eLearning: Access, Standards, IPR

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Information Society related ICT Acquis
Budapest 14th January 2009

Institute profile

COMPUTER AND **A**UTOMATION **R**ESEARCH **I**NSITUTE OF THE **H**UNGARIAN **A**CADEMY OF **S**CIENCES
→ **MTA SZTAKI**

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http://www.sztaki.hu/elearning

MTA SZTAKI

- Computer and Automation Research Institute of the Hungarian Academy of Sciences

- Founded in 1968, one of the biggest institutes of the Academy in the field of applied information technology and software development, the single research institution in Hungary in these fields

- Center of excellence - more than 80 people with scientific degrees, including 6 academicians and 11 Dr. Ac.

MTA SZTAKI

- More than 300 publications and 500 citations per year

- Good co-operation with all important Hungarian universities - including common chairs, joint PhD programs

MTA SZTAKI

- More than 300 staff, 20-30 graduate and post-graduate (MSc, PhD) students

- Traditionally an application oriented institute - 70 % of revenues from contracts

- More than 215 000 sq. feet laboratory/ office space, excellent infrastructure

Reference

HBONE (Dec. 1998)
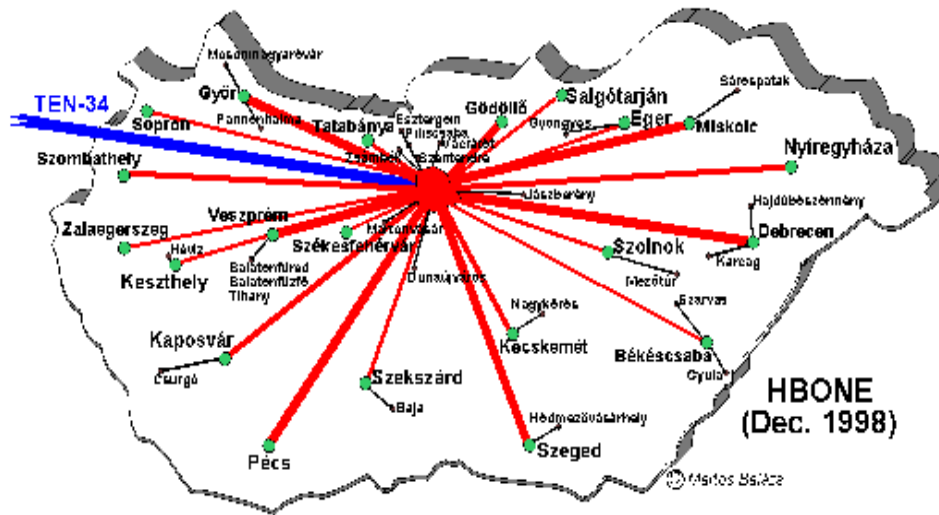
- Hungarian Computer Network for Non-profit Organisations:

  Universities and High Schools, Research Institutes, Libraries, Museums, Government Offices

- More than 400 institutions and 200.000 users - the biggest network in Hungary

- Network development, management, services

Main R&D fields

- IT systems

- Applied mathematics

- Artificial intelligence

- Automated control systems

- Analogical and neural computing systems

- Integrated design and control systems

MTA SZTAKI eLearning Activity

- **1. Research**
  - Adaptive eLearning Systems
- **2. Consulting**
  - Standards based courseware portability, annual eLearning Forum
- **3. Software development**
  - Standardized LCMS products, customised export/import modules for 3rd party products
- **4. Content development**
  - Customised and generic courseware development
- **5. Complex EU and local eLearning projects**

"There are two great equalizers in life: the Internet and education. **eLearning** eliminates the barriers of time and distance creating universal learning-on-demand for people, companies, and countries."

John Chambers, President & CEO,
Cisco Systems

Definition/Relations

In the general sense, eLearning is an interactive learning process supported by technology and methodology, where the relationship between the training material, the teacher (mentor, tutor) and the student is realized by means of IT tools

- eLearning / blended learning
- eLearning / lifelong learning / knowledge based society
- eLearning /modularisation

Context of eLearning
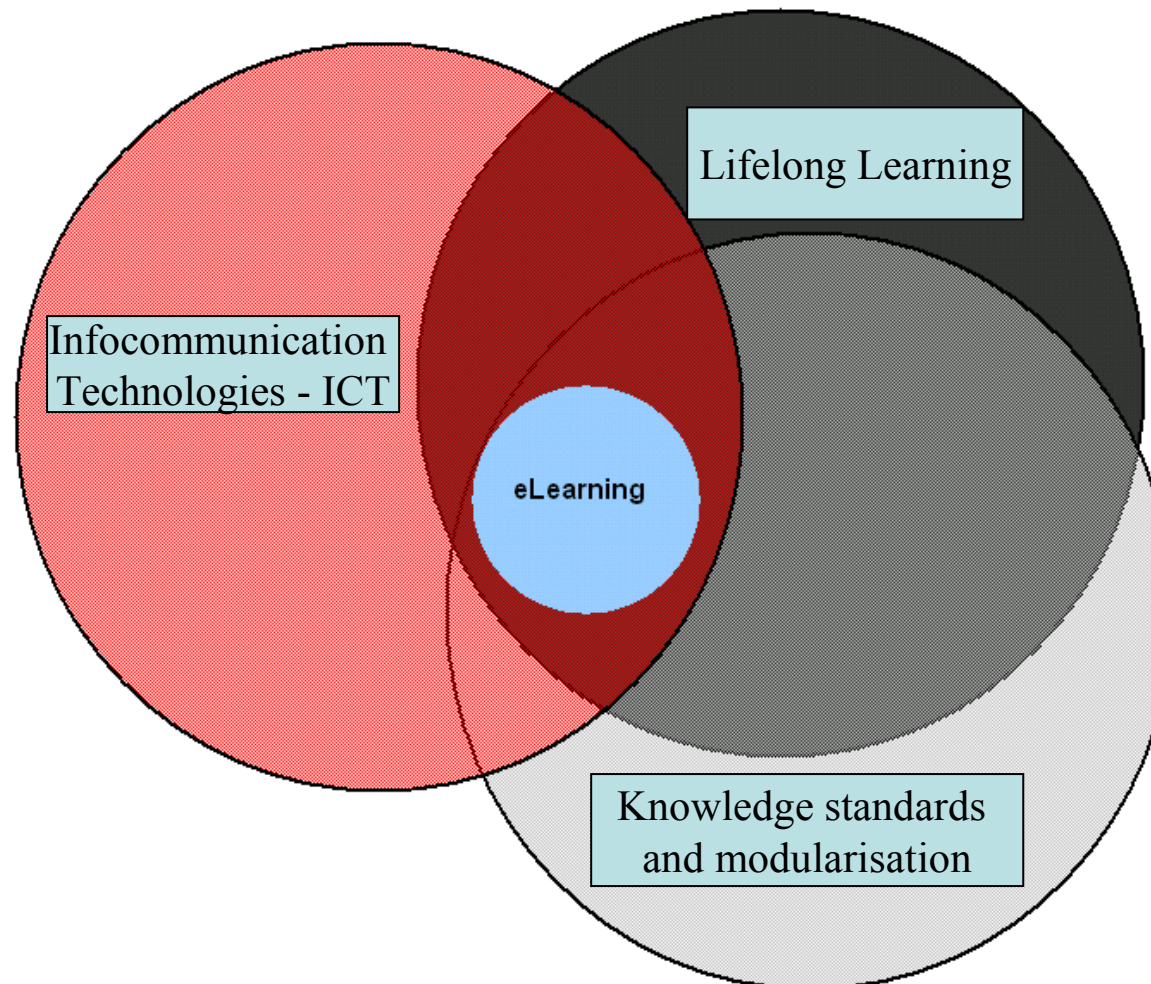
System Model of eLearning
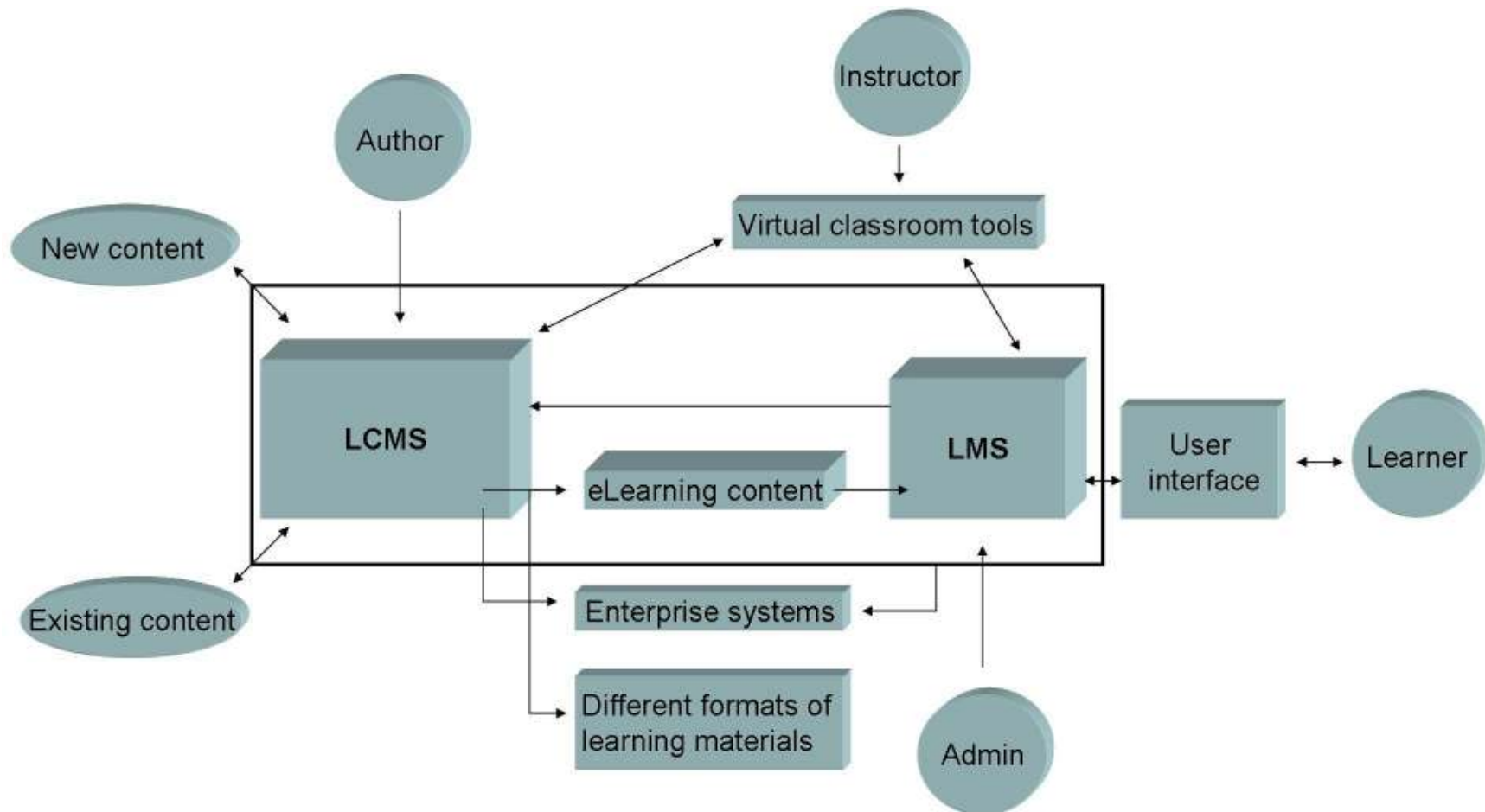
„eLearning is no longer for schools. It is for life. Society will evolve very quickly. People will change jobs more often. The young people of today must be aware that they have to learn throughout their lives."

Viviane Reding
European Commissioner for Information Society and Media

Towards a Learning Society

i2010 Strategy - importance of eLearning based on three main pillars:

❑ Promoting an open European information space
  eLearning is an important content and services
  industry

❑ Stimulating innovation through investment
  supporting research on new knowledge and media
  technologies to enhance learning processes

❑ Making the European Information Society as
    inclusive and accessible as possible
  raising digital literacy and increasing online
  public services

i2010: Fostering European eLearning Content to Make Lisbon Target a Reality

10. Need for advanced broadband – BB –
       for the development of rich content
❏ rich and interactive education content
❏ broadband penetration is higher in those
       countries with competitive infrastructure
❏ deploy next generation BB with high speed
❏ high quality and fast communication –
       corner stone of iEurope 2010

Ten Open Recommendations by eLIG

Ministry of Information and Telecommunication in Hungary decided to elaborate a detailed National Broadband Strategy

The basis of research – to find outbreak points on the area of ICT to catch goals of Lisbon:

❑ broadband is high priority;

❑ eGovernment and eCommerce on complex daily ICT use;

❑ eEducation, eHealth;

❑ eInclusion: access and ability for everybody;

❑ safety;

❑ to achieve the any content, anytime, anywhere, on any platform vision.

„The broadband electronic communication is a transmission mechanism and with this production and application of info-communication tools can support the improvement of competitiveness"

The priorities of the strategy:
- ❑ access
- ❑ content
- ❑ equality

Strategic goals

❑ The broadband internet penetration – number of broadband subscription per 100 citizens –, reaches the EU average by the end of 2008 and the EU15 average by the end of 2013;

❑ the use of services of eAdministraion reaches the EU average by the end of 2008 and the EU15 average by the end of 2013;

❑ The proportion of eCommerce reaches the EU average by the end of 2008 and the EU15 average by the end of 2013;

❑ 90% covered area with broadband services by the end of 2008, total coverage by the end of 2010;

❑ The proportion of „digitally illiterate" population will be less than 50% by the end of 2008 and less than 33% by the end of 2013.
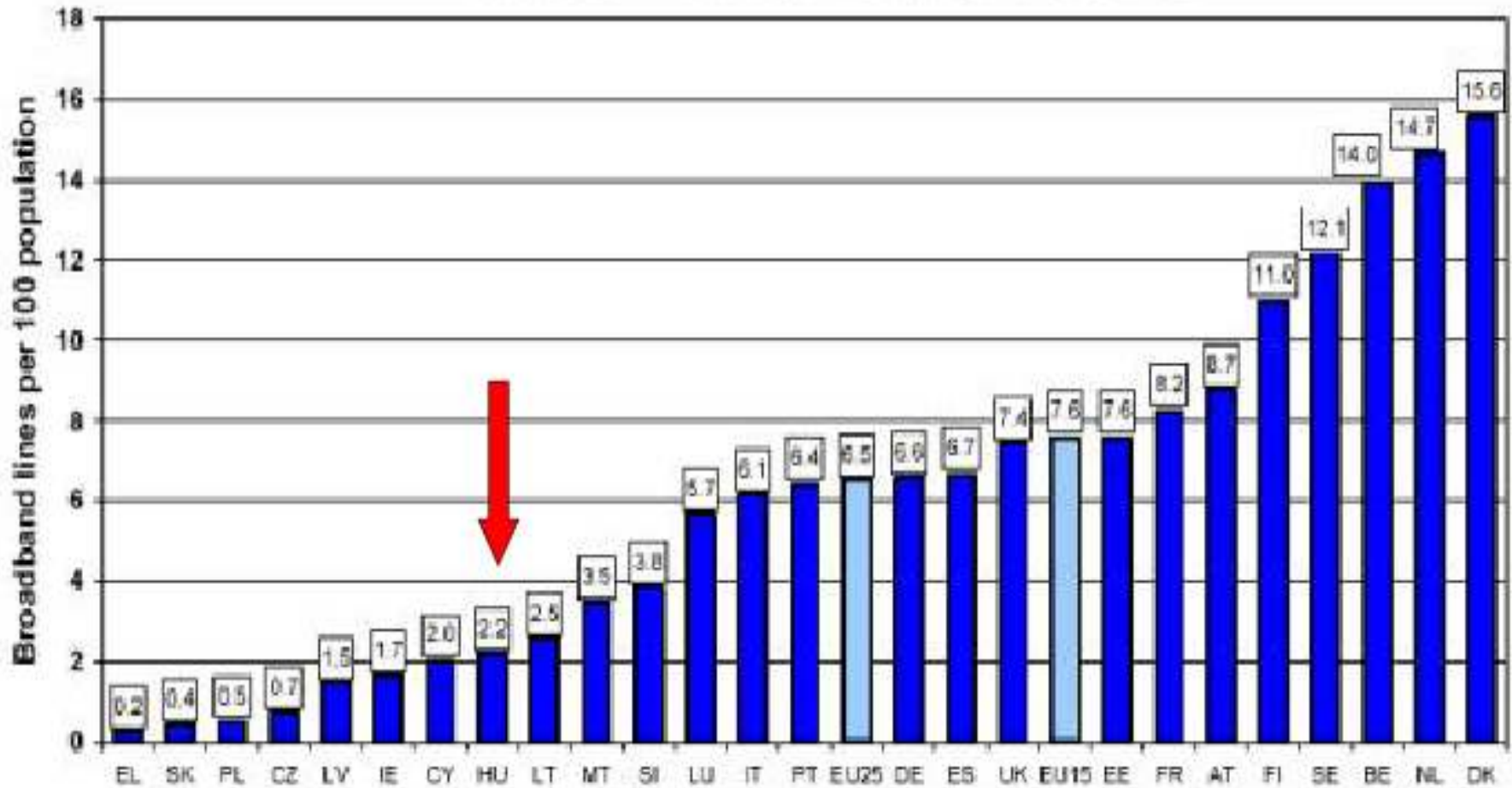
Challenging tools

GARTNER forecast about ICT use
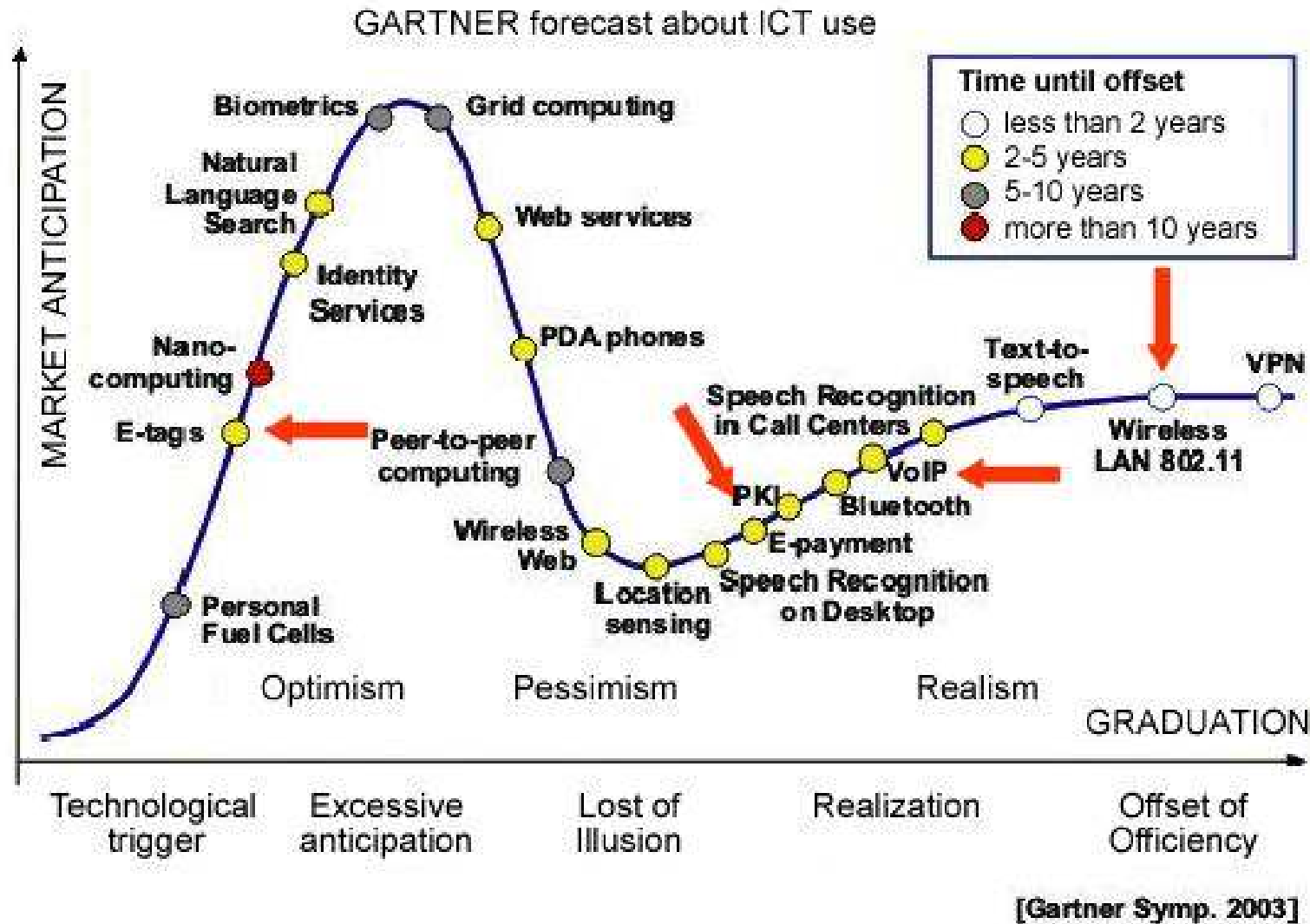
Languages used in Internet
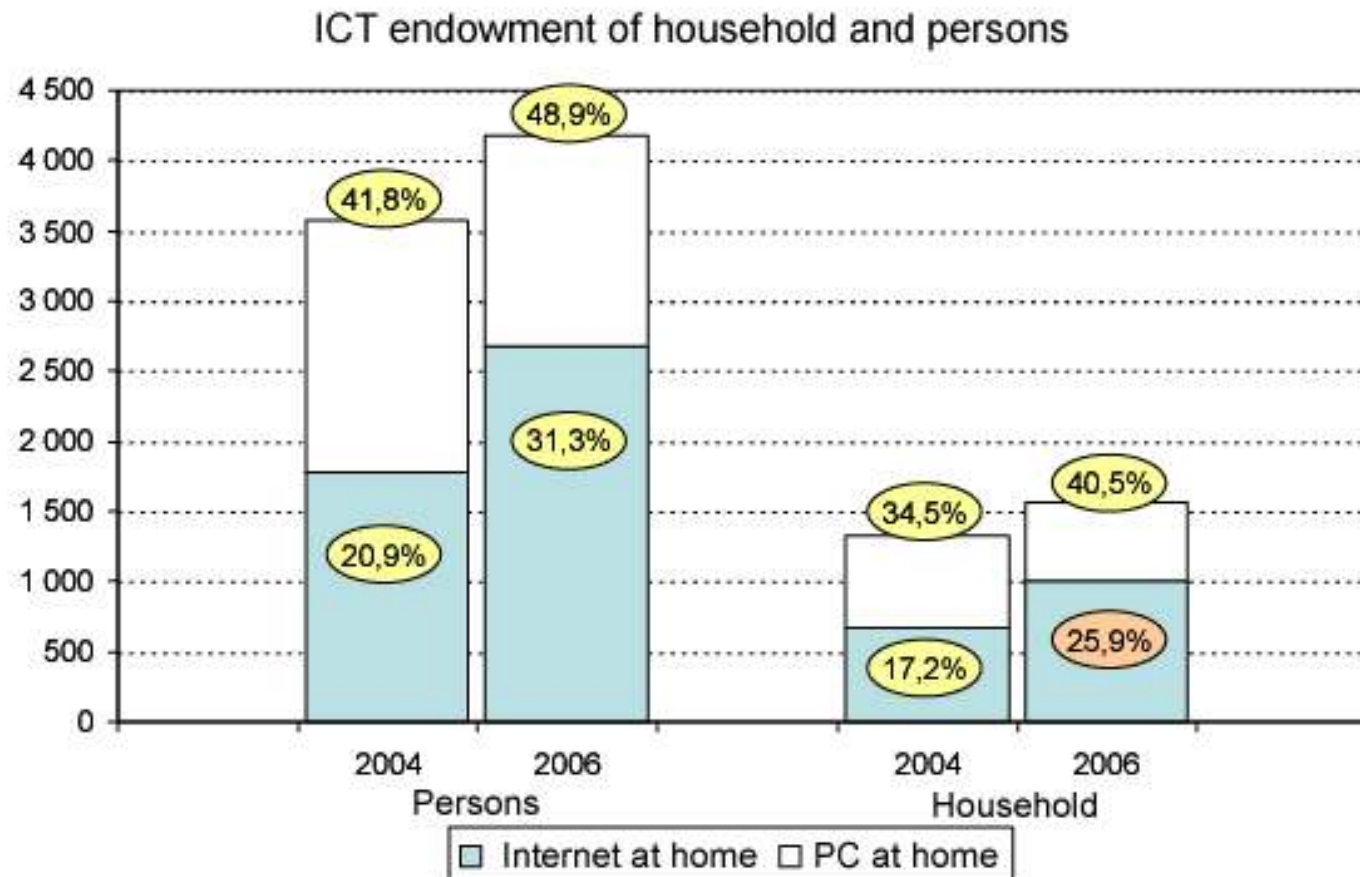
801.4 million people used Internet in September 2004

- ❑ English: 35.2%
- ❑ Chinese: 13.7%
- ❑ Spanish: 9%
- ❑ Japanese: 8,4%
- ❑ German: 6.9%
- ❑ French: 4.2%
- ❑ Korean: 3.9%
- ❑ Italian:3.8%
- ❑ Portuguese: 3.1%
- ❑ Dutch:1.7%
- ❑ Other: 9.2%
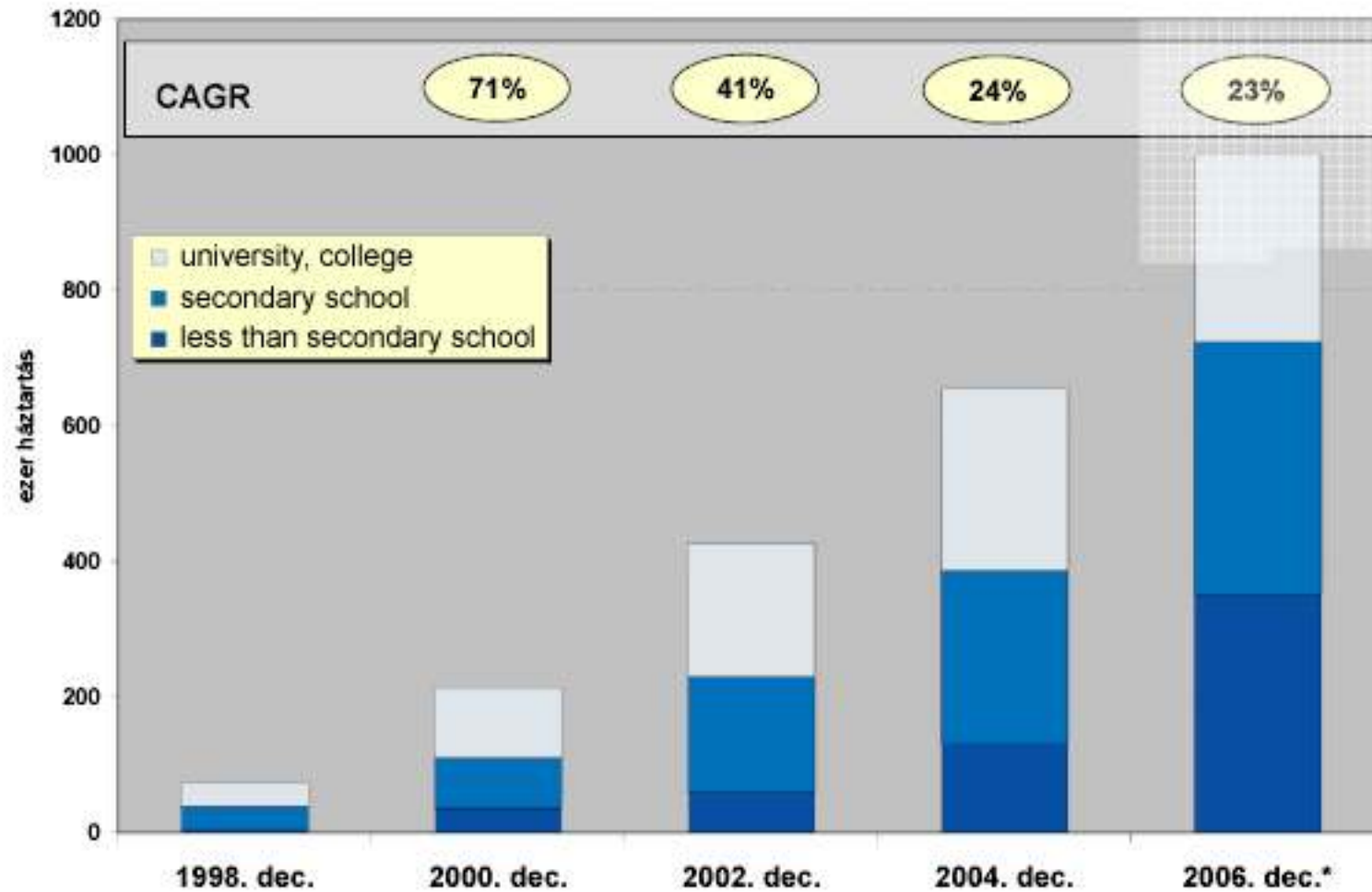
Broadband penetration rate

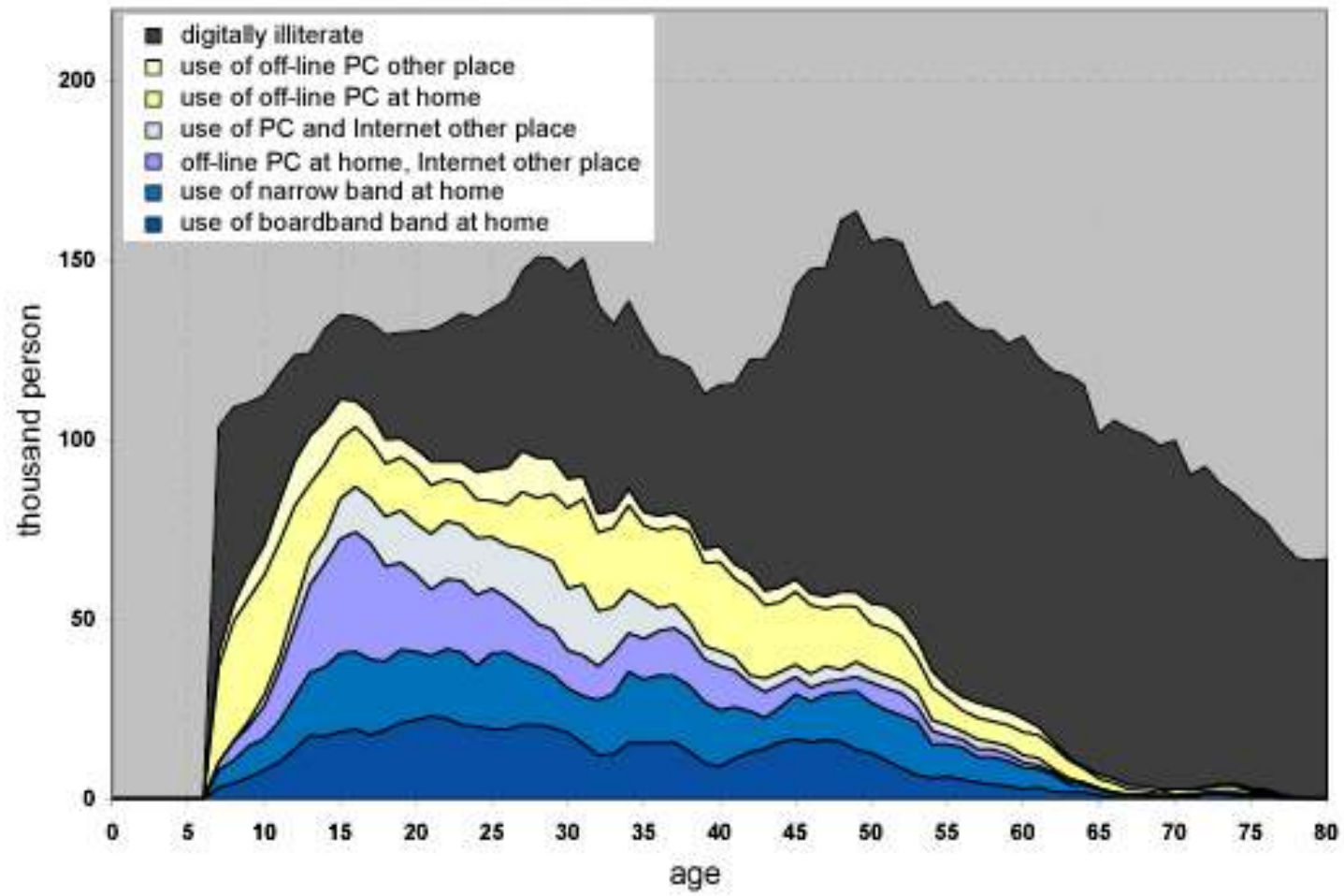EU25 Fixed broadband penetration rate, 1 July 2004

ICT endowment of household and persons

Household using Internet according to the finished school of chief of house

Age tree

Proposals of the projects

Services

Fix-mobile convergent services expected in coming
1-2 years on the basis of:
- ❑ NGN core network
- ❑ Wireless access technologies
- ❑ Intelligent terminal equipment
❑ Triple play (voice, video, data) integrated service packages
❑ SMART home, home networking technologies
❑ Navigation services e.g. GPS
❑ 3G in mobile technologies
❑ Research and pilots of network for 4G

Priorities and interventions

Priorities   Area of interventions

1. Increasing of   a.) Population
    boardband Internet   b.) Public institutes
                                                    c.) Companies

2. Extension of   d.) eGovernment
    relevant content   e.) eCommerce

3. Principle of   f.) Coverage of boardband
    equality   g.) Community access
                                                    h.) Disable groups

Strategical statements

Internet will be an informatics public service in 5
   years and in 3-5 years there will be the facility
      of Internet connection in anytime anywhere.
1. Government has to support the public service
      infrastructure, but they have to interfere the
      monopole situation.
2. The service provider builds broadband
   „highway" when the capital return can be seen!
   The Public Private Partnership – PPP – can help.
3. To support WLAN extension needs coordination.

Standardization Issues

- Interoperability
- Reusability
- Manageability
- Accessibility
- Durability
- Affordability

Metadata

- **Metadata** (**meta data**, or sometimes **metainformation**) is "data about other data", of any sort in any media. An item of metadata may describe an individual datum, or content item, or a collection of data including multiple content items and hierarchical levels, for example a database schema. In data processing, metadata is definitional data that provides information about or documentation of other data managed within an application or environment. The term should be used with caution as all data is about something, and is therefore metadata.

- For example, metadata would document data about data elements or attributes, (name, size, data type, etc) and data about records or data structures (length, fields, columns, etc) and data about data (where it is located, how it is associated, ownership, etc.). Metadata may include descriptive information about the context, quality and condition, or characteristics of the data. It may be recorded with high or low granularity

Important Standard Categories

- Metadata
  - Dublin Core
  - IEEE LOM

- Courseware package format
  - SCORM Content Packaging
  - IMS Content Packaging

- Framework-courseware communication
  - AICC CMI Data Model and API
  - SCORM Run Time Environment

Important Standard Categories (2)

- **Test modules**
  - IMS Question & Test Interoperability (QTI)
- **Student data**
  - IMS Learner Information Profile
- **Learning design, pedagogy**
  - IMS Learning Design Specification
- **ERP integration**
  - IMS Enterprise

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eLearning Standardisation Bodies

- ISO (www.iso.org)
  - ISO/IEC Joint Technology Committee Subcommittee on Standards for Learning, Education, and Technology, SC36
- IEEE (ltsc.ieee.org)
  - IEE Learning Technology Standards Committee (LTSC)
- CEN (www.cenorm.be)
  - European Committee for Standardization, Workshop on Learning Technology (WSLT)
- ADL (www.adlnet.org)
  - Advanced Distributed Learning Initiative
- IMS (ww.imsproject.org)
 - IMS Global Learning Consortium

eLearning Standardisation Bodies (2)

- AICC (www.aicc.org)
  - Aviation Industry CBT Committee (AICC)
- Dublin Core (dublincore.org)
  - Dublin Core Meta-data Initiative
- ARIADNE (www.ariadne-eu.org)
  - Alliance of Remote Instructional Authoring and Distribution Networks for Europe
- PROMETEUS (www.prometeus.org)
  - European Partnership for a Common Approach to the Production of e-learning Technologies and Content
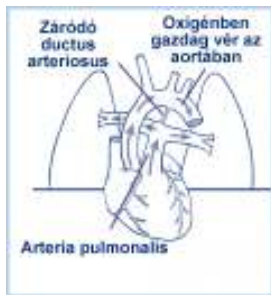
eLearning Standardisation Bodies (3)
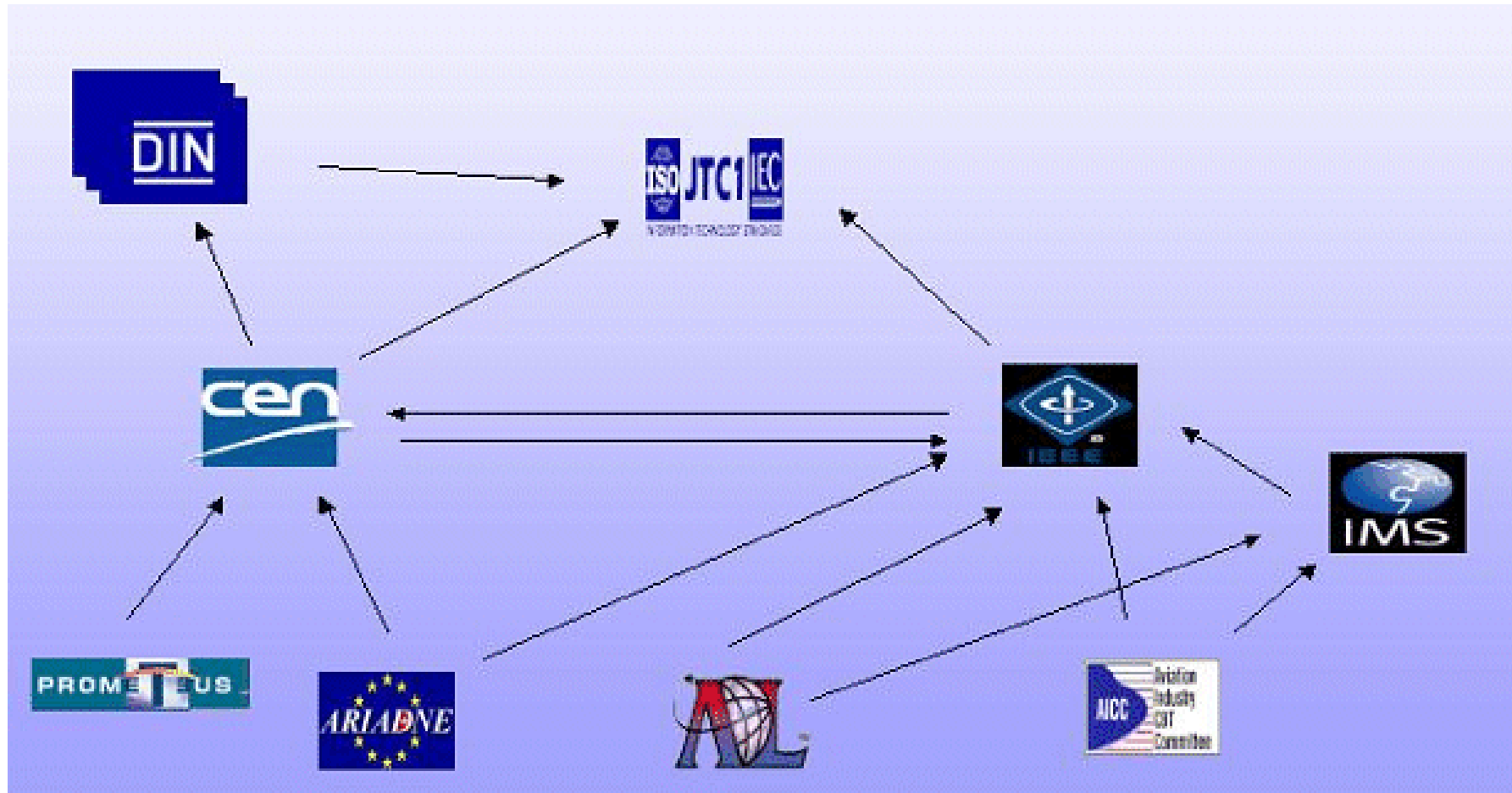
Key Standard Framework: SCORM
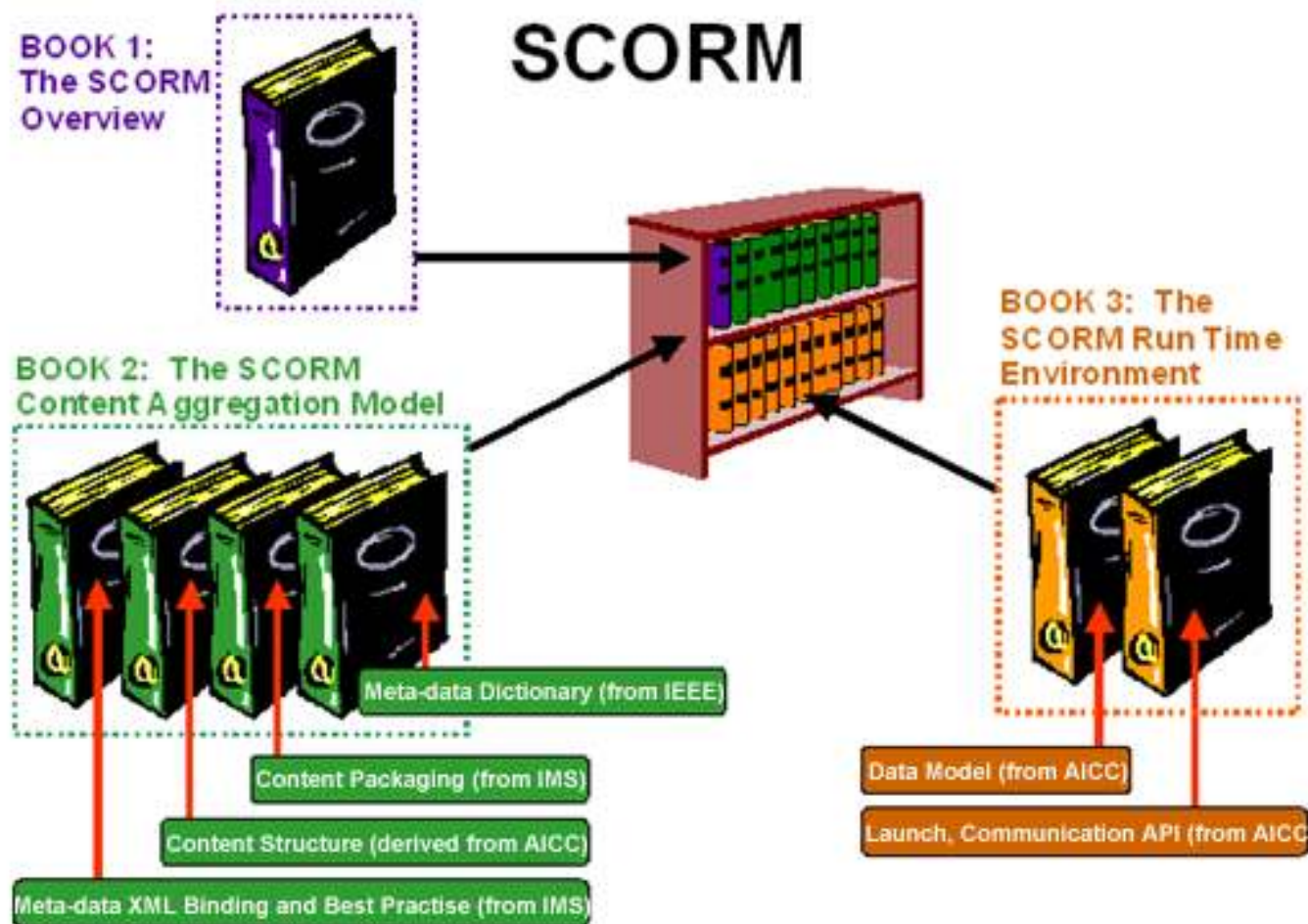
Media Illustrations
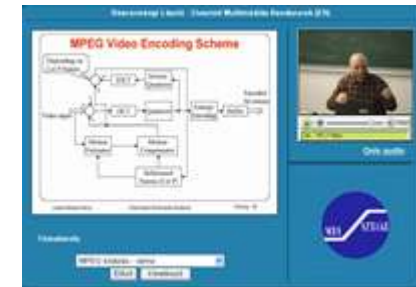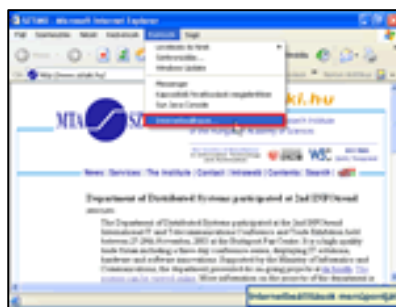

Static Illustration

Static Photo

Quiz

Presentation

Animation

Interactive Activity

Simulation

Video

Curriculum Development Process

Pre Production	Production Phase	Post Production Phase
– Strategic Partnerships	– Media and Online Material Production	– Rollout Sequence
– Requirements Analysis		– Course Publishing
– Scope and Sequence	– Assessment Development	– Assessment Publishing
– Design Documents	– Beta Focus Group	– Course Training
– Internal Review	– Implementation of Feedback	– Instructor Training
– Alpha Focus Group	– Quality Assurance	– Course Teaching

"The fact that our system of communication, teaching and entertainment does not grind to a standstill is in large part due to the fact that in most cases infringement of copyright has, historically, been ignored."

Mr Justice Laddie, 1996

What is Copyright?

- Copyright is a legal protection that gives creators of original works the exclusive right to make copies of those works and to distribute them. As a property right, this can be leased, licensed or given away by the creator - thus the original creator may not be the copyright owner.

Copyright legislation

- While the general principles remain, Copyright legislation varies from country to country.
- Copyright is a right which comes into being automatically on the creation of an original work. It does not have to be claimed by the originator. Copyright, under the <u>Copyright, Designs and Patents Act 1988</u> (and subsequent statutory instruments) covers the following:
  - Literary, dramatic and musical works
  - Artistic works
  - Sound recordings, films, broadcasts or cable programs
  - Typographical arrangements of published editions.

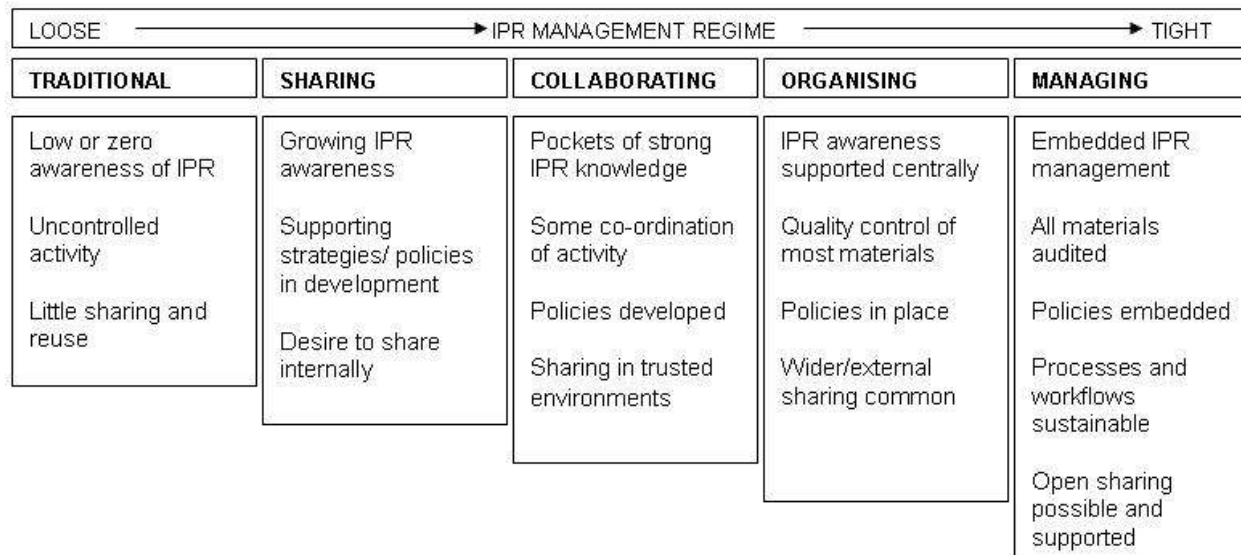# Intellectual Property Rights (IPR)

IPR is a catchall term used to describe the legal status and protection that can be claimed for information and knowledge.
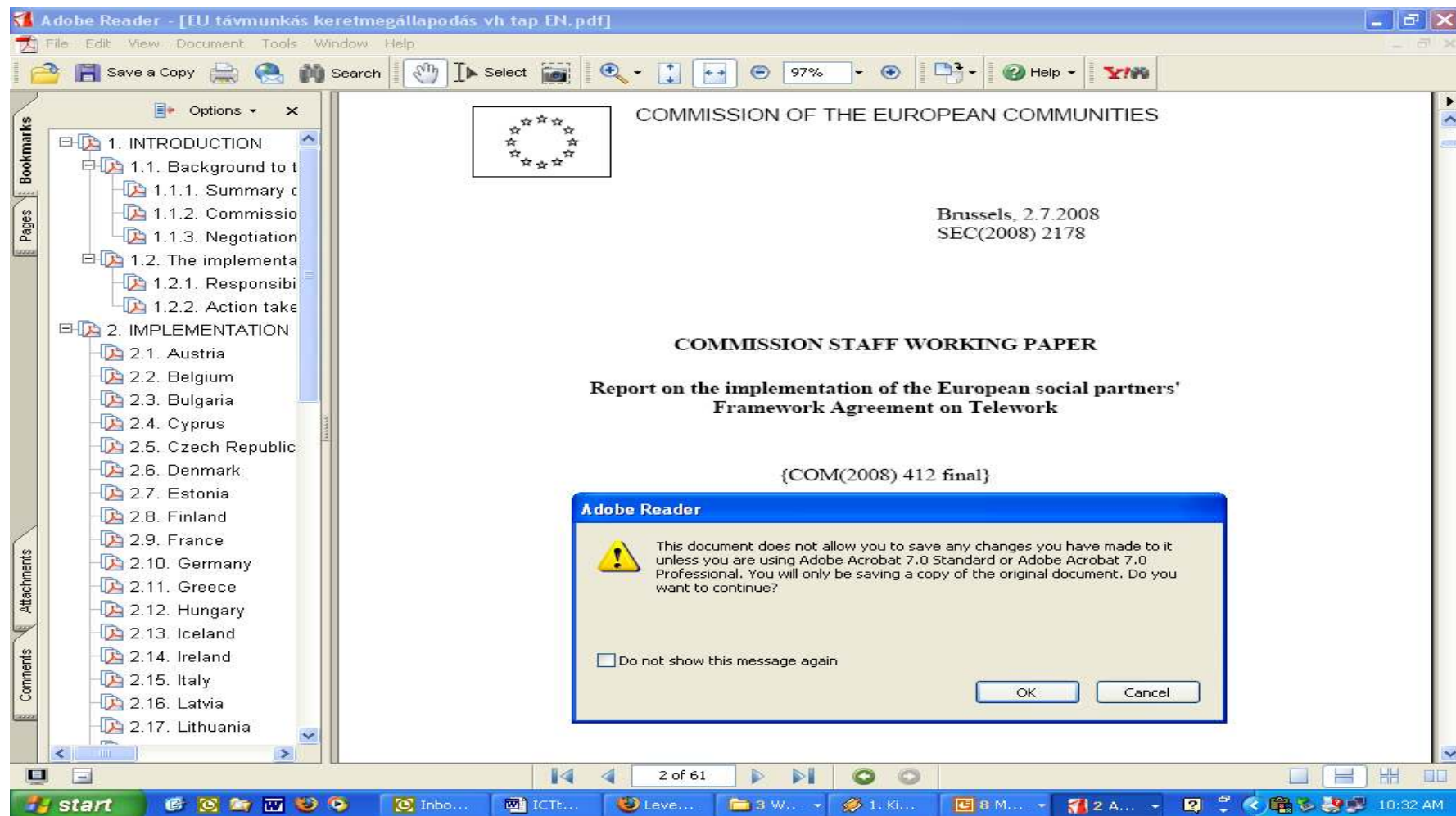
Intellectual Property Rights include:

- Copyright
- Moral Rights
- Patents
- Trademarks and logos
- Design rights
- Ideas or "know-how"
- Database rights
- Performance rights

IPR Management Regimes Mapped onto the E-Learning Change Continuum

CHARACTERISTIC PRACTICE OF IPR MANAGEMENT REGIME ON A CHANGE CONTINUUM

LOOSE ──────────→ IPR MANAGEMENT REGIME ──────────→ TIGHT

TRADITIONAL	SHARING	COLLABORATING	ORGANISING	MANAGING
Low or zero awareness of IPR Uncontrolled activity Little sharing and reuse	Growing IPR awareness Supporting strategies/ policies in development Desire to share internally	Pockets of strong IPR knowledge Some co-ordination of activity Policies developed Sharing in trusted environments	IPR awareness supported centrally Quality control of most materials Policies in place Wider/external sharing common	Embedded IPR management All materials audited Policies embedded Processes and workflows sustainable Open sharing possible and supported

Note of Acrobat Reader

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