



Islamic Peace by Trey Ratcliff. <http://www.flickr.com/photos/stuckincustoms/250235397/>



OER: Open Education Revolution

• Eleonora Pantò • @epanto • 29th Sept, 2014

Agenda



1. Understanding
Open Education



2. OE Initiatives



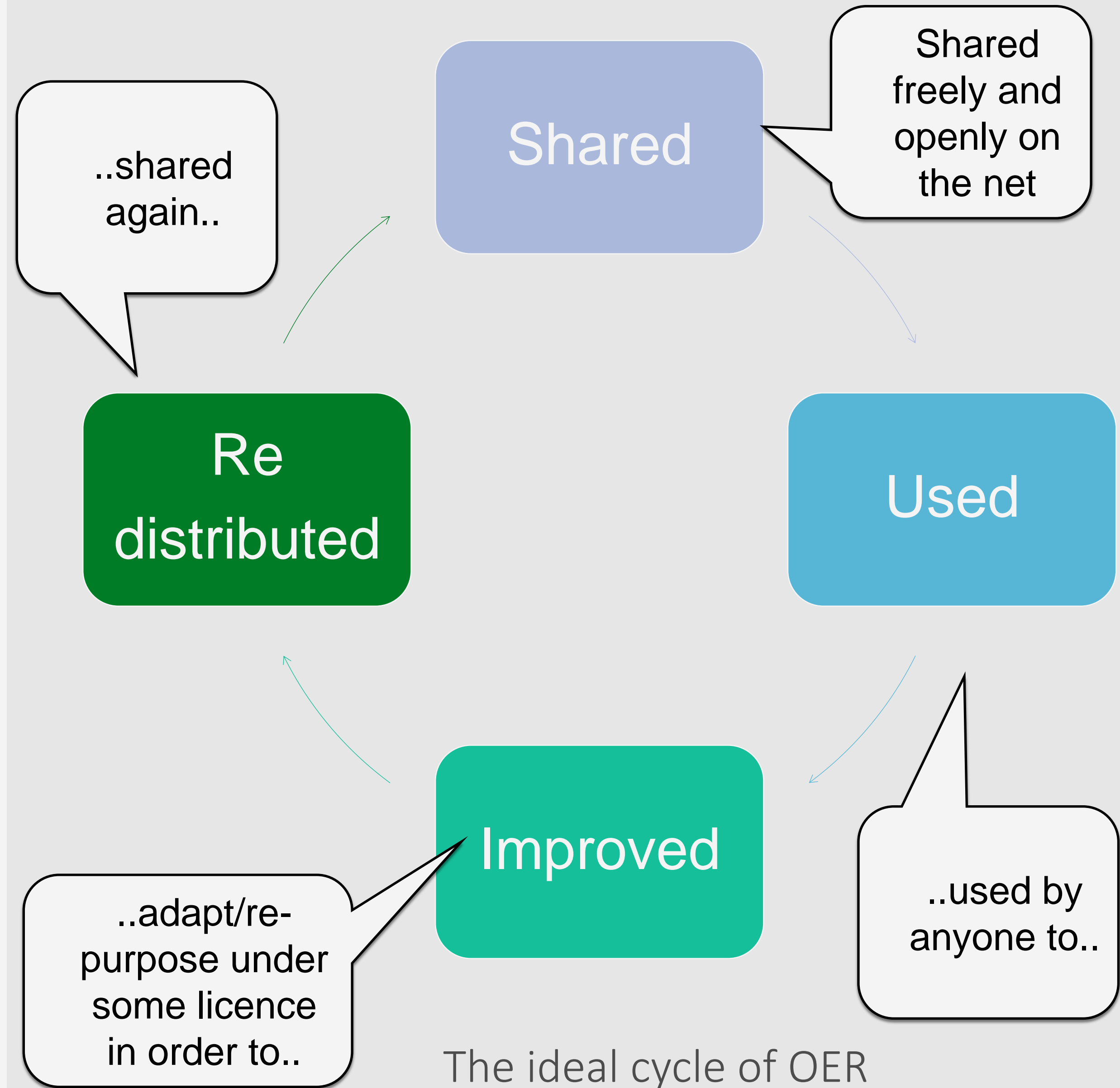
3. MOOC

1. Understanding Open Education :

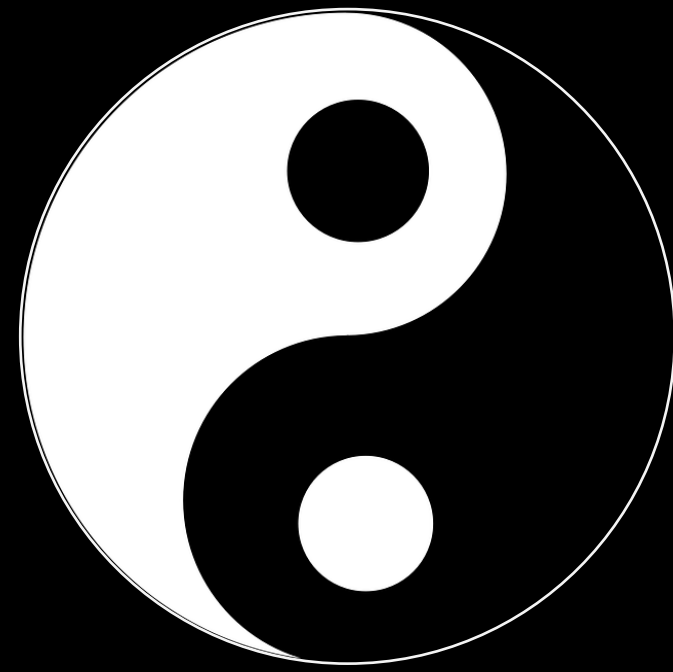
- enabling factors
- definition
- declaration
- timeline



Open Educational Resources

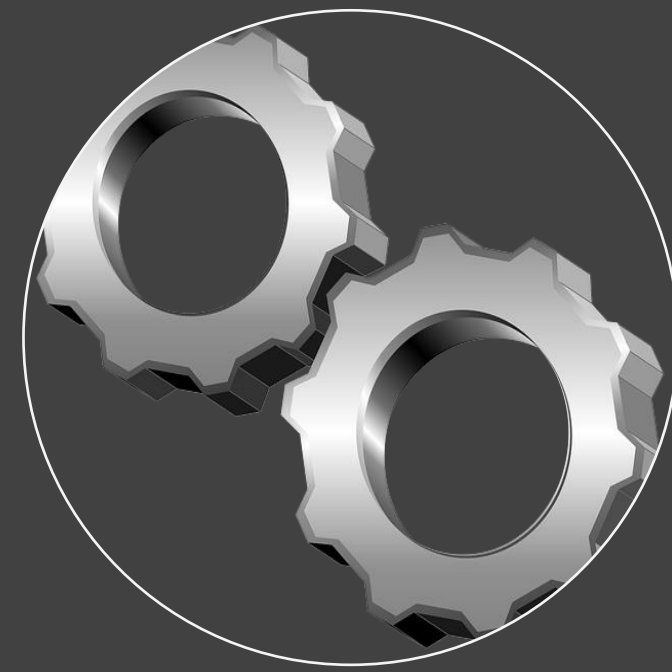


Enabling factors



Social

- Change in philosophy



Technical

- Affordances of the Internet



Legal

- Alternative copyright Licensing



Financial

- A range of financial models





Social



1994- Wayne Hodgins

Reusable learning object,
standard and remixable



1998 - Richard Stallman

Open Source Software
Public license



1998- David Wyley

Open Content- Applying to
digital contents the same
concept of Open Source
Software



Technical

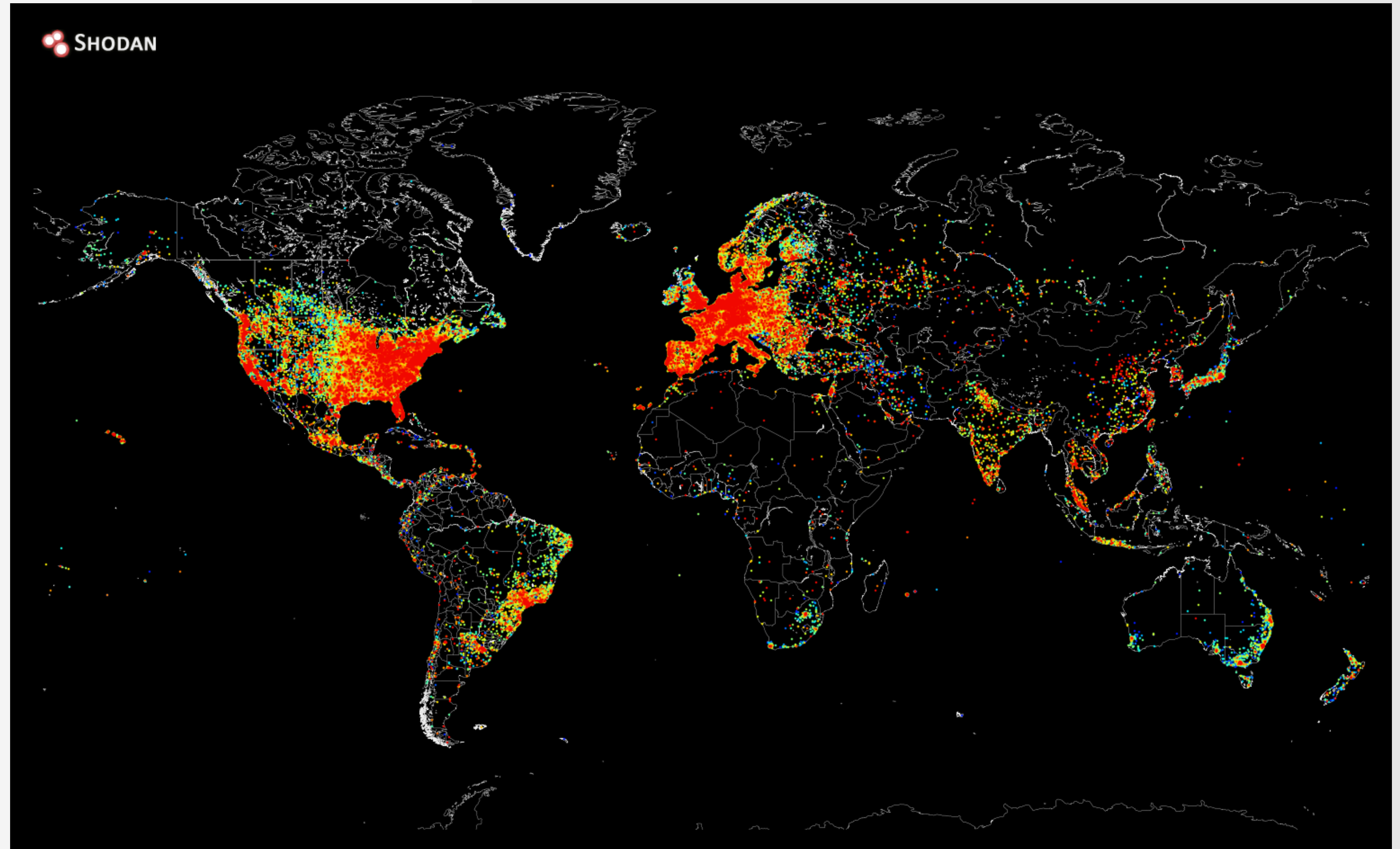
[@shodanhq](#) Pinged all devices on the Internet, here's a map of where they're located :)

pic.twitter.com/1vaXrpEoIp

via

[@achillean](#)

29 August 14





Legal





Financial

There are many models for sustainable OERs:

- **Endowment** – base funding, i.e. the Stanford Encyclopedia of Philosophy
- **Membership** – interested organizations is invited to contribute a certain sum, either as seed only or as an annual contribution or subscription i.e. Sakai Consortium, OCW
- **Donation** a project deemed worthy of support by the wider community requests-, and receives, donations. Hewlett Foundation
- **Sponsorship/Institutional** - MIT
- **Government:** funding for OER projects by government agencies

Defining “Open” in Open Content



[http://www.opencontent.org/
definition/](http://www.opencontent.org/definition/)

5Rs model:

Retain: Make, own, and control their own copy of the textbook

Reuse: Use the open textbook in its unaltered form

Revise: Adapt, adjust, modify, improve, or alter the book

Remix: Combine the book with other openly licensed content to create something new

Redistribute: Share copies of the original textbook, revisions, or remixes with others

OER Definition Downes



“Open Educational Resources (OER) are materials used to support education that may be freely accessed, reused, modified and shared by anyone.”

- Stephen Downes (2011)

CapeTown Declaration 2008



“Open education is not limited to just open educational resources. It also draws upon open technologies that facilitate collaborative, flexible learning and the open sharing of teaching practices that empower educators to benefit from the best ideas of their colleagues. It may also grow to include new approaches to assessment, accreditation and collaborative learning”

UNESCO Paris Declaration 2012



The Declaration recommends UNESCO member States:

- a. Foster awareness and use of OER.*
- b. Facilitate enabling environments for use of ICT .*
- c. Reinforce the development of strategies and policies on OER.*
- d. Promote the understanding and use of open licensing frameworks.*
- e. Support capacity building for the sustainable development of quality learning materials.*
- f. Foster strategic alliances for OER.*
- g. Encourage the development and adaptation of OER in a variety of languages and cultural contexts.*
- h. Encourage research on OER.*
- i. Facilitate finding, retrieving and sharing of OER.*
- j. Encourage the open licensing of educational materials produced with public funds.*

OPEN EDUCATION Timeline

Open Education Timeline by [okfnedu](#) using TimeMapper

Tweet 15

Embed



Open Education Timeline by okfnedu using TimeMapper - License - Source Data

<http://timemapper.okfnlabs.org/okfnedu/open-education-timeline>



2. OE Initiative

- OER
 - OpenTextbook
 - OpenCourseWare
- Tools for open educator



OER COMMONS

ISKME created OER Commons, publicly launched in February 2007, to support and build a knowledge base around the use and reuse of open educational resources (OER). OER Commons helps educators, students, and lifelong learners find Open Educational Resources through a single point of access from which they can search, browse, and evaluate resources in OER Commons's growing collection of 50,000 high-quality OER.

Register Now! | Log In | Help

+ LEARNER OPTIONS

O E R
COMMONS
OPEN EDUCATIONAL RESOURCES

Home / Browse All / My OER / Connect / Contribute

Search

Use Advanced Search

Teachers as Makers

Access OER training services, including our Teachers as Makers Academies and OER Professional Development.

OER TRAINING

Browse by Topic

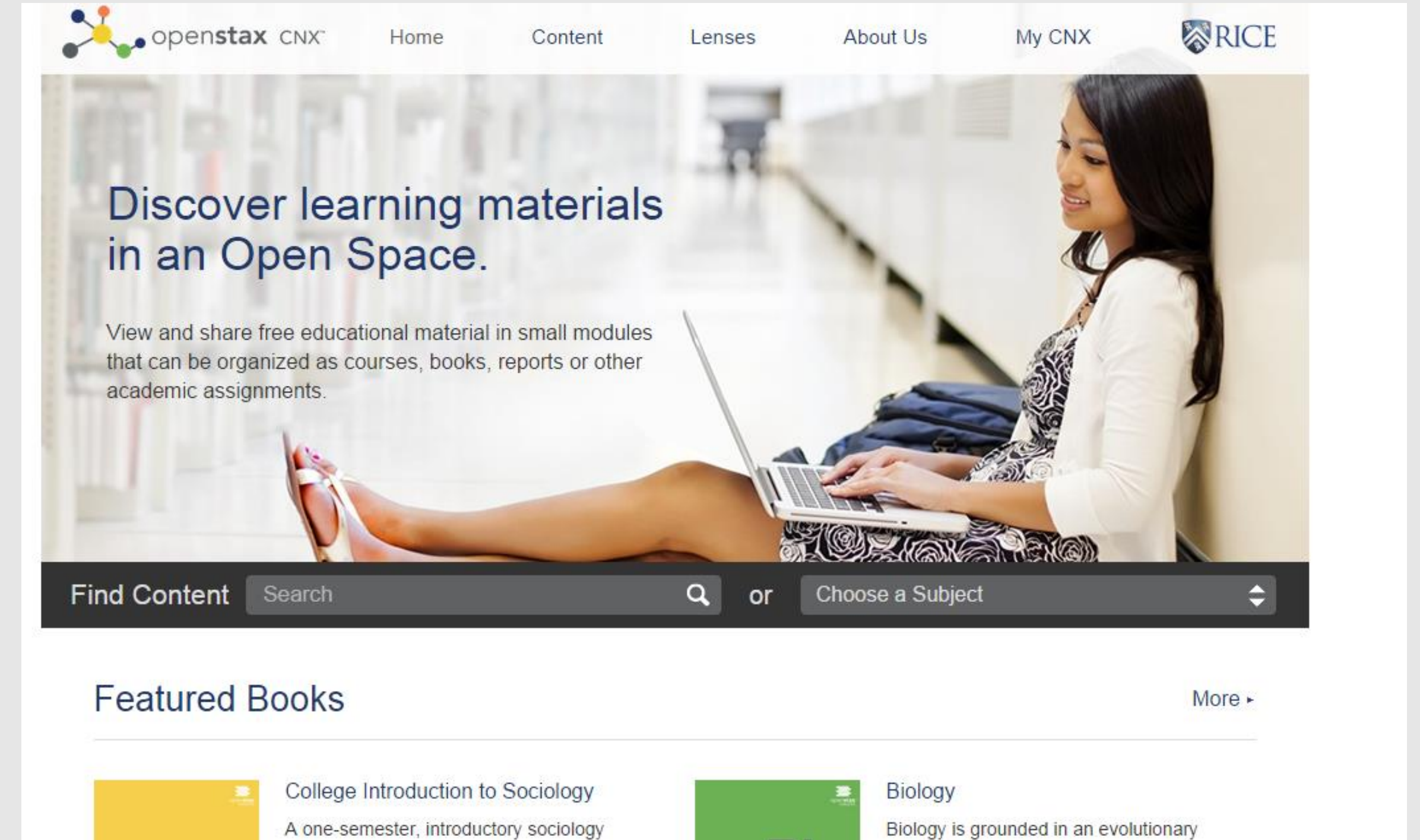
Education / Arts / Humanities / Social Sciences / Natural Sciences / Applied Sciences & Technology / Mathematics & Statistics

<https://www.oercommons.org/>

Open Textbook

The impact of OpenStax
College on higher education

<http://youtu.be/5ZQ9tscs7mM>



The screenshot shows the OpenStax CNX website homepage. At the top, there is a navigation bar with the OpenStax CNX logo, and links for Home, Content, Lenses, About Us, My CNX, and RICE. The main banner features a woman sitting on the floor in a library, using a laptop. The text on the banner reads: "Discover learning materials in an Open Space." Below this, it says: "View and share free educational material in small modules that can be organized as courses, books, reports or other academic assignments." A search bar is located below the banner, with the text "Find Content" and "Search" on the left, and "or Choose a Subject" on the right. Below the search bar, there is a section titled "Featured Books" with a "More" link. Two featured books are shown: "College Introduction to Sociology" with a yellow cover and the subtitle "A one-semester, introductory sociology", and "Biology" with a green cover and the subtitle "Biology is grounded in an evolutionary".

<http://cnx.org/>

MIT OCW

On April 4, 2001, MIT announced it would publish educational materials from all of its courses freely and openly on the Internet. Ten years later, OCW has shared materials from more than 2000 courses with an estimated 100 million individuals worldwide.

The screenshot shows the MIT OpenCourseWare website homepage. At the top, the logo reads "MIT OPEN COURSEWARE MASSACHUSETTS INSTITUTE OF TECHNOLOGY". To the right, there is a "Subscribe to the OCW Newsletter" section with an "Enter Email" field and a "Subscribe" button, along with social media icons for Facebook and Twitter. Below the logo is a navigation bar with links for "Home", "Courses", "About", "Donate", and "Featured Sites". A search bar is located on the right side of the navigation bar. The main content area features a large video player showing a lecture from "Quantum Physics II" with a professor pointing at a chalkboard. The chalkboard contains mathematical equations: $\int_{-\infty}^{\infty} |\Psi(x,t)|^2 dx = 1 \quad \forall t$ and $[\Psi] = \frac{1}{\sqrt{L}}$. Below the video, there is a "Support OCW" section with a quote from Ricardo, an Independent Learner from Mexico: "Because I believe every person has a chance to make a difference in this world through education and self-improvement." To the right of the quote is a "DONATE NOW" button. Below the support section is a "FEATURED COURSES" section with a "View All Courses" link. On the right side of the page, there is a banner for "Unlocking Knowledge Empowering Minds" with the text "Free lecture notes, exams. No registration required." and a "Learn more" link.

<http://ocw.mit.edu>

Khan Academy

•Khan Academy is a non-profit educational organization created in 2006 by educator [Salman Khan](#) to provide "a free, world-class education for anyone, anywhere." Its website features thousands of educational resources, including a personalized learning dashboard, over 100,000 practice problems, and over 6,000 micro . By 2013, they were used by about 10 million students per month. Khan Academy's micro lectures have been watched over 468 million times.¹



Watch Practice Coach Contribute About

Watch. Practice. Learn almost anything—for free.


What started out as Sal making a few algebra videos for his cousins has grown to over [2,100 videos](#) and [100 self-paced exercises](#) and assessments covering everything from arithmetic to physics, finance, and history.


[Browse the library](#) — or — [Try an exercise](#)

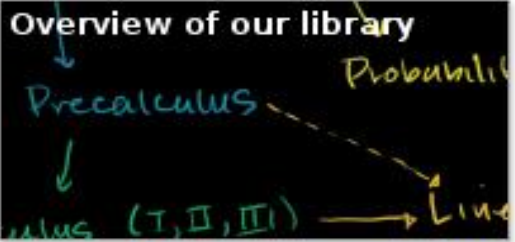
Help us change education


[Our small team](#) is on a mission to deliver a world-class education to anyone anywhere, and you can help. Take a second to [get the word out](#), or read about how [teachers](#), [translators](#), [donors](#), and [everyone else](#) can contribute.


Watch a video about the Khan Academy

The Khan Academy

Khan Academy on the Gates Notes

Overview of our video library

Sal Khan talk at GEL 2010

Khan Academy on PBS Newshour

Browse our library of over 2,100 educational videos...

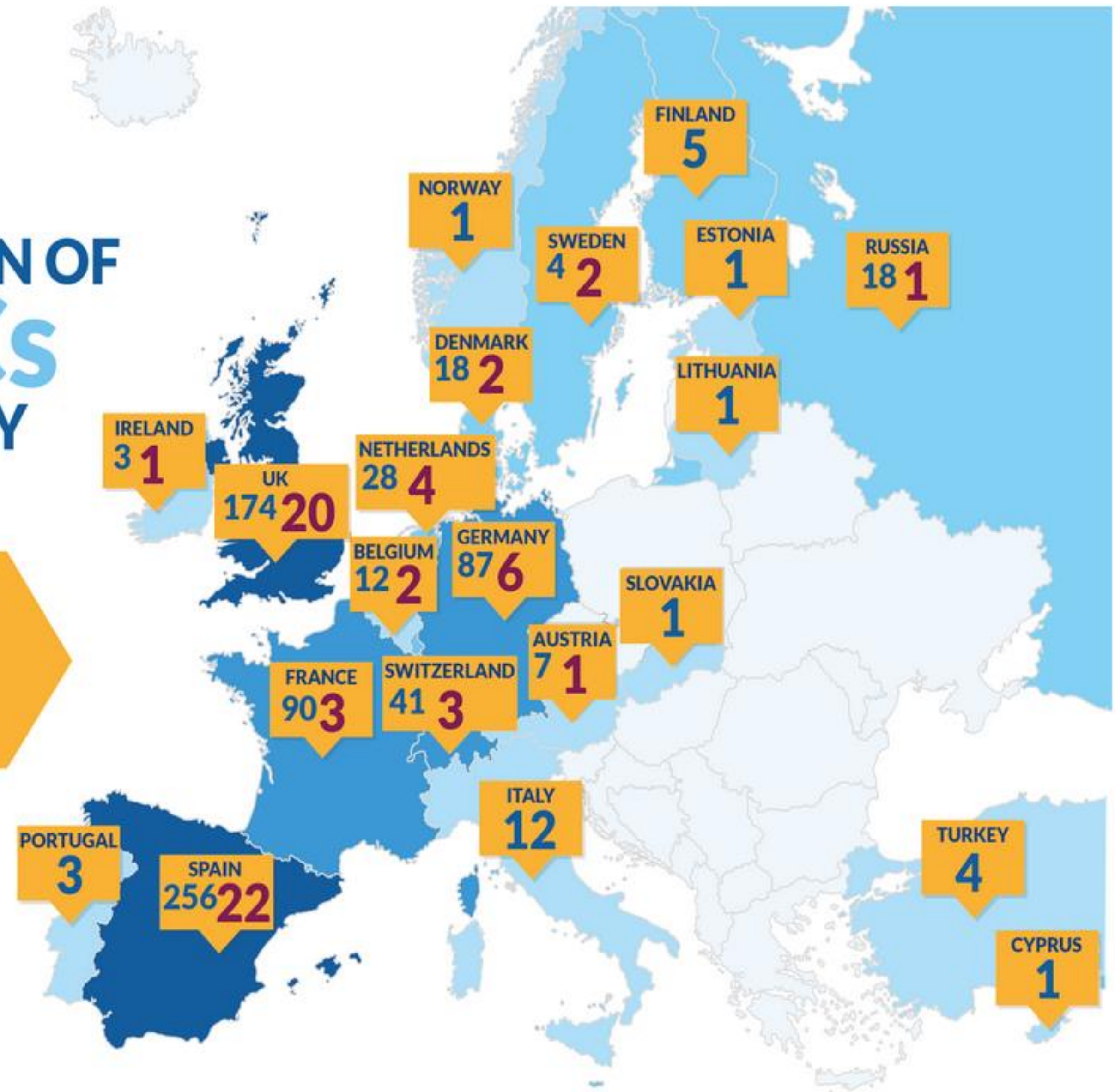
<http://www.khanacademy.org/>

Europe

DISTRIBUTION OF MOOCs PER COUNTRY

EUROPEAN MOOCs
770 **68**

■ MOOCs in our database
■ MOOCs starting in September

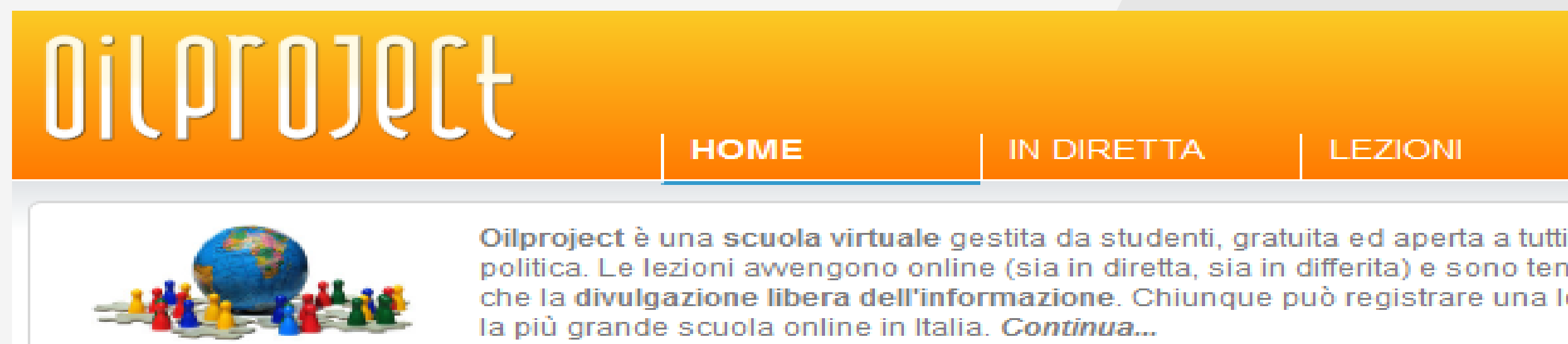


Italy

- Lack of institutional OE project
- No Open University
- Coo-petition is far away
- Lack of sharing culture



UNIMORE | iTunes U



Rai

Crea lezione -

<http://www.raiscuola.rai.it/startLezioni.aspx>

The screenshot displays the Rai Scuola Università website interface. At the top, the Rai logo and 'Scuola Università' are visible, along with a navigation menu including 'Percorsi', 'Live', 'Speciali', 'Giochi', 'Oggetti Multimediali', 'Grandi Lezioni', 'Programmi', 'Lezioni', 'Guida TV', 'Foto Gallery', and 'Eventi Live'. Below the menu, there are links for 'crea lezione', 'tutte le lezioni', 'le mie lezioni', 'le mie preferite', and 'le più viste', along with a search bar. A prominent red banner on the left reads 'versione BETA'. The main heading is 'CREA LA TUA LEZIONE IN 3 MOSSE'. The three steps are: 1. 'Iscriviti o accedi tramite socialNetwork' (with icons for Facebook and Twitter), 2. 'Crea la lezione e seleziona i contenuti' (with a play button icon), and 3. 'Pubblica e condividi la tua lezione' (with a share icon). A green button labeled 'crea la tua lezione' is positioned to the right. Below this, the text 'GUARDA TUTTE LE LEZIONI...' is followed by a search and filter interface. The search bar contains 'cerca per nome'. Filters include 'Tutte le materie', 'Tutti gli ordini scolari', and 'ordina per più viste'. A grid of lesson thumbnails is shown, each with a subject label, school level, title, author name, and a star rating. The visible lessons are: 'Storia' (Scuola secondaria di I grado) titled 'Una lussuosa villa romana' by Patrizia Rossetti; 'Storia' (Scuola primaria) titled 'La valle dei re e delle regine' by elisa migliorini; 'Chimica' (Scuola secondaria di II grado) titled 'Atomo' by Matteo Alonzi; 'Arte' (Scuola secondaria di I grado); 'Lingue' (Scuola primaria); and 'Scienze naturali' (Scuola secondaria di I grado).

Map of Findability

The Sea of Chaos

Cape Search

Mountains of Hierarchy

Steppes of
Records Management

Independent
Principality
of Thesauri

Kingdom

of

Jurist of Trees

Taxonomy

Matrix Oasis

Peninsula
of

Ontology

The Port
of Facets

List Land

People's Republic
of Folksonomy

Straits
of
Usability

Desert of
Irrelevance

Navigation Bay

Kingdom
of Maps

The

Ocean

of

Metadata

Free = zero cost?

Teachers Finding Resources through FREE

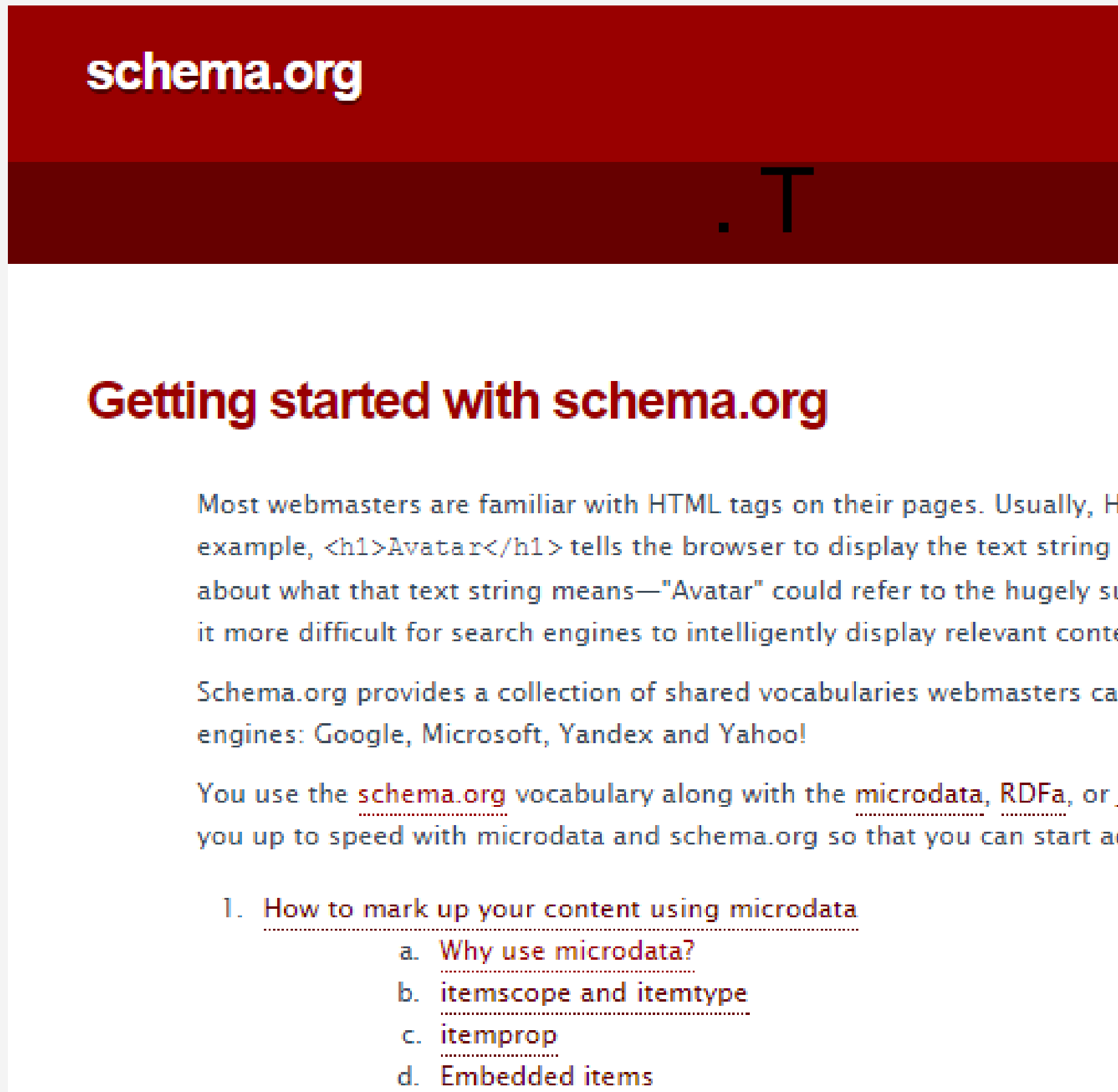
- \$7.50 - \$15.00 to find one resources
- Average lesson has 4 resources
- Average cost to find resources for one lesson = \$30-\$60 per lesson

<http://www.lrmi.net/education-metadata-meetup-presentations>



<https://flic.kr/p/2Vui8>

Tools: Metadata



The screenshot shows the top of the schema.org website. It features a dark red header with the text "schema.org" in white. Below the header, there is a white background with a red heading "Getting started with schema.org". The main text explains that most webmasters are familiar with HTML tags and provides an example: "<h1>Avatar</h1> tells the browser to display the text string 'Avatar'". It then states that Schema.org provides a collection of shared vocabularies for search engines like Google, Microsoft, Yandex, and Yahoo!. A list of links is provided, including "How to mark up your content using microdata" and sub-links for "Why use microdata?", "itemscope and itemtype", "itemprop", and "Embedded items".



The screenshot shows the LRMI website. At the top is the LRMI logo, which consists of a stylized 'X' made of four colored lines (red, blue, green, yellow) and the text "LRMI Learning Resource Metadata Initiative". Below the logo is a dark blue navigation bar with white text for "IMPACT", "THE SPECIFICATION", "LEADERSHIP", "NEWS", and "D". Underneath the navigation bar is a white area with a list of links: "> LRMI Wiki", "> FAQ", "> About AEP", "> About Creative Commons", and "> Contact Us". Below this is a red heading "About the LRMI". The main text describes the LRMI as an initiative working to make it easier to publish, discover, and deliver quality educational resources on the web. It mentions that the LRMI is co-led by the Association of Educational Publishers and the Association of American Publishers, and is funded by the Bill & Melinda Gates Foundation and the William and Flora Hewlett Foundation. It also states that the LRMI has developed a common metadata framework for describing or "tagging" learning resources on the web.

LRMI has developed a **common metadata framework** for describing or “tagging” learning resources on the web.

4. MOOC

New ideas
A systems approach



Rising demand for higher education

According to UNESCO (2009), there were almost 153 million post-secondary students worldwide in 2007, a 53% increase since the year 2000 and a fivefold increase in less than 40 years.

The demand for higher education is predicted to expand from 97 million students in 2000 to over 262 million students by 2025



The pre-MOOC



“People around the world have gone crazy for this opportunity. Fully two-thirds of my 160,000 classmates live outside the US. There are students in 190 countries—from India and South Korea to New Zealand and the Republic of Azerbaijan.

More than 100 volunteers have signed up to translate the lectures into 44 languages, including Bengali.

In Iran, where YouTube is blocked, one student cloned the CS221 class website and—with the professors’ permission—began reposting the video files for 1,000 students.”

<https://www.ai-class.com/>

University in 50 years



Sebastian Thrun

In 50 years, there will be only 10 institutions in the world delivering higher education and Udacity has a shot at being one of them.

http://www.wired.com/wiredscience/2012/03/ff_aiclass/all/1

An avalanche is coming

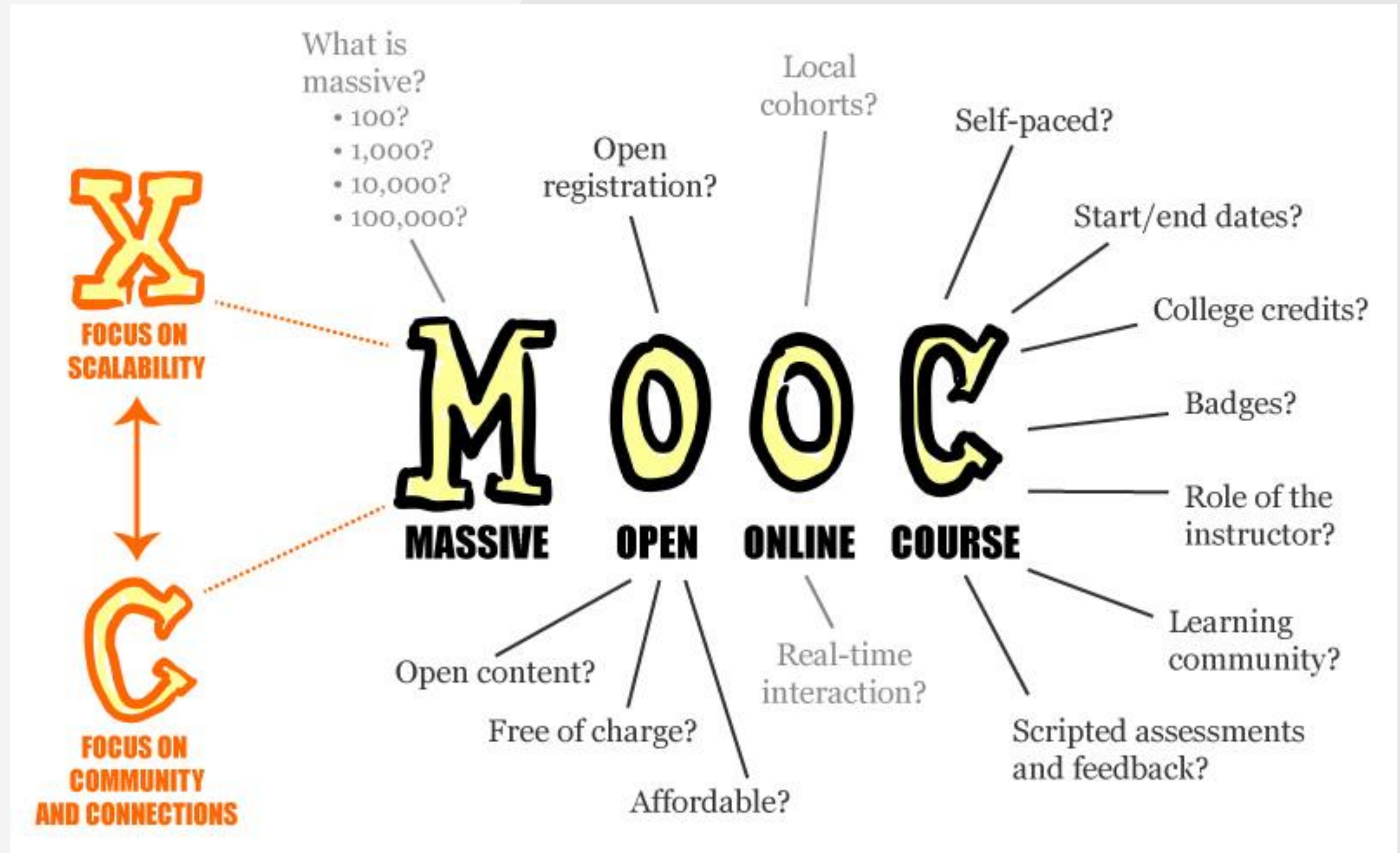
- Increasing need of "synthesizers" of research
- research requires a substantial investment but there are fewer large corporations compared to 20 years ago
- the identity of a university is linked to its buildings and its structures
- the best universities in the world are the same as they were before the Second World War
- Futurelearn, who from the experience of the **Open University**, has a good number of federal universities



https://en.wikipedia.org/wiki/Avalanche#mediaviewer/File:Avalanche_on_Everest.JPG

<http://www.ippr.org/publications/an-avalanche-is-coming-higher-education-and-the-revolution-ahead>

Massive Open Online Course



Mathieu Plourde {(Mathplourde on Flickr) -

<http://www.flickr.com/photos/mathplourde/8620174342/sizes/l/in/photostream/>

Coursera

As of April 2014, Coursera has 7.1 million users in 641 courses from 108 institutions.

The screenshot shows the Coursera website homepage. At the top left is the Coursera logo. To the right of the logo are navigation links: Courses, Specializations, Institutions, About, Sign In, and Sign Up. The main banner features a dark background with a blurred image of a person walking through a stone archway. The text on the banner reads: "Take the world's best courses, online, for free." Below this is a search bar with the placeholder text "What would you like to learn about?" and a search icon. Under the search bar, it says "Join 9,072,743 Courserians. Learn from 748 courses, from our 110 partners." followed by a link "How it works »". Below the banner are three course cards. The first card is for "Understanding Video Games" with a logo made of red, green, and blue blocks. The second card is for "What a Plant Knows (and other things)" with a green background and a small plant. The third card is for "How Things Work" with a blue background and various mechanical diagrams.

coursera Courses Specializations Institutions About | Sign In Sign Up

Take the world's best courses, online, for free.

What would you like to learn about?

Join 9,072,743 Courserians.
Learn from 748 courses, from our 110 partners.
[How it works »](#)

UWU
UNDERSTANDING
VIDEO GAMES

How Things Work

EdX

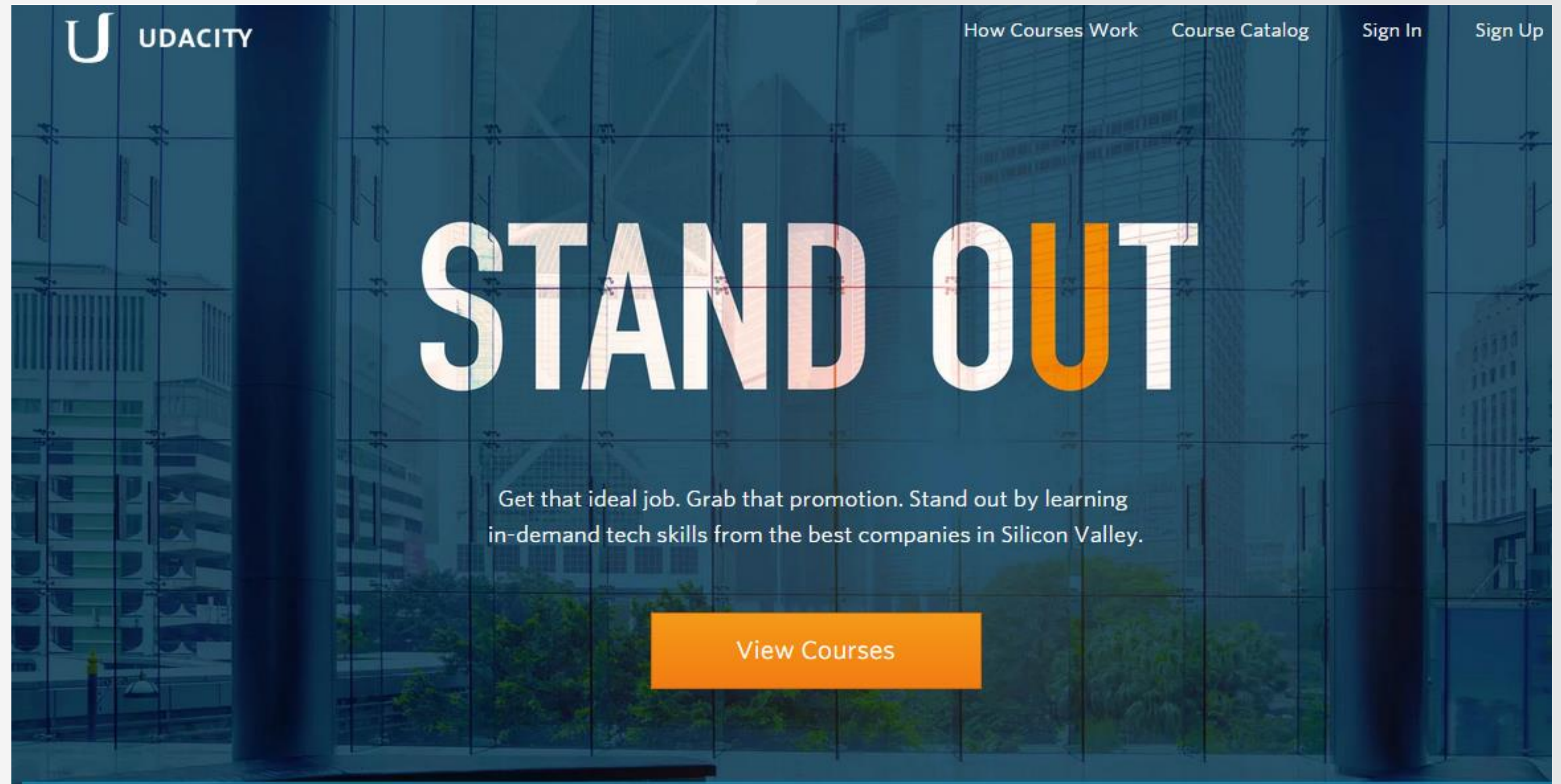
EdX differs from other MOOC platforms, such as [Coursera](#) and [Udacity](#), in that it is nonprofit and runs on an [open-source software](#) platform.

The screenshot shows the EdX website homepage. At the top, there is a navigation bar with links for "HOW IT WORKS", "COURSES", "SCHOOLS & PARTNERS", and "REGISTER NOW", along with a "log in" button. The main banner features the EdX logo and the text "Take great online courses from the world's best universities". Below this is a search bar with a "Choose a Topic" dropdown and a "Go" button, and a link to "See All Courses". A featured course card for "Poetry in America: The Poetry..." by HarvardX is displayed, including a video player, the course title, the instructor "HarvardX | AmPoX.1", the start date "September 10, 2014", and a "VERIFIED" badge. Below the banner, a section titled "edX online courses starting soon" shows three course thumbnails: "China X", a colorful abstract image, and "PROP" with a dollar sign.

Udacity

Udacity is funded by venture capital firm, [Charles River Ventures](#), and \$200,000 of Thrun's personal money.^[3]

As of 28 April 2014, Udacity has 1.6 million users in 12 full courses and 26 free courseware focus more on vocational courses for professionals



<https://www.udacity.com/>

Iversity (De)

[iversity](#) is a MOOC provider in Germany. With over 82,000 students (Nov 2013) iversity's "The Future of Storytelling" is Europe's largest MOOC to date.



[Courses](#) [About](#) ▼ [Teach](#)

[Deutsch](#) [Login](#) [Sign up](#)



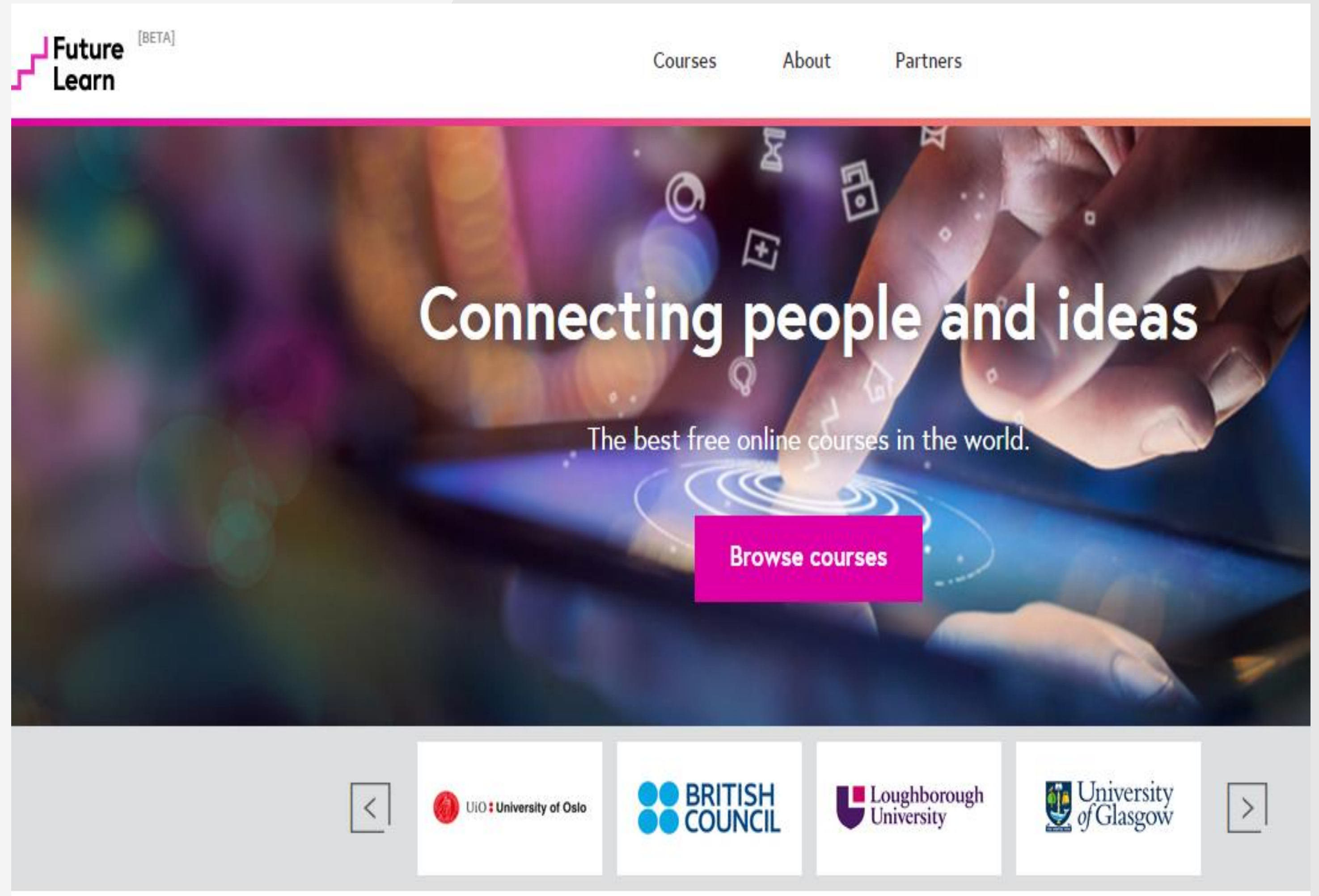
FUN - Fr

France
Universite
Numerique is
launched in
2013 by the
French
Government

The screenshot shows the homepage of the FUN (France Université Numérique) website. At the top left is the FUN logo, a blue circle with the word 'FUN' in white, followed by the text 'FRANCE UNIVERSITÉ NUMÉRIQUE'. To the right of the logo are social media icons for Twitter, YouTube, LinkedIn, Facebook, and RSS, along with font size controls (A+, A-) and a search bar labeled 'RECHERCHER...'. Below the logo is the tagline 'DÉCOUVRIR, APPRENDRE ET RÉUSSIR'. A navigation bar below the tagline contains five categories: 'ACTUALITÉS', 'ENJEUX', '18 ACTIONS', 'MOOCS', and 'RESSOURCES ET INITIATIVES'. The main content area features a breadcrumb trail 'Accueil > Type de page : MOOC Fun' and the title 'MOOC FUN'. Below the title is a pagination bar showing '1 | 2 | 3 >'. A list of MOOCs is displayed, with the first item being '> MOOC : Introduction à l'économie de l'innovation'. Below this list are three buttons: 'MOOCs', 'Sciences humaines et sociales', and 'Juridique'. On the right side, there is a sidebar titled 'TYPE DE PAGE' with a list of page types and their counts: 'Actualités : 41', 'Articles : 8', 'Communiqués : 6', 'Discours : 1', and 'Dossier de presse : 1'. At the bottom of the page, there is a footer with the URL 'france-universite-numerique.fr...' and a list of authors: 'ar : Claude Dupuy, Francesco Lissoni, Jean-Bernard Layan, Université de'.

Future Learn - UK

Futurelearn is a British Mooc provider launched by Open University including provision of MOOCs from non-university partners.

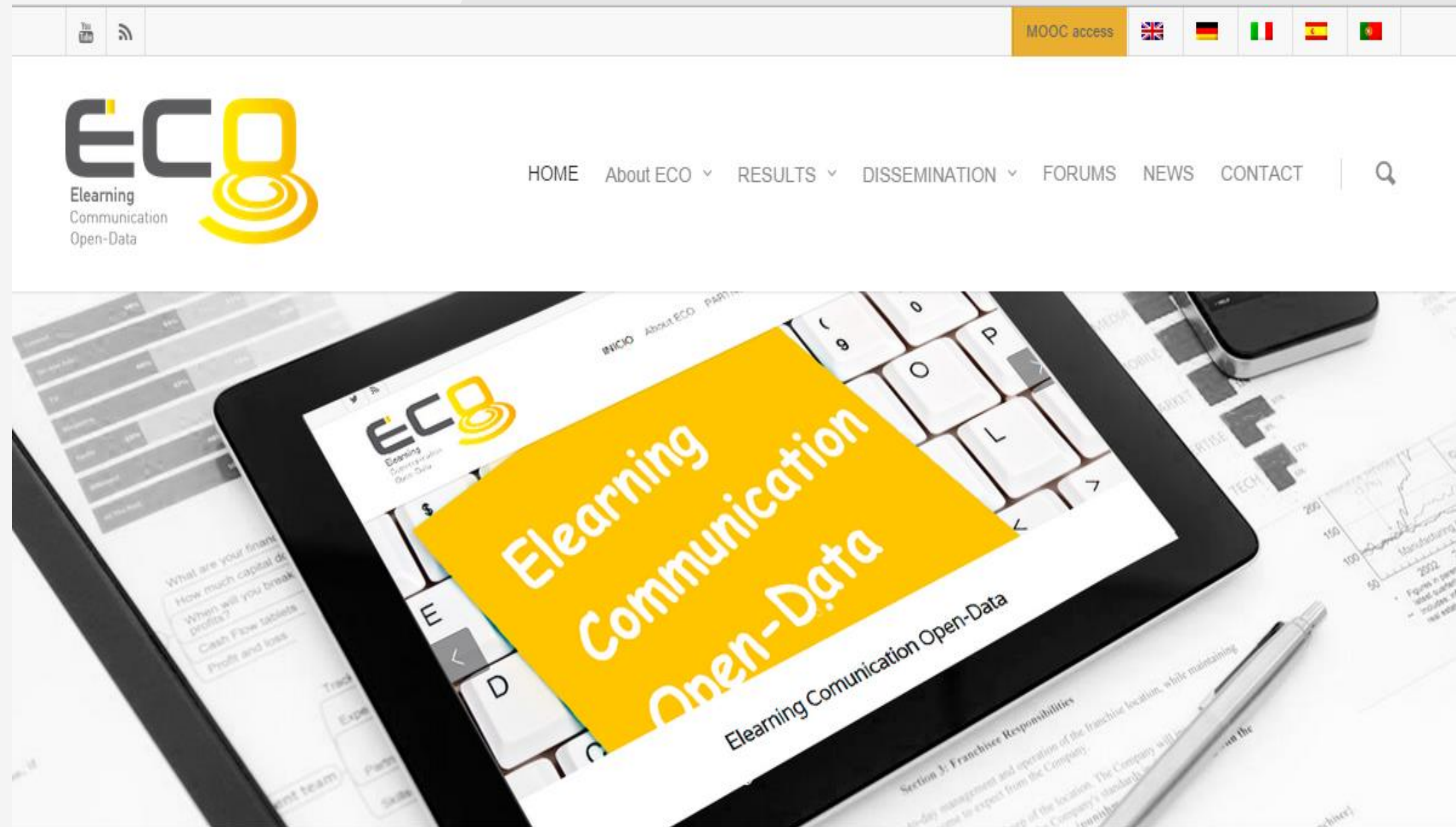


ECO project

The ECO Project is supported by European Commission

ECO will create a combined MOOC platform – combine and transfer pilot activities in all the hubs involved

<http://ecolearning.eu>



EMMA

The European Multiple MOOC Aggregator EMMA is a project supported by the European Union.

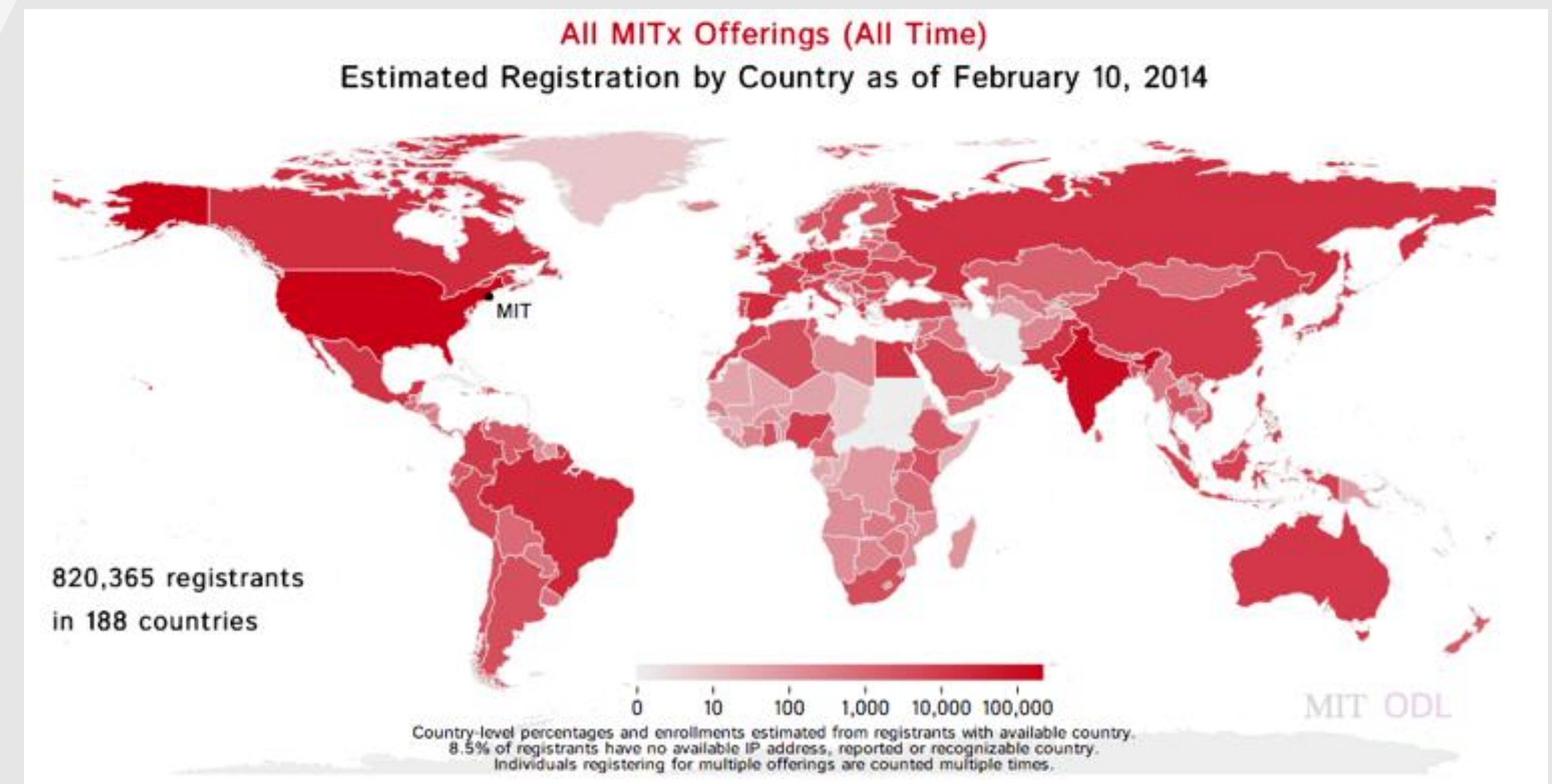
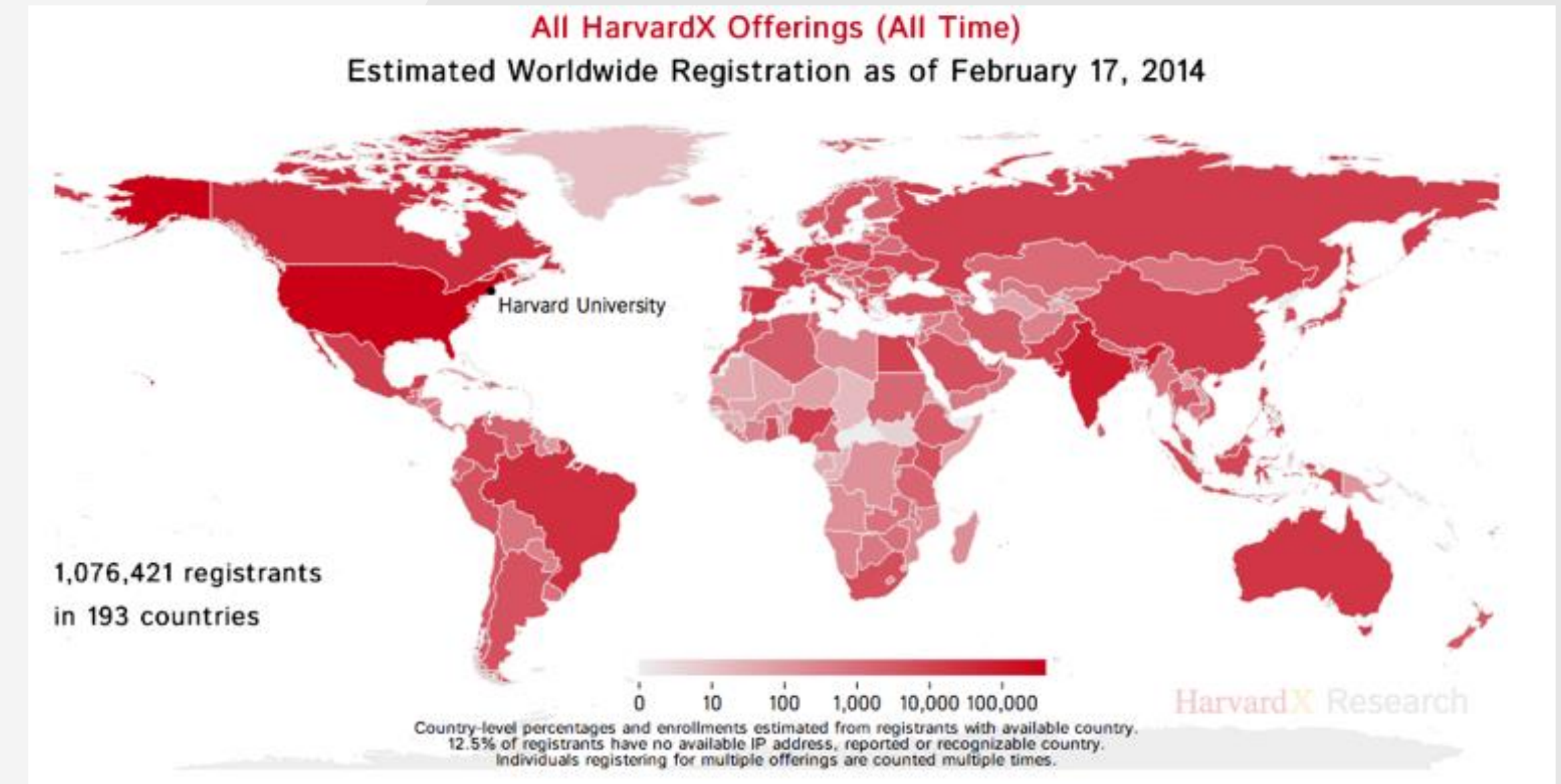
EMMA will provide a system for offering free online courses and multi-language highlighting the wealth of educational and cultural European Union.

<http://europeanmoocs.eu/>

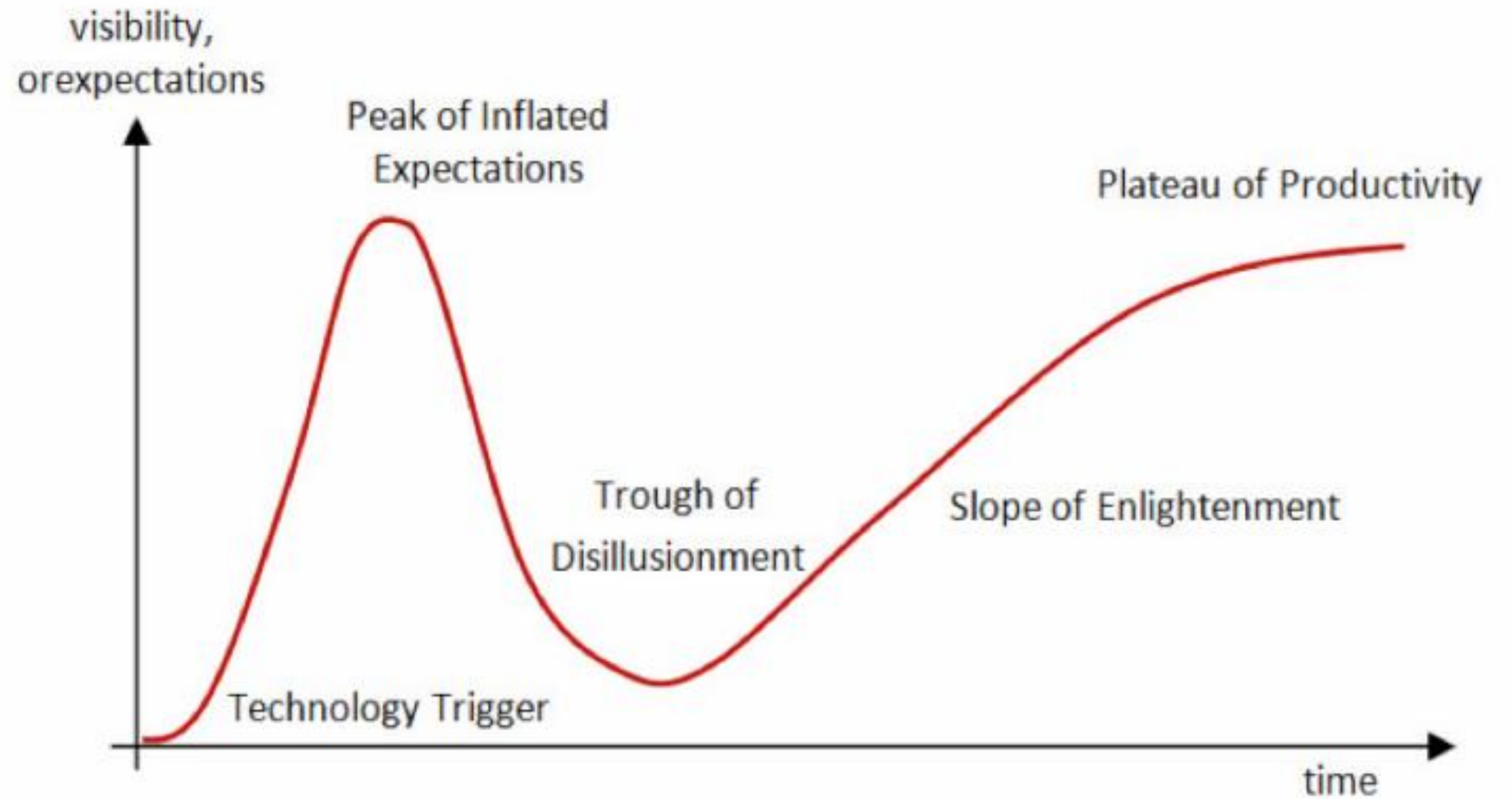
The screenshot shows the EMMA website interface. At the top left is the logo for EMMA (European Multiple MOOC Aggregator). To the right of the logo is a navigation menu with icons and labels: ABOUT, NEWS, PROJECT, EVENTS, MOOCS, and CONTACT. Below the navigation menu is a section titled "MOOCs" with a social media sharing bar for #EUmoocs (Facebook, Twitter, Google+, LinkedIn, Email). The main content area displays a grid of eight MOOC thumbnails: a woman at a laptop, a statue in a city, a book with a cityscape, a tropical beach scene, a hand holding a coin, the logo of Universitat Politècnica de València, a child playing with blocks, and a keyboard with question marks. At the bottom of the page is a footer with logos of partner institutions (FEDEKAT, AtoS, Ipran, UOC, etc.), the European Commission logo, a sign-up form with the text "Insert your email" and a "Sign up" button, and the hashtag #EUmoocs. A small note at the bottom states: "This project has received funding from the European Union's Competitiveness and Innovation Framework Programme under grant agreement no 621030".

MOOC are growing

Harvard and MIT MOOCs have 2 million students have enrolled and paid 65 thousand certificates. Members are mostly males with bachelor's degree and come from nearly every country in the world.



The Hype Cycle



What bike and MOOC have in commons?

The MOOC assumes that students are self-regulated learners who already have the academic and ICT skills necessary to succeed at stud

<https://theconversation.com/moocs-and-exercise-bikes-more-in-common-than-you-d-think-9726>



<http://www.wyrdlight.com> Author: Antony McCallum -

The failure of MOOC ?

Broadening access to higher education, or real higher education opportunity for all. One does not necessarily imply the other. In higher education, access without support is not opportunity.

coursera

Education for Everyone: Coursera by the Numbers

In just two years Coursera has grown from a revolutionary idea to thriving community of more than 100 partner institutions, 5 million+ students from 190 countries, and 500+ courses across a diverse range of disciplines.



NUMBER OF COUNTRIES REPRESENTED BY STUDENTS: 190



BREAKDOWN OF COURSES



NUMBER OF QUIZZES SUBMITTED



NUMBER OF ASSIGNMENTS SUBMITTED



Moocs and Zero Marginal Cost Education



Jeremy Rifkin

“Stanford University course cost approximately \$10000 to \$15000 to put online. Courses with video content cans cost twice that amount. But the marginal cost of delivering the courses is simply the cost of bandwidth, wich is nearly free. (The marginal cost is between three and seven dollars per person . About the same as a large cup of coffee and a cookie at Starbucks). So how do online universities pay for the fixed cost for MOOCS? The participating University pay Coursera around 8\$ a student to use the Coursera platform and an additional \$30 to \$60 a student to take the courses – all in all, **nearly free.** “

New ideas



Open education challenge



The Open Education Challenge, launched in partnership with the [European Commission](#), is part of Startup Europe. It is an opportunity for cutting-edge education startups to receive mentoring and seed funding through the European Incubator for Innovation in Education, and get direct access to [investors](#) from day one.

Final Results

Over six months ago, we launched the Open Education Challenge to identify the top education startups and provide them with the support and funding necessary to make a significant impact in the education sphere, particularly in Europe.

From over 600 applications received in February, a panel of evaluators painstakingly narrowed down the competition over two rounds of selections. Eighteen teams made it to Barcelona for the [Finalists' Workshop](#) on July 13-15, where they pitched their projects to a European Jury chaired by Lord David Puttnam and with the participation of Xavier Prats Monné, Deputy Director-General for Education and Culture at the European Commission.

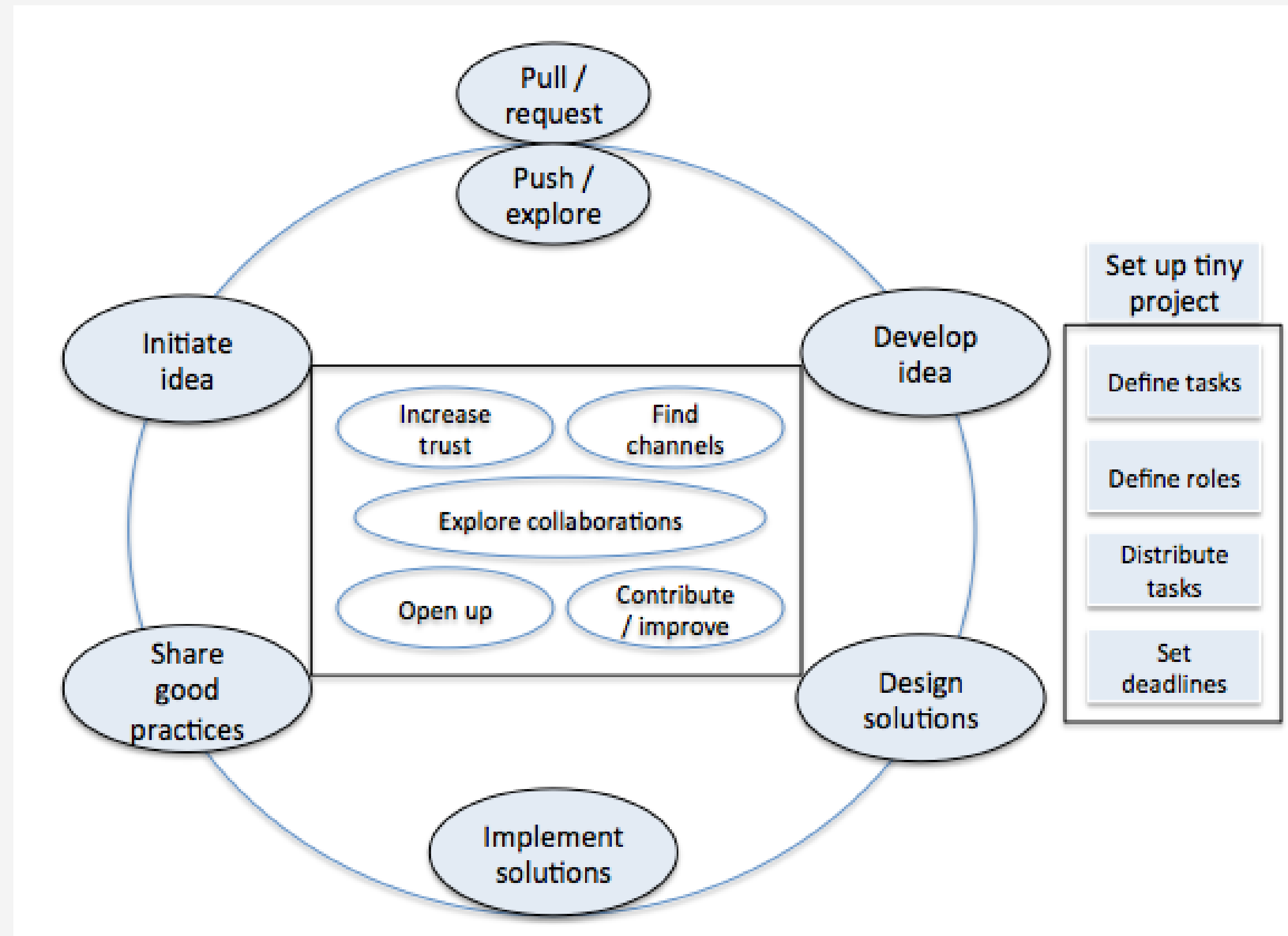
The jury selected nine teams to participate in the *European Incubator for Innovation in Education*, starting in September 2014. The winning teams are depicted on the map - click on the blue place-markers to see a description of each project.



<https://mapsengine.google.com/map/viewer?mid=zNipo7gnYSvE.kgNScApbcE8Y&usp=sharing>

1. Cubes coding
2. Domescio
3. Fun brush
4. Groupmooc
5. Klap
6. Learnworlds
7. Harness
8. Talkso

Open Education Ideas



OEI life-cycle (Pirkkalainen & Pawlowski, 2014)

[..] enabling Open Education at an early stage: instead of sharing complete OER or Open Educational Practices (OEP), we aim to share ideas in the early design process. We believe this process will create a fundamentally different uptake of OER by creating **Emotional Ownership of OER**.

OEP Clearing house

Implementing Recognition of VIRTUAL MOBILITY and OER-LEARNING Through a Learning Passport



<http://vmpass.eu/>

Within higher education, the project will promote OEP, along with collaboration and mutual trust, rather than competition, between institutions. It will promote the creation of networks and European partnerships, both locally and across countries, especially in the creation of flexible learning pathways and non-formal learning. VM-Pass should accelerate innovation in learning, through openness, leading to an improvement in the overall efficiency and quality of education.

“Oppikirjamaraton: How to Write an Open Textbook in a Weekend”

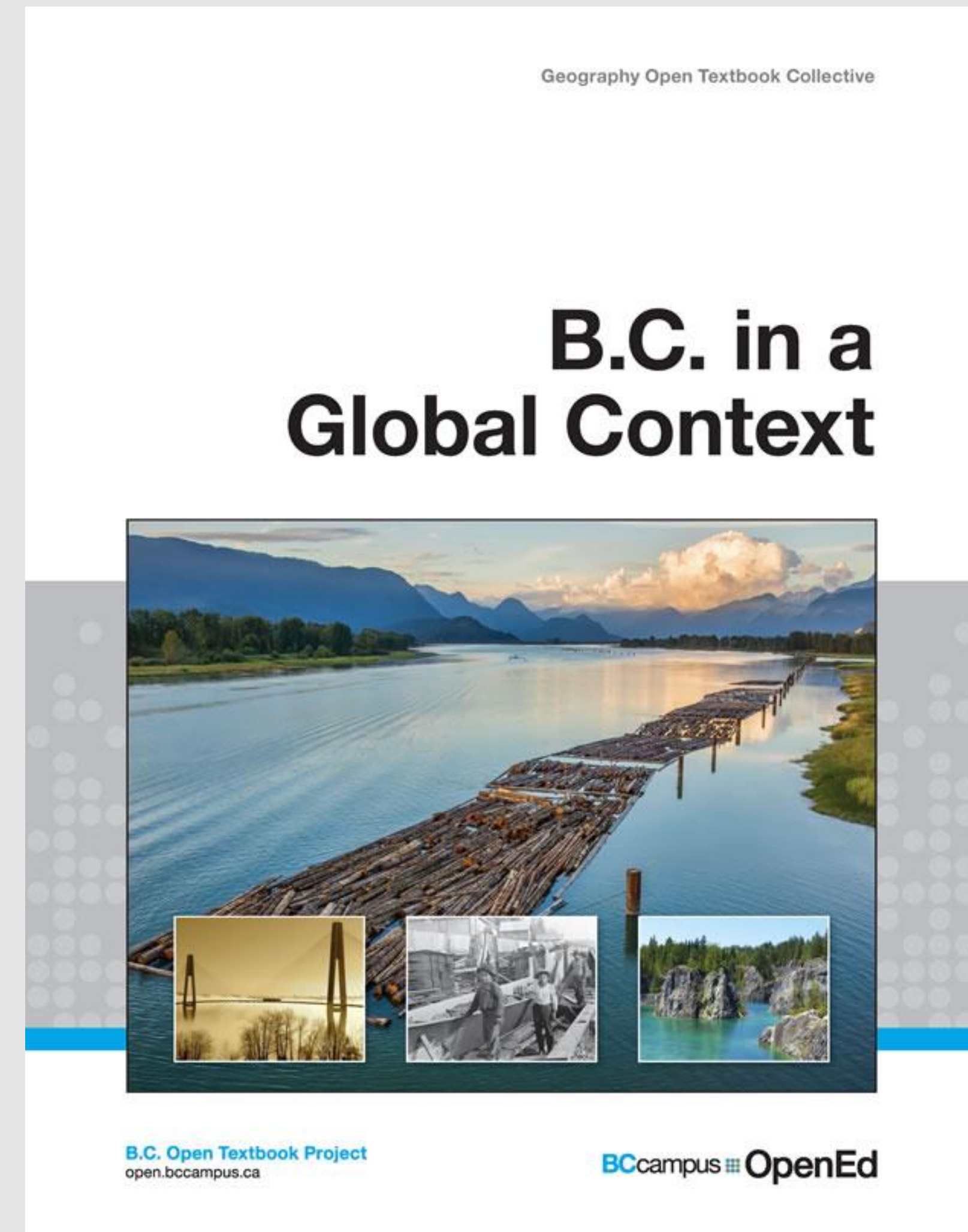


<https://creativecommons.org/weblog/entry/34643>

Booksprint

Over the course of four days in June, 2014, 5 faculty members from across British Columbia supported by a facilitator, librarian, researcher, illustrator, programmer and instructional designer, created this book.

This involved drawing on our own research, teaching and experience and working with the team to put it all together into an online format; one which would be accessible to students and educators alike.



<http://opentextbc.ca/geography/>

A System Approach to Open by Paul Stacey

1. Open content

- <http://www.digitalgreen.org/>

2. Open data

- <http://www.data.gov/>

3. Open access (Research)

- <http://doaj.org/>
- <http://www.plos.org/>

4. Open hardware

- <http://farmhack.net/home/>



A systems approach to open offers opportunities for information sharing, public participation, and collaboration. Multi-stakeholder adoption of open practices generates cumulative benefits for all stakeholders. In a systems approach to open the more stakeholders participating the greater the impact.

The future is
around the curve

Thank you for
your attention!



<https://flic.kr/p/4HijVa>

Credits

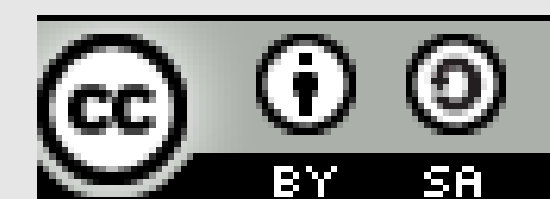
Thanks to David Wyley, Stephen Downes, George Siemens, Jim Groom, Philips Schmidt, Susan D'Antoni, Robert Farrow - inspirers and supporters of the open education movement

Disclaimer

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