the application of Canadian standards.

Regional Centres

Regional Centres are seen as the organizations responsible for defining specific action plans, in line with the concerted Canadian vision. They would be in charge of managing programs and other incentives with regard to the four cornerstones of the Canadian strategy (research, tools, content, and training & awareness). The Regional Centres would therefore be responsible for implementing the vision of an e-learning strategy, in full respect of cultural and regional specificities, provincial responsibilities and community needs. They should have the financial and human resources necessary to implement activities defined in their action plan.

International E-Learning Initiatives
 5. A proposed organizational structure



Working Groups & Sounding Boards: Government and Stakeholders representatives

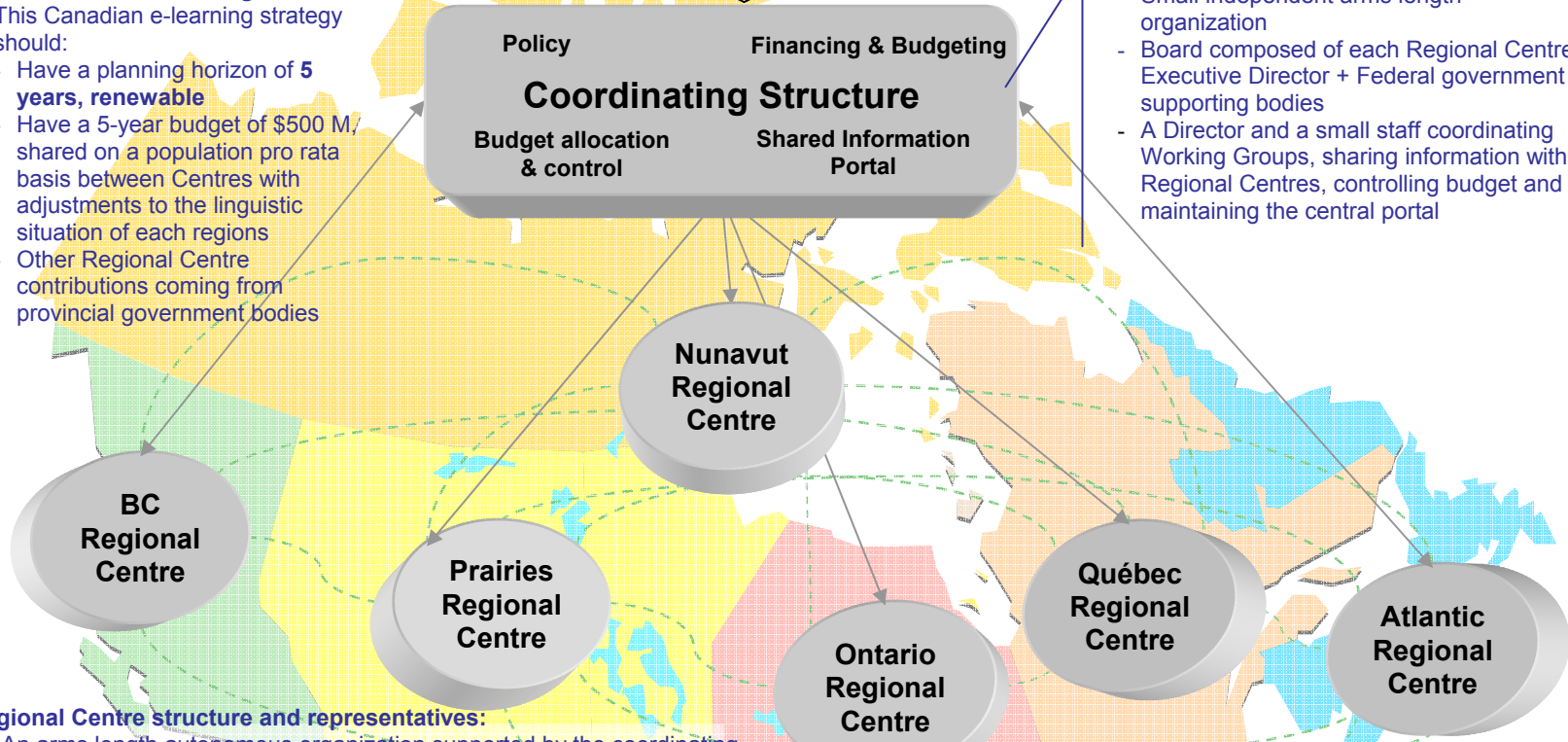
Duration and Financing

This Canadian e-learning strategy should:

- Have a planning horizon of **5 years, renewable**
- Have a 5-year budget of \$500 M, shared on a population pro rata basis between Centres with adjustments to the linguistic situation of each regions
- Other Regional Centre contributions coming from provincial government bodies

Structure and Governance

- Small independent arms length organization
- Board composed of each Regional Centre Executive Director + Federal government supporting bodies
- A Director and a small staff coordinating Working Groups, sharing information with Regional Centres, controlling budget and maintaining the central portal



Regional Centre structure and representatives:

- An arms length autonomous organization supported by the coordinating structure and following coordination guidelines for producing and sharing information in a collective portal and between Regional Centres.
- Board of Directors composed of provincial government's representatives, all education level representatives, businesses and
- An Executive Director and a professional staff

Regional Centres activities/ programs:

Public and clientele awareness, Information production and dissemination, Staff training, Content & LOR development and management, Needs assessment and other evaluation studies, Networking with other centres, Networking with regional stakeholders

Funding of Regional Centres would come from the federal and from provincial governments, and possibly from other sources such as fee services, at the discretion of each Centre. The main funding initiative should come from the federal government, without any obligation of matching contribution from provincial governments / agencies.

The Regional Centres should be arm's length organizations, where governance would be assumed by stakeholders of the education sector and representatives from the private, professional and governmental sectors. Regional Centres would be supported financially and on common services (such as guidelines, information sharing-dissemination and other coordinating activities) by a central coordinating structure.

Funding of Regional Centres should be determined on a per capita population representation of each region in the overall Canadian population, adjusted to eventually take into account some particular issues. For example, funding of a Nunavut Regional Centre should include provisions to develop contents in native languages; Francophone communities of Ontario, central provinces and BC could be supported in the development of their activities and contents by the Québec Regional Centre, commanding therefore an adjusted budget.

Staffing of Regional Centres would therefore be determined by the financial resources allocated to a Regional Centre and the scope of its action plan.

Central coordinating body

Considering the role of the Regional Centres, the Central coordinating body would be a light structure in terms of staffing and budget, with essentially coordinating and management functions and shared centralized activities. Its roles would be to:

- define the distribution of funding, in consultation with Regional Centres, and control its use;
- define and promote an e-learning Canadian strategy through all government levels, in Canada and internationally;
- develop and maintain tools to ensure that content and information among Centres are disseminated and shared;
- organize activities, conferences and other events to help building a dynamic network of Regional Centres.

The Central coordinating body should also maintain evaluation activities, benchmarking activities, needs assessment and data collection activities, in order to have up-to-date information and analyses of Canada's position compared to other countries. These activities would be carried out by specific working groups and sounding boards of stakeholder representatives.

Funding for supporting the Canadian e-learning strategy

Other countries such as the UK, France and Australia are investing important government funds to support their e-learning policy and action plan; furthermore, these action plans cover a 3 or 5 years span, with a built-in renewable perspective.

Considering that Canada globally is now lagging behind other countries and considering the size of funding these countries dedicate to e-learning, a first five-year Canadian investment - to put in place the governance structures and activities - should be in the order of CA\$ 500 millions, coming essentially from federal sources. Each Regional Centre would also seek other funding from provincial government sources, as well as from corporate or private sources.

5 CONCLUSION : WHERE DOES CANADA STAND?

This concluding chapter builds on the lessons learned from countries surveyed and tries to evaluate where Canada stands. Most of the material used in this chapter comes from documents prepared and presented in workshops, working groups and conferences on e-learning that took place across Canada since 2000.

Why e-learning

In all countries surveyed, policy makers agree that in a knowledge-based economy, it is qualified human resources that are most important. The need for continuing adaptation of the workforce and the demand for more flexible ways of acquiring competencies and skills – for students and later in the workplace - are the factors that are motivating the development and use of e-learning. Because e-learning (using ICT in education and to deliver training) brings the flexibility needed – anytime, any place, contextual quality content – in training, it is recognized as a fundamental tool for a Lifelong learning society.

Therefore, for the countries surveyed, e-learning became a master piece of their strategy to answer the challenge of a knowledge-based economy; and these countries designed policies and actions plans to support the development of research, technologies, tools and contents for all levels of education including further education.

Why a pan-Canadian strategy

During the national conference *From e-Commerce to the e-Economy: Strategies for the Digital World*, organized by Industry Canada in 2004, participants of the thematic workshop on *e-Learning in the e-Economy* concluded that:

... the world is changing and there is some urgency to the development of a pan- Canadian e-Learning strategy. Other areas or regions internationally are ahead of us and it's not just an economic issue, we need to respond;

... there is consensus that we need a Pan- Canadian strategy for Learning, of which e- Learning is a critical part.

While there is a need for localization by province or region, there are synergies to develop across stakeholders. The well known “silo approach” that characterize Canadian institutions, as well as intergovernmental and interjurisdictional silos need to be changed.

There is already a lot of grassroots work going on – the term grassroots underestimates the level of investment going on provincially, institutionally, enterprise wide – we need to leverage and align these initiatives – without a Pan-Canadian strategy, its too difficult to do²⁹.

Indeed, there is great value to be gained in more sharing of relevant research, tools, methodologies and contents in the form of learning objects.

- *e-Learning can expand our national capacity for learning – by doing the things we know it can do;*
- *Matching the right people to the right jobs;*
- *Enabling wider access.*

Participants also made a call to involve more provincial representatives in the national dialogue – there was concern expressed around education being a provincial mandate and the barriers that might pose in pursuit of a national strategy.

Where do we stand in 2006

Numerous declarations have been made over the years by Canadian federal government officials with respect to Canada’s recognition and position as a world leader in the knowledge economy, in the e-economy or in e-learning:

“Knowledge and skills are among Canada’s most important national resources...There are huge economic and social benefits to Canadians from a concerted approach to developing online courses and learnware products. Canada is well-positioned to be a world leader in online learning”

(Brian Tobin, Minister of Industry, February 8, 2001)³⁰

²⁹ From *e-Commerce to the e-Economy: Strategies for the Digital World*, Industry Canada in 2004

³⁰ Industry Canada – CMEC. *Advisory Committee Urges Action On Post-Secondary Online Education*. News release. Ottawa: February 8, 2001. Available at: <http://www.cmec.ca/releases/20010208.en.stm>

The ultimate goal (of Canada's ICT policy) is "...to make Canada a fully ICT-enabled economy—a world-leading e-economy that will foster growth and wealth creation across and throughout the country".

(David Emerson, Minister of Industry, September 27, 2004)³¹

In its report on e-learning submitted to Industry Canada and the Council of Ministers of Education, Canada (CMEC) in February 2001, the Advisory Committee for Online Learning urged governments, universities, colleges and businesses to accelerate and coordinate efforts to offer Canadians online post-secondary education. This report was intended to serve as an action plan for Industry Canada and CMEC and included the following recommendations:

- making the Internet more accessible and affordable, especially broadband service;*
- training faculty to make better use of educational technology in teaching;*
- creating a comprehensive source of information on all Canadian online learning resources;*
- developing more quality online Canadian learning content;*
- increasing research in learning, both traditional and online³².*

Ambitious goals were stated in the proposed Canadian government policy agenda for the e-economy in Canada:

"To build a fully ICT-enabled economy by 2010 - a world-leading e-economy that fosters growth and wealth creation across and throughout the country aiming to:

- narrow, by half, the innovation and productivity gap with the U.S. economy*
- match the productivity performance of the U.S. in key industrial sectors*

³¹ David L. Emerson, Speaking Notes, Address to "e-Commerce to e-Economy: Strategies for the 21st Century" Conference, September 27, 2004.

³² The Advisory Committee for Online Learning. 2001. *The E-learning E-volution in Colleges and Universities: A Pan-Canadian Challenge*. Available at: <http://www.cmec.ca/postsec/evolution.en.pdf>

- *surpass the performance of all other major economies in the efficient delivery of health services and education”*³³

Despite all this momentum culminating with the e-Economy Conference organized in 2004, no e-learning strategy has yet emerged. It looks as if Canada never went beyond the first stage of ICT adaptation – implementing the infrastructure and carrying out research and pilot projects thru CANARIE programs– unlike countries surveyed where a second and even a third phase of ICT policy implementation can be observed and where e-learning and content development are focused.

The workshops and brainstorming session that the Canadian Council on Learning has organized in late 2005 and in May 2006, arrived at the same conclusions as in 2004:

- There is a lack of coordination even though large initiatives like CANARIE’s eLearning program have supported R&D in this area and tried to fill the gap.
- Provinces – some of them specifically and others thru a CMEC general declaration – have produced white papers and declarations on the importance of e-learning, but very few policies and action plans. Some isolated initiatives are realized here and there on a small horizon. One fundamental reason is due to the fiscal unbalance between the federal and provincial and the lack of available funds for Education in general. This situation impeaches most provinces to launch ambitious e-learning programs, but other federative states or even communities of sovereign states (e.g. Europe) have solved such problems.
- There is also a lack of persistent strategies from all R&D agencies. Projects are funded for a period of time; when funding stops or programs are ended, the teams are dismantled and new funding agencies must be found to start new initiatives in similar or different areas. Without a strategy that defines goals, policies and action plans, these can only be isolated initiatives without an horizon and major impact
- Finally, there is an almost total lack of support for R&D dissemination to client communities. When an R&D initiative is

³³ *e-Commerce to e-Economy: Strategies for the 21st Century”* Conference. Conference Conclusions, September 27, 2004
[http://www.e-economy.ca/epic/internet/inec2ee-ceace.nsf/vwapj/e-economy_conclusions.pdf/\\$FILE/e-economy_conclusions.pdf](http://www.e-economy.ca/epic/internet/inec2ee-ceace.nsf/vwapj/e-economy_conclusions.pdf/$FILE/e-economy_conclusions.pdf)

successful, a dissemination program to client organizations should be put in place to concentrate resources on the deployment process. Instead, a small private sector is trying to fill the gap but most client organizations do not have the funding to support the cash flow of these companies, with the result that they need to develop business opportunities, mainly in the US, thus exporting some of Canada's knowledge, which is good per se, but has little effect here in the country.

What would be the scope of such a strategy / policy / action plan and the time scale?

Countries surveyed in this document all have policies that embrace a very large scope of activities and stakeholders. From policies and action plan perspectives this would translate into:

- Programs reaching the many stakeholders and clientele at all education level and workplace sectors;
- Programs to support research for the development of pedagogical designs and tools, and the implementation of interoperability norms and standards ;
- Programs to support dissemination of R&D results – the D part;
- Programs to develop a critical mass of content – learning objects and learning object repositories;
- Programs to support awareness and training of staff and content producers.

In the Canadian context, policies and actions plans should be defined at a regional – provincial level on common goals and guidelines nationally defined and agreed. In this manner, regional – provincial policies and action plans would take into account linguistic and cultural specificities, regional collective needs, regional – provincial actions already implemented, etc.

Finally, in the European and Asian countries surveyed, policy programs are usually planned on a long time scale of at least ten (10) years. And we did observe that most countries are in a second round of supporting activities. A first five (5) year program implementation is usually evaluated, not to put an end to it, but to realign and fine-tune it to better meet the objectives.

Canada is lagging and has not yet been able to define a national strategy and mobilize stakeholders. Urgency to act has reached its climax.

And since Canada must catch up, substantial funding should be allocated to e-learning policies and programs on a regional – provincial basis.

APPENDIX A: SUMMARY SHEETS

• Joint Information Systems Committee (JISC)	90
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Organization: Joint Information Systems Committee (JISC)

Country: United Kingdom

Geographical coverage: - 4 UK countries : England, Scotland, Wales, Northern Ireland
- International collaborative activities

Date of Creation: 1993

Summary Description: The JISC supports, through funding and advice, a wide variety of services and resources concerned with information technology and systems in UK higher and further education. These services and resources include:

- the network infrastructure (JANET - the Joint Academic NETwork);
- independent advice and guidance on the use of information and communications technology (ICT);
- information services;
- development projects; and
- high quality materials for education

Main Partners/ Stakeholders: Funding Partners:

- Higher Education Funding Councils for England, Scotland, Wales
- Department of Education, Northern Ireland (DENI)
- The JISC also works in partnership with the Research Councils

Strategic Partners : publicly funded organizations with a national remit to support ICT for education and research. JISC works in formal partnership to deliver the aims and objectives of the JISC Strategy:

- British Education and Communications Technology Agency (BECTA)
- British Library
- Higher Education Academy (The Academy), UK

Associate Partners: Organisations focused on specific issues related to provision of ICT for education and research. Associate partners are usually membership led or professional associations.

- Digital Library Federation (DLF), USA
- [Association for Learning Technology \(ALT\), UK](#)

International Partners: Non-UK based organisations with a national remit supporting ICT for education and research.

- Department for Education, Science and Training (DEST), Australia
- Internet2, USA
- Knowledge Exchange, pan European
- SURF Foundation, The Netherlands
- [Ministry of Education, New Zealand](#)

Historical
Highlights:

April 1993: the newly-established Higher Education Funding Councils for England, Scotland and Wales agrees to establish a Joint Committee to deal with networking and specialist information services – the JISC

The criteria agreed for the JISC's activities are to explore a national dimension to providing these services, exercising vision and leadership in bringing about developments for the benefit of the higher education sector as a whole. They should represent value for money, collaboration and partnership with other relevant bodies to share best practice and effort, and establish needs within the community for new services and development and review of existing services.

These general guidelines continue to define the broad parameters of the JISC's work.

1995: the Department of Education, Northern Ireland (DENI) becomes a full partner in JISC.

1996: JISC publishes its first formal *Five Year Strategy, 1996 - 2001*.

1999: The JISC's user community is expanded when the further education funding bodies became funding partners. This heralds a restructuring and a new set of committees:

November 2000: a report on issues concerning governance of the JISC concludes that *"The JISC is perceived as a UK success story, providing a network of world-class standard and a range of excellent services. Importantly, it evolves continuously and is an excellent example of collaboration between the community and the funding bodies"*.

December 2001: A [new JISC structure](#) is put in place together

May 2001: JISC publishes its new *JISC Five Year Strategy, 2001-2005*. The new strategy is based on the recognition that *"the priorities of the JISC have altered as the requirements for IT infrastructure from the research and education community have changed. From a concentration on network provision in the early 1990s the JISC has undertaken an increasing amount of work in developing and making available scholarly material ("content")."*

2003: The *JISC Strategy Review and Progress Report: 2002-03* is published. It is a first revision of the JISC Strategy 2001-05 and defines priority work areas for the coming few years.

January 2004 : JISC publishes its *Strategy 2004-2006*

Vision /
Mission:

Vision (Strategy 2004-06):

"Ubiquitous and reliable access to an integrated information and communication environment, so that every user – learner, researcher, teacher or administrator –is able to enjoy world class technologies in support of their work and study"

Mission:

“To provide world-class leadership in the innovative use of information and communications technology to support education and research.”

Strategic

Orientations:

5 strategic aims (Strategy 2004-2006) :

1. To develop solutions that help enable the UK education and research communities to keep their activities world-class through the innovative use of ICT.
2. To provide advice to institutions to enable them to make economic, efficient and legally compliant use of ICT, respecting the individual's and corporate rights and responsibilities.
3. To help the sector provide positive, personalised user learning experiences and aid student progression.
4. To develop mutually advantageous partnerships with organisations in the UK and abroad.
5. To advise, inform and help implement the strategies of government, funding councils and research councils.

To meet these 5 aims, **priorities for JISC in 2004-2006 are to:**

1. maintain a world-class network infrastructure
2. create and maintain sustainable procurement and delivery services for online content
3. develop a common, integrated information and communications environment
4. create MLEs, linking VLEs with MIS
5. provide cost effective and user-led advisory and support services
6. improve information and feedback mechanisms between JISC and its target audiences
7. ensure ICT is embedded within post 16 and higher education
8. develop eResearch infrastructure and use
9. help institutions manage investments in ICT
10. provide a technology observatory role and robust evidence base of the benefits of ICT
11. engage with appropriate national and international organisations
12. improve the effectiveness of JISC to carry out its operations
13. enhance JISC's role to support widening participation.

Target

Audience /
Clienteles:

UK higher education and further education and research communities
Audience: Research, Learning and Teaching, Management

Note : Initially serving the higher education and research communities; more recently, enlarged to include the further education community

Education Sector(s):	<p>Higher education (HE) and, more recently, Further education (FE)</p> <p><i>“In meeting the needs of the research and post 16 education sector the JISC will not compromise its commitment to any one sector. It will aim to exploit the advantages offered by serving a broad community, for example: to enrich the learning and teaching experience by providing access to research data; make electronic resources available to all levels of education; improve value for money by economies of scale” (JISC Strategy 2001-2006, Point 12, p. 6).</i></p>
Key Domains / Areas of Activity	<p>In line with its 5-year strategy, JISC provides:</p> <ul style="list-style-type: none">• New environments for learning, teaching and research• Access to electronic resources• A world-class network - JANET• Guidance on institutional change• Advisory and consultancy services• Regional support for FE colleges: Regional Support Centers - RSCs <p>Collaborative work: The JISC works with other organisations in related areas such as the creation of learning materials, development of international standards, provision of access to content outside higher and further education, and training and staff development.</p> <p>JISC is also involved in international collaborative initiatives, for example:</p> <ul style="list-style-type: none">- special e-learning initiative with education.au- development of an <i>e-Framework for Education and Research</i> with DEST Australia (July 2005)
Services Provided :	<p>An extensive array of services are provided by JISC, grouped in the following categories :</p> <ul style="list-style-type: none">- Content services- Development services- Expert services- Network services- Support services- User Groups <ul style="list-style-type: none">- JISC-funded advisory services in areas such as : accessibility, digitisation, Internet law, images and technologies.- Training services covering many areas of information and learning / communications technology; usually either workshop based, or use self-taught online tutorials, such as the subject-oriented Virtual Training Suite.- Funding (through the Resource Discovery Network), of a number of online catalogues, which allow people to quickly locate relevant and high quality Internet resources.- The Regional Support Centres (RSCs) focus on supporting further education colleges in aspects of networking, education and training.- Through licensing and negotiation, the JISC provides access for institutions, at special rates, to a wide range of third party network-based information

services, such as datasets, bibliographies and archives of digitised articles and journals.

Financing Sources	JISC is funded by the UK Further and Higher education funding councils: <ul style="list-style-type: none">- <u>Higher Education Funding Council for England (HEFCE)</u>- <u>Scottish Funding Council (SFC)</u>- <u>Higher Education Funding Council for Wales (HEFCW)</u>- <u>National Council for Education and Training for Wales</u>- <u>Department for Employment and Learning (DEL)</u>
Operational Budget	JISC Income from Funding Bodies 2004-05: £64,48 M (CDN \$131,84 M) Total Expenditure 1997-98 : £34,83 M (CDN \$71,21 M) Total Expenditure 2004-05 : £64,48 M (CDN \$131,84 M)

Regional Support Centres budgets range approximately between £200K and £500K per year (CDN\$ 440K and CDN\$ 1,100K per year) depending on the size of the region and the additionality to core budget required by the specific funding body. Most funds are allocated directly through JISC. With RSC Board approval, RSCs may receive funding for additional work so long as this does not undermine delivery of the core remit

Governance Model/ Structure	<ul style="list-style-type: none">- The JISC Strategy provides an overall direction to the work of JISC and its sub-committees. It provides a basis for the JISC operating plan, which is reviewed on an annual basis, along with the JISC funding recommendations.- The JISC reviews the strategy periodically in consultation with the academic community to ensure that it continues to meet their needs- JISC provides a centralised and co-ordinated direction for the development of the infrastructure and activities
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How JISC works:

JISC operates through a **committee system** whose membership consists of senior managers, academics and technology experts working in UK further and higher education. The JISC committees are supported by an **executive**, facilitating policy determination and the management of JISC funded **services** and strategic **development programs**.

Sub-Committees Structure:

The model of **six sub-committees** was recommended by the previous JISC committee and is in line with the JISC Strategy. It has been noted that these committees can be considered as of **two types: strategy and policy committees** that ensure the needs of a specific community (research, teaching, and management) are met; **and functional committees** concentrating on specific areas of work (networking, information environment, and content acquisition). This does not imply a hierarchical structure.

The **JISC Executive** is comprised of **four groups**:

- The **Policy and Committee Support Group** which services the committee structure and is responsible, through commissioning studies and synthesising policy input from government and experts, for defining the overall strategy.
- The **Development Group** which is responsible for defining a coherent research and development plan and for managing the resulting projects and activities. A particular responsibility of the group is to maximise coherence and integration across the range of JISC development activities.
- The **Services Management Group** which defines the role and scope of services and negotiates the resulting contractual and service level agreements. A particular responsibility is also to manage the JISC's content acquisition process based on the requirements of information professionals and end users in the institutions.
- The **Outreach and Institutional Group** which is responsible for awareness raising and marketing of JISC activities, particularly through the relevant advisory services, and for managing the information input process through feedback activities in the community

Staff Number: 81 persons

4 offices - [London](#), Bristol, [Central Bristol](#) and [Nottingham](#)
+ Regional Support Centers (see below)

Regional
Operations

JISC Regional Support Centres (RSC) provide advice on how to integrate ICT and e-learning into educational and business activities, to learning provider organisations throughout the UK. RSCs deliver services regionally, within a **national context**. JISC provides the **UK-level management**, coordination and quality framework, ensuring equivalent regional services across the whole UK.

The **RSC Board** includes representatives of the funding bodies for England, Scotland, Wales and Northern Ireland, together with representatives of the user community. Regionally, each RSC is supported by its own steering group of community representatives to ensure local relevance to regional needs.

The **RSCs (Regional Support Centres) UK-wide** are run by a partnership/consortium of higher and further education institution(s). The RSCs' remit consists of two strands, the first concerned primarily with the connection of further education colleges to JANET (the academic network), and the second focused on awareness raising and training activities.

Team structure

RSC teams comprise 7-12 individuals. Each team includes a manager, administrator and specialist advisers covering technical, curriculum and learning resources issues, as well as some with sector-specific responsibilities such as HE, and ACL (in England).

Location

Most RSC staff are based in their host institution. In some cases RSCs operate a distributed model, with staff in different locations across the region. Host institutions are, in 10 cases universities, in two cases FE colleges and in London, the University of London Computing Centre (a non-teaching institution).

Dissemination and Communication Strategies : Content of JISC's web site (<http://www.jisc.ac.uk/>):

JISCmail - mailing lists providing useful sources of information, answers to questions, and contact details:

Basic-skills: a forum for discussions relating to the provision and delivery of basic skills services, particularly relating to the introduction and use of online and other ICT

JISC-announce: a list for announcements about JISC strategy, services, programmes, publications, and projects

JISC Events: a list of JISC conferences and seminars, service events and other events. Details of events that have already taken place are also available.

Netskills workshops: Netskills provide a wide variety of low-cost workshops in areas such as web design, digital images, multimedia, content management, databases, and learning and teaching. Some workshops are specifically focused on further education.

TASI workshops: TASI provides training workshops for those involved in image digitisation projects, those who wish to capture images and those who wish to use digital images in teaching and research.

Contact points

Documents and guides

Key Resources:

JISCmail: email distribution service for several thousand discussion lists for the UK higher and further education and research communities.

JISC Programmes: details of, and links to, current programmes of projects, initiatives and technology developments.

The Resource Discovery Network (RDN): provides searchable and browsable access to a collection of Internet resource catalogues, each containing descriptions of high quality Internet sites, selected and described by subject specialists from within UK academia and affiliated organisations.

JISC Resource Guides: available in both print and electronic formats, these offer a subject-based overview of the key resources available to the post-16 education sector.

The Virtual Training Suite: the VTS is a large set of subject-based online tutorials designed to help people improve their Internet information skills. Each tutorial takes around an hour to complete, and includes quizzes and interactive exercises.

Information sources :

<http://www.jisc.ac.uk/>

JISC. *Strategy 2001-2005 and Strategy 2001-2005 Supporting Paper.*

JISC. *Strategy Review and Progress Report: 2002-03.*

JISC. *Annual Review 2004-2005.*

JISC. *Strategy 2004-2006.* January 2004.

Organization	BECTA – British Educational communications and Technology Agency
Host country	United Kingdom
Main Stakeholders:	<ul style="list-style-type: none">- Schools – K12: teachers and learners- Businesses and developers- DfES and Government bodies
Date of Creation:	1998
Status :	Arms' length organization receiving funding from the Department for Education and Skills (DfES)
Geographical scope	United Kingdom
Vision / Mission:	<p>It is Becta's aim to increase the number of educational organisations making strategic and effective use ICT in order to improve educational outcomes.</p> <p>Becta achieves this through:</p> <ul style="list-style-type: none">• delivering a strategic programme of research which addresses priority issues around the uses and impacts of ICT in education, and investigates new technologies in order to understand their benefit for the education system• working in partnership with others involved in ICT-related research, to help ensure that knowledge, understanding and expertise are shared• providing advice and guidance to those engaged in research on ICT in education – particularly practitioners• disseminating evidence (in a range of formats) from research and evaluation projects managed by Becta and other organisations
Strategic Objectives	<p>Becta has developed five objectives for the three year period 2005-8:</p> <ol style="list-style-type: none">1. To influence strategic direction and development of national education policy to best take advantage of technology.2. To work with the DfES to lead the delivery and development of the e-strategy on behalf of government.3. To increase the number of educational organisations making strategic and effective use of ICT in order to improve educational outcomes.

4. To develop a national digital infrastructure and resources strategy leading to greater national coherence, improved reliability and affordability that is sustainable in the longer term.
5. To inform and influence educational decisions by developing and disseminating high quality evidence of the progress and impact of technology in education, technology innovation and effective practice.

We also have two strategic business objectives:

6. To increase the capability and refine the capacity of the organisation to most effectively deliver its strategic objectives.
7. To drive engagement with Becta's four strategic roles, standards, and guidance to support systemic change through ICT that transforms learning and teaching for all.

Target Groups /
Clienteles:

Schools sector
Learning and skill sector
Industry and developers
Government and strategic partners

Domain / Area of
Activity

- Strategic adviser to government
- Co-ordinator of the e-strategy
- Providing insight through research and analysis,
- Strategic delivery partner for: strategic technologies and e-maturity

Main Current
Projects:

Strategic technologies

- Data services - This project will enable improvements in school data collection, reporting and analysis to relieve schools of some of their administrative and cost burdens, potentially through including provision of a DfES-owned data storage and distribution system.
- Learning services -One of the e-Strategy actions is to provide a personalised learning space with the potential to support e-portfolios, available to every school by 2007-08. Delivery of this action will be supported through implementation of learning platforms and funding is being made available for these over a two year period, starting in April 2006
- Connectivity services -This project will conclude the work started in 2001 to deliver broadband to every school in England by 2006, and will develop a sustainability strategy for broadband in schools. It will support the future development of the national education network (NEN) through adoption of the SuperJANET backbone.
- Infrastructure services -This project will enable creation of a standard

technical architecture for schools ICT infrastructure and support more effective and efficient procurements through framework contracts for infrastructure hardware, software and technical consultancy services. It will also focus on facilitating the move towards a more service-based culture where schools may procure managed services for ICT rather than individual components which need managing separately.

E-maturity

- creating models of maturity in the use of ICT so that all those involved in services for children and learners understand the way in which ICT can contribute to the effective delivery of their business outcomes
- promoting the use of these frameworks and associated tools to educational organisations.

Strategic advice

- Content Advisory Board: The role of the Content Advisory Board is to advise the Secretary of State for Education and Skills.
- Quality principles: A set of principles concerning teaching, learning, and the design and use of digital learning resources.
- Post-16 content strategy: On behalf of the DfES and LSC, Becta has developed a three-year strategy
- National digital infrastructure: Becta is working DfES and key partners to design a national ICT infrastructure for education

Financing Sources Government financing (DfES)
2005 – 2008 budget: UK£ 25,6 million

Dissemination and Communication Strategies

- Web sites,
- Research Network
- Becta research conferences
- Publications

Sources : Becta Web site (<http://www.becta.org.uk/>) and PDF documents available on the web site.

Organization:	SDTICE : Sous-direction des technologies de l'information et de la communication dans l'éducation (Sub-Directorate of Information and Communication Technology in Education), Ministère de l'éducation nationale, de l'enseignement supérieur et de la recherche (MENESR – hereafter referred to as « Ministry of Education »)
Country:	France
Date of Creation:	1997
Summary Description:	The SDTICE, attached to the Technology Directorate of the French Ministry of Education (MENESR), is the main government entity in charge of defining and implementing the national policy with respect to the use of ICT in education
Geographical scope	All regions of France SDTICE is also involved in international activities (for collaborative work and for provision of expertise and services – mainly to developing countries)
Historical Background:	<ul style="list-style-type: none">- August 1997: The French Prime Minister announces the governmental <i>Action plan for the Information Society (PAGSI) 1997-2002</i> and <i>The ICT RESO plan 2007</i> (“For a digitalized REpublic in the information Society”)- 1997-2002: proactive policy pursued by the Ministry of Education (MENESR) aimed at increasing the use of information and communication technology in primary, secondary and further education.- 1998: The Educnet web site www.educnet.education.fr is set up to address issues relating to ICT in education- Spring 2000: Information Systems and Telecommunications Strategic Plan- July 2001: Infrastructure Master Plan, providing a framework for regional initiatives (part of regional digital policy)- December 2002 : launching of the RESO /2007 plan (“For a digitalized REpublic in the information Society”) which objective is to make internet and ICTs accessible to all French people- July 2003: the Interministerial Committee on the Information Society (CISI - Comité interministériel pour la société de l'information) determines that the experimentation phase is now completed and that the next phase should be initiated, aimed at increasing the use ICT in Education.CISI puts forward a global plan with respect to infrastructure, services, contents, ICT uses and training, at school as well as in society in general- July 2003: The Delegation for the Use of the Internet (DUI - Délégation aux usages de l'internet) is established by CISI. Attached to the Ministry of Education, it is essentially tasked with increasing widespread access to the Internet and to ICT. December 2003 : CIADT is set up to act as the Regional development committee (infrastructures : high speed access and use throughout the country.)

Status (not for profit,...):	<ul style="list-style-type: none"> - December 2003: At the World summit for the information society (WSIS - phase 1) : French priorities and proposals are set on international level - September 2004: CIADT publishes high speed guidelines for local authorities <p>2 governmental agencies / departments mainly in charge:</p> <ul style="list-style-type: none"> ▪ The SDTICE (Sub-Directorate of Information and Communication Technology in Education) attached to the Technology Directorate of the Ministry of Education (MENESR) ▪ The DUI (Delegation for the Use of the Internet - Délégation aux usages de l'internet) : an interministerial delegation created by the CISI of 2003 and attached to the MENESR
Vision / Mission:	<ul style="list-style-type: none"> - Principal mission of SDTICE : to increase the educational community's access to and training for the use of the Internet and new information and communication - Mission of DUI (2003): to coordinate governmental actions regarding the public in general.
Strategic Objectives / Orientations:	<p>General framework : the ICT RESO plan 2007</p> <p>6 STRATEGIC ORIENTATIONS OF THE SDTICE :</p> <p>7 DEFINED IN THE 2004-2006 ACTION PLAN; THE PLAN COMPRISES FIVE PROGRAMS:</p> <ul style="list-style-type: none"> - four action programs : "Infrastructures and Services", "Content", "Uses, and "Training" - and the "Quality" support program <p>Strategic Orientations of the Delegation for the Use of Internet (DUI)</p> <p>The key initiatives of the DUI are to:</p> <ul style="list-style-type: none"> - propose and implement measures for increasing the use of the Internet and ICT - provide training for families, children and the general public - streamline the measures already established by the government and public establishments - support regional authorities and private partners - maintain and coordinate public Internet access areas - encourage the distribution of information
Target Audience / Clienteles:	<ul style="list-style-type: none"> - Teaching staff and non teaching technical staff - Pupils - Families, youth, children and the general public
Education Sectors:	<p>Primary, middle, secondary and higher education (university and research centers)</p>
Keydomains / Areas of Activity:	<p>Among projects defined by the CISI within the strategic framework of the RESO/2007 and which concern all ministries, 24 are under the responsibility of DUI and/or DT-SDTICE. These 24 projects (as well as 10 other, more specifically 'national education ") have been grouped under six (6) umbrella</p>

<p><i>International activities:</i></p>	<p>programs:</p> <ul style="list-style-type: none">- Five (5) programs of DT-SDTICE:<ul style="list-style-type: none">o Infrastructures and serviceso Digitalized resources (Content)o Uses of ICTs in teachingo ICT Training and supporto and a support program : Quality : awareness, evaluation and promotion- The « Youth and Families » program of DUI <p>Three (3) strategic actions have been identified for the period 2004-2007, designed to strengthen France's international presence in the field of ICT in education:</p> <ul style="list-style-type: none">- Assist and promote the deployment, export and visibility of French ICTE projects by organizing a support network and obtaining more financial aid from sponsors.- Serve as a driving force to promote French ICTE expertise within European and international institutions and to contribute to symposiums and events organized within Europe or elsewhere- Respond to international enquiries relating to France's ICTE policy and participate in comparative studies (benchmarking). <p>Guidance and consultancy is offered to support other countries in defining or implementing ICT in education policies or projects, not only in Francophone countries but also worldwide</p> <p>France is also promoting visibility and export of potential of French ICTE projects by organizing a support network and obtaining more financial aid from sponsors</p>
<p><i>Program initiatives:</i></p>	<p>Under the three (3) years of the SDTICE 2004-2006 Action Plan, 78 initiatives are to be launched, organized into 30 projects, including 16 new projects. As indicated earlier, projects are grouped into six (6) programs:</p> <p>1- INFRASTRUCTURES and SERVICES</p> <ul style="list-style-type: none">- Key objective: Ease of use.- Program initiatives include:<ul style="list-style-type: none">o Infrastructures and information systems;o Digital Workspaces;o User support. <p>2- Production of digital CONTENT for teaching in schools and higher education</p> <ul style="list-style-type: none">- Key objective : To ensure content production in quality and amount in line with that required by a country the size of France- Program initiatives include:<ul style="list-style-type: none">o Support policy for the educational content publisherso Plan for promoting the publication of digital contento Action plan for publishing digital teaching materials (project SCHENE)o Digital Knowledge Portal (Espace Numérique des Savoirs - ENS);

- online resources; pilot 2003-2004 in 1,500 schools and institutions
- Digital content portal of the National Centre for Pedagogical Resources (CNDP)
- Two economic interest groupings set up (GIE), the digital knowledge channel Canal Numérique des Savoirs (CNS) and the educational digital Kiosk Kiosque Numérique pour l'Éducation (KNE).
- Ministerial priorities: foreign languages in primary schools, fighting illiteracy, and road safety

Note : Scheme provides for giving teachers a large and coherent set of resources (bottom up approach to define the needs – including Learning Objects); first step with K8 - 13 years old

3- Technologies in education:uses of ICT

- Key objective : to detect educational uses and to disseminate such uses so that teachers are equipped, at all times, with methods of use that are adapted or adaptable to their needs.
- Program initiatives include:
 - ICT and primary school education (support and detection of possible uses)
 - ICT and secondary school education (a national team and a team per regional education authority and per subject)
 - ICT and higher education (C2i, Digital Campuses, launching of Thematic Digital Universities/Université numériques thématiques - UNT, etc.)
 - SCEREN/CNDP databank of ICT uses

4- Training and support

- Key objectives: To promote the broad adoption of a certificate for the use of ICT in education in teacher training institutions and for non-teaching personnel, and ensure that young people also receive training (B2i certificate, Internet and Multimedia Passports, etc.).
- Program initiatives include:
 - ICT training for teachers (C2i level 2);
 - Supervision of teacher training institute (IUFM) contracts;
 - ICT training for the instructors of the teacher training institutes;
 - ICT training for non-teaching personnel (support, training on the use of new ICT tools)
 - Adaptation of professions and functions

5- Quality: awareness, evaluation and promotion

- Key objective: To support the four programs described above (for internal use)
- Program initiatives include:
 - Steering change;
 - Steering tools and benchmarks ;
 - Documentation and distribution of information;
 - Educnet website: the showcase of the SDTICE's undertakings

6- Youth and families (under The DUI)

- Key objective: To make Internet access and ICT training generally

available to young people, families and the general public at large, by undertaking exemplary initiatives in the areas of security, training and new uses.

- Program initiatives include :
 - o Internet security and good manners (filters, directories, charters, co-regulation, etc.)
 - o MAPI project (Digital Public Areas network, Internet and Multimedia Passport , directory of Internet uses, resources, etc.)
 - o Extracurricular Youth project (intergenerational projects, extracurricular activities, educational leisure activities, etc.)
 - o Health project (aimed at ill or disabled people, accessibility issues, etc.)
 - o Increase Internet and ICT use (Internet awareness-raising campaigns, Internet label "Recognised as being of educational value", promotional events, etc.

*Examples of
Current Projects:*

Virtual Learning Environment project - VLE (ENT - Espace Numérique de Travail); a portal accessible via Internet from home or school. From his own space, the user can access to on line services depending on his needs (teacher, student, parent)

16 projects of VLEs already launched

By end of 2004 : 16 regional divisions (académies); 11 regions; 18 departments; 7 cities; and 100,000 users (including 24,000 parents)

Development of ICT in Higher Education

- Transform the French digital campuses into areas of excellence: launching of thematic digital universities (UNT - Universités numériques thématiques)
- Lend support to regional digital university projects (UNR - Universités numériques régionales)
- Wifi laptop for every student campaign

Launching of thematic digital universities – Universités numériques thématiques (UNT)

- Five UNTs established so far:
 - o Engineering and technology : UNIT (Université numérique ingénierie et yechnologie)
 - o Medicine UMVF (Université médicale virtuelle francophone)
 - o Law: UNJF (Université numérique juridique francophone)
 - o Environment and development
 - o Economics and management
- Reorganization taking two criteria into account: i) a professional, quality-oriented approach to putting training services online; ii) promoting such services internationally (mainly Europe and French-speaking countries), with emphasis on masters-level programs offered in conjunction with internationally-respected research organizations.
- Ten (10) thematic universities with an international scope are to be in place by 2007.

Supporting regional digital university (UNR)

- Starting from 68 previous digital campuses

<i>Operational Budget:</i>	<ul style="list-style-type: none">- Pooling, at a regional level and with regional councils : infrastructures, services, and VLE's for teachers and students- Two objectives : i) development of on-line educational and university services; ii) commitment by all schools to facilitate internet access broadband, connectivity- At the beginning of 2005 : more than 10 UNR <p><i>Campus numériques</i> : Two requests for digital campus proposals were launched in 2000 and 2001 in a bid to support and structure the range of open and distance learning programs available nationally. The resulting consortia also included companies (50) and regional authorities and associations (48) and 49 partnerships established outside France. A total of FRF 79,5 million (12,12 million euro) was allocated to these consortia to design and produce Open and Distance Learning (FOAD) resources.</p> <p><i>The Audiovisual and Multimedia Innovation Network</i>: set up in 2001 with a budget of FRF 135 million (20,58 million euro)</p> <p><i>SDTICE -Protection des mineurs</i>: budget of 7,5 M euros for 2004-2005</p>
<i>Operational scheme:</i>	<ul style="list-style-type: none">- Funding from central government- Several companies, bodies and organizations assist SDTICE in achieving the objectives regarding the development of ICT in education.- Partners enter into framework agreements with the Ministry (competitive bidding process) to implement the various initiatives / programmes.
<i>Dissemination and Communication Strategies:</i>	<p>A variety of ICT related web sites have been established, for example:</p> <p>Educnet (www.educnet.education.fr) – a web site set up by the Ministry of Education in 1998 to address issues relating to ICT in education. It provides detailed information about the French government programmes of ICT in education and hosts reference material, practical examples of teaching methods, lists of resources, a legal section providing guidance for users, a publications monitoring section, press reviews and news. It attracts over 300,000 visitors per month</p> <p>The DUI web site (http://delegation.internet.gouv.fr) – which describes in detail initiatives undertaken by the Delegation in order to urgently meet the challenges of digital literacy and to anchor ICT uses in people's daily lives.</p> <p>Educasource (www.educasource.education.fr) - web site designed for primary and secondary school teachers and lists links to, and information about, over 9,000 digital teaching resources</p> <p>Educasup (www.educasup.education.fr) – web site dedicated to audiovisual and multimedia resources for higher education.</p> <p>Formasup (www.formasup.education.fr) - In addition to a catalogue, web site containing all the available information (latest news, studies, analyses, etc.) on open and distance training in French higher education.</p> <p>Cerimes (www.cerimes.education.fr) - The resource and information centre for multimedia in higher education offers teaching staff easy access to digital information and resources through its management of a series of web sites.</p>

Information sources :

<http://www.educnet.education.fr>

<http://www.educnet.education.fr/eng>

“Reform education to improve competitiveness and growth”, a presentation from SDTICE/International Unit, 2005; SD-TICE, *Bilan 2004 et perspectives 2005* (PDF document)

SD-TICE, *Bilan 2005 et perspectives 2006* (PDF document)

Organization:	education.au limited (including EdNA Online - Education Network Australia)
Country:	Australia
Date of Creation:	1997
Geographical scope:	<ul style="list-style-type: none">- All Australian states and territories (6 states, 2 territories) : New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania and the Australian Capital, Territory and the Northern Territory.- Common initiatives with New Zealand- International activities (international community)
Main Partners / Stakeholders:	All Australian education and training stakeholders: <ul style="list-style-type: none">- education and training ministries/departments- organizations and education and training jurisdictions involved in the childhood, schooling, vocational training, adult and community education and university sectors
Summary Description:	education.au is a national agency established by the Australian, State and Territory governments to develop and manage shared online content and services in Australian education and training.
Historical Highlights:	1997: establishment of the National Office for the Information Economy (NOIE) Australian States and Territories governments decide to develop and share content and services in education, for the benefit of the Australian education institutions and the learning communities. They create an arm's length organization : <i>education.au</i> , a national agency.
Status:	A non-profit company limited by guarantee and owned by the Australian education and training Ministers The Agency has been established to enact agreements reached by these Ministers in the Ministerial Council for Education, Employment, Training and Youth Affairs (MCEETYA)
Vision / Mission:	Vision : <i>education.au</i> aims to be a leader in providing innovative learning technologies, particularly shared online content and services for the benefit of Australian education and training learning communities. Mission : <i>education.au</i> develops, maintains, enhances and promotes online services, networks and alliances which meet or exceed the expectations of our stakeholders.

Objectives / Orientations:	education.au :To develop and manage online services that are of benefit to the education and training sector and that are national in scope EdNA Online : To promote and facilitate the use of Information and Communication Technologies (ICT) for learning, education, training, research and scholarship in Australia
Target Audience / Clienteles:	<i>Educators, Professionals, Policy Makers, Parents, Industry</i> EDna groups (collaborative workspace): teacher professional associations, multidisciplinary project teams, curriculum groups, registered training organisations, education departments, and Learnscope networks
Education Sector(s):	Works across the early childhood, schooling, vocational education and training, adult and community education, and university sectors
Main Current Projects:	EdNA Online (Education Network Australia) : a national cross-sectoral education project which supports, promotes and facilitates the use of Information and Communication Technologies (ICT) for learning, education, training, research and scholarship in Australia. Main services/activities: <ul style="list-style-type: none">- directory of online evaluated education and training resources accessible through a website;- free collaboration and communication tools including chat rooms and email discussion lists, noticeboards for events and conferences, and a range of education and training newsletters;- supports technical standards in education and training to enhance interoperability;- provides support and workshops to enhance the development and implementation of metadata standards- develops alliances with international education and training organizations <p>As an <u>information service</u>, EdNA Online provides two key functions:</p> <ul style="list-style-type: none">▪ A directory about education and training in Australia.▪ A database of web-based resources useful for teaching and learning. <p>As a <u>communications service</u>, EdNA Online aims to promote collaboration and cooperation throughout the Australian education and training sectors and facilitate the growth of networks of common interest and practice.</p> <p>As a <u>service provider to education and training systems and sectors</u>, EdNA Online also provides a Developer's Kit to assist in the implementation of free EdNA Online services into other websites and portals.</p> <p>National Software Evaluation Project - a collaborative effort by all Australian states and territories to bring together reviews of software for the use of Australian school communities.</p> <p>myfuture.edu.au : Australia's career information service</p> <p>The Le@rning Federation - a joint Australia (education.au) / New Zealand (Curriculum Corporation) initiative to develop high quality online curriculum</p>

content for Australian and New Zealand schools (2001-2006). The systems also facilitate the breakdown of content into learning 'objects' and the reassembly and repurposing of these to suit the particular needs of teachers and students.

Government Education Portal - *education.au* manages Government Education Portal on behalf of the Commonwealth government – an online entry point to a comprehensive array of Commonwealth Government information and services concerning all aspects and levels of education in Australia (Commonwealth government policies, programmes, events and publications and links to key education and training sites)

Interoperability Standards Development - Involvement in a range of national and international forums (Standards Australia, IMS, IEEE, ISO/IEC, , W3C,..) with the primary aim of ensuring Australian interests are accommodated in the development of interoperability standards and specifications relevant ICT in education and training.

<.edu.au> Domain Name Management

*Services
Provided:*

Extensive range of services and capacities:

Business services : wide range of activities including overall project management, identification of online resources for use within education and training programs, assigning metadata to these resources, business and data analyst services for teaching, learning and careers.

Expertise covering the following areas:

- database design and development; • shared online content and services;
- information architecture and navigation; • learning architectures;
- career development services; • information services; • distributed searching;
- portal implementation; • online workflow payment gateway systems;
- usability testing; • collaborative methodologies; • cross-sectoral experience and knowledge; • development and maintenance of online communities;
- learning objects development; • metadata standards development;
- metadata harvesting and exchange; • cataloguing; • thesauri development and implementation; • interoperability standards; • use of emerging and convergent technologies; • open source development; • project management

Technical Services and Solutions (related to the management and development of enterprise level online services):
architecture, database and security management, information and delivery platforms, web services, technical standards for digital learning objects and rights management, and interoperability online services

Comprehensive web services related to accessing, developing and sharing of online content databases and services

Scalable web solutions: expertise in the implementation of scalable web

solutions across Microsoft, SUN and LINUX platforms

Standards and interoperability: leadership and advocacy in the area of interoperability standards, both nationally and internationally. Significant activities with interoperable standards including:

- development, review and promotion of the EdNA metadata standard
- development of specifications for The Le@rning Federation (Australian and New Zealand schooling sectors)
- expert consultancy to the VET Interoperability Project to promote and facilitate the use of interoperable standards within the vocational education and training community;
- Engagement in a range of national and international forums including: IMS Global Learning Consortium Inc, IEEE LTSC, Dublin Core Metadata Initiative Standards Australia, W3C, AICTEC-ASIC, and Collaborative Online Learning and Information Systems (COLIS) Demonstrator project

Accessibility : expertise in the application of accessibility standards

Web desk services : EdNA newsletters, collaborative work spaces, discussion lists, noticeboards, chat rooms, web forums and helpdesk for the .edu.au domain

Operational Budget :

Total revenue 2005: AU\$11,610,726 (CA\$ 10,2 M)

Financing Sources :

- Funded by the bodies responsible for education provision in Australia - all Australian governments
- Revenue from provision of services 2005 : AU\$10,9 M (CA\$ 9,6 M)

Organizational Structure:

Education.au is organized by business services, each one having a Director and a staff

Staff Number:

1 CEO + 8 senior staff + team of experts working with individuals in organisations. Overall permanent staff : around 40

Business Model and Sustainability:

Part of *education.au*'s funding comes from fees charged for services given to government agencies; specifically the career information service and the management of the government education portal

Information sources :

<http://www.educationau.edu.au>

<http://www.edna.edu.au>

education.au limited: *Memorandum of Association education.au limited. Company Limited By Guarantee, Amended 27 February 1998; Business Plan 2002-2005, October 2002; Annual Report 2002-2003; Capability Statement. July 2004; Annual Financial Report, Year Ended 30 June 2005*

Initiative:	EU - e-Learning Program (2004 – 2006) A programme for the effective integration of Information and Communication Technologies (ICT) in education and training systems in Europe
Lead Organization:	European Commission
Geographical coverage::	All countries member of the European Union (25 in total)
Date of Creation:	Adopted in December 2003 Duration : January 2004 to December 2006
Summary Description:	eLearning is the European program for Information and Communication Technologies (ICT) in education and training. It aims to promote an effective integration of ICT in European education and training systems for pedagogical enhancement and improved European co-operation.
Historical Highlights:	March 2000: at the Lisbon European Council, the Heads of State and Government set the Union the objective of becoming " <i>the most competitive and dynamic knowledge-driven economy in the world</i> ". This decision is based on the recognition that Europe still lags far behind in the use of the new ICTs. eLearning is designed to enable Europe to catch up by intensifying its efforts. June 2000: The eEurope 2002 Action Plan (June 2000) is adopted: e-Learning is among priorities March 2001: the eLearning Action Plan " <i>E-learning: designing tomorrow's education</i> " is adopted December 2003: adoption of a multiannual program(2004 to 2006) for the effective integration of information and communication technologies (ICT) in education and training systems in Europe : the eLearning Program
Vision / Mission:	The eLearning initiative of the European Commission seeks to mobilise the educational and cultural communities, as well as the economic and social players in Europe, in order to speed up changes in the education and training systems for Europe's move to a knowledge-based society. The Commission has adopted the "eLearning" initiative to adapt the EU's education and training systems to the knowledge economy and digital culture. <i>"E-learning - learning enhanced by the use of the Internet and new multimedia technologies – should be available to all"</i>

Program Objectives:	<p>The eLearning program is a further step towards realizing the vision of <i>technology serving lifelong learning</i>.</p> <p>Overall objective: To support and develop further the effective use of ICT in European education and training systems, as a contribution to a quality education and an essential element of their adaptation to the needs of the knowledge society in a lifelong learning context.</p> <p>Specific objectives:</p> <p>(a) to identify the actors concerned and inform them of ways and means of using e-learning for promoting digital literacy and thereby contribute to strengthening social cohesion and personal development and fostering intercultural dialogue;</p> <p>(b) to exploit the potential of e-learning for enhancing the European dimension in education;</p> <p>(c) to provide mechanisms for supporting development of European quality products and services, and for exchange and transfer of good practice;</p> <p>d) to exploit the potential of e-learning in the context of innovation in teaching methods with a view to improving the quality of the learning process and fostering the autonomy of learners</p>
Areas of intervention :	<p>Four (4) action lines :</p> <ul style="list-style-type: none">- Promoting digital literacy- European virtual campuses- e-Twinning of schools in Europe and promotion of teacher training- Transversal actions for the promotion of e-learning in Europe <p>Promoting digital literacy : Encouraging the acquisition of new skills and knowledge for personal and professional development and for active participation in an information-driven society. It will also address ICT's contribution to learning, especially for those who, due to their geographical location, socio-economic situation or special needs, do not have easy access to traditional education and training.</p> <p>European virtual campuses: The priority here is to add a virtual dimension to European co-operation in higher education by encouraging the development of new organisational models for European universities (virtual campuses) and for European exchange and sharing schemes (virtual mobility). This action line will build on existing co-operation frameworks such as the Erasmus programme, giving them an e-learning component.</p> <p>e-Twinning of schools in Europe and promotion of teacher training: The objective here is to strengthen and develop networking among schools. All young Europeans, during their time at secondary school, should have the opportunity to participate, together with their teachers, in an educational project with their counterparts in other European countries. This experience</p>

could prove to be decisive in fostering a European dimension in education and awareness among young people of the European model of a multilingual and multicultural society. Internet-based learning communities will contribute to improving intercultural dialogue and mutual understanding. The e-Twinning of schools will also help update teachers' and trainers' professional skills in the pedagogical and collaborative use of ICT.

Transversal actions for the promotion of e-learning in Europe:

Building on the eLearning Action Plan, these actions aim to promote best practice, products and services stemming from the many projects and programmes that have been funded at European or Member State level and strengthen co-operation between all those involved. Particular emphasis will be placed on disseminating the results of e-learning projects and other relevant information, on the support to European networks, specific surveys, studies and events and on co-operation with existing international projects such as those of the OECD and UNESCO.

The **European eLearning portal** <http://elearningeuropa.info> provides the support structure and acts as a hub for promotion and exchange of best practice

Target Groups / Clienteles:	<ul style="list-style-type: none">- Teachers- Trainers- Learners
Education Sector(s):	<ul style="list-style-type: none">- Education, training and lifelong learning- Schools and higher education institutions
Services Provided:	<ul style="list-style-type: none">(a) support for pilot projects,(b) support for the development of methods, tools and practice and for the analysis of trends in the design and use of 'elearning' models for education and training;(c) support for innovative actions by European networks and partnerships;(d) support for European networks and partnerships that promote and strengthen the pedagogical and educational use of Internet and ICT and for the exchange of good practice(e) support for European cooperation, transfer of e-learning products, and dissemination and exchange of good practice;(f) technical and administrative assistance.
Operational Budget:	2004-2006 (three years): € 44 M (Cdn \$ 63 M)

Information sources : http://ec.europa.eu/information_society/edutra/index_en.htm

Europe's Information Society Thematic Portal / Education and Training

http://europa.eu.int/comm/education/elearning/doc_en.html

The Commission's official webpage for the eLearning Initiative

E-Learning: Designing Tomorrow's Education - A Mid-Term Report, Commission Staff Working Paper, July 2003

Initiative: Technology Enhanced Learning (TeLearn)

Lead Organization: European Commission

Geographical coverage: All countries member of the European Union (25 in total)

Summary Description: **Technology-enhanced Learning (TeLEARN) corresponds to** e-learning related research conducted under the European Union's research and development program.

Te-LEARN is under the Information Society Technologies (IST) / Directorate E-Content/ Unit 'Learning and Cultural Heritage'. This unit manages European Community funding which supports research into the use of advanced technologies for learning (TeLearn) and for accessing and preserving Europe's cultural, artistic and scientific resources (DigiCult).

Context:

- Research into the use of technologies for long-term preservation of and improved access to cultural heritage is part of the European Commission's work programme for Information Society Technologies (IST)
- IST is one of the thematic priorities in the 'Framework Programme for Research and Technological Development' (FP), the major instrument for research funding by the European Union.
- ICT in education and technology-enhanced learning (e-learning) are among strategic orientations of the Sixth Framework program for 2002-2006 (FP6) and FP& (under planning).
- **Rationale** : With the shift towards the knowledge society, the change of working conditions and the high-speed evolution of information and communication technologies, peoples' knowledge and skills need continuous up-dating. Learning should be accessible to every citizen, independent of age, education, social status and tailored to his/her individual needs. To meet these social challenges is a leading issue of European research on the use of **technology to support learning** in the 6th EU Framework Program for Research and Technological Development (2002-2006).

Historical Highlights:

March 2000: Heads of State and Government of the European Union launch a strategy to prepare the EU for the challenges of the new century. - the "Lisbon strategy". Objectives set are higher growth, more and better jobs and greater social inclusion. Information and communication technologies (ICTs) play a key role in achieving these objectives.

June 2000: The **eEurope 2002 Action Plan** adopted by European Council. Core objective is to increase the number of citizens and businesses connected to the Internet. E-Learning is among priorities

January 2003: The **eEurope 2005 Action Plan** (“*eEurope 2005 - An information society for all*”) - launched at the Seville European Council in June 2002 - is endorsed by the Council of Ministers in the eEurope. The plan focuses on “*the widespread availability and use of broadband networks throughout the Union by 2005 and the development of Internet protocol IP and the security of networks and information, eGovernment, eLearning, eHealth and eBusiness* ». Seven (7) “eEurope policy priorities”: Broadband, eBusiness, eGovernment, eLearning, eHealth, , eInclusion and Security.

June 2005: “i2010: A European Information Society for Growth and Employment ”: an overall strategy to boost the digital economy . Comprehensive strategy for modernizing and deploying all EU policy instruments to encourage the development of the digital economy.

Vision: Enabling ubiquitous access to personalized learning throughout life (Learning for anyone, at any time, at any place)

Objectives / Orientations: **Overall goal** of TeLEARN: enhancing learning through technologies

Objectives:

- to increase the efficiency of learning for individuals and groups;
- to facilitate transfer and sharing of knowledge in organisations
- to contribute to a deeper understanding of the learning process by exploring links between human learning, cognition and technologies

Focus of research: applications of technologies for user-centred learning, building on the concept of ubiquitous computing and on sound pedagogical principles

Example of Projects financed under Te-Learn.:

TeLearn - On-going research projects (FP6):

CALIBRATE - Calibrating eLearning in Schools.

Strategic objective: Strengthening the Integration of the ICT research effort in an Enlarged Europe

CALIBRATE brings together eight Ministries of Education (including six from new EU Member States) to carry out a multi-level project designed to support the collaborative use and exchange of learning resources in schools. The work builds on the results of previous IST projects under the 5th Framework Programme (CELEBRATE, ITCOLE and VALNET) and is designed to help strengthen the integration of the ICT research effort in an enlarged Europe.

The project will:

- Develop and ensure take-up of an open source technical architecture to support content exchange/collaboration between Ministries of Education and other owners of educational repositories;
- Develop and ensure take-up of an open source learning toolbox that supports the collaborative use of learning resources by providing an environment for group centered work and knowledge building activities but which also provides the sort of course building tools found in more conventional learning content management systems;

- Research and test new approaches that can improve semantic interoperability related to the discovery and evaluation of learning resources;
- Validate its results in up to 100 schools using an advanced validation methodology.

CALIBRATE will also link to a number of other European Schoolnet (EUN) projects and initiatives that will build a wider framework and lay the foundations for the implementation of a new European Learning Resource Exchange, accessible to all interested Ministries of Education participating in the EUN and other public and private sector owners of educational content repositories.

17 partners involved

Project coordinator: EUN Partnership AISBL, Belgium

2005 -2008 (30 months); EU funding: € 3,3 million

ELeGI - European Learning GRID Infrastructure

ELeGI aims at supporting a paradigm for knowledge construction that combines experiential, contextualised and collaborative learning approaches in a personalised and ubiquitous way. To this end, the project will define and implement a software architecture that brings together Grid, semantic and knowledge technologies; 23 partners involved

Project co-ordinator: Atos Origin, Barcelona (ES)

2004-2007 (48 months); EU funding: € 7,5 million

ELEKTRA - Enhanced Learning Experience and Knowledge Transfer

ELEKTRA aims at merging pedagogical and cognitive science expertise with the innovations of computer game technology in storytelling, information visualisation and interactivity; 9 partners

Project coordinator: Gesellschaft zur Förderung künstlerischer Informatik Laboratory for Mixed Realities, Cologne, Germany

2006-2008 (24 months). EU funding: € 2,4 million

iCLASS - Intelligent Distributed Cognitive-based Open Learning Systems for Schools

22 partners

Project co-ordinator: Siemens Business Services, SA/NV, Bruxelles (BE)

2004 -2008 (54 months); EU funding: .€ 9 million

KALEIDOSCOPE – Concepts and methods for exploring the future of learning with digital technologies.

KALEIDOSCOPE aims at establishing a coherent and strong European Research Area for technology-enhanced learning. The project brings together experts from many disciplines, the network integrates cutting-edge research in the fields of educational, social, cognitive and computational sciences and emerging technologies. Among the project's activities are sharing of knowledge and tools, training of researchers, and exploring innovation and

commercialisation of research.

Project type: Network of Excellence; 76 partners

Project co-ordinator: FIST, S.A. - France Innovation Scientifique et Transfert, Paris

2004-2007 (48 months); EU funding: € 9,4 million

PROLEARN - Network of Excellence Professional Learning

Project focus is on the development of innovative learning resources and their use for professional training in SMEs and larger companies, thus bridging the gap between research and education in universities and professional training and lifelong learning; 19 partners

Project co-ordinator: Learning Lab Lower Saxony, Hannover (DE)

2004-2007 (48 months); EU funding: € 6,1 million

ELeGI - European Learning GRID Infrastructure

Overall aim: to advance significantly the effective use of technology-enhanced learning in Europe; 23 partners

Project co-ordinator: Atos Origin, Barcelona (ES)

2004-2007 (48 months); EU funding: € 7,5 million

TENCompetence - Building the European network for lifelong competence development

13 partners

Project coordinator: Open Universiteit Nederland

2005-2009 (48 months); EU funding: € 8, 8 million

UNFOLD - Understanding Networks of Learning Design)

This co-ordination action aimed at accelerating the adoption and further development of standards for e-learning systems in Europe, namely the IMS Learning Design specification. The project set up communities of practice, and held seminars and conferences to raise awareness and to spur interaction between members of the education and technology communities concerned; 4 partners

Project co-ordinator: Department of Technology, Fundacio' Universitat Pompeu Fabra, Barcelona (ES)

2004-2006 (24 months); EU funding: € 660 000

UP-ARIADNE

Assist during take-up and expansion of the ARIADNE foundation, which endeavours to exploit the results of ARIADNE, a suite of authoring tools, an open e-learning platform and a repository of re-usable learning objects.

Budget :

IST related research within FP6: €3.62 billion (2002-06)

Over research projects funded under FP5 and FP6

Overall budget – TeLearn program 2005-06: € 54 M

Information sources : http://ec.europa.eu/information_society/

Europe's Information Society thematic portal <http://cordis.europa.eu/ist/telearn/index.html>

Europe's Information Society Technologies portal / Technology-enhanced Learning

http://cordis.europa.eu/ist/workprogramme/fp6_workprogramme.htm; On-going research projects

Initiative:	Cultural Heritage - DigiCult (part the Information Society Technologies - IST Work Programme)
Lead Organization:	European Commission
Geographical coverage:	All countries member of the European Union (25 in total)
Context:	<ul style="list-style-type: none">- Research into the use of technologies for long-term preservation of and improved access to cultural heritage is part of the European Commission's work programme for Information Society Technologies (IST)- IST is one of the thematic priorities in the 'Framework Programme for Research and Technological Development' (FP), the major instrument for research funding by the European Union.- ICT in education and technology-enhanced learning (e-learning) are among strategic orientations of the Sixth Framework program for 2002-2006 (FP6)- DigiCult is under the Information Society Technologies (IST) / Directorate E-Content/ Unit 'Learning and Cultural Heritage'. This unit manages European Community funding which supports research into the use of advanced technologies for learning (TeLearn) and for accessing and preserving Europe's cultural, artistic and scientific resources (DigiCult).
Mission:	Unit 'Learning and Cultural Heritage' Mission Statement: We support research aimed at: <ul style="list-style-type: none">- improving our knowledge of how people learn when using information technologies as part of the learning process;- improving the meaning and experiences people get from cultural and scientific resources when these resources exist in electronic form; and- safeguarding digital resources so that they are available in the future.
Objectives / Orientations:	Objectives: <ul style="list-style-type: none">- make it easy for people to find, understand and experience their cultural heritage through digital libraries and virtual visits to the past- rescue and restore our film and audiovisual heritage of the 20th century- keep today's digital content alive in the future
Work Areas:	Focus of research : use of technologies for long-term preservation of and improved access to cultural heritage The work on cultural heritage exploits emerging knowledge and visualisation technologies to create new forms of cultural experience, and to develop new forms of cultural expression and narratives for different communities, supporting the rich cultural diversity in Europe. The research is closely aligned with the work of cultural and memory organisations (such as archives, libraries and museums).

Work also investigates how digital resources created today will survive as the cultural and scientific heritage of the future, through research into the preservation of digital content and into keeping collective digital memories

*Key Initiatives /
Programs:*

eContentplus programme :

- 4-year program (2005–2008) approved in March 2005 aiming at making digital content in Europe more accessible, usable and exploitable.
- eContentplus is to tackle organisational barriers and promote take up of leading-edge technical solutions to improve accessibility and usability of digital material in a multilingual environment.
- It will support the development of multi-lingual content for innovative, on-line services across the EU. It addresses specific market areas where development has been slow: geographic content (as a key constituent of public sector content), **educational content, cultural, scientific and scholarly content.**
- The Program also supports EU-wide co-ordination of collections in libraries, museums and archives and the preservation of digital collections so as to ensure availability of cultural, scholarly and scientific assets for future use.

European Digital Library initiative

- The project aims at getting Europe's cultural and scientific heritage digitized and available online.
- At least six million books, documents and other cultural works will be made available to anyone with a Web connection through the European Digital Library over the next five years.
- The Commission will co-fund the creation of a Europe-wide network of digitisation centres. It will build upon the TEL-infrastructure (TEL-the European Library), currently the gateway to the catalogue records of collections in a number of national libraries, which also gives access to a range of digitised resources of the participating libraries.

*Services Provided
by the European
Union:*

- Co-funding of research projects (supported projects chosen through competitive selection procedures - public calls for proposals)
- Strategic discussion with stakeholders
- Coordination
- Thematic portal

Budget: eContentplus program : € 149 million

Information sources:

<http://cordis.europa.eu/ist/digicult/index.html> Europe's Information Society Technologies portal /
Directorate E-Content / Cultural Heritage
http://europa.eu.int/information_society/activities/digital_libraries/index_en.htm
Digital Libraries Initiative

Organization: Commonwealth of Learning (COL)

Geographical coverage: 54 countries members of the Commonwealth
Headquarters in Vancouver, Canada

Main Partners / Stakeholders: Governments of Commonwealth countries
International agencies

Date of Creation: 1987

Summary Description:

- An intergovernmental organization created by Commonwealth Heads of Government to encourage the development and sharing of open learning/distance education knowledge, resources and technologies
- Helping developing nations improve access to quality education and training
- Specialized in ODL, 17 years of ground-breaking work in the field
- Innovative, exploring new opportunities for capacity building offered by technological change and research on learning, while taking into account developing economies' environments

Historical Highlights:

1987: Heads of Government agree to create COL (MOU signed in 1988)

1989: headquarters are established in Vancouver, with assistance from the Governments of Canada and British Columbia. The UK government establishes the International Centre for Distance Learning at The Open University in Milton Keynes (information database to complement COL's work)

1990: beginning of national consultancy studies and projects in all regions of the Commonwealth

1992: development of the Student Record Management System (SRMS) for use by small- to medium- sized distance education institutions; partnership with the International Council for Open and Distance Education (ICDE) on research and awards programmes

1993: launching of COL's world wide web site on the Internet – one of the first organisations in the world to do so.

The Progress Review of The COL underlines that "*COL has succeeded in establishing itself as a recognised specialised agency, and in delivering services which are making a valuable contribution to distance education and human resource development in Commonwealth countries*"

1994: COL joins as a founding partner in WETV – Global Access Television; establishes The Commonwealth Educational Media Centre for Asia at the Indira Gandhi National Open University (IGNOU) in India: and provides an Internet hub for educational institutions in the Commonwealth Caribbean

1995: Following a Governance Review, Commonwealth Governments amend their MOU on COL to provide for more focus for the organization and a

downsized Board of Governors

1996: COL begins to market its fee-for-service consulting services and wins an Asian Development Bank contract for a regional technical assistance project – capacity building in distance education (primary teacher training).

Extensive staff and management reorganisation, to provide a more responsive and flexible approach to programme delivery

COL and the Asian Mass Communications Research and Information Centre jointly sponsor *Educational Technology 2000: A Global Vision for Open and Distance Learning* in Singapore

1997: COL joins the World Bank's Global Knowledge partnership

Canada announces the distribution of Cdn\$1,75 million over five years for COL to run a pilot programme offering Canadian scholarships to students from the Caribbean

1998: Governments of 8 Southern African countries begin to work together with COL facilitating their collaboration in training teachers of lower/junior secondary science, mathematics and technology using distance education

COL, the Commonwealth Secretariat and COMNET-IT jointly launch the Commonwealth Electronic Network for Schools and Education (CENSE)

COL hosts a first-ever series of four "virtual conferences" as a lead up to the Pan-Commonwealth Forum on Open Learning

COL's Information Resource Centre becomes fully accessible online

The Commonwealth Distance Training Programme in Legislative Drafting (COL/Commonwealth Secretariat) awards its first completion certificates

1999: COL celebrates its tenth anniversary in Brunei Darussalam with a Pan-Commonwealth Forum on Open Learning, a new video, CD-ROM, anniversary publication, a new Excellence in Distance Education Awards programme (including Honorary Fellows of COL) and the launch of the first volume in the new *World Review of Distance Education* series, "Higher Education through Open and Distance Learning" (with Routledge/Falmer Press).

2000: COL launches its annual professional development series for African university leadership and its "Knowledge Series", a topical, start-up guide to distance education practice and delivery.

The 14th triennial Conference of Commonwealth Education Ministers gives COL a renewed mandate and pledges of increased funding over the next three years. Britain leads the way, triples annual contribution.

2001: COL's web site is revamped with enhanced navigation and functionality

Significant expansion of its electronic publishing program; COL becomes recognized as one of the world's foremost sources of knowledge on open, distance and technology-mediated learning and its application in developing countries.

COL begins active collaboration with the newly established SchoolNetAfrica

Nigeria resumes its place as a major financial contributor to COL

2002: The Canadian Government doubles financial support for COL, increasing its annual contribution from CDN\$1,1 million to \$2,2 million.

UNESCO's Regional Office for Education in Africa and COL begin collaboration on a joint programme for Sub-Saharan Africa, focusing on open and distance learning initiatives.

In association with the National Institute of Education in Singapore, launching of a professional development programme for directors and principals of Sub-Saharan African teacher training college.

2004: Third Pan-Commonwealth Forum on Open Learning held in Dunedin, New Zealand. Third Excellence in Distance Education Awards (including Honorary Fellows of COL)

Status (not for profit, ...):

- Not for profit organization

Vision / Mission:

Vision : Access to education – Access to a better future

Mission Statement:

Recognizing knowledge as key to cultural, social and economic development, the Commonwealth of Learning is committed to assisting Commonwealth member governments to take full advantage of open, distance and technology-mediated learning strategies to provide increased and equitable access to education and training for all their citizens.

Objectives / Orientations:

Overriding purpose / role : Building capacity in open and distance learning (ODL). COL's essential purpose is to help developing countries increase access to learning by using distance education and other scaleable technologies – old and new.

An external evaluation of COLs' activities (2005) suggests that COL should:

- Continue to focus on the global development agenda and South-South cooperation taking a long-term view
- Intensify links with governments
- Do fewer activities but for longer
- Cease bidding on contracts from development banks
- Strengthen partnerships with multilateral bodies (WHO, World Bank, UNESCO, etc.)
- Maintain a balance between policy advice and implementation
- Foster the responsible autonomy of staff whilst strengthening teamwork
- Maintain its technical leadership
- Sharpen its brand image
- Improve the monitoring and evaluation of its work.

Target Groups / Clientes:

54 member governments of the Commonwealth, their educational institutions and human resource development agencies

Education Sector(s):

Functional outreach:
- teacher training

- non-formal education
- literacy and values education
- technical/vocational education and training (www.col.org/tvet)
- basic education/open schooling
- higher education
- continuing professional education

*Domain / Area
of Activity*

Three-Year Plan, 2003-2006:

Three (3) priority programmes :

- **ODL Policies** – fostering the adoption and implementation of open and distance learning policies within the broader educational and human resource development strategies and policies of member nations
- **ODL Systems Development** – assisting in the development of open and distance learning systems that build on existing capacity or assist in creating new capacity appropriate for the contexts of member states
- **ODL Applications** – demonstrating how open and distance learning applications can benefit individual learners, institutions and member states by accelerating human resource development

Six (6) areas of operation:

- Advisory, Advocacy, Capacity-building, Fostering networks and partnerships, Knowledge management and Research

2006-09 Plan (Draft):

- Sharpens the focus of COL's work using a more effective operational framework defined by sectors and outcomes.
- **Three (3) broad sectors:** education, learning for livelihoods and human environment.
- **In each sector**, in the light of the needs of individual countries, COL will aim for **one or more of three outcomes:** policies; systems; and models and materials all achieved through partnership.
- Knowledge Management Technology : continues to be a cross-cutting activity

*Services/
Resources
Provided:*

Expertise and advice on :

- o shared expertise, resources, materials
- o global networks
- o knowledge management
- o low-cost, innovative technologies (ICT & COLME)
- o consultation and advice
- o course delivery and design

An **array of knowledge services and resources** (databases) such as :

COL Learning Object Repository (LOR) Software : An online database of learning content that provides software to Commonwealth countries free of charge. Institutions or governments can establish a shared repository by accessing free open source software from COL's LOR (a project developed jointly with eduSource and CANARIE to develop the necessary tools, standards and protocols)

COL Knowledge Finder - Launched in July of 2002 and operated by COL,

the *COL knowledge finder* is a technological tool for "mining" and refines the resource base of ODL information repositories available through the Internet. Designed for open and distance-learning practitioners, this service searches the majority of well-regarded sources of information in ODL from a central location and provides tools to organize the information gleaned

COL's Information Resource Centre online catalogue - provides reference and information retrieval service to staff, consultants, clients and official visitors. Services include:

- Collection of books, reports, journals, videos, and CD-ROMs in the area of international distance education and related fields
- Collection of annual reports, course calendars, information on organisations and agencies, unpublished materials such as speeches and papers
- Collection of distance education course material from around the Commonwealth
- Online catalogue
Search service to support research and materials exchange
- Information and training in support of the use of relevant databases and services available through the Internet
- Interlibrary loan service
- Current awareness service including monthly acquisitions list and journal table of contents package.

*Other Projects
/Activities :*

COL also partners with donor and recipient Governments and agencies on specific projects and works co-operatively with several national and international development agencies and banks, including not only Commonwealth agencies but also members of the UN System (UNESCO, UNICEF, UNIFEM, UNDP and the World Bank), national and regional distance education associations and industry. Examples:

CENSE (Commonwealth Electronic Network for Schools and Education)

– since 1998. Development of internet-based schools networks that create computer grids linking schools within and between countries An initiative of COL, the Commonwealth Secretariat and the Commonwealth Network of Information Technology for Development.

Global Distance Education Network (GDENet) - a partnership venture *between* UNESCO, COL, the World Bank, and the Global Distance Education Network). GDENet is a knowledge guide to distance education designed to help distance education practitioners. The Network consists of a core site and six regional sites located around the world. The knowledge base includes selected readings, reports of good practice, and other information tools, targeted to help public and private organizations, and individuals using distance education as a means of human development in the education sector, beginning with higher education.

Developing materials and delivering courses on ODL: Since 2000 COL has developed an additional revenue stream by developing eLearning

materials and delivering courses demonstrating sound open and distance learning practice to staff in international agencies such as the World Health Organization and the UN High Commissioner for Refugees, mainly in Communication Skills and Report Writing. This activity is still expanding and is considered part of the programme.

*Governance/
Organizational
Structure:*

A **Board of Governors**: appointments made by major donors (6 major donors, among which Canada); regional appointments on the advice of Commonwealth Ministers of Education

Senior staff (23):

- President and Chief Executive Officer
- Vice President (1), Programme Director (1), Manager, Finance and Administration (1), Knowledge Manager and Education Specialist (1), Education Specialists (8)
- Coordinators and Managers (7)
- Commonwealth Educational Media Centre for Asia (CEMCA), New Delhi, India (3)
+ support staff. **Total: around 40 persons**

*Operating
Budget:*

2003 -2006 : \$ 33 M; 7M\$ comes from member countries' contributions; the rest from donor agencies, services and contracts

Government contributions for 2004 to 2006: \$ 21,3 M (instead of \$27 M)

*Financing
Sources :*

- Commonwealth government contributions: financial support is on a voluntary basis.
- Major contributors: Canada, India, New Zealand, Nigeria, South Africa and the United Kingdom (on the Board of Governors)
- Governments provide financial support to COL from two different sources: developed member states, through their international development agencies (DFID, CIDA, AusAID, NZAID); and other member states, through their education ministries.
- Canada - through CIDA - contributes 2,2 M\$ annually
- Since 1996, COL also markets fee-for-service consulting services
- Since 2000 : eLearning materials & courses on ODL practice for international agencies represent an additional revenue stream
- 2005 : award of \$US750,000 from the William and Flora Hewlett Foundation in support of five areas of COL's work

*Business
Model and
Sustainability*

Financial strategy (Draft Three-year Plan, 2006-09):

- Recognition that COL'S mode of funding (ie. core financing coming from voluntary government contributions) is riddled with uncertainties and that COL has to maintain much larger reserves than an organization of comparable size with an assured level of funding.
- COL assumes there is no alternative to living with this uncertainty and trying to mitigate its effects.

- COL has a two-pronged strategy for raising funds:
 - o first, through its communications strategy it does everything possible to get Governments to make pledges of financial support and to honour them; importance of evaluation and results-based management to support evidence of success
 - o second, seek grants in direct support of components of its program : first success with such a strategy has been the \$US750K grant from the William and Flora Hewlett Foundation. COL wants to secure other grants in support of the program .
- Targeted Funding for 2006-2009 : around 30 M\$

Information sources: www.col.org

- Commonwealth of Learning (COL). [*Three-Year Plan, 2003-2006: Capacity Building in Open and Distance Learning*](#)
- COL. *Draft Three-year Plan, 2006-09: Learning for Development*. For presentation to COL's Board of Governors on 22-23 May 2006, April 2006
- COL. *Core funding received from member governments 1997-2000, 2001*

Organization: Asia e-Learning Network (AEN)

Member countries: 10 ASEAN nations (Brunei, Cambodia, Indonesia, Lao P.D.R., Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam)
+ Japan, China and Korea

Date of Creation: 2002

Summary Description: In July 2002, the Asia e-Learning Network (AEN) was established as a knowledge network to promote e-learning in Asia

Historical Highlights:

September 2001: at the ASEAN+3 (Japan, China and Korea) Economic Ministers Meeting held in Vietnam, the Japanese government (Ministry of Economy, Trade and Industry) proposes the "Asia e-Learning Initiative" to promote economic development and human resources training in the region.

The proposal is approved with the Economic Minister of the People's Republic of China, the Republic of Korea and Japan (AEM+3). And then, "Asia e-Learning Network (AEN)" was established

July 2002 : The 1st AEN Conference is held in Tokyo . The "Tokyo Statement " - an agreement to establish a cooperative framework for e-Learning among member countries - is adopted

2002: six (6) experimental projects are conducted, involving collaboration between universities and enterprises in Japan and universities in five other Asian countries (detail hereafter)

2002-2003: a survey is conducted on trends of e-Learning in Asian countries(AEN member countries)

2003: establishment of four (4) working groups based on survey results

2003, 2004,2005: three (3) additional annual conferences

2005: At the fourth AEN conference held in December 2005, the AEN Chairman announces that goals of the Asia e-Learning Network have been achieved and the official ending of AEN conferences and working groups

Status: Not for profit organization

Geographical scope / Countries Involved: 10 ASEAN nations (Brunei, Cambodia, Indonesia, Lao P.D.R., Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam)
+ Japan, China and Korea

Vision / Mission: The **three (3) missions** of AEN are as follows:

- To share information on the latest e-Learning trends and technologies
- To promote interoperability and resource sharing of e-Learning

systems and contents

- To promote the spread of knowledge on the effective use of e-Learning

*Key Services /
Activities :*

Four (4) working groups were established in 2003, in order to create and promote e-learning specifications taking account of Asian specific issues.

Each working group worked under the following themes:

- WG1: Conformance & Standards
- WG2: Technique for Multilingual Correspondence Contents Development
- WG3: Corporate Education and Higher Education IDer (Instructional Designer)
- WG4: E-learning content quality assurance

Four (4) AEN annual conferences:

- July 2002, December 2003, December 2004 and December 2005
- participation from over 500 participants from governments, academia, and companies
- status reports on e-learning in each participating country and exchange of information

*Strategic
Objectives /
Orientations:*

Working Groups' Objectives:

Objective of WG 1 - Conformance & Standards:

- To establish technical and organizational framework of conformance for e-learning specification including SCORM, in cooperation with the activities in US and Europe.
- To establish common framework in the Asian region in the field of IPR and privacy protection by information exchange and research about technologies and policies in the field.

Objective of WG 2 - Technique for Multilingual Correspondence Contents Development:

- To develop sharable contents among Asian countries to secure inexpensive development resource.
- To contribute for standardization of the contents development architecture under multilingual environment.
- The progress and improvement of contents development technology in Japan will lead to its industrial growth

Objective of WG3: Corporate Education and Higher Education IDer (Instructional Designer):

- Cultivate e-Learning professionals for both corporate education and higher education
- Create the system of skill and knowledge
- Develop educational programs for IDers
- Establish authorizing systems of IDer qualification
- Research ID software tools.

As the beginning phase, WG3 fosters the IDer who has general skill and

knowledge commonly used around Asian countries. Then it will train the advanced IDer who has special skills for sophisticated ID process for the blended learning style.

Objective of WG4: E-learning content quality assurance:

- Gather, arrange, select, and define information of quality assurance for e-Learning contents
- Explicate on definition of quality assurance information in order to agree and understand more each country
- Show a guideline in order to use it in practice.

*Education /
Training Sector(s):
Governance
Model / Structure*

Corporate Education and Higher Education (Working Group 3)

- AEN Secretariat 2002-2005
- 4 working groups (see above). Each working group reported on its work at AEN's yearly conferences

*Dissemination and
Communication
Strategies*

4 AEN annual conferences:

- July 2002, December 2003, December 2004 and December 2005

AEN portal site containing reports from working groups and other information related to e-learning

Through email: exchanging information and discussion (working groups)

*Business Model
and Sustainability*

At the fourth AEN conference held in December 2005, the AEN Chairman made the following announcements:

- There was a recognition of having achieved the goals of the Asia e-Learning Network
- Official ending of AEN conferences and working groups.
- It is expected that countries will make effective use of the AEN portal on the internet to share information on the latest e-learning trends and technologies, and ensure the quick spread of knowledge and effective use of e-learning
- Each country is expected to continue promoting e-learning with the outcomes of the AEN activities, and making efforts to ensure the interoperability of e-learning systems and contents in Asia.
- Each country is expected to create SCORM contents of good quality, and then we share them via the AEN portal as many as possible.
- The AEN products can be utilized in the AEN countries as is.
- The operation of the AEN portal will be reconsidered in a year in order to enhance the functions of exchanging views and sharing information of e-learning among AEN members as well as its management style including funding, etc.
- The SCORM viewer will be available among the AEN countries before long tentatively with one year limit.

Information source : <http://www.asia-elearning.net>

Organization	EDUCAUSE
Host country	United States
Main Members / Stakeholders:	<p>The current membership comprises more than 2,000 colleges, universities, and educational organizations, including 200 corporations, with 15,000 active individual members.</p> <p>Clienteles comprise senior IT staff, support IT staff, academic officers, CIO's, deans, senior librarians and librarians, presidents and chancellors, support staff, and faculty professors.</p>
Date of Creation:	1975
Historical evolution	<p>EDUCAUSE is a merger of:</p> <ul style="list-style-type: none">- CAUSE (1971), an evolution of CUMREC users group (1962), an annual College and University Machine Records conference;- Educocom (1964- Interuniversity Communication Council).
Status :	Not-for-profit association
Geographical scope / Participating Countries	USA mainly, with collaboration with other organizations through participation in conferences
Vision / Mission:	EDUCAUSE is a not-for-profit association whose mission is to advance higher education by promoting the intelligent use of information technology
Target Groups / Clienteles:	Higher Education and corporations serving the HE information technology market, and other related associations and organizations
Domain / Area of Activity	<ul style="list-style-type: none">▪ professional development activities▪ applied research▪ strategic policy advocacy▪ teaching and learning initiatives▪ online information services▪ print and electronic publications, including books, monographs, and the magazines <i>EDUCAUSE Quarterly</i> and <i>EDUCAUSE Review</i>▪ special interest collaborative communities▪ awards for leadership and exemplary practices

Main Current
Projects:

ECAR, the EDUCAUSE Center for Applied Research provides subscribers with timely research and analysis to help higher education leaders make better decisions about IT;

Net@EDU, which promotes the development of advanced networking in higher education through member activities that span the spectrum of academic networking, from administration of campus networks to local, state, regional, national, and international networking projects;

ELI : the EDUCAUSE Learning Initiative, which supports new collegiate learning environments that use IT to improve the quality of teaching and learning, contain or reduce rising costs, and provide greater access to higher education;

the CORE DATA SERVICE: a Web-based interactive database, based on an annual survey that compares institutional IT environments and practices;

NETWORKING INITIATIVES: focused efforts to define and develop emerging network technologies;

POLICY INITIATIVES: the association's legislative and regulatory tracking and advocacy activities involving federal policies that impact IT in higher education;

SECURITY INITIATIVES: resources on computer and network security for the higher education community;

.EDU ADMINISTRATION: covers policies and processes for managing the .edu Internet domain.

Financing Sources Three (3) major sources:

- Major revenues come from private foundations: initially, the Kellogg Foundation, with a five-year grant of US\$ 750,000 \$US; and later funding from the National Science Foundation (NSF), Lilly foundation, and Carnegie Foundation.
- Other revenues come from annual membership
- Revenues coming from services to members: conferences. Educational activities publications, etc.

Organizational Structure	<p>EDUCAUSE is governed by a Board of Directors that works with executive staff to define association directions and priorities.</p> <p>A Member Committee program enriches and influences the association's activities by providing guidance to the management team through structured input from representatives from all types and sizes of institutions and from various segments of the IT profession.</p> <p>In addition there are advisory groups within the EDUCAUSE structure affiliated with specific programs such as Net@EDU and the ELI.</p>
Dissemination and Communication Strategies	<p>EDUCAUSE organizes conferences, training, seminars and publishes documents and research results.</p>
Business Model and Sustainability	<p>EDUCAUSE is a member-driven organization with a fee membership, receiving other funding from private foundation and generating revenues from services and publications.</p>

Source: www.educause.org

Organization	SAKAI Foundation
Host country	United States of America
Lead Organizations:	Un. of Michigan, Un. of Indiana, MIT, Stanford Un., uPortal and OKI organizations
Main Partners / Stakeholders:	The leading universities + more than 90 universities paying a fee membership + business enterprises
Date of Creation:	2004
Historical evolution	<p>During the nineties, each led project university had developed a set of tools to complement proprietary LMS systems; namely:</p> <p><u>Michigan</u></p> <ul style="list-style-type: none">- CHEF framework- CourseTools- WorkTools <p><u>Indiana</u></p> <ul style="list-style-type: none">- Navigo Assessment- Eden Workflow- OneStart- Oncourse <p><u>MIT</u></p> <ul style="list-style-type: none">- Stellar- SloanSpace <p><u>Stanford</u></p> <ul style="list-style-type: none">- CourseWork- Assessment <p>Primary activities of the newly formed consortium of these universities was:</p> <ul style="list-style-type: none">- to re-factoring the best features of existing tools, conforming these tools to the Tool Portability Profile,- to refine existing Framework to become the SAKAI framework,- and to build a community of institutional users.
Status :	<p>SAKAI is a non-for-profit organization; it is registered as a Foundation.</p> <p>The SAKAI project- called a Collaborative Learning Environment - is an Open Source project distributed under the Educational Community License version 1.0</p>

Geographical scope / Participating Countries	The main contributors developing SAKAI are the US leading universities. More than 90 universities are adhering to the SAKAI project and they come from all the continents.
Vision / Mission:	To build a collection of OpenSource interoperable and scalable tools that are IMS and OKI compliant, and accessible thru a management platform (or portal) that will answer faculty needs.
Objectives / Orientations:	To use the innovative potential of universities to develop tools rather than to be at the mercy of proprietary and non flexible systems.
Target Groups / Clienteles:	Mostly universities and colleges (higher education): administrators and teachers.
Domain / Area of Activity	Development of a Learning Management System (LMS) which is called a Collaborative Learning Environment (CLE)
Services Provided:	SAKAI in a Web-based service platform for managing course delivery and other academic functions. Thru a membership fee, help for installing the tools and documentation is given
Main Current Projects:	The version 3.0 of SAKAI is now operational.
Financing Sources	SAKAI has different source of financing: <ul style="list-style-type: none">- a grant for the Mellon Foundation (2,4 M\$)- university membership : a 3 year enrolment mandatory for a fee of 10,000 \$ (big university) or 5,000\$ (small university, colleges...) which gives access to documentation, and on demand services such as help to install tools. Additional investment through business partners- In-kind contribution from universities (estimated value of 4,4 M\$)
Organizational Structure	A board of directors composed of 9 persons, 8 from university representatives and 1 from the Mellon Foundation. University core partners: each core partners commits 5+ developers/architects under the SAKAI Board project direction for 2 year; an in-kind contribution estimated to 27 full time employees.
Staff Number:	36 persons counting the board of directors.
Organization of the Community of Developers (R&D)	The selected team of developers is divided in 3 working group: <ul style="list-style-type: none">- Framework and services- Development & Release- Tool team

Source: www.sakai.org

Organization:	Multimedia Educational Resource for Learning and Online Teaching (MERLOT)
Host country (ies):	United States
Lead Organization:	California State University Center for Distributed Learning (CSU-CDL)
Main Partners / Stakeholders:	<p>3. Partners divided into 3 categories :</p> <p>4. <i>Higher Education Partners and Affiliates:</i></p> <ul style="list-style-type: none">- Sustaining Partners (California State University System & CLOE - University of Waterloo, Canada)- System Partners and Affiliates- Campus Partners and Affiliates <p><i>Institutional Partners and Affiliates:</i></p> <ul style="list-style-type: none">- Professional Societies- Digital Libraries <p><i>Corporate Partners:</i></p> <ul style="list-style-type: none">- Corporate Leadership Partners (O'Reilly Media, Sun Microsystems)- Learning Management System Partners (Angel Learning, Blackboard, Desire2Learn, WebCT)- Library Systems Partners (Ex Libris Ltd, Sentient Learning)
Date of Creation:	1997
Historical Evolution:	<ul style="list-style-type: none">▪ Initiative originating from the California State University Center for Distributed Learning (CSU-CDL) – 1997▪ 1998 : creation of an informal consortium grouping 4 higher education institutions (University of Georgia System, Oklahoma State Regents for Higher Education, University of North Carolina System and California State University System, represent almost one hundred campuses serving over 900,000 students and over 47,000 faculty.▪ 1999 : decision to to expand the MERLOT collections, conduct peer reviews of the digital learning materials, and add student learning assignments. Each system contributed \$20,000 in cash to develop the MERLOT software and over \$30,000 in in-kind support to advance the collaborative project.▪ 2000 : other systems and institutions of higher education are invited to join the MERLOT cooperative.▪ By July 2000, 23 institutional partners and professional associations

Status:	(mostly US) have joined MERLOT <ul style="list-style-type: none">▪ Now a rapidly expanding « international consortium of partners and affiliates » (or « international online community”) grouping over 50 members▪ Not for profit international cooperative of individual members and institutional and corporate partners▪ A cooperative endeavor (OU a collaborative project) centered around the development and access to quality online learning materials
Summary Description:	MERLOT is a free and open resource designed primarily for faculty and students of higher education. Links to online learning materials are collected here along with annotations such as peer reviews and assignments. A cooperative endeavor (OU a collaborative project) centered around the development and access to quality online learning materials, grouped into discipline "communities"(15 communities)
Vision / Mission:	Strategic goal: To improve the effectiveness of teaching and learning by increasing the quantity and quality of peer reviewed online learning materials that can be easily incorporated into faculty designed courses. Vision: To be a premiere online community where faculty, staff, and students from around the world share their learning materials and pedagogy.
Objectives / Orientations:	MERLOT is ... <ul style="list-style-type: none">- An international consortium of partners and affiliates who cooperate to continually create, expand, and refine MERLOT in order to transform and improve higher education.- A continually growing catalog of online learning materials, peer reviews, learning assignments, and user comments, organized by discipline into specific discipline communities and created to help faculty enhance their instruction that anyone can use for free.- A community of individual members, from academia, business, and professional organizations, who strive to share and enrich their teaching and learning experiences by contributing to MERLOT. Contributing and sharing materials and resources is free to MERLOT members.- A with its own infrastructure and dynamically designed set of technology tools and software development policies created to help faculty integrate high quality online instructional technology resources into their courses effectively, easily, and enjoyably.
Target Groups / Clienteles:	Teachers and learners

Source : www.merlot.org

Organization/ Initiative: Alliance of Remote Instructional Authoring and Distribution Networks for Europe (ARIADNE)

ARIADNE Foundation : Open eLearning platform, a community of educators and a European knowledge pool of re-usable learning objects

Beneficiary countries: 25 countries forming the European community

Main Partners/ Stakeholders: European universities and higher education institutions

Date of Creation: 1996

Summary Description: ARIADNE started as a community action grouping over 24 European universities and higher education institutions; the objective was to encourage the production and exchange of multimedia pedagogical resources between EU training institutions. This huge R&D effort was supported financially mostly by the European Union and the Swiss Government.

ARIADNE now defines itself as a European association open to the world, for knowledge sharing and reuse. The core of the ARIADNE infrastructure is a distributed network of learning repositories.

This non-profit association endeavours to exploit the results of ARIADNE, a suite of authoring tools, an open e-learning platform and a repository of re-usable learning objects. The foundation aims at fostering co-operation between educational bodies, preserving the social/citizenship aspects of education, and contributes, through international consensus, to the standardization of certain aspects of ICT in education.

ARIADNE is part of the GLOBE effort to interconnect the leading learning object repositories worldwide.

Historical Background:

- Ariadne Phase I - 1996-1998
- Ariadne Phase II - July 1998-June 2000
- UP-Ariadne : March 2001 to February 2004 (3 years). Project objectives: Prove the viability and assist during take-up and expansion of the ARIADNE Foundation

The ARIADNE Foundation was created to exploit and further develop the results of the ARIADNE and ARIADNE II European Projects which ended in June 2000. These projects, which involved approximatively 100 person years, created tools and methodologies for producing, managing and reusing computer-based pedagogical elements and telematics supported training curricula.

Validation of the tools and concepts took place in various academic and corporate sites across Europe and was encouraging enough to go ahead with

this idea of non-commercial exploitation.

Status:	Not-for-profit association. Even if it has no economic or profit-oriented aim, the association may engage in any activity related directly or indirectly to the realization of its purposes
Geographical scope:	All countries member of the European Union and all international organizations interested in learning content sharing
Vision / Mission:	The basic mission of ARIADNE is to enable better quality learning through the development of learning objects, tools and methodologies that enable a "share and reuse" approach for education and training.
Strategic objectives / Orientations:	<p>Scientific and technical objectives:</p> <ul style="list-style-type: none">- Focus on the development, maintenance and exploitation of the Knowledge Pool System (KPS) as an enabler of the aforementioned mission of "share and reuse". The basic idea is that the KPS holds learning objects and metadata that describe them, so that they can be more easily managed and made available in appropriate contexts.- The ARIADNE Web-Based Learning Environment (WebLE) enables the deployment of learning objects in appropriate ways. ARIADNE authoring tools enable the production of rich and engaging learning objects.- Related objective: development of and experimentation with technical standards in the field of learning technologies. ARIADNE's involvement in not only needs analysis and specifications development, but also in tool development, experimentation and evaluation: this characteristic makes it different from related organizations such as AICC or IMS, and enables it to ground its efforts in "hard empirical data" that other organizations can only gather in an indirect way. <p>2. Societal objectives :</p> <ul style="list-style-type: none">- Foster cooperation between educational bodies through the set-up and exploitation of a truly European Knowledge Pool.- Keep social and citizenship aspects dominating Education, combat an evolution towards making it a mere marketable item.- Uphold and protect multilinguality and the use of national/regional languages in education.- Define by international consensus what aspects of ICT-based formation should be standardized and what should be left local.
Operational Aims:	<p>Operational Aims:</p> <ol style="list-style-type: none">1. Involvement of several major organizations that apply the ARIADNE approach of "share and reuse" through the ARIADNE toolset (often augmented with other proprietary or open tools)2. Realization of a usable toolset that "normal end users" can rely on in order to improve their daily work: these users include training or education staff, as well as students. The emphasis for this work is on the "core tools", most notably the KPS. In order to move beyond the group of "early adopters" and to reach the majority of users, who care less about features as such,

and more about ease of use, convenience and stability, focus will be on the usability of ARIDANE's infrastructure.

3. Involvement of members from several of the European countries and cultures, in order to guarantee a realistic awareness of what is really sensitive to particular cultures, including language, pedagogical approach, as well as legal and logistical organization.
4. Collaboration with external organizations in order to advance the development of a global, open infrastructure for interoperable learning technologies and to reach critical mass: This operational aim includes support for publicly available programming interfaces, so that external components can interact with the ARIADNE infrastructure. Such interfaces are either based on existing standards or contributed to standardization bodies once they achieve a certain maturity.
5. Research & development in the field of metadata, learning objects production, interoperability, etc. through separate projects:

The purposes of the Association are:

- to improve the quality and efficiency of educational systems by the sharing and reuse of knowledge components,
- to foster the creation of new knowledge components and to make them easily accessible and reusable,
- to promote the appropriate use in education and training of information and communication technologies, and
- to promote and, if necessary, to defend multilingualism and multiculturalism, which characterize Europe's - and most of the world's - training systems

Approach

The ARIADNE Foundation seeks to:

- increase the awareness of Europe's (and beyond) learning citizen of existing ICT-based training channels;
- convince and guide new potential users from the academic community - mainly public sector institutions;
- assist new users from the corporate world, where training and re-training is increasingly necessary.
- implement and promote collaborative approaches amongst teaching institutions (and also corporate entities), the latter are encouraged to cooperate to optimize their training tasks.

The share-and-reuse principle is reflected in the technology developed by the ARIADNE Project and made available to all Foundation Members.

The Association works for the widespread adoption of educational technologies by the European Society at large, in their best, state-of-the-art and - as far as possible -, platform-independent practices.

Target Audience/ Clienteles:

- teaching institutions (and also corporate entities)
- academic community - mainly public sector institutions
- new users from the corporate world

Users involved:

- Authors of pedagogical documents: faculty (teachers), education

	<ul style="list-style-type: none">managers- Researchers- Producers & administrators of training courses: trainers, training managers, pedagogical engineers- Open & Distance learners, students, trainees
Education Sector(s):	Mainly higher education
Key Activities :	<ul style="list-style-type: none">- Provision of educational technologies and methodologies immediately available to Members:<ul style="list-style-type: none">o Learning objects multilingual indexationo Learning objects capitalization, sharing and reuseo Learning objects authoring (courseware-type-specific authoring).o Capture of socio-geographical learners' datao Design of socio-geographically targeted curriculao Learning objects selection and assembling in targeted curricula.o Design of web distributed distance courseso Best practices in the use of interactive communication technologieso Best practices in management of small, medium and large ODL courses.- Exchange and/or transfer of software design and development expertise, to or between members that volunteer to participate in the Foundation tools' further development- 'Open source' or 'Free software' development models may, later on, be used by the Foundation to maintain/improve its tools.
Services provided :	<p>ARIADNE provides its Members, at no cost, with:</p> <ul style="list-style-type: none">- a <i>central knowledge pool</i> where data from all regional or local knowledge pools maintained by Members, are backed-up and updated on a regular basis;- various <i>software tools</i> for creating educational components and exploiting educational documents made available by Members, including software required to operate regional and local knowledge pools;- updates, new versions and users guides of said tools. <p>ARIADNE may also make available some of these tools to a wider public – or put them in the public domain, if this concurs with its goals. The intellectual rights of authors of the contents of the knowledge pools however remain reserved.</p>
Financing sources:	<ul style="list-style-type: none">- Ariadne I & II : supported financially by the European Union and the Swiss Government- Ariadne Foundation : set up phase supported by the European Union (project UP-ARIADNE : aiming to prove the viability and assist during take-up and expansion of the ARIADNE foundation)

Governance Model / Structure :	<p>Steering Committee: Has the widest powers to administer and manage the Association and to execute decisions of the General Meeting. Its duties are to:</p> <ul style="list-style-type: none">- administer the Association and execute decisions of the General Meeting;- direct the activity of the Association within the guidelines determined by the General Meeting and the Statutes;- supervise the work of the CDSs;- draw the budget of the Association and manage the Association's assets;- prepare the General Meeting. <p>It is composed of a Treasurer, delegates of the CDSs and the Secretary General (in a consultative role).</p> <p>Scientific Committee: The Scientific Committee's missions are to:</p> <ul style="list-style-type: none">- reflect upon the evolution of the Association's tools and methodologies- give advice to the Steering Committee on the creation of new CDSs;- establish links between ARIADNE's specifications and educational standards developed by specialized international organizations- counsel the Chairman on decisions of a scientific or technical nature. <p>Legal head office: Lausanne (Switzerland). Administrative head office: location chosen by the Steering Committee. Working languages: English and French.</p>
Regional Operations / Organization of the Community of Developers	<p>The Association manages delocalized «ARIADNE Centres for Development and Support» – CDS. CDSs are located in : Lausanne (Switzerland), Leuven (Belgium), Grenoble and Toulouse (France) and Galati (Romania). The creation of new CDSs is reserved. The creation of a network of decentralized ARIADNE Centres for Development and Support (CDS) has as principal aims to:</p> <ul style="list-style-type: none">- spread the work of maintaining and developing the tools of the Association over a greater number of competent technical teams;- provide access at regional level to the resources of the CDSs by users in the regions concerned;- provide training to users of the Association's tools. <p>CDS can be set up provided it meets the following conditions:</p> <ul style="list-style-type: none">- it provides suitable premises free of charge for running the CDS;- it undertakes to provide one person devoting at least 50% of his or her time to the technical and administrative operation of the CDS.
Funding sources:	<p>Resources of the Association are obtained from:</p> <ul style="list-style-type: none">- annual subscriptions of members;- income from external activities (conferences, support and audit missions, consulting);- grants from public and government institutions and the Commission of the European Union;- donations.
Business Model and	<ul style="list-style-type: none">- The idea behind the creation of the ARIADNE Foundation is that the organization requires only modest means to sustain its basic operations:

- Sustainability: several larger members can absorb this overhead and will be convinced rather easily to do so if the ARIADNE approach is integral to their operations.
- The aim is to have several such major members, in order to minimize the dependency on one or two organisations, which could endanger ARIADNE's independence.
 - In order to make it easier to attract and keep such members, the organization has introduced the notion of "23/6" support, and offers open source-like development on demand, provided it fits in its overall plans.
 - The basic idea is that the ARIADNE Foundation will be self sustainable through the contributions of its members. However, because the ARIADNE infrastructure provides a rather unique test bed for R&D, it is envisaged that the Foundation or its members may participate in independent projects (in the field of metadata, learning objects production, interoperability, etc.) to that aim.

Information sources :

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Education.au limited	http://www.educationau.edu.au
Australian Government Information Management Office (AGIMO)	http://www.agimo.gov.au/
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France

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Délégation aux usages de l'internet – DUI	http://delegation.internet.gouv.fr
Educasource - Digital teaching resources for primary and secondary school teachers	www.educasource.education.fr
Educasup - Resources & information on open and distance training for French higher education	www.educasup.education.fr
Digital thematic universities - Université Numérique Ingénierie et Technologie – UNIT	http://www.unit-c.fr/
Institut de l'Information Scientifique et Technique	http://www.inist.fr/
ARTIST : Appropriation par la Recherche des Technologies de l'IST	http://artist.inist.fr/

United Kingdom

Department for Education and Skills	http://www.dfes.gov.uk
British Educational Communications and Technology Agency (Becta)	http://www.becta.org.uk
Joint Information Systems Committee (JISC)	http://www.jisc.ac.uk
The UK's education and research network (JANET)	http://www.ja.net/
UK Office for Library and Information Networking (UKOLN)	http://www.ukoln.ac.uk/
<i>Institutional Repositories for Research Assessment: IRRA (JISC)</i>	http://irra.eprints.org/

United States

EDUCAUSE	http://www.educause.edu/
Multimedia Educational Resource for Learning and Online Teaching (MERLOT)	http://taste.merlot.org/
The SAKAI Project	http://sakaiproject.org/

Canada

Council of Ministers of Education, Canada - CMEC)	http://www.cmec.ca
education @ canada (CMEC)	http://www.educationcanada.cmec.ca
The Conference Board of Canada	http://www.conferenceboard.ca/
CANARIE	http://www.canarie.ca
Connecting Canadians	http://www.connect.gc.ca
Canadian Education Association – Focus on ICT	http://www.cea-ace.ca/foc.cfm
Canada Online	http://www.connect.gc.ca/en/200-ehm

Canada's Schoolnet <http://www.schoolnet.ca>

Schoolnet's Grassroots Program <http://www.schoolnet.ca/grassroots>

Japan

National Institute of Multimedia Education (NIME) <http://www.nime.ac.jp>

Singapore

Ministry of Education <http://www.moe.gov.sg>

Multi-country

European Union

Alliance of Remote Instructional Authoring and Distribution Networks for Europe (ARIADNE) <http://www.ariadne-eu.org/>

e Europe Action Plan http://www.europa.eu.int/information_society/eeurope/actionplan/index

e Learning Action Plan <http://www.europa.eu.int/comm/eLearning.en.htm>

The European Union's education and training portal http://europa.eu.int/comm/education/index_en.html

European e-Learning Portal <http://elearningeuropa.info/>

eTwinning – School partnerships in Europe <http://www.etwinning.net/ww/en>

European SchoolNet <http://www.eun.org>

Socrates Programme <http://europa.eu.int/comm/education/socrates.html>

i2010 <http://europa.eu.int/i2010/>

CORDIS – the European Union's portal on Research <http://cordis.europa.eu>

Europe's Information Society: Thematic Portal	http://europa.eu.int/information_society
Information Society Technologies (IST) - Directorate E - Content - Technology-enhanced Learning (TeLearn)	http://cordis.europa.eu/ist/telearn/index.html
eContentplus programme	http://europa.eu.int/econtentplus/
E-LEN Network of E-Learning Centres	3.3 http://www2.tisip.no/E-LEN/
European Digital Library initiative	http://cordis.europa.eu/ist/telearn-digicult/index.html
PROLEARN – Technology enhanced professional learning	HTTP://WWW.PROLEARN-PROJECT.ORG/

Other Organizations

Organization for Economic Cooperation and Development (OECD)	http://www.oecd.org
Centre for Educational Research and Innovation – CERI, Agence universitaire de la Francophonie (AUF)	http://www.auf.org
Asia e-Learning Network (AEN)	http://www.asia-elearning.net
Commonwealth of Learning	http://www.col.org
Global Learning Objects Brokered Exchange (GLOBE)	http://globe.edna.edu.au/globe/
Asian e-Learning Network – AEN	http://www.asia-elearning.net/