

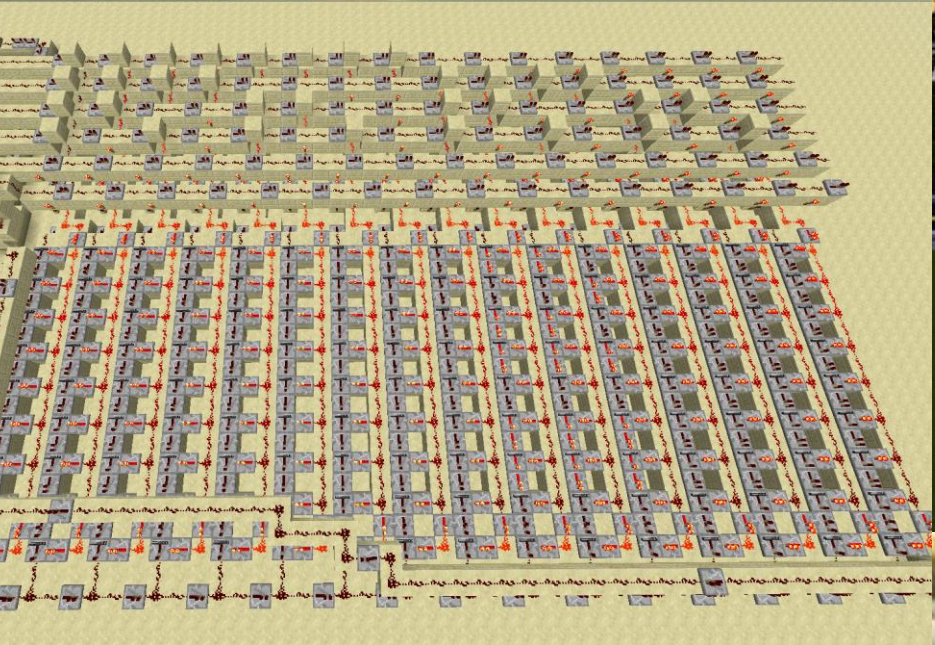


Open Educational Resources and Open Learning

Mitja Jermol

UNESCO Chair in Open Technologies for Open Educational Resources
and Open Learning

Jozef Stefan Institute , Slovenia



Open Learning



Holistic view on openness in education

Incentives and motivation

Open Universities

Open accreditation

Open value added models

Open badges

Open licenses

Open content

Open textbook

Open organisation

MOOCs

Open source

Open environment

Open Context Aware Environments

Open legislation

Open software

Open access

OER

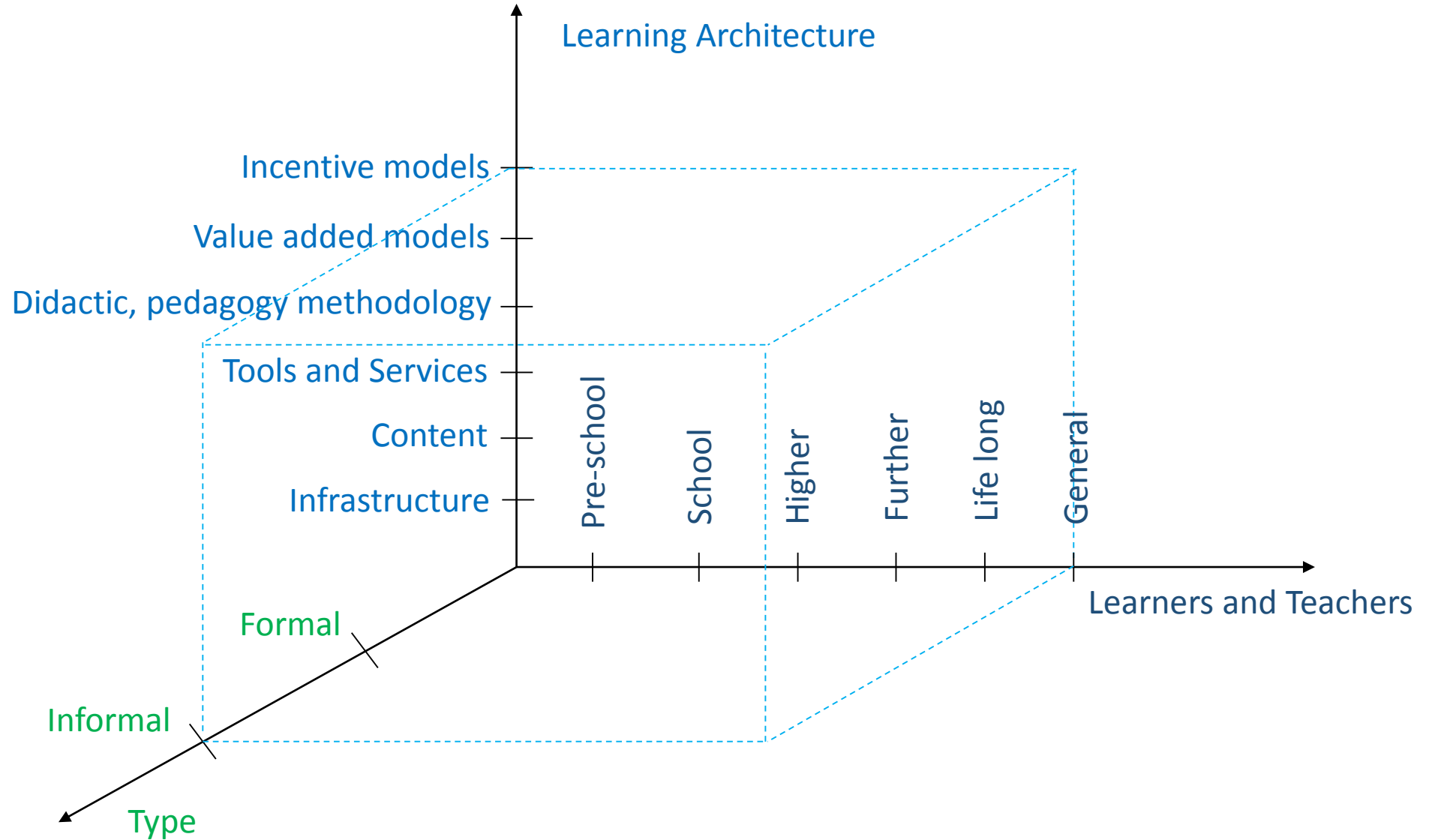
Open curriculum

OCW

Open approach

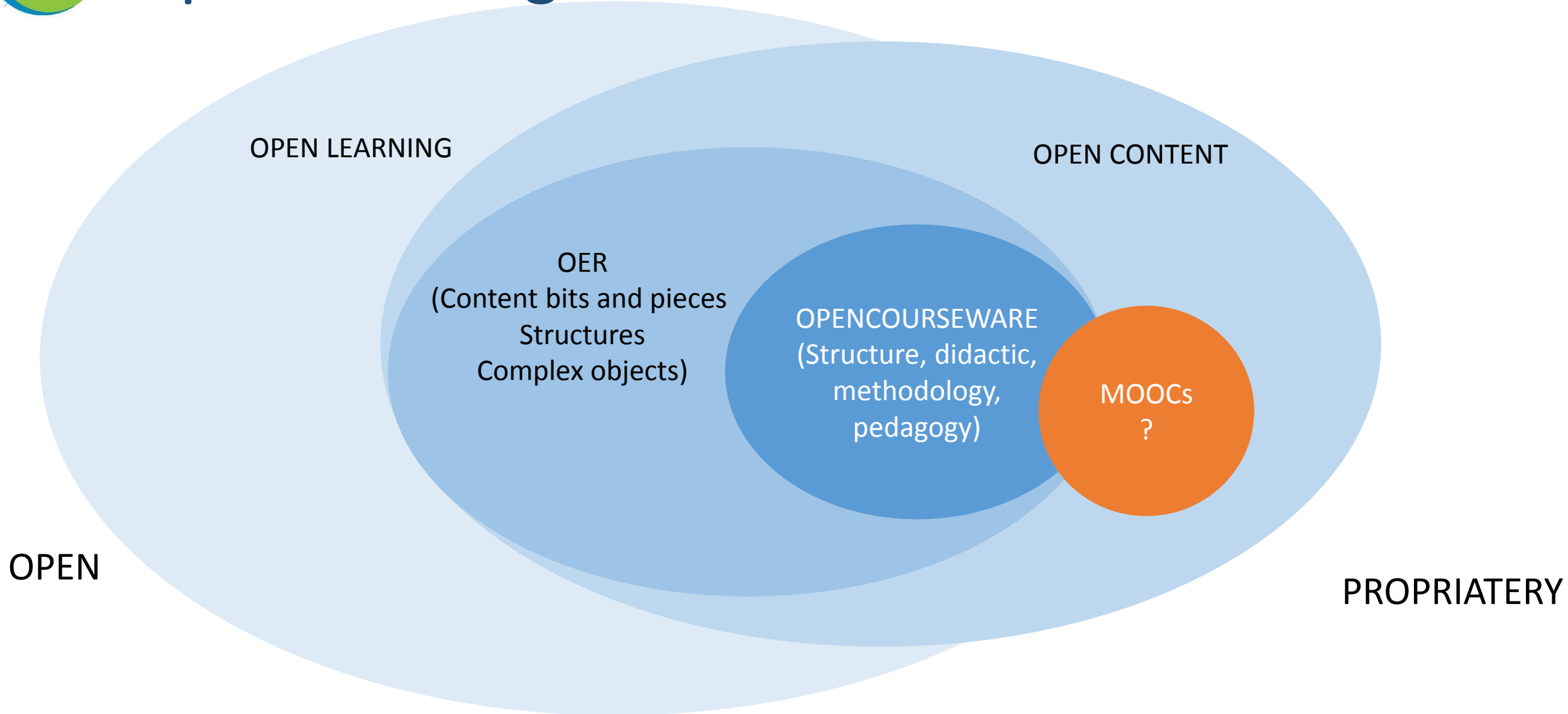


Open education matrix





Open Learning vs. OER



OER status and developments



Open Educational Resources



UNESCO: 1st Global OER Forum in 2002

OPEN = FREE + PERMISSIONS

Retain

Reuse

Revise

Remix

Redistribute

The logo consists of two overlapping circles, one blue and one green, forming a stylized 'O'.

OER evolution

1994 - Learning object – (Wayne Hodgins) – standards and metadata

1998 - Open content – (David Wiley) – OS approach to content

2001 - Creative Commons – (Larry Lessig)

2002 - OpenCourseWare – (MIT)

2002 - Open Educational Resources – (UNESCO)

Emergence of many mainly academic OER repositories

2012 - Paris OER Declaration - 2012 OER World Congress

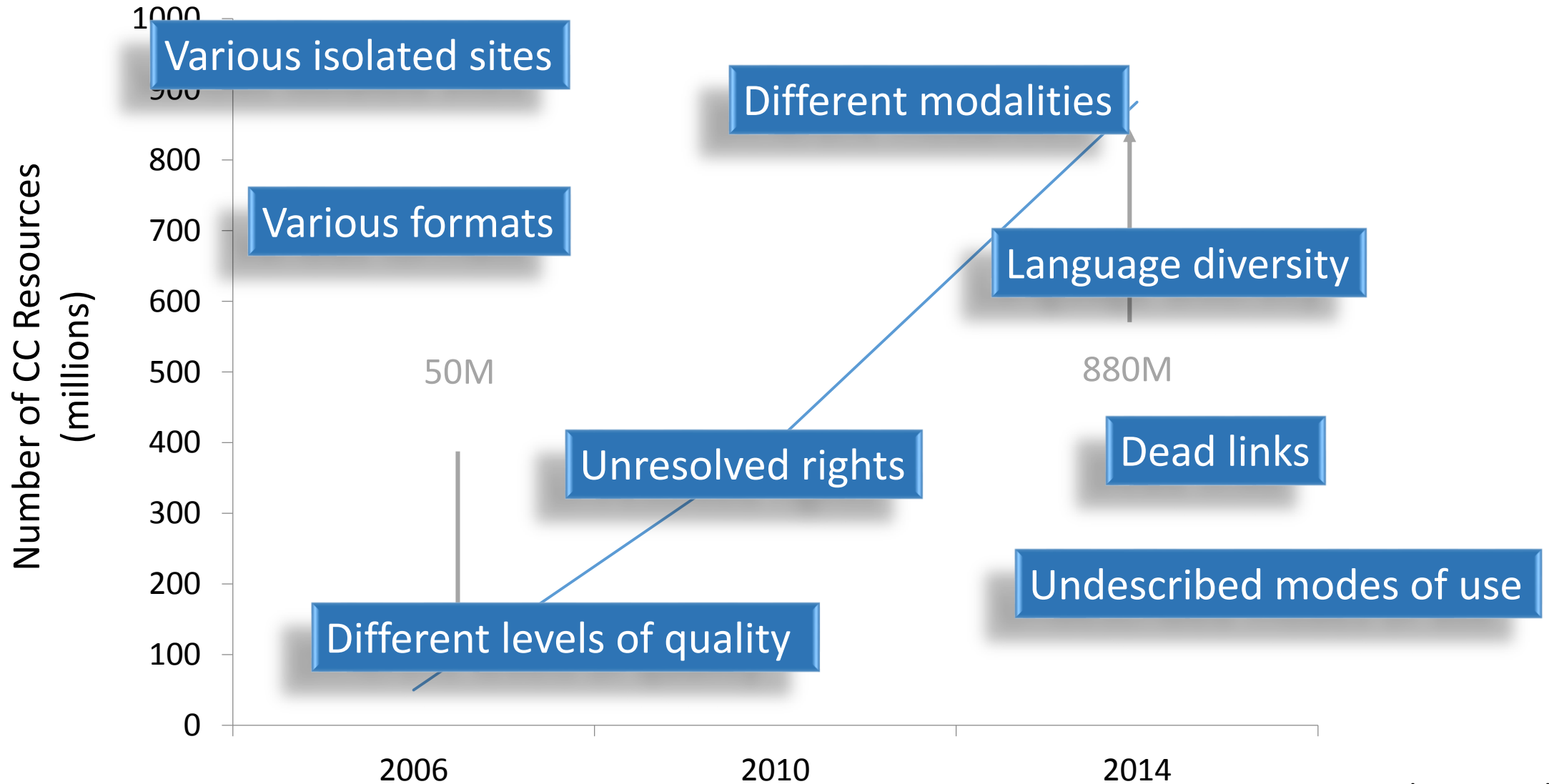
A number of Regional Policy Fora

Various projects and initiatives

2016 - OER is becoming a serious issue



Mass content missing mass use





Obstacles to mainstream OER

- Commercial interests
- Language and cultural barriers
- Ensuring inclusive and equitable access to quality content (disabilities, quality assurance, all ICT environments)
- Capacity of users to access, re-use, and share OER
- Development of appropriate policy solutions
- Need for clarity on the term 'open'



A need for a UNESCO Normative Instrument that focusses on OER

- Paris declaration is not officially a UNESCO standard-setting instrument
- OER has a central role to play in Education 2030 Agenda in Sustainable Development Goal 4
 - ... and several national policies
 - Qingdao Declaration 2015
- Mainstreaming OER in formal educational policies?
- Establishment of a Recommendation and not a Convention on OER
 - By 2019
 - A milestone 2017 – 2nd UNESCO Congress on OER in Slovenia
 - A critical mass of devoted countries
 - A pool of most active countries in OER



Opening Up Education in EC

- Still only a Communication
- Some concrete steps for OER recognition:
 - Some call for proposals in H2020 requires synchronization with the OUE
 - MSCA is redefining the concept of reserachers' mobility
 - Mainstreaming Open Science which involves OER
 - SWAFS is discussing to boost up mechanisms for openness in science and education



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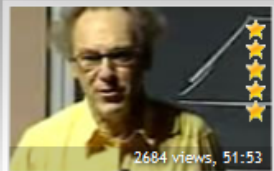
SEARCH >>



[syn] 700 views, 15:54

HTML5 proposed markup changes related to internationalization

Richard Ishida



2684 views, 51:53

Lecture 20: Inductance, RL Circuits, Magnetic Field Energy

Walter H. G. Lewin



4592 views, 57:08

Communication Skills Development

Mani Sandher



384 views, 24:02

Large-Scale Euclidean MST and Hierarchical Clustering

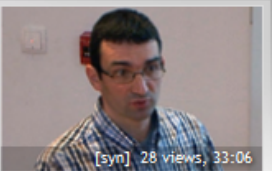
William March



[syn] 39 views, 41:41

Invited Talk
Human Factors in the World of Digital Computing and Digital ...

Nataša Milić-Frayling



[syn] 28 views, 33:06

Macroevolution: The roots of good and evil go deep in ...

Tomislav Domazet-Loš

WATCHING NOW

- Deep Learning Summer School. 8
- NLP and Deep Learning 1: Human 3
- Stanford Engineering Everywhere CS106A- 2
- A tutorial on Deep Learning 2
- MIT 8.02 Physics II: Electricitv and 2

HIDE CHAT >>

CATEGORIES

- Architecture (174)
- Arts (356)
- Astronomy (74)
- Biology (463)

NEWS

Just added: Surprising Computer Science talk by Tim Bell Oct. 10, 2015

This talk investigates magical and paradoxical ideas in computer science, and how it relates to Computer Science education.

Don't miss out on Blind Date "Urban Realities" Oct. 9, 2015

Blind date is a special type of event hosted by Museum of Architecture and Design Ljubljana, where young architects, urban planners and other experts meet for the first time and try to find answers to the pressing issues of the city. Blind date "Urban Realities" focuses on the problem of abandoned construction pits in Ljubljana.

Ali lahko računalnik sodi bolj kot sodnik? Oct. 2, 2015

Ne zamudite zanimivih in aktualnih predavanj okrogle mize "Pravo v dobi velikega podatkovja: Ali lahko računalnik sodi bolje kot sodnik?", ki sta jo organizirala Inštitut za kriminologijo pri Pravni fakulteti v Ljubljani in Pravna fakulteta Univerze v Ljubljani.

We just added a new event: Deep Learning Summer Sept. 18, 2015

NEWSLETTER

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MORE



MAO Blind Date "Urban Realities", Ljubljana 2015

Blind date is a special type of event, where young architects, urban planners and other experts meet for the first ...



visitor

Enter chat here



Artificial Intelligence Technologies



Deep Semantics & Reasoning (Cyc, CC)

Light-Weight Semantic Technologies (OntoGen, OntoBridge)

Decision Support (DEX, MobiS)

Social Computing/Web2.0 (LiveNetLife)

Computational Linguistics (Eventregistry, Enrycher, AnswerArt, iDiversityNews)

Complex Data Visualization (DocAtlas, NewsExplorer, SearchPoint)

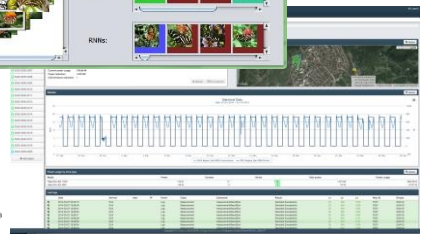
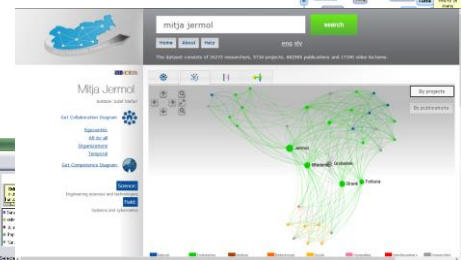
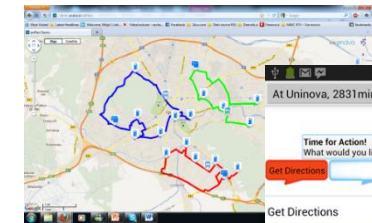
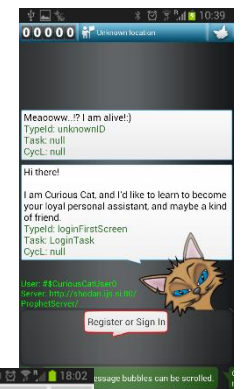
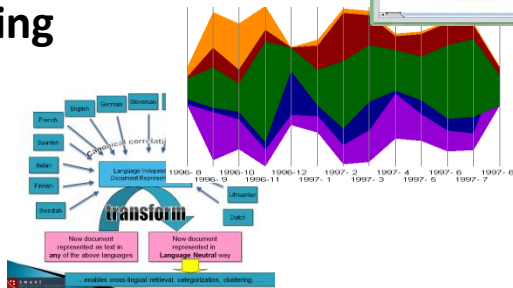
Graph/Social Network Analysis (GraphGarden/SNAP, IST-World, Scienceatlas, Contextify)

Data/Web/Text/Stream-Mining (TextGarden Suite of tools)

Statistical Machine Learning



cure, day, feeling, drink, night, good, work, year, today, morning, haha, worst, love, tomorrow, time, christmas, bad, wake, food, bed, drunk
hangover, winning, happynewyear, perfect, food, nye, nofair, tooforthissit, dedication, sick, fucked, badtimes, baktobed, goodnight, yay, ouch, beer, fresh, dying, bed, death

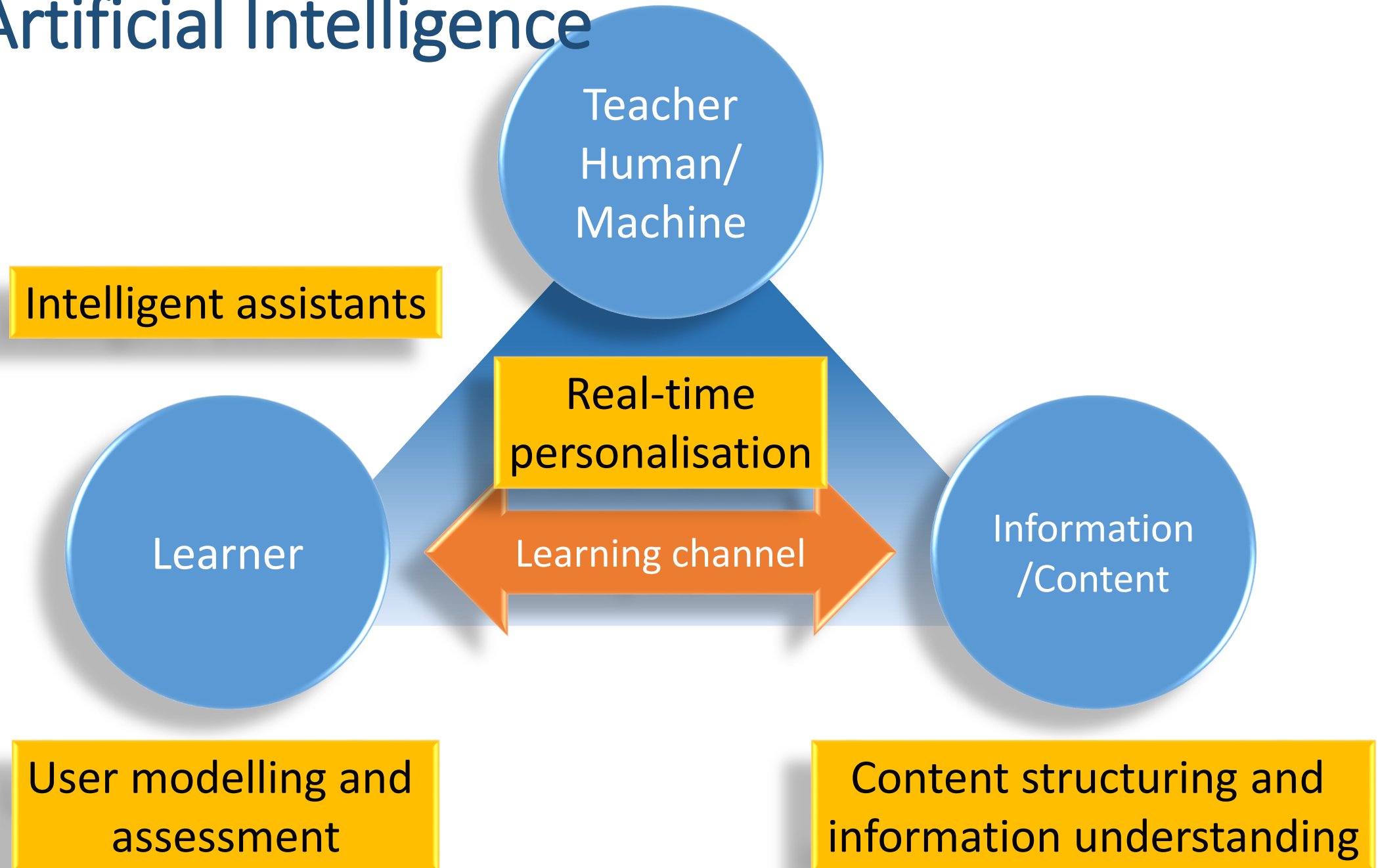


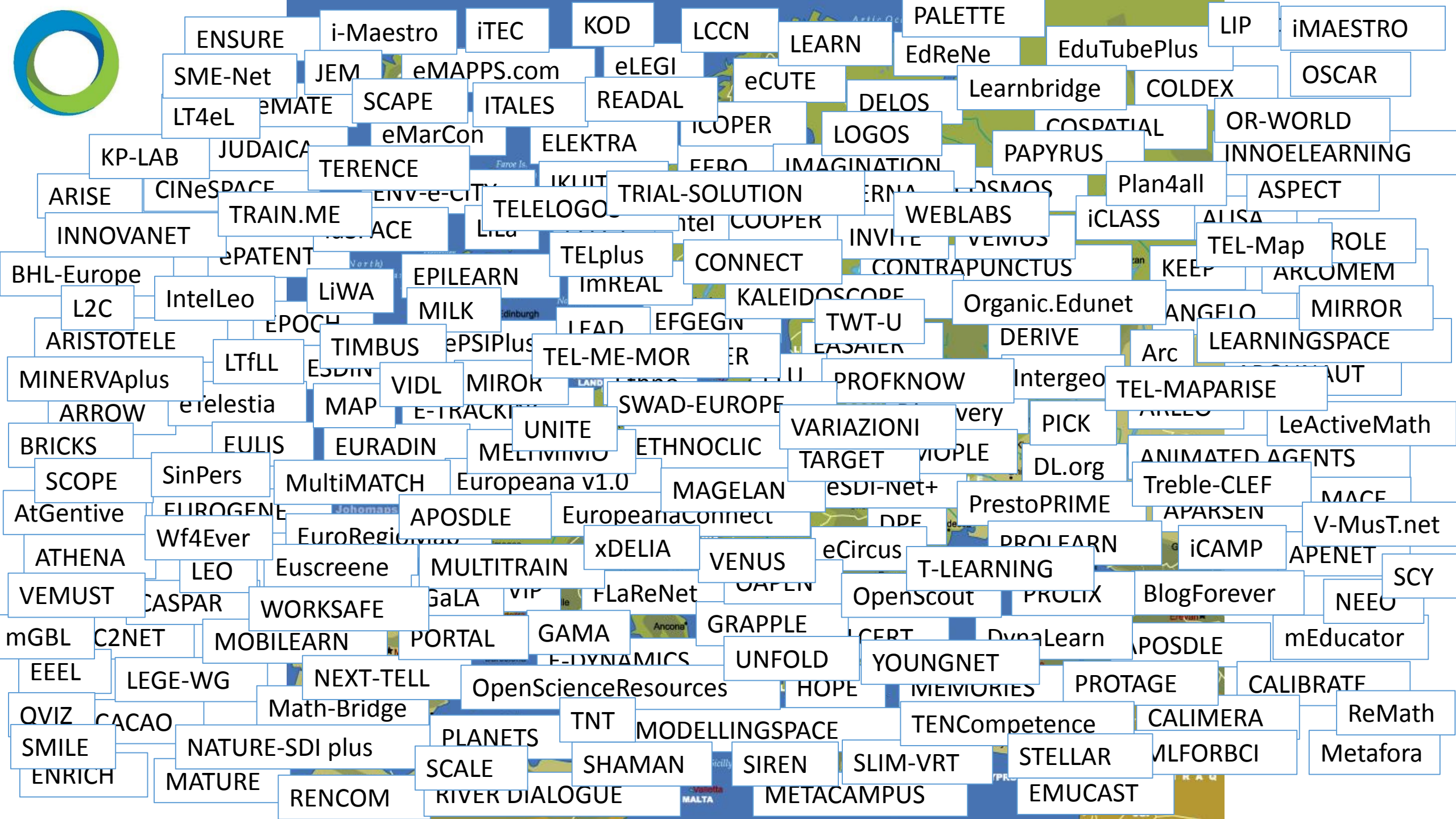
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Artificial Intelligence





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JEM

eMAPPS.com

eLEGI

eCUTE

EdReNe

EduTubePlus

OSCAR

LT4eL

eMATE

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Learnbridge

COLDEX

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KP-LAB

JUDAICA

eMarCon

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ASPECT

ARISE

CINeSPACE

ENV-e-CIT

TELELOGO

TRIAL-SOLUTION

ERNA

OSMOS

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ASPECT

INNOVANET

TRAIN.ME

SPACE

TELplus

CONNECT

INVITE

VEIMOS

iCLASS

ALISA

ROLE

BHL-Europe

ePATENT

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EPILEARN

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CONTRAPUNCTUS

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MILK

LEAD

EFGGIN

TWT-U

Organic.Edunet

ANGELO

MIRROR

MINERVAplus

LTfLL

TIMBUS

ePSIPlus

TEL-ME-MOR

PROFKNOW

Intergeo

TEL-MAPARISE

MAP

ARROW

etelestia

MAP

E-TRACKI

SWAD-EUROPE

VARIAZIONI

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PICK

LeActiveMath

BRICKS

EULIS

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UNITE

ETHNOCLIC

TARGET

PEOPLE

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ANIMATED AGENTS

SCOPE

SinPers

MultiMATCH

Europeana v1.0

MAGELAN

eSDI-Net+

PrestoPRIME

Treble-CLEF

MACE

AtGentive

EUROGENE

APOSDLE

EuropeanaConnect

DPE

PrestoPRIME

APARSEN

V-MusT.net

ATHENA

Wf4Ever

Euscreene

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xDELIA

VENUS

eCircus

T-LEARNING

iCAMP

APENET

SCY

VEMUST

CASPAR

WORKSAFE

GaLA

FLaReNet

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PROLIX

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NEE

mGBL

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PORTAL

GAMA

GRAPPLE

LCERT

DynaLearn

APOSDLE

mEducator

EEEL

LEGE-WG

NEXT-TELL

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HOPE

YOUNGNET

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QVIZ

CACAO

Math-Bridge

PLANETS

TNT

MODELLINGSPACE

TENCompetence

CALIMERA

ReMath

SMILE

NATURE-SDI plus

SCALE

SHAMAN

SIREN

SLIM-VRT

STELLAR

MLFORBCI

Metafora

ENRICH

MATURE

RENCOM

RIVER DIALOGUE

METACAMPUS

EMUCAST



EC communication titled 'Opening up Education'
(DG EAC, Connect), Sept 2013



Slovenia – “Just the right size” country

Opening Up Slovenia

A reference country on open education



How did we get to OuS?

The role of a Catalyst

Involving all stakeholders: Open community

Need for change: Bottom Up

Holistic and systemic approach

Inform, Listen, Share, Collaborate: Unconditional

Projects with concrete results

Formal political support

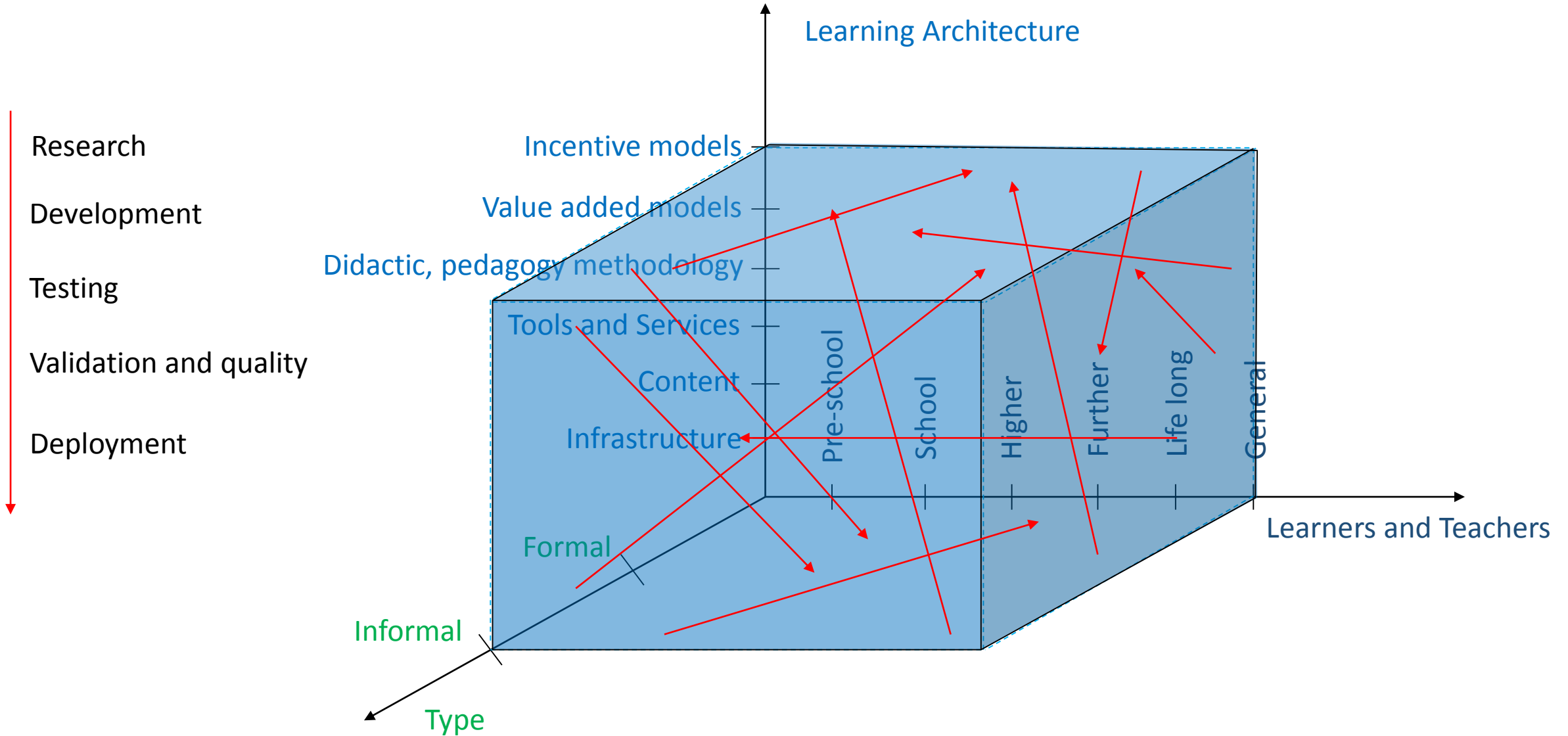
Just the Right Size Country



- Knowledge 4 All Foundation Ltd.
- Institut Jožef Stefan
- University of Maribor
- University of Primorska
- University of Ljubljana
- University of Nova Gorica
- Ministry of Education, Science and Sport
- UNESCO national office
- Savsko Naselje Primary School
- Kindergarten Center Trnovo
- Technical High School Center Kranj
- IP Institute
- Slovenian Chamber of Commerce
- Slovenian Post
- Elected representative of the primary school headmasters of Slovenia
- Elected representative of the high school school headmasters of Slovenia
- Elected representative of the kindergarten headmasters of Slovenia
- Representative of public health institutions
- Representative of the public administration workers
- Student society representative
- Representative of the visually impaired people organisation
- Topolšica Hospital
- Lek d.d.
- Kolektor Group
- Gorenje d.d.



Open education matrix



open educational resources

searchpoint.ijs.si/result.html?q=open%20educational%20resources&c=kmeans

SEARCH NlpSPO - [Iraq.d09b.AP900822-0016.xml] (55, 40)

File Home Send / Receive Folder

Contextify Dialog

Dialogs

Favorites

- Inbox
- Sent Item
- Deleted
- Outbox
- RSS Feed
- Search Fe

mitja.jermol@i

- Inbox (25)
- Sent Item
- Deleted
- CT3 (22)
- Cyc (39)
- E3 (35)
- Junk E-m
- Moje
- Nezelena
- none (13)
- Osnutki
- People
- Projects

Mail

Calendar

Contacts

Tasks

Filter applied

thousand any foreigner

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people

overthrow

risk Iraq President Saddam Hussein

Westerner Iraq Kuwait other thousand

U.S. Navy

trap

interdict

foreigner

trap

August

heat

shipment of

American thousand

Turkey

task force fresh U.S. Navy

crisis gulf Persian Gulf

cut

set

Britain

join

Iraq

border

Japan

06770 Maybe at European Commission office?

Enough about Ninja House

Can we talk about the concept 'general photosynthesis'?

Ok

general photosynthesis:
General photosynthesis requires an autotroph playing the role of "bodily doer".
General photosynthesis requires a microscopic object playing the role of "moving object".

Ok

General photosynthesis requires *[sort]* playing the role of "bodily doer".

I don't know Nothing else

Write here... Enough about general photo

Don : the Salvation Army is headed by John Major.

Content

Search Options

Email content

Rubén Pérez to C

Re: [Opencast Mat (builderror)

Hey, Comments inli

Rubén Pérez to C

Re: [Opencast Mat I'll be more than gla

Matpro Fhkoeln t

Re: [Opencast Mat (build error)

Hello Rubén Pérez, V

Rubén Pérez to C

Re: [Opencast Mat Oops! My bad! I was you get the xml sche

Josh Holtzman to

Re: [Opencast Mat Shouldn't be difficul

Josh Holtzman to

End: 14.9.2011 15 Update

64 96 60 93 78 96

19 20-31 1-9 10-19 20-31 1-9 10-19

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phone call

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Send/Receive error Connected 100%

workflow judy matterhom episode install http huge speak server ll doc case

17:45 7/9/2015



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Gernot Schwalbe, Jens Kleffmann



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Bin Yu



94 views, 1:10:48
Yoram Louzoun

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- Category: Top - VideoLectures.NET 2
- Boosting - VideoLectures.NET 2
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CATEGORIES

NEWS

Videos from European Conference on Computer Vision 2014 Now Available Online!

We invite you to view the talks from the ECCV 2014. The European Conference on Computer Vision is one of the top conferences for researchers in this field and is held biennially in alternation with the International Conference on Computer Vision. It was first held in 1990 in Antibes (France) with subsequent conferences in Santa Margherita Ligure (Italy) in 1992, ...

13th International Conference on Parallel Problem Solving from Nature Online Now!

PPSN 2014 is a showcase of a wide range of topics in Natural Computing including, but not restricted to: Evolutionary Computation, Neural Computation, Molecular Computation, Quantum Computation, Artificial Life, Swarm Intelligence, Artificial Ant Systems, Artificial

NEWSLETTER

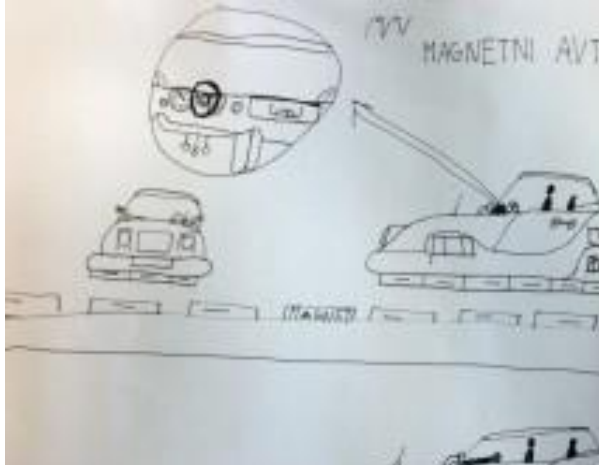
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4th International Conference on Web Intelligence, Mining and Semantics (WIMS), Thessaloniki 2014

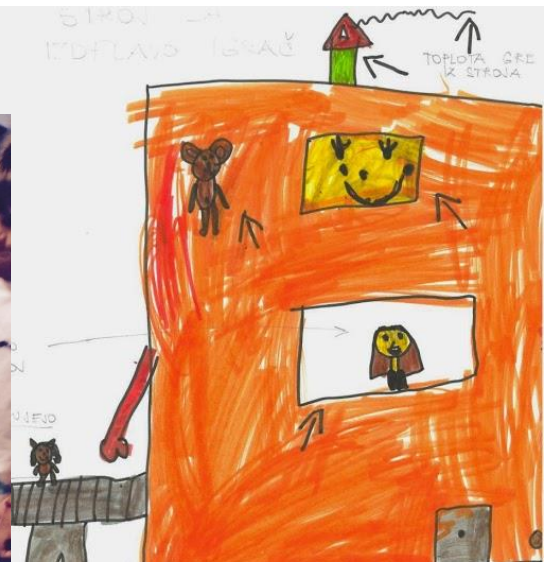
The 1 person in chat



ROBOT ZA MENJAVANJE LUČI NA AVTOMOBILIH



KATA



PREMIKAJOČA TELEVIZIJA



GUMB ZA ROČNI VKLOP ALI IZKLOP

ZVOČNIK, KI NAPOVE IZBIRO PROGRAMA

DALJINSKI UPRAVLJALNIK

TELEVIZIJA IMA NOGE, KI JI OMOGOČAJO PREMikanJE IZ PROSTORA V PROSTOR. DELUJE NA DALJINSKO UPRAVLJANJE.



Eko izdelovalec

npr. pri stanju ti kosti od vozila. Namesto, da jih vržeš stran, jih opereš in jih daš v Eko izdelovalca. Napišeš iz česa hočeš izdelati v kaj. **NAVODILA**

GUMBA ZA 'IZKLOP' IN 'VKLOP'

GUMBI ZA: HITRO, SREDNJE, POKRO, PRAVNO DELOVANJE



NEKO TE

Anja Panjan, G.A



Open school



športno igrišče



idče, idče, idče



tržališče



tržbuve



tržnišče



asimetrično ustvarjanje, razvijanje idej



tržnišče, igrišče, enotavanje



tržni



tržniška stena



tržni



tržni



Policy adaptation entry points

- Universities
 - Majority of content is internal and unedited, non-copyrighted, and is therefore restricted to the general public.
 - Teacher/Professor has no incentive or benefit in sharing, open licensing content for the public good. Answer - changing national criteria for habilitation.
 - HEI financing system does not stimulate the preparation and implementation of open courses (MOOC) or OER. Answer - launch projects that would encourage this practice.
- Schools and kindergartens
 - Establishment of online educational portal for kindergartens, primary schools and secondary schools, where they would publish educational content for teachers, pupils and parents.
 - Provide teachers with modern teaching methods and to educate them for skillful application of ICT in the classroom.
 - Establish a reward system for teachers to support open education.
- Quality Assurance agency
 - Preparation of criteria for evaluating e-learning and open learning in the processes of accreditation and external evaluation of both higher education institutions and study programs
 - Preparation of guidelines for students, mentors, tutors who participate in open education
 - Preparation of guidelines and organization and delivery of training courses for professionals of the QA agency
 - Guidelines for self-evaluation of e-learning and open learning
- Chamber of Commerce
 - Rules and regulation as obstacles; Public education vs. Market driven education
 - Forecasting scenarios. How will OuS impact the education market?
 - CoC to systematically monitor the needs of employers and ICT equipment of employers to access knowledge - funding issues.



What have we achieved so far?

First nation-wide initiative

Strategic commitment of Slovenian government

EC and UNESCO awareness and support

First EOI from potential investors

Creative, open and enjoyable atmosphere



32 running projects

First policy initiatives

Followers knocking



Current challenges

- Use technology to make OER appealing
- Mechanisms to make teachers secure and motivated
 - Easy use, 7/24 help, fewer rules and regulations
- Holistic and kids/student centered approach
 - Growing up the citizen of the world
- Mechanisms and added value models to involve businesses (publishers)
- Dynamic policies, regulations – co-creation?
- Mechanisms and models for quality assurance
- Streamline incentives
- Experiment at academia, implement to kindergardens
 - Same fears, same rejection models, very similar incentive models
- OER DNA



Associated institutions

- **Austria:** Faculty of Education, University of Vienna
- **Belgium:** Department of Educational Sciences, University of Leuven
- **Croatia:** University of Zagreb
- **Estonia:** Institute of Education, Tallinn University
- **France:** University of Paris, University of Lyon
- **Greece:** Singulidion, National and Kapodistrian University of Athens
- **Italy:** International Center for Educational Research, Università degli Studi di Udine
- **Germany:** Karlsruhe Institute of Technology
- **Lithuania:** Vilnius University
- **Netherlands:** University of Twente
- **Poland:** Lublin University
- **Portugal:** Faculty of Education, University of Porto
- **Slovenia:** Karska University, Institute for Adult Education
- **Spain:** Madrid University
- **Turkey:** Department of Educational Sciences, Ankara University
- **United Kingdom:** The Open University UK, University College London, University of Manchester
- **United States:** OpenCourseWare Consortium, OpenCast Matterhorn, MIT, Stanford, Carnegie Mellon University



to Calza Bini" ,
Science,

nian institute for



Links and additional information

- <http://www.ouslovenia.net>
- <http://ailab.ijs.si>
- <http://videolectures.net>, <http://opencast.org/matterhorn/>
- <http://scienceatlas.si>
- <http://qminer.ijs.si>
- <http://eventregistry.org>, <http://enrycher.ijs.si>, <http://newsfeed.ijs.si>
- <http://www.cyc.com>,
- [iDiveriNews on App Store](#)
- [Curious Cat on GooglePlay](#)

- mitja.jermol@ijs.si

Supplemental slides

Guidelines in adopting OER



Key point in adopting OER

- What will you gain with OER?
 - Save money in producing materials
 - Comply with new trends, positively enforced by EC via H2020, Marie Curie
 - Gain visibility and create new learning environments
 - Adopt new, global, unprecedented audience
 - Make local, regional, global impact
 - Create public good from public investment
- At your institution you will have to:
 - Make the Case to Higher Administration
 - Make the Case to the Mid-Level Administration
 - Make the Case to the Faculty
 - Make the Case to the IT Team



Key point in adopting OER

- Determine what course websites and course management systems are in use on your campus.
 - This impacts your content import/export strategy, and defines the infrastructure required to collect, build, and manage course content.
 - Create standards for structure and presentation of content on your OER website
 - Standardization helps reduce cost, improve usability of the Web site and streamline the publication process.
 - Evaluate the content delivery infrastructure needs of your OpenCourseWare initiative
 - Worldwide distribution of end-users, use of video, anticipated peak/average loads, and other factors determine your metadata strategy.



OER resistance

- Attendance
 - “My students won’t come to class if the lectures are online”
- Cost
 - Depends on the number of courses rate, pre-existing resources can be shared with the OER project, and how (and by whom) the flow of work is directed
- Drain on Faculty Time
 - Projects generally employ staff or students to vet materials for Intellectual Property issues and to format them for online use.
 - Erosion of Distance Education Revenue
 - OER sites provide students with an important pathway into for-credit coursework (for distant learning universities, programmes)



OER resistance

- Faculty Resistance to Sharing
 - Value of course materials actually increases as those materials are given away.
 - Have a core group of supportive faculty
- Intellectual Property
 - Addressing Intellectual Policy issues is complicated
 - but it often is more a matter of good record keeping than anything
- Undermining Potential Publication for Profit
 - Most faculty are realistic about royalties from their published works.
 - Evidence that OER publication in fact promotes the sale of related faculty publications, as it both widens the market for those publications, increases name recognition and demonstrates uses to which those publications might be put in the classroom



Before getting into

- What are the most significant aspects of your institution's mission and culture?
- What are your institution's explicit short and long-term goals?
- What are your institution's explicit concerns?
- What OER-relevant processes does your institution already have in place?
- What is likely to be the most effective scope of an OCW project at your institution?
- What are likely to be the “pain points” for your institution?



Before getting into

- Assemble an Information Packet about your proposed initiative
- Get to know other people at your institution who are involved with developments in education and educational technology
- Promote increased use of Open Educational Resources at your institution
- Review available evaluation tools for compiling statistics about your site; its number of hits, where users are coming from
- Talk with us about formal partnerships.



Evaluation and Metrics

- Start with a clear conception of what you want to measure, and why.
 - Help to crystallize your evaluation strategy and methodology.
- Measure Access, Use, Impact
 - who is visiting, from where, and their profiles
 - what they are using it for, and how
 - and what difference it makes
 - Tracking the usefulness and usability of OER, and the efficiency of your publication process will make your OER relevant over time
 - Measuring the use and demonstrating the impact of an OER helps ensure continued engagement of key stakeholders.
- Internally, measure process efficiency and faculty satisfaction.



Relating OER to Pedagogy

- Information specifically intended to help users get the most out of their learning experience. How will you articulate expectations, goals, and learning outcomes?
 - How will you encourage active engagement?
 - How will you encourage users to have an enjoyable and meaningful experience of using OER?
 - How will you provide opportunities for useful reflection on what users have learned?
 - What tools can help users assess their prior experience and knowledge to help them select the most appropriate OER material and direct their learning activities?
 - How will you encourage users to link their learning with OER to their own professional or personal circumstances?
 - How will you encourage users to learn in a community?



Maintaining Intellectual Property

- Intellectual Property (IP) Management is one of the most serious concerns faced by those seeking to start an OER project.
- Questions you should ask your institution's legal team
 - Does your institution consider faculty teaching materials to be the property of the faculty member or of the institution?
 - What process does your institution want you to follow in your use of institution-owned content?
 - How concerned is your institution with its own branding and/or the appearance of endorsement?
 - What is your institution's stance on fair use in the classroom? Outside the classroom?
 - What types of legal language does your institution want you to use in license requests?
 - To what types of privacy laws is your institution subject?