Welcome to the

ENCORE+

Final Conference

30 November - 5 December 2023

ENCORE+ FINAL CONFERENCE

30 Nov
A Network for Open - Why and for whom?

1. **Networking for OER**
   3 Years of ENCORE+
   10:00-12:00

2. **Open to Open?**
   Enabling Open & Multistakeholder Collaboration
   13:00-15:00

1 Dec
ENCORE+ Network themes

3. **OER Technology**
   Advancing Interoperability and Standards
   10:00-11:30

4. **Policy & Practice**
   in Higher Education and Business
   12:30-14:00

4 Dec
ENCORE+ Network themes

5. **Quality**
   and Transparency
   10:00-11:30

6. **OER Innovation & Business Models**
   12:30-14:00

5 Dec
OER in Europe - Today & Tomorrow

7. **Catalysing OER**
   Policies & Recommendations for Europe
   10:00-12:00

8. **Beyond ENCORE+**
   OER, AI & the Future
   13:00-15:00

*All event times listed in CET

encore+
European Network for Catalysing Open Resources in Education

Day 2

Friday
1st December

ENCORE+ Network Themes

Session 3

Friday 1st December
10:00 - 11:30 CET

OER Technology

Advancing Interoperability and Standards

encore+

European Network for Catalysing Open Resources in Education

Opening Remarks

Torunn Gjelsvik, Secretary General, ICDE

This project has been funded with support from the European Commission. This publication reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.
This document is licensed under a **Creative Commons Attribution-ShareAlike 4.0 International license** except where otherwise noted.

Co-funded by the Erasmus+ Programme of the European Union

Programme

10:00 to 10:20

- Introduction to the project
  by **Juliane Granly**, Coordinator ENCORE+
- Foresight for the 2030 - OER infrastructure by **Davor Orlic**, COO at K4A

Programme

10:00 to 10:20

- Introduction to the project by Juliane Granly, Coordinator ENCORE+

- Foresight for the 2030 - OER infrastructure by Davor Orlic, COO at K4A

10:20 to 10:30

Encore Delphi survey, **Lena Sperle, DHWB**

10:30 to 10:45

Q/A with Dominic Orr, Head of product atingi & SADA at GIZ

10:45 to 11:15 Tech talk

- Exemplar 1: H5P by Svein-Tore Griff With, CEO Joubel AS

- Exemplar 2: Canvas by Sidharth Oberoi, VP International Strategy

- Exemplar 3: X5GON by Davor Orlic, COO at K4A

11:15 to 11:30

- Q&A with Tel Amiel, UNESCO Chair in Distance Education

encore+

Initial setup

Tasks:

- Task 3.1: Identify and explore key technology features of OER repositories to support quality assured production, sustainability and innovation
- Task 3.2: Develop scenarios for and showcase a future integrated European OER Ecosystem
- Task 3.3: Investigate the Ed Tech ecosystem around OER innovation
- Task 3.4: Create and demonstrate the H5P OER Content Hub
- Task 3.5: Engagement Circle: OER Technology

Deliverables:

- D3.1 Proof of Concept (PoC) of key features of OER infrastructure
- D3.2 Cutting Edge Technology Showcase for European OER
- D3.3 Innovation success features for OER Repositories
- D3.4 H5P OER Content Hub
- D3.5 Webinar series

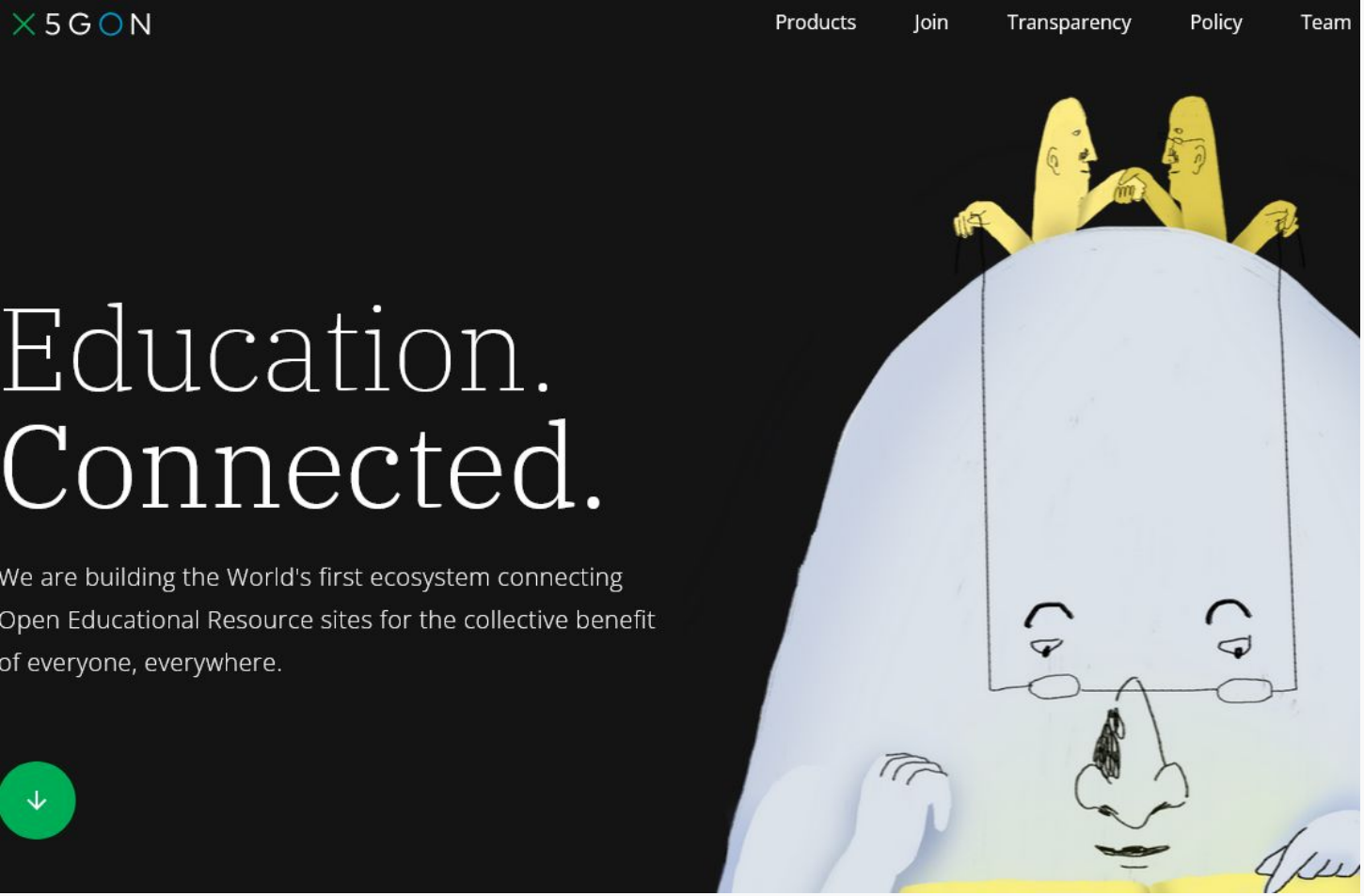
Aims and Objectives

- **Work package 3 – Technology for the Future European OER Repository Ecosystem**

- Assets: tech partners K4A (X5GON platform), Joubel (HP5 platform), Canvas (Instructure platform)

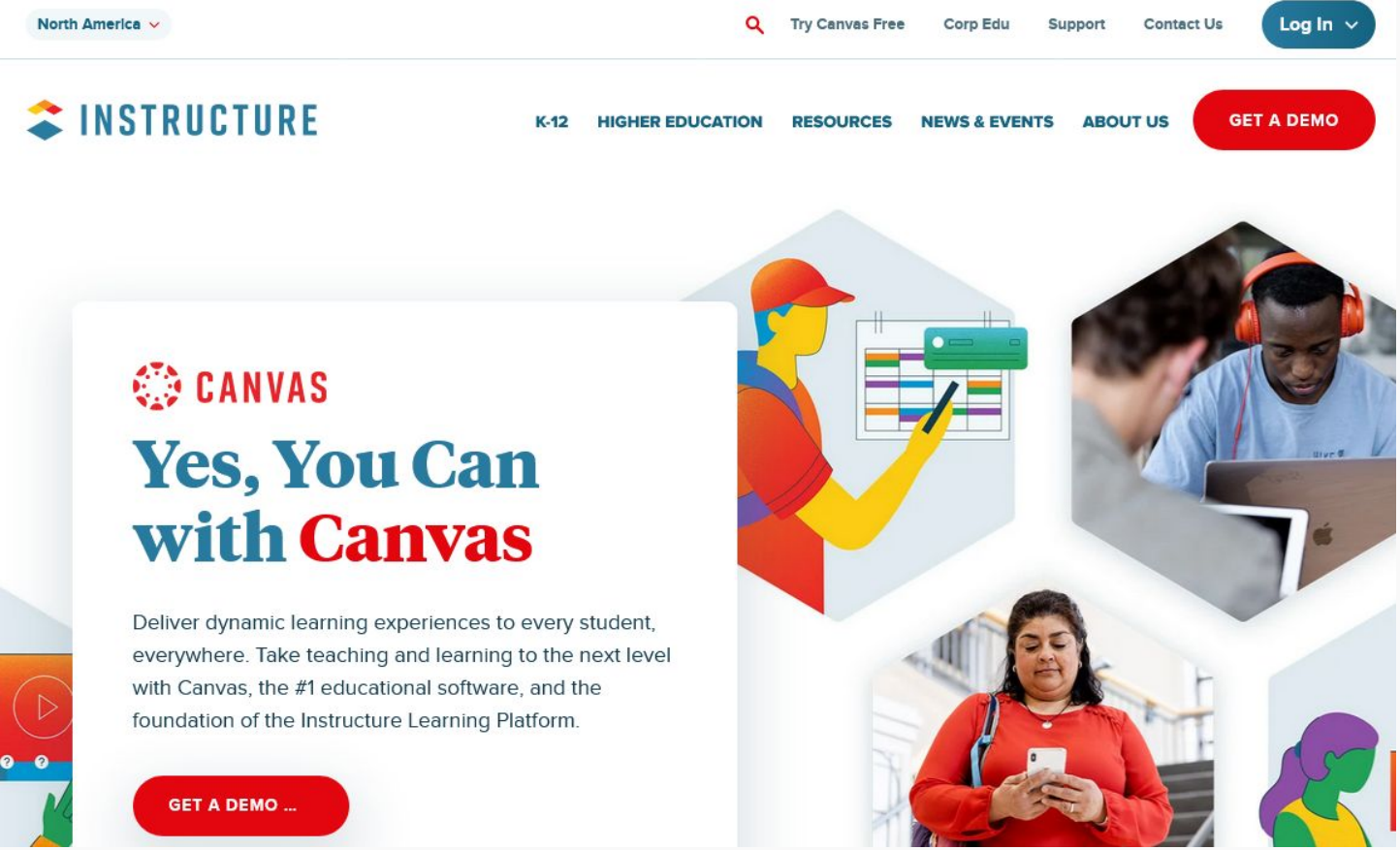
- **Objectives:**

- **Explore and communicate a new technologically-enhanced paradigm for OER use and reuse at scale**
- **Identify and share new architectures and functionalities, models for federation and integration**
- **Identify possibilities for repository collaboration and the blending of commercial and non-commercial technology infrastructures in order to result into a strategic and conceptual systems model of a European OER Ecosystem.**



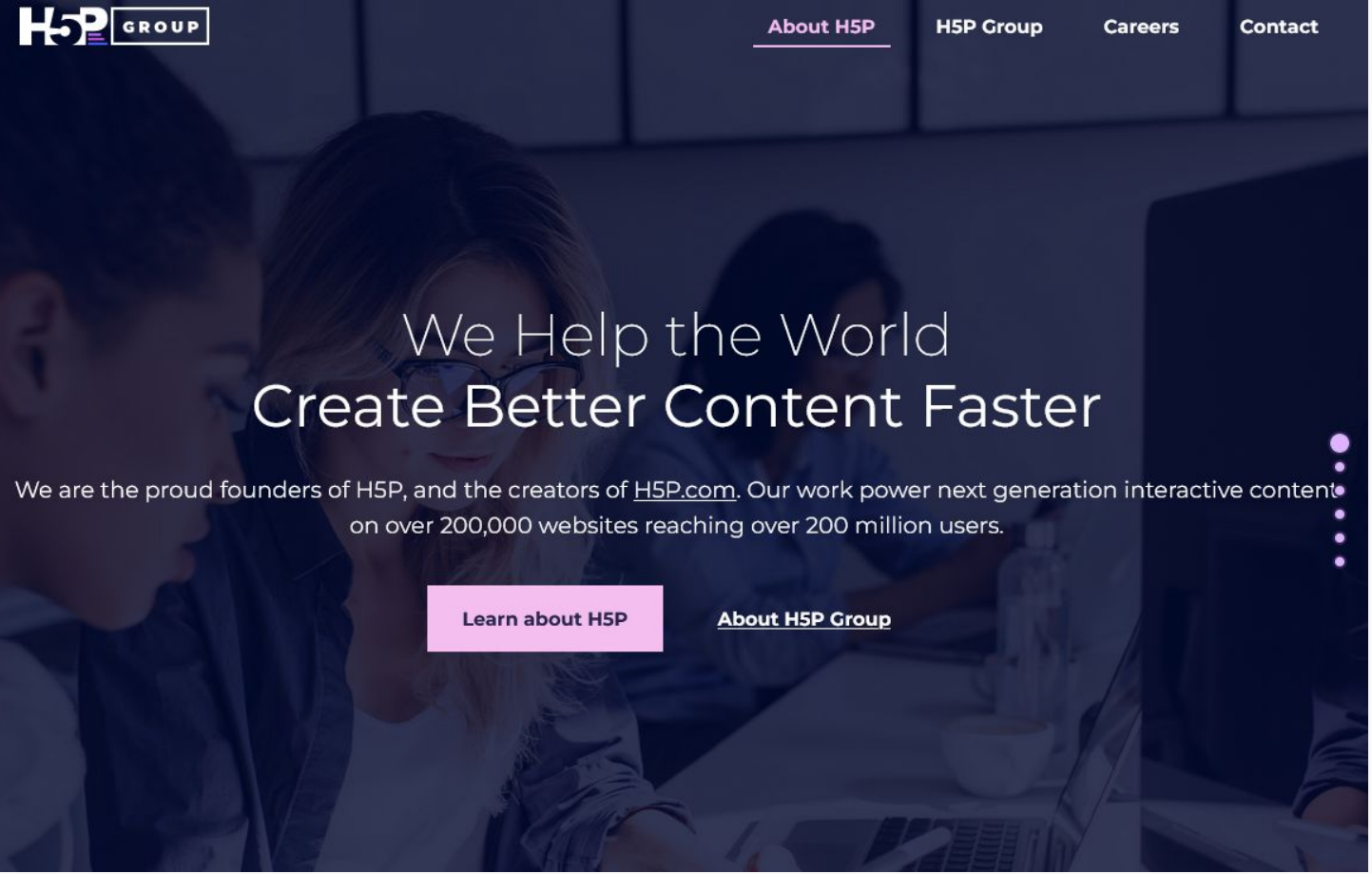
https://platform.x5gon.org/

encore+
European Network for Catalysing
Open Resources in Education



https://www.instructure.com/canvas

encore+
European Network for Catalysing Open Resources in Education



https://h5p.group/

encore+
European Network for Catalysing Open Resources in Education

Today's Q/A

10 questions focusing on business models with tech, the use of OER in private and public sector (for-profit and not-for-profit), and innovation cycles:

encore+
European Network for Catalysing Open Resources in Education

Why is OER computationally interesting?

- 2021 marks a milestone for Open Educational Resources (OER)—20 years of investment and commitment to an idea that grew into a field.

- OER was also inspired by the then boom in open source software with its attributes of high quality, no vendor lock-in, simple licensing structures, and norms for sharing.

- At that time, the possibilities for online learning, AI, and machine learning were at the earliest stage and there was little high-quality content or research to understand its use, and how to increase its effectiveness through redesign.

encore+
European Network for Catalysing Open Resources in Education

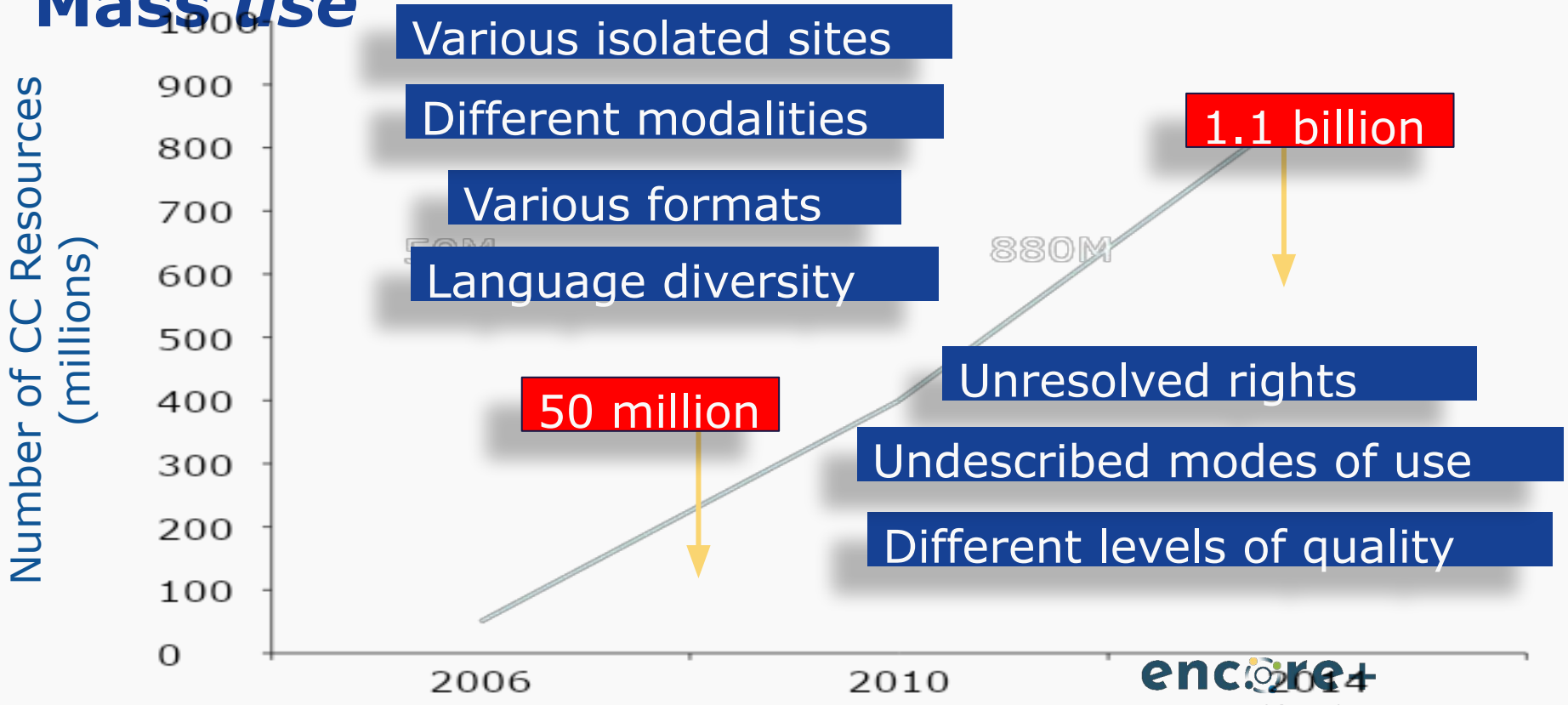
However today things are different

The problem at base is:

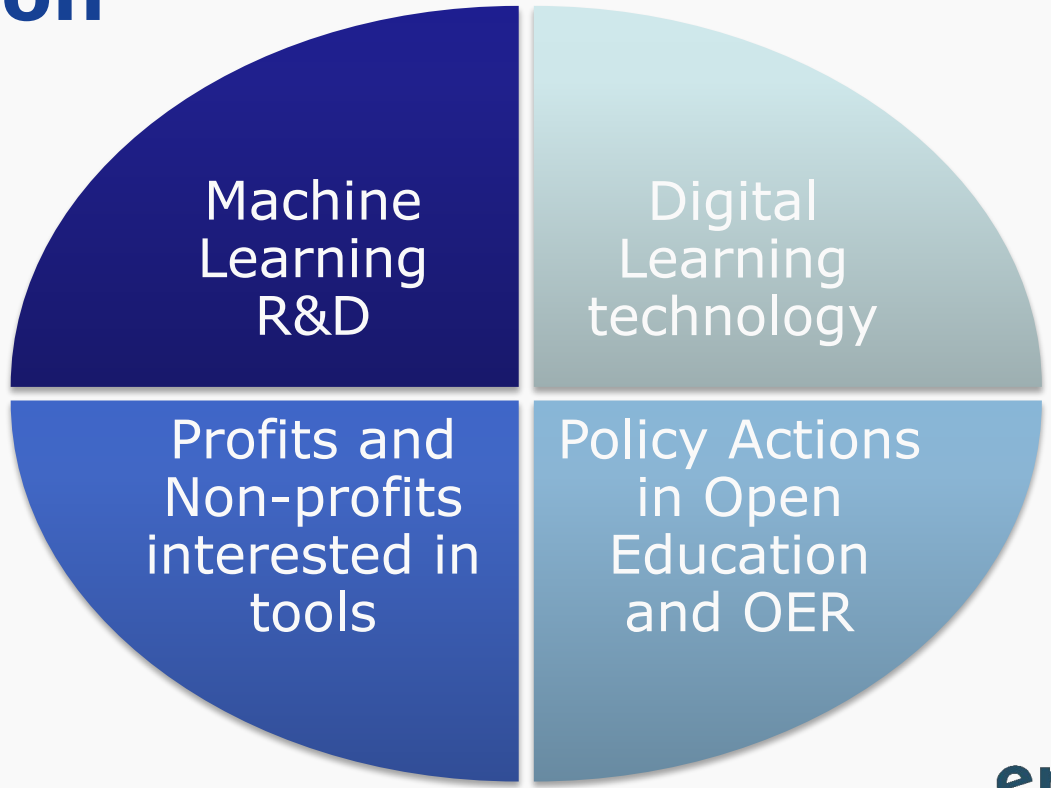
- **We are drowning in content… add to that GPT4**
- **4.6 billion pieces of content produced daily**
- **The Web is full of untapped educational resources**
- **Many resources are in the public domain**
- **Many are openly licensed (Creative Commons)**
- **Many are in siloes & scattered around the EU (world)**
- **Many have rights unresolved**
- **Resources hard to access for users/learners/teachers**
- **Resources hard to find, use, reuse, remix**
- **No efficient way to Retain, Reuse, Revise, Remix and Redistribute content for educational purposes**
- **Companies like Amazon, Microsoft building biz cases**
- **Governments are going into OER production but no advanced tech used**

encore+
European Network for Catalysing Open Resources in Education

OER and BigData - Mass *content* missing Mass *use*



A mix of new players enters open education



encore+
European Network for Catalysing Open Resources in Education

Lets cluster these problems

Challenges stopping mainstreaming of OER:

Capacity of users to find, re-use, create, share OER
Language and cultural issues
Ensuring inclusive and equitable access to quality OER
Changing business models
Developing supportive policy environments

1. **Our underlying assumption is that there is space for a integrated European OER Ecosystem**
2. **There's no difference between OER tech and other tech – this means keeping up with privates is a must**
3. **We should encourage the business potential of OER in data-driven companies (for-profit or not-for-profit digital services)**

encore+
European Network for Catalysing Open Resources in Education

Feedback from stakeholders on a potential European OER Ecosystem

- Businesses: “In the knowledge economy, we need a Netflix of education”
- European Commission: “The knowledge and learning we need should be delivered where and when we need it”
- Public institutions: “We need something that allows us to absorb and spread knowledge seamlessly”
- Research groups: “We have to use artificial intelligence (AI) and machine learning solutions as now we can aggregate, curate and personalize learning processes and content”

We made a set of leap-of-faith assumptions

- European and world citizens have a need for access to open education
- OER providers need to achieve impact and meaningful usage of their OER content
- Educators need access to high quality OER
- AI researchers need platforms for promoting, testing and comparing their algorithms, methods and solutions.
- OER and Edutech engineers need access to robust, accurate and wide-coverage technological infrastructure
- The European Commission and Ministries of Education across Europe (and wider Brussels effect) lack technological solutions for creating equity

Session 3

Friday 1st December
10:00 - 11:30 CET

OER Technology

Advancing Interoperability and Standards

Now we move to Encore Delphi survey with Lena Sperle, DHWB with a focus on tech.

"In 2030, OER platforms and repositories will actively work towards establishing interoperable technological infrastructures in a well connected European OER ecosystem. Metadata will be attached to OER by AI so that a standard form of versioning of Open Educational Resources will be made possible."

encore+
European Network for Catalysing Open Resources in Education

Session 3

Friday 1st December
10:00 - 11:30 CET

OER Technology
Advancing Interoperability and Standards

Q/A with Dominic Orr

1. **Overview of OER Integration**: "Can you describe how your company currently integrates OER into its business model and what motivated this decision?"
2. **Impact on Revenue Streams**: "How has the adoption of OER affected your company's revenue streams? Have you identified new revenue opportunities as a result of incorporating OER?"
3. **Innovation and OER**: "How does OER facilitate innovation in your company, particularly in terms of product development and service offerings?"
4. **Advice for New Entrants**: "What advice would you give to any technical players looking to integrate OER into their business model, particularly those in the early stages of exploring OER?"

encore+
European Network for Catalysing Open Resources in Education

Session 3

Friday 1st December
10:00 - 11:30 CET

OER Technology
Advancing Interoperability and Standards

Q/A with Tel Amiel

1. **Future of OER in the open source or open education Industry:** "What future trends do you foresee in the use of OER within your space, and how are the tech community and your university preparing for these changes?"
2. **Collaborations and Partnerships:** "Could you elaborate on any technical collaborations or partnerships your Chair has formed to develop, use, or distribute OER?

encore+
European Network for Catalysing Open Resources in Education

Work done, Market Analysis

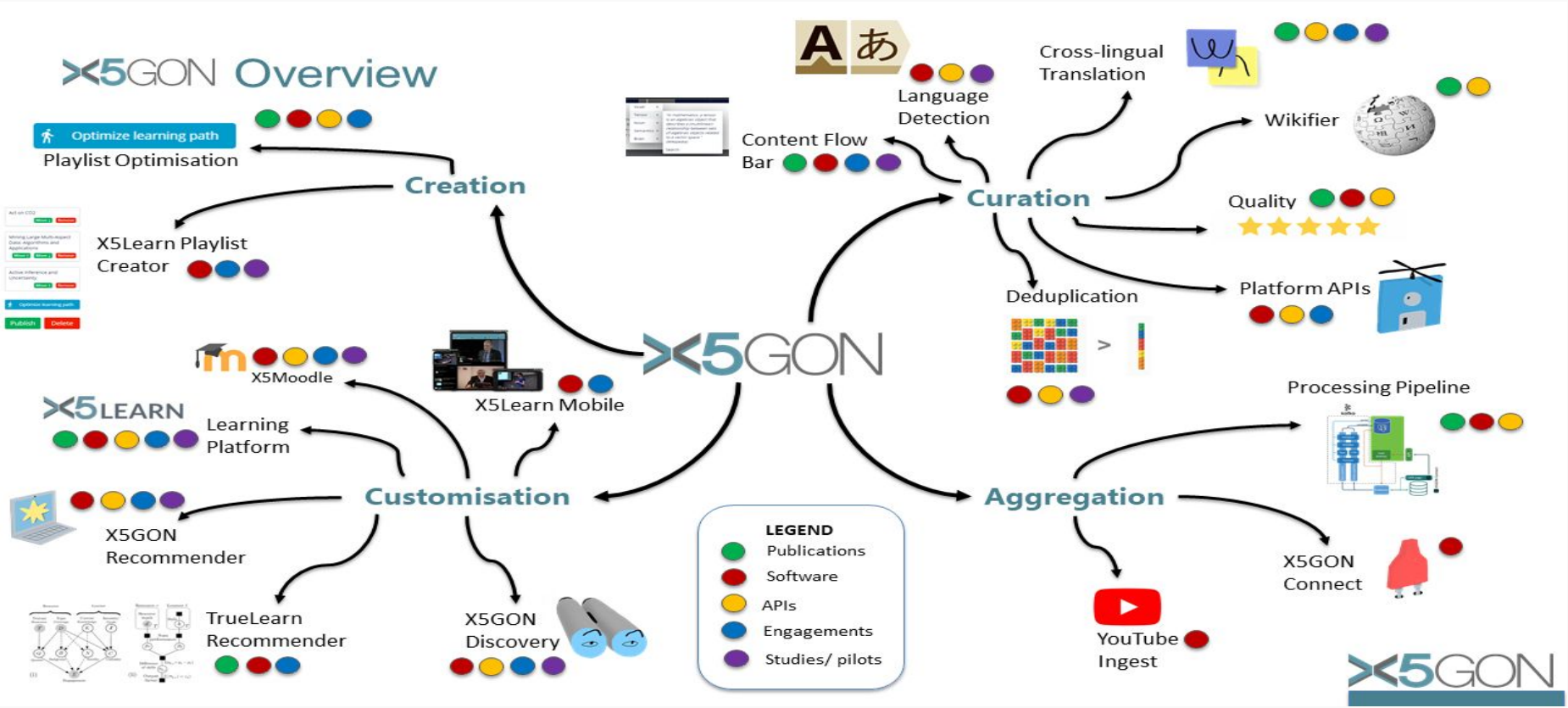
We looked at:

- Platform, Products, Services, Modules
- Stakeholders and Value Proposition
- Policy Analysis: European Commission, EU National Policies, Policies Beyond Europe
- Market Analysis: trends, needs, potential

- **We came up with a context for tech and business creation**

- **We are looking at building a case to support EU institutions in their OER setup**

encore+
European Network for Catalysing Open Resources in Education



encore+
European Network for Catalysing Open Resources in Education

Primary reasons for the current disjointed state of OER technical infrastructure

- Members of the OER community bring together different values and belief systems.
- OER technology needs vary by audience and context
- Members of the OER community have and desire different relationships with educational institutions and end users
- OER initiatives tend to be underinvested in key components of product development

This means there is no relevant or comparable technology uniting OERs.

Market analysis reveals

- Gap in the state of OER technology and a missing infrastructure on a global scale
- Existing markets are the European HEI
  - **already using OER and the initial list of approx. 300 identified OER repositories**
- Obtainable markets are EU and US based and extended to colleges
- Global South markets are also opening up
- Main market drivers include
  - **content access, impact, visibility, unconstrained supply, undistorted demand and breaking the language barrier**

Barriers to market

- Problems of credibility and validation (such as peer review) while maintaining timeliness, diversity, and quality of content
- Low policy priority assigned to OE by clients
- Lack of awareness about OER
- Fragmentation of OER initiatives, repositories
- Lack of institutional support for OER
- In the university sector, primacy of research over teaching, no use for OER
- Resistance to cultural change, introduction of OER technologies
- Low OER capacity within the teaching population
- Absence of open licenses recognition

Market size shows growth

- Currently in overall, 4% of the US higher education staff use OER as primary materials.
- The most widespread use is in mathematics (13%) and computing (11%), and the lowest use in English (2%) and psychology (1%), mainly in introductory courses.
- As supplemental material, OER is used by 5% of faculty, including 18% in computing, 13% in mathematics, 8% in English, and 4% in psychology.
- OER use could grow to comprise 12% of the primary courseware market and 19% of the supplemental adoption market within five years.
- There is no matching information available for Europe.

We have identified business streams, biz models based on top of technology

- Initial Business Streams
  - Social Entrepreneurship in a Not-for-Profit
  - Business Entrepreneurship in a For-Profit
- Initial Business Models
  - API Business Case: Indirect, Freemium, Developer, Revenue sharing, Usage based or Pay as you go
  - Platform Business Case: Collaboration, Orchestration, Creation, Clearinghouse
  - Marketplace Business Case: Marketplace, Publishing
  - Services Business Case: Training, Consultancy
  - Algorithmic Business Case
  - Blockchain Business Case: IPR management, Tokenised actions
  - Governmental Business Case: Procurement

Stay in touch

Join, and contribute to the network on LinkedIn

https://www.linkedin.com/groups/9085936/

Group: ENCORE+ the European Network in Open Educational Resources

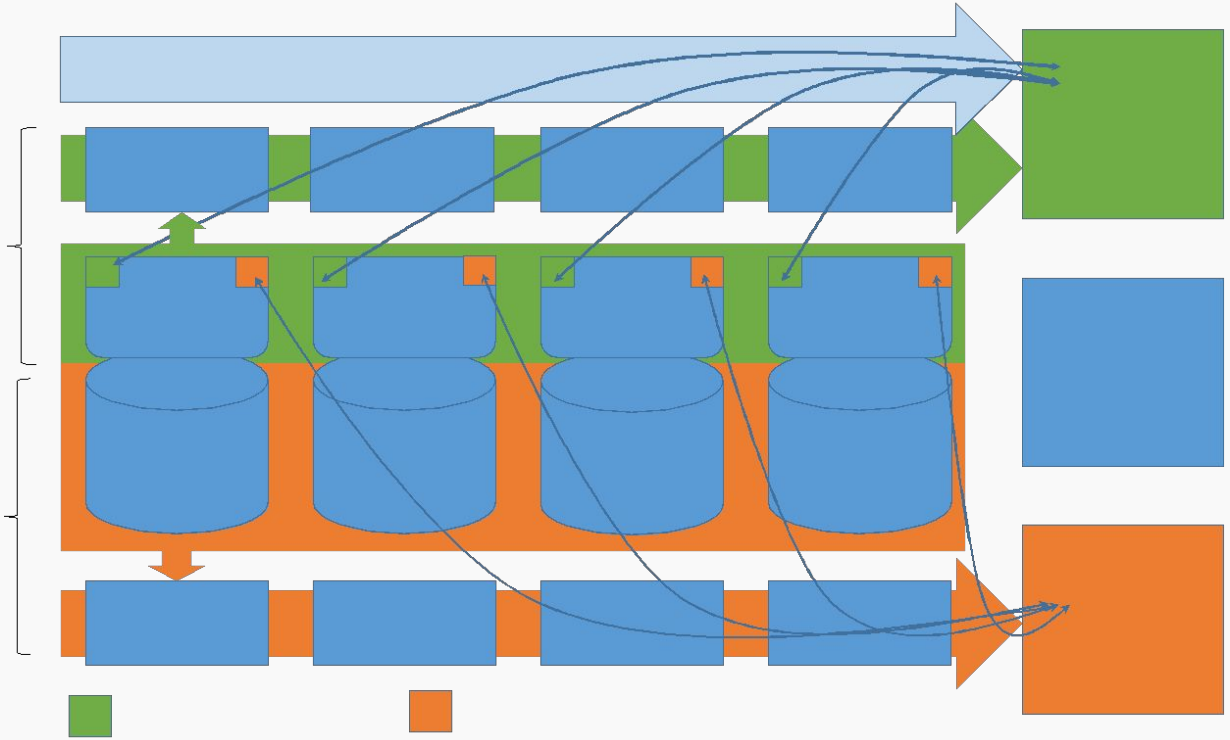
Sign up for our newsletter

https://encoreproject.us1.list-manage.com/subscribe?u=d2389ce568a0a4c84c4a27554&id=b3ea5d6e45

encore+

European Network for Catalysing Open Resources in Education

Learning resources open pipeline



encore+
European Network for Catalysing
Open Resources in Education

OER Business – Academic Engagement

Instructure

Canvas

OER Business – Academia Engagement

Key Questions:

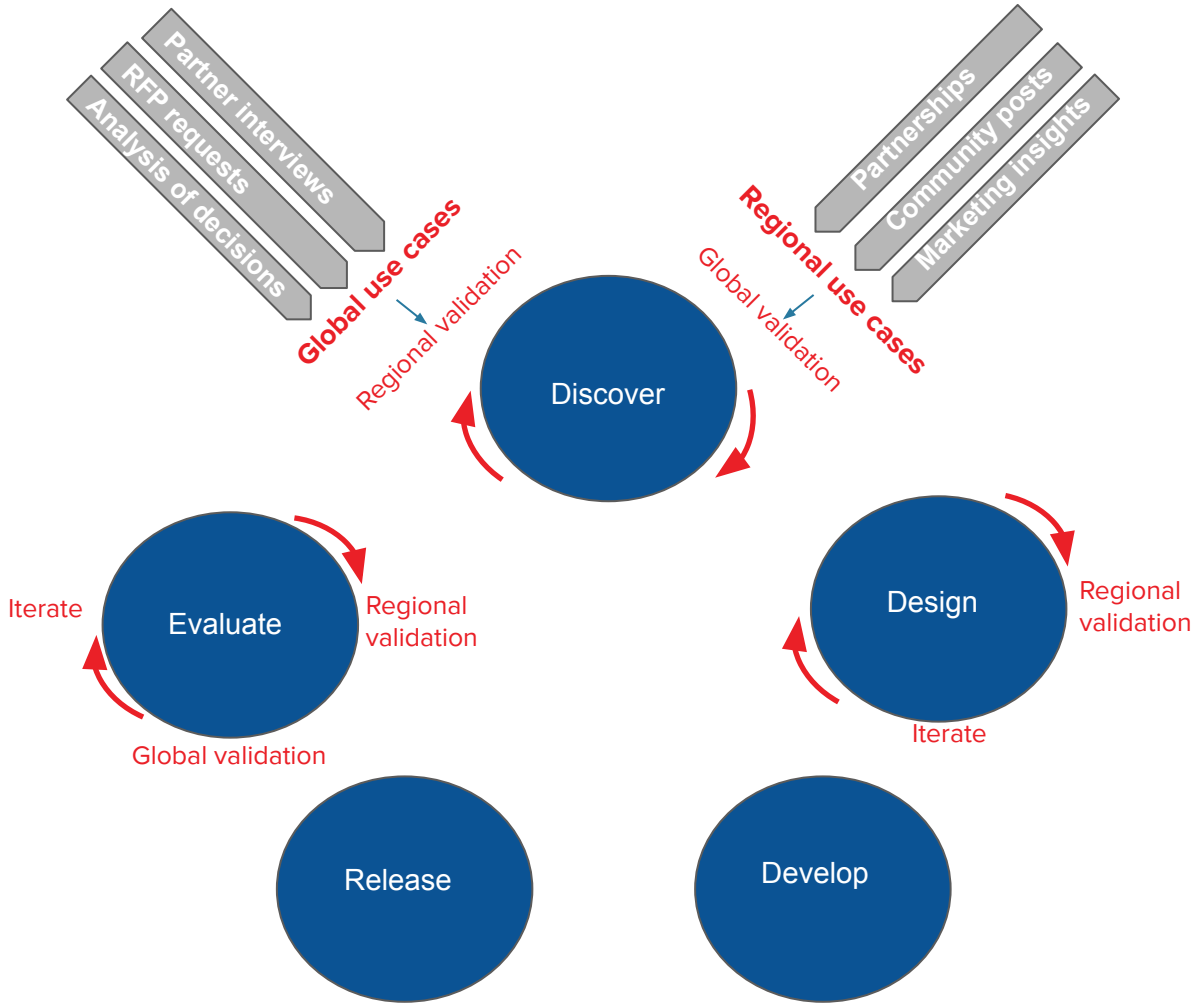
How to collaborate?

Input from multiple stakeholders?

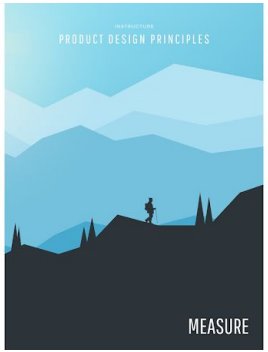
Solve key challenges?

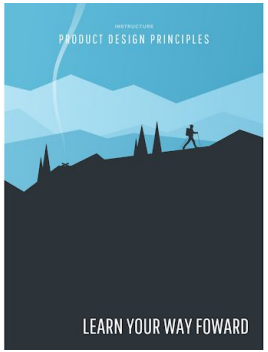
Framework

Instructure – how we product

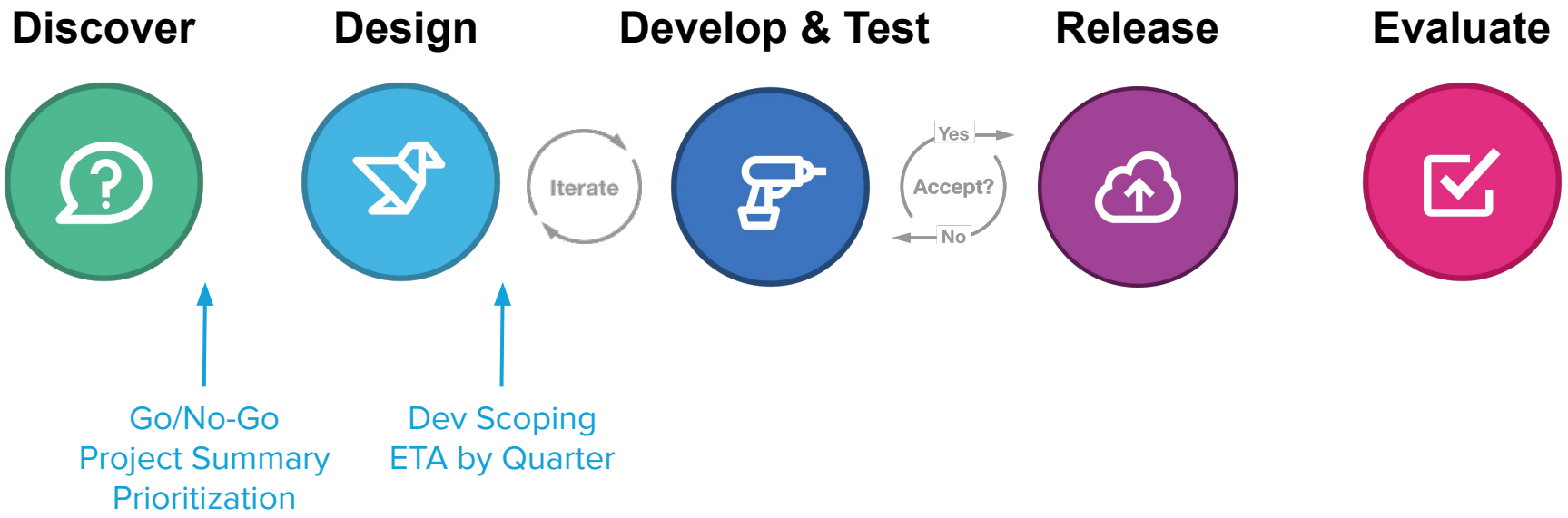

Partner interviews
RFP requests
Analysis of decisions
Global use cases
Regional validation
Partnerships
Community posts
Marketing insights
Regional use cases
Global validation
Discover
Iterate
Evaluate
Regional validation
Global validation
Design
Regional validation
Iterate
Release
Develop

Product Design Principles

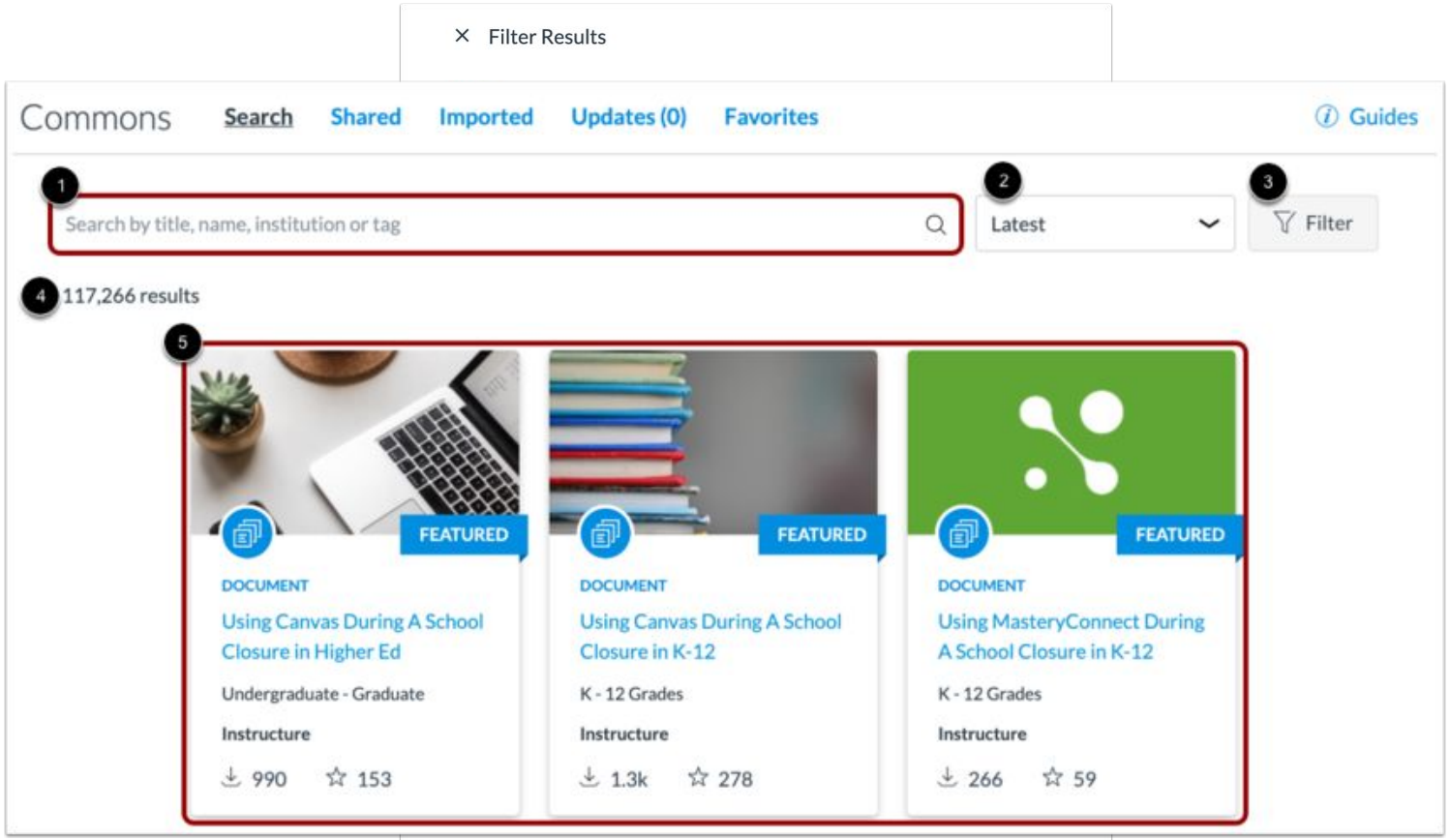




Product Development Lifecycle



Canvas Commons



encore+

European Network for Catalysing Open Resources in Education

Hybrid Delphi Survey

Lena Sperle, *DHBW*

NEXT EDUCATION

This project has been funded with support from the European Commission. This publication reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.
This document is licensed under a **Creative Commons Attribution-ShareAlike 4.0 International license** except where otherwise noted.

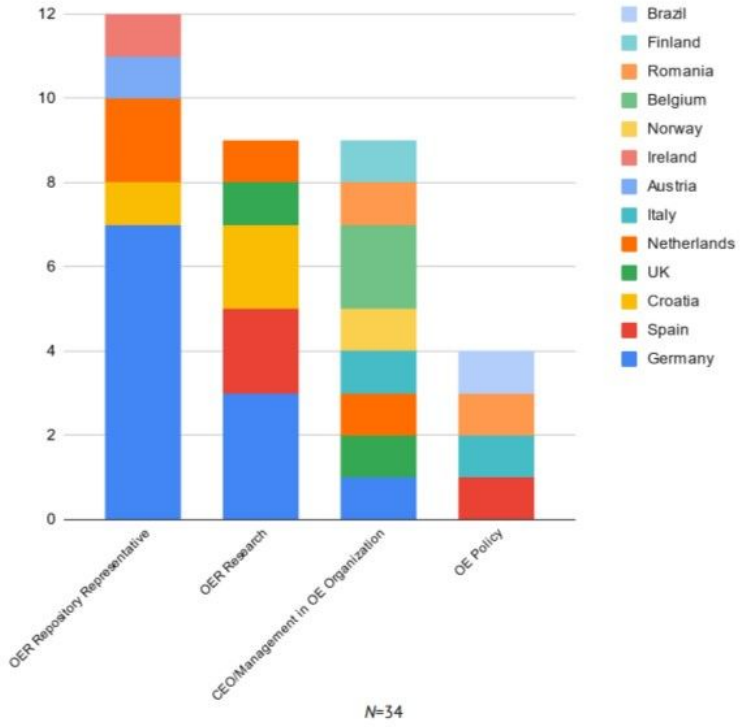
Co-funded by the Erasmus+ Programme of the European Union

Foresight on the European OER Ecosystem 2030

Formulating a Positive Vision for the Future of OER in Europe

Fig. 1. ENCORE+ Hybrid Delphi study procedure

Participants' distribution of country of origin and profession/respective field of expertise



Qualification is through MOOCs on OER

Teacher qualification as a quality measure

OER Training as part of ensuring the QA standard

Teachers are qualified- OER certificate

Ensurance of quality of OER within repository

(preventive) quality ensurance

Requirements to use Plugins to share oer

Provinenz Kontrolle as subsitute for peer-review etc

identification of authors

checklist for creators

quality self-check for authors

quality assurance at a design level - not only the final product but starting with the learning design

quality assurance and evalation of content (quality checklists for creators, trainings and consultations on OER production)

editorial content development team

OER is being submitted and checked by central content managers

OER publication is done by editorial staff, which does the quality control

community / human

trained editors

users

assessment done by...

AI

team and team constellation?

who is involved in quality ensurance? (artificial intelligence, editorial content dev. team, ...)

Jema Santos-Hermosa on "Repositories of Open Educational Resources: An Assessment of Reuse and Educational Aspects" (Santos-Hermosa, Ferran-Ferrer & Abadal, 2017)

Should we focus on repositories or the infrastructures of which repositories are a part?

Sources: ROAR, Open DOAR, Open Ed Europe, EdNeNE
Selection criteria: HE level, updated content, specific OER collection, minimum number of OER
Population: 110 repositories (201-2016)
OA elements: Bottom-up approach instead of top-down (prestige elements, benchmarks, institutional) (Clements et al., 2016) - OA elements are a hybrid of these
40% of repositories included some form of OA
Less than ¼ allowed comments or ratings although 67.2% offered some kind of community engagement, the most common of which was tagging
Good practices: checklists, community and special interest groups, recognition systems, member reputational ratings
Less good practices: focus on submission process instead of content, seeing quality as responsibility of the creator
Findings:
3.6% of repositories had most indicators
8.2% had 7-8 indicators
25.2% had 5-6 indicators
50% had 1-4 indicators
2020-2021 see an extension of this work with the OER World Map

Here is a recent paper which seems relevant https://tinyurl.com/4b7yvxw5

DESCRIBE THE QUALITY CONCEPT YOU'RE LISTENING TO

While listening, try to create a "passport" for the presented quality approach. Which categories do we need to describe the quality concept?

Find benchmarks which can be used to compare the different concepts (like categories on a passport, e.g. "age, gender, country...", but for quality concepts).
Double click on the Mural Board to create sticky notes!

OER Austria - a quality approach to work with the community to enhance quality

how is the community / are the users being integrated?

Top-Quality. - social ranking mechanisms?

Scholarly peer-review for content

Users are peer-reviewers in some future Learn Courses.

Peer reviewers of learners - is that described anywhere, so that users know about it?

Peer-Support instead of Peer-Review

communication process (internal and with whole community)

which evaluation system does the repository have?

quality assessment (instruments)

Method to assess quality/ Evaluation system

Which methods is used to assess quality?

OER - OEP: Metadata quality

agreed upon standard set of metadata

search engine/ how is the content organized

quality assurance more in terms of quality documentation

Quality indicator (missing?) the number of downloads, use / reuse?

internal criteria, author prestige, external criteria

AI is checking content for Quality (like accessibility, advertising...)

Is there a list of quality criteria used?

quality criteria + who decides them

four mandatory criteria

criteria

4 mandatory, quality criteria + more optional ones

peerlogogical, content and technical dimension

quality model

Defined set of quality criteria including content, accessibility, usability, didactics
4 mandatory criteria: consistency, licensing, technical reusability, content is up-to-date
Other criteria are optional
Iterative approach to development including consultation with stakeholders
Next stage is to involve learners

Key question: how can quality assurance be applied to OER which are constantly changing and being reversion

formative/ summative?

Continuous process of QA checks and communication /discussion

OER quality standard automated - an API as a result

quality process/ informed status/ transparent process

standards are used - are these tops down or bottom up? Accreditation?

maintainance? versioning?

Quality ensurance by hybrid approach (top-down + bottom-up)

"rythm" of quality assessment?

Seems to be an example of top-down quality measures - or is there any community feedback mechanism?

multi-staged

quality assessment process

QUALITY PROCESS: community-based, multi-staged, with trained editors, supported by AI, editorial content development team,

DCU maps their own quality to the ENQA e-learning qa standards --> transparency

TRANSPARENCY

Breakout Session 1

2 Mark Brown
Quality Process at FutureLearn

Future Learning has quality standards & ideas --> are they explicitly described?

ENQA QA consideration for HE are valid approach

Is OER quality enhanced by the number of learners?

Future learn has explicit qa approach - is it described transparently?

structure of MOOCs & ABC learning design

Outcome-Gap

4 Heike Gleibs
Approach for quality ensurance at WLO (WirLernenOnline)

Approximately 10-15 minutes to complete the upload process?

How is non significant page ensured in the quality process

How to build up an supportive community (Mitmachgruppe)

How are "lab sharing cars" ensured? Curious as to other best quality options

WirLernenOnline is a search engine and repository for learning content (school level).
Collecting, curating, indexing and aligning content with curricula
2500.000+ items of free content - 27.000 of which are openly licensed OER
9% provided by partners
Federally funded
Can be browsed through search or organised categories
Currently there is no option to rate content which would interact with WLO through API
Site includes a transparent description of quality processes
Ongoing evaluation and appraisal
Multi-stage process
Editors supported by a platform which automates processes
AI review then human review (attention on legal protections and Dependent metadata
Identification of similar resources as quality measures
Emphasis on textuality, neutrality
Current goal is implementation of quality criteria in the metadata and testing of human vs automatic curation

3 Martin Ebner
Ensurance of content quality in the TU Graz OER Repository

can we look at how the austiwien uni is showing their qualification?

5 Ljiljana Musap
Quality concept of DABAR (Digital Academic Archives and Repositories)

administration and hosting of repository

community

How are OER being defined not the same thing as open access?

Interoperable repositories are provided for all centres within DABAR
Institutions retain control over their repositories
Dedicated working groups for subject and interest areas
National e-infrastructure for digital repositories
Since 2015
156 digital repositories
184,000 digital objects
Organised into 16 (nationally agreed) categories
Repositories have owners, editors
Regular workshops help people to understand how to use the repositories, and there are monthly consultation exercises
The proportion of open access within DABAR has fallen slightly since implementation but the volume of content overall has grown more than tenfold since 2019

Breakout Session 2

6 Markus Deimann
On the tension field between quality ensurance and the motivation for sharing OER; consideration of quality assurance approaches of universities in OER repositories

University Network for OER
tension from stakeholders to find a comprehensive approach
Sept 2021
37 public universities
searching OER: not only from ORCA but also from other regions
OERSI (search index developed as Open Source project)
uploading OER: teachers or lecturers from state-funded universities (--> with a qualification)
resources are uploaded but not published immediately: content management, then check (accessibility, technical quality, licence), then community might be involved (depending on the content/ format/structure of the OER) (process under development)
37 Universities --> how to have shared criteria for quality assurance?

How can we combine different QA stakeholder requirements into one ORCA QA mechanism?

Having professional qualifications to be able to contribute content is an understandable quality measure, but is it "open"?

ORCA attempting to balance demands of different stakeholders
Aims to provide 37 public universities with resources for OER teaching & learning
Indexing material in OERSI https://oersi.org/resources/ which connects German repositories using a standardised set of metadata
A professional qualification is required to contribute resources
Uploaded content is reviewed by humans for accessibility and licensing (not content) In future some forms of community review are considered

8 Peter Rempis
On the quality process of ZOERR (Zentrales Open Educational Resources Repositorium)

team and partners of the repository

educational context

content: what types of objects are stored?

Austria - OER Hub - combining ALL Austrian OER databases

Educational Contexts: For which ed sector is the quality approach suitable?

School education

category: "target group"

how many/ certain fields

categories for content

key data/ short

9k people in staff since May 2020

600.000 users, 2500 per day

5 universities + 1 medical university in Hamburg
OER are created thanks to funding --> they KNOW about how to create OER because they followed

7 Ann-Kathrin Watolla
On quality ensurance at the HOOU

Is quality especially

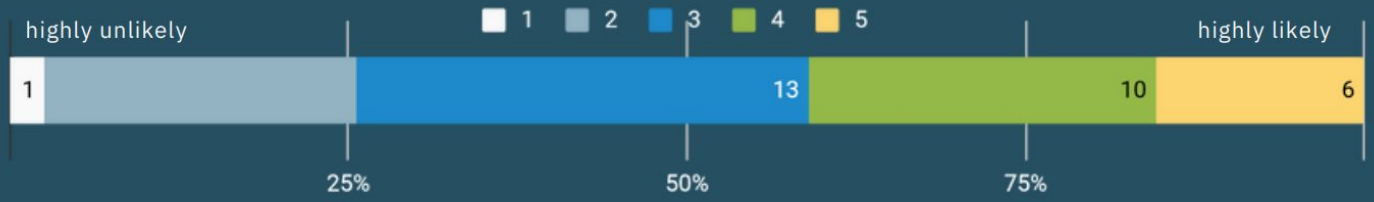
9 Klaus Wannemacher
On the Hamburg/Oldenburg model and the quality ensurance instrument implemented at twillo

OER quality

OER in Reward and Career Schemes

Rewarding Teachers for Contributing to OER

In 2030, OER will be considered in institutional and academic reward and career schemes for teachers similarly to other academic areas such as research.



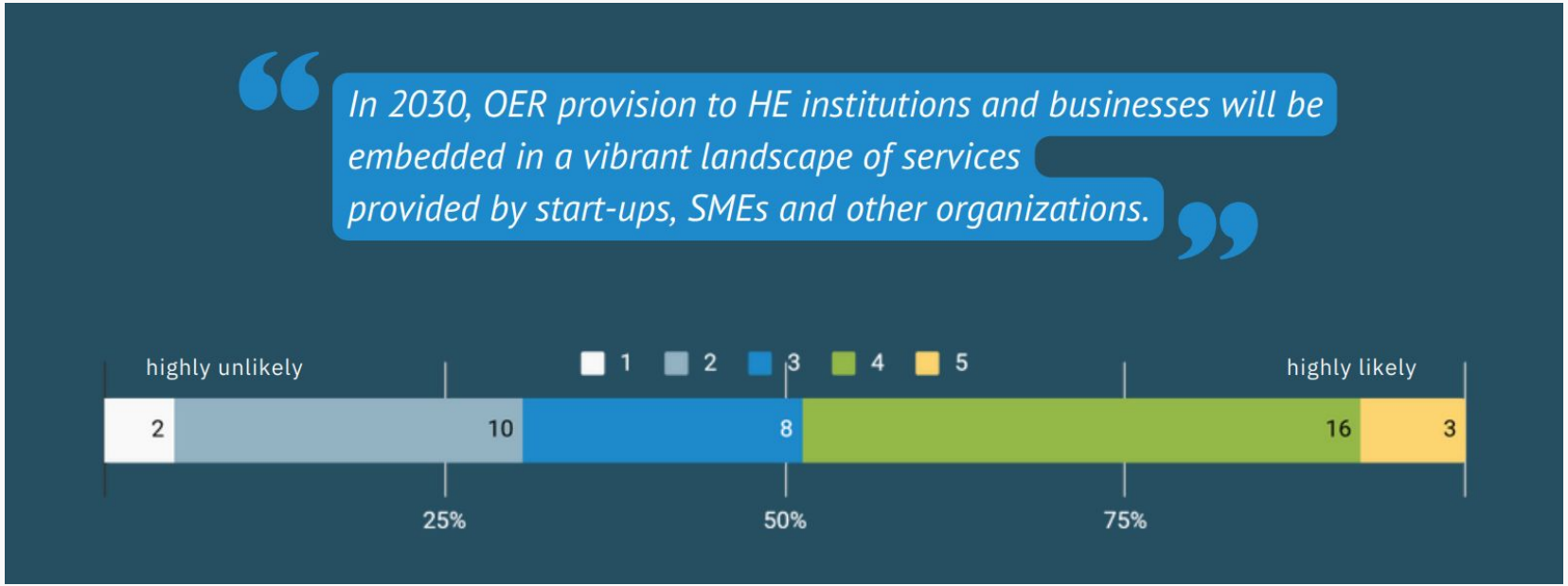
Technological Infrastructure

Interoperable OER Technologies

In 2030, OER platforms and repositories will actively work towards establishing interoperable technological infrastructures in a well-connected European OER ecosystem. Metadata will be attached to OER by AI so that a standard form of versioning of Open Educational Resources will be made possible.

OER in the Start-up Scene

Start-ups providing OER-related Services in Europe in 2030



OER Repositories as Community

Towards a Community-orientied OER Ecosystem

In 2030, OER repositories will have extended their mission from the role of OER provisioners to serving as community hubs. Strong, human networks of educators and trainers as well as learners will collaborate with each other on quality development, development of 'open educator skills' and exchange training and learning experiences.

Recommendations

- integrate OER into business models
- economic reward
- higher incentive of commonly using OER technologies, e.g. in the form of political support or more publicly funded resources for OER repositories
- an automated approach in order to link OER technologically on a large scale
- find a way to overcome the challenge that OER must prove profitable for startups to offer OER-based services
- Connect stakeholders and OE networks

encore+

European Network for Catalysing Open Resources in Education

Thank you for your time and engagement!

Project partners:

INTERNATIONAL COUNCIL FOR OPEN AND DISTANCE EDUCATION

DHBW Duale Hochschule Baden-Württemberg

The Open University

UNIR LA UNIVERSIDAD EN INTERNET

K4A knowledge for all

H5P GROUP

Fondazione Politecnico di Milano

canvas

DCU Ollscoil Chathair Bhaile Átha Cliath Dublin City University

encore+

European Network for Catalysing Open Resources in Education

Website

For further and updated information about this project please see:
www.encoreproject.eu

Contacts

Ulf-Daniel Ehlers, DHBW,
ulf-daniel.ehlers@dhbw-karlsruhe.de
Lena Sperle, DHBW,
lena.sperle@dhbw-karlsruhe.de
info@encoreproject.eu

Project partners:

INTERNATIONAL COUNCIL FOR OPEN AND DISTANCE EDUCATION
DHBW Duale Hochschule Baden-Württemberg
The Open University
unir LA UNIVERSIDAD EN INTERNET
K4A knowledge for all
H5P GROUP
Fondazione Politecnico di Milano
canvas
DCU Ollscoil Chathair Bhaile Átha Cliath Dublin City University