

Up2University Bridging the gap...

Erik Kikkenborg

NORDUnet

Webinar for NRENs, 30 September 2019

Webinar agenda

- ◆ Introduction – *Erik Kikkenborg*
- ◆ How NRENs can benefit from Up2U?
- ◆ Summary of NREN's educational activities and services survey – *Gyöngyi Horváth*
- ◆ What are the tools in NGDLE? – *Michal Zimniewicz*
- ◆ What are the pilots?
- ◆ Models of engagement of new NRENs into project activities – *Raimundas Tuminauskas*
- ◆ Next actions: How to get engaged? – *Barbara Tóth*
- ◆ Questions, Feedback and future contacts



Objective

The “Up to University” (Up2U) Project aims to bridge the gap between secondary schools and universities by providing European schools with a **Next Generation Digital Learning Environment** (NGDLE) that helps high school teachers equip their students with the knowledge, skills and attitudes they will need to succeed at university and beyond.

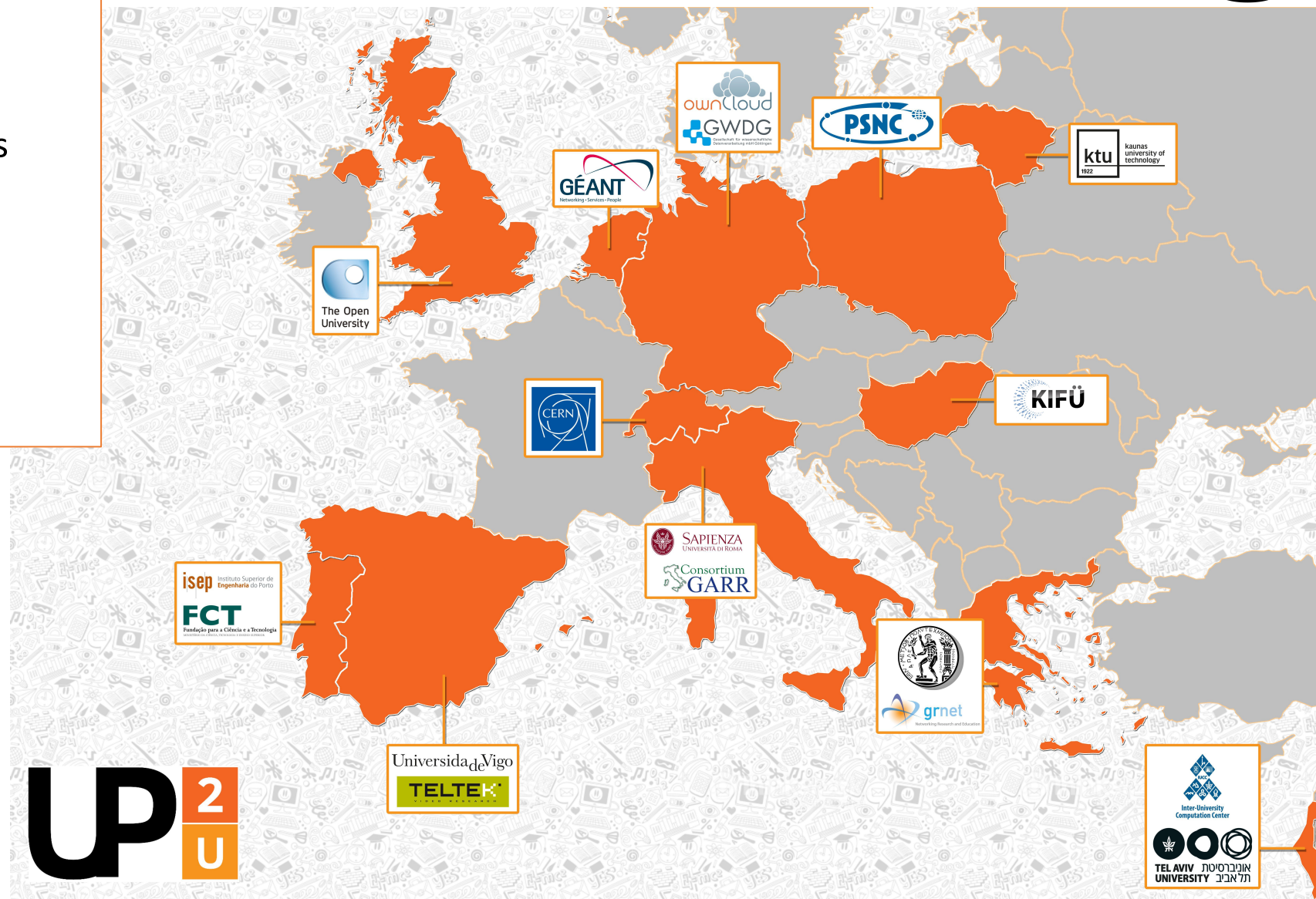
Up2U Consortium

18 partners

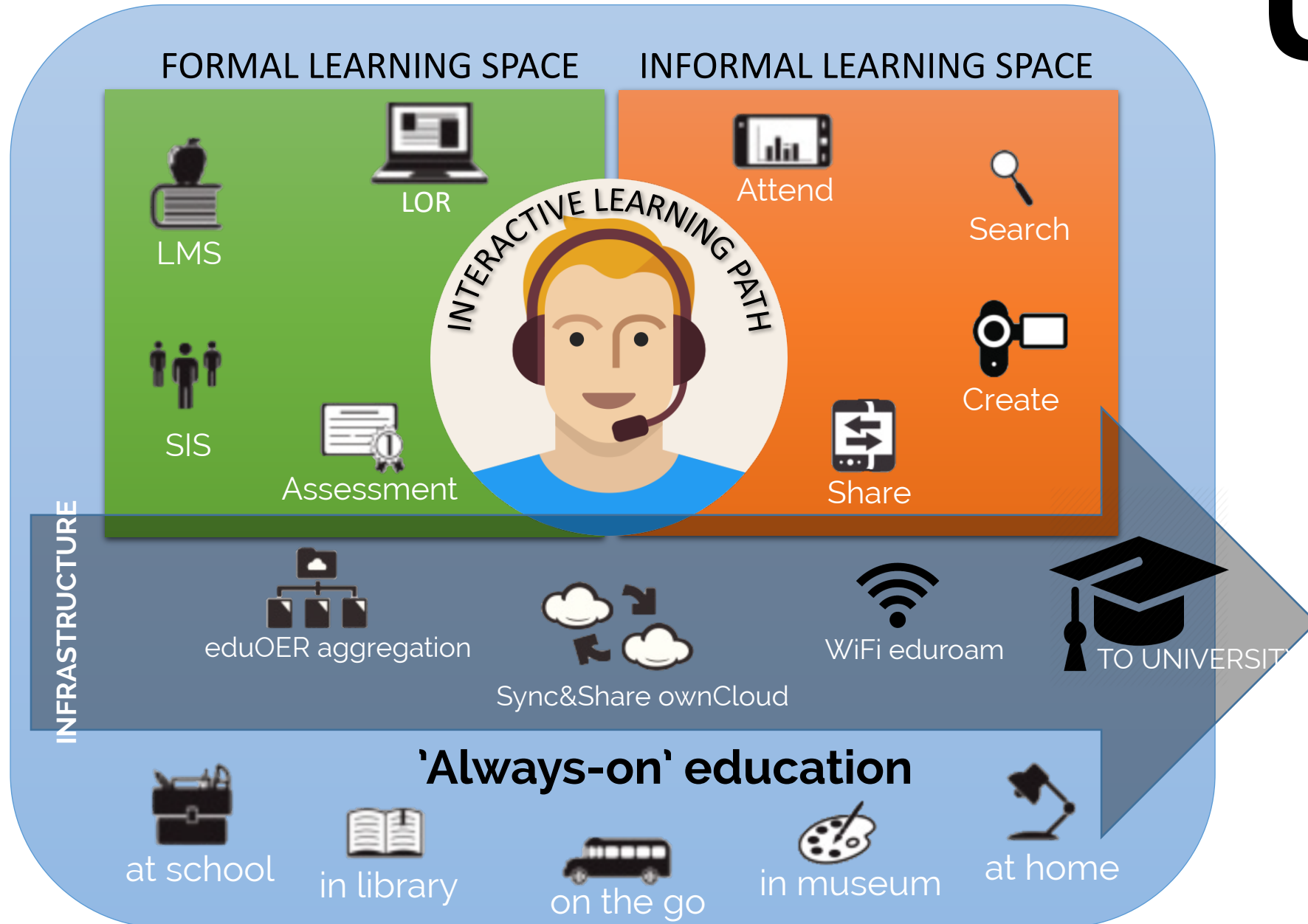
- Universities
- NRENs
- Infrastructure providers
- Commercials

12 countries

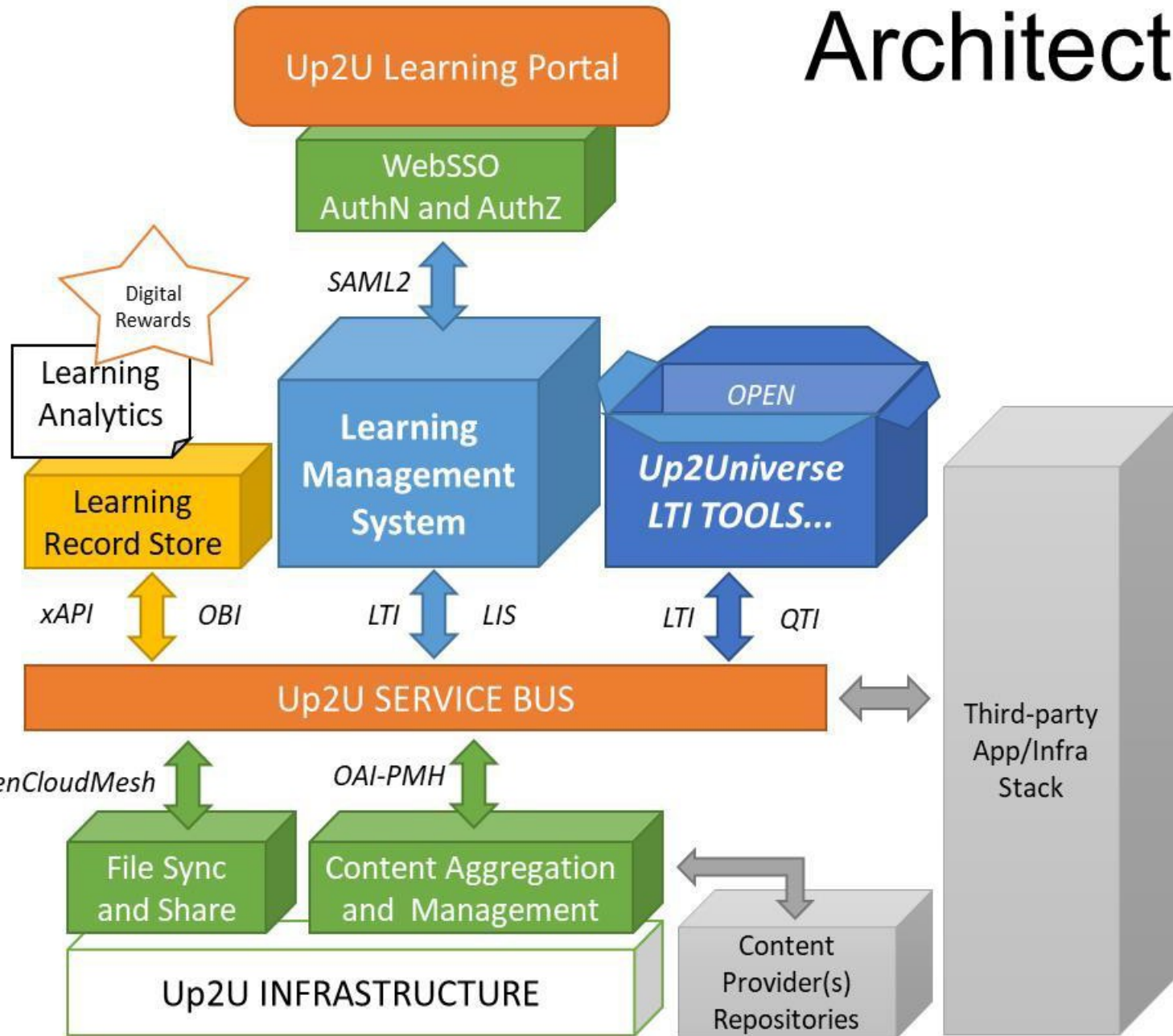
- EU
- Switzerland
- Israel



Up2U ECOSYSTEM



Architecture



- **Open Technology**
- **Standard APIs**
- **Value-add**
- **Scalable**
- **Modular**
- **Portable (Docker images)**
- **INTEROPERABILITY**

Skills for Academic Learners

Up2U approach

- ◆ Critical Thinking & Problem Solving
- ◆ Communication & Collaboration
- ◆ Information, Media & Technology Literacy
- ◆ Self-Direction
- ◆ Learning to learn

Up2U teaching models, methodologies and tools

- ◆ Project Based Learning (*Trello, wikis*)
- ◆ Place-Based Learning Education (*Treasure hunt*)
- ◆ Experiential Learning (*CernBox*)
- ◆ Flipped Classroom (*WebRTC, SeLCont, eduOER*)
- ◆ Scenario-based learning (*H5P*)

What users can do with Up2U

- ◆ An authenticated course creation in Up2U platform
 - ◆ Multi-disciplinary courses
- ◆ Recording a lecture
- ◆ Uploading a lecture & making assignments
- ◆ Interactive video creation and exercises
- ◆ Creation, storage and usage of open educational content in Up2U repository
- ◆ Virtual room communication

Up2U Continuous Professional Development



- ◆ Three main Phases for the Up2U Professional Development
 - ◆ Phase One – Introduction to ecosystem
 - ◆ Phase Two – Hands on Experience and students involvement
 - ◆ Phase Three – “Train the Trainer”
- ◆ Nine pilot countries in Up2U Professional Development program
 - ◆ Combination of technology and pedagogy
 - ◆ Combination of skills, educational needs, technological tools

Added value of Up2U

◆ Up2U for NRENs

- ◆ You can enrich your service portfolio and provide a learning platform for your teaching and learning community!
- ◆ Easy login with SSO! Trusted solution.
- ◆ Our solution is GDPR friendly by design.
- ◆ Have it your way:
 - ◆ Central Up2U instance
 - ◆ National on-prem instance
- ◆ Internet connection is the only prerequisite of this platform.

Added value of Up2U

◆ Up2U for universities

- ◆ Up2U drives up your enrolments with students ready for higher education.
- ◆ Up2U reduces the dropout rate due to unexpected skills and technical requirements.

◆ Up2U for collaborators (companies, content providers)

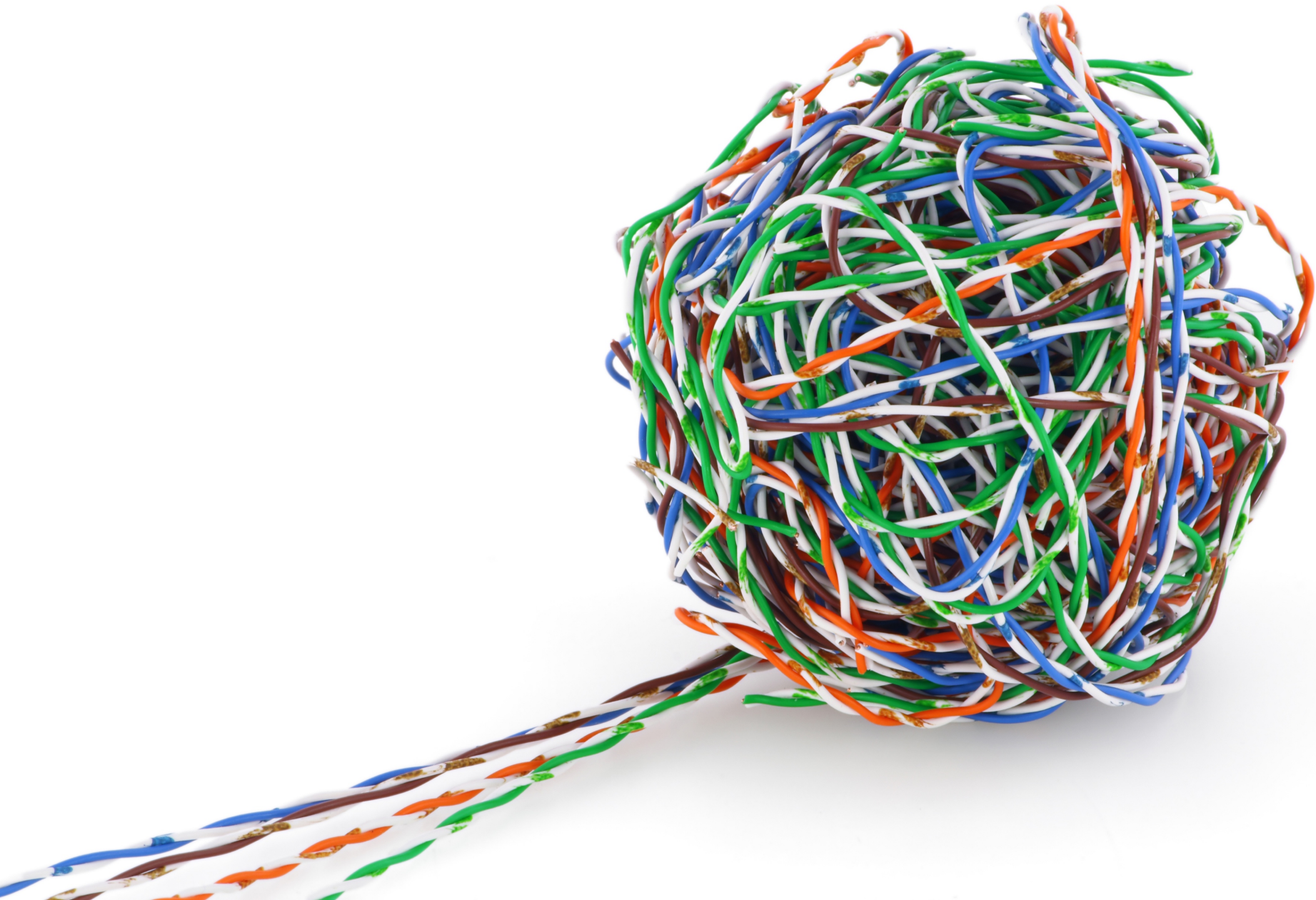
- ◆ Up2U gives you access to schools and provide a trusted and secure delivery vehicle for your content.
- ◆ Up2U gives you community feedback on your content and services via advanced learning analytics.
- ◆ Up2U provides an international network of users.

Get involved!

1. Come and **experiment** with the Up2U NGDLE in the cloud
 - ◆ Distributed private cloud installation at PSNC-Poland, GWDG-Germany and GRNET-Greece.
2. **Integrate** components and functionalities into your LMS
 - ◆ Github & Dockerhub images, automated deployment and configuration, documentation and support
3. **Take the entire open-source platform** and deploy it on-prem or in your preferred cloud
 - ◆ Integrated software stack in Docker containers

NREN's educational technologies

Gyöngyi Horváth
GÉANT



NRENs educational activities and services survey



OBJECTIVES

- ◆ Create an overview of NRENs educational activities and services
- ◆ Identify common goals to work together
- ◆ Identify common challenges
- ◆ Create a global vision and strategy
- ◆ Put in place a working group to drive these efforts

Educational services & activities of NRENs

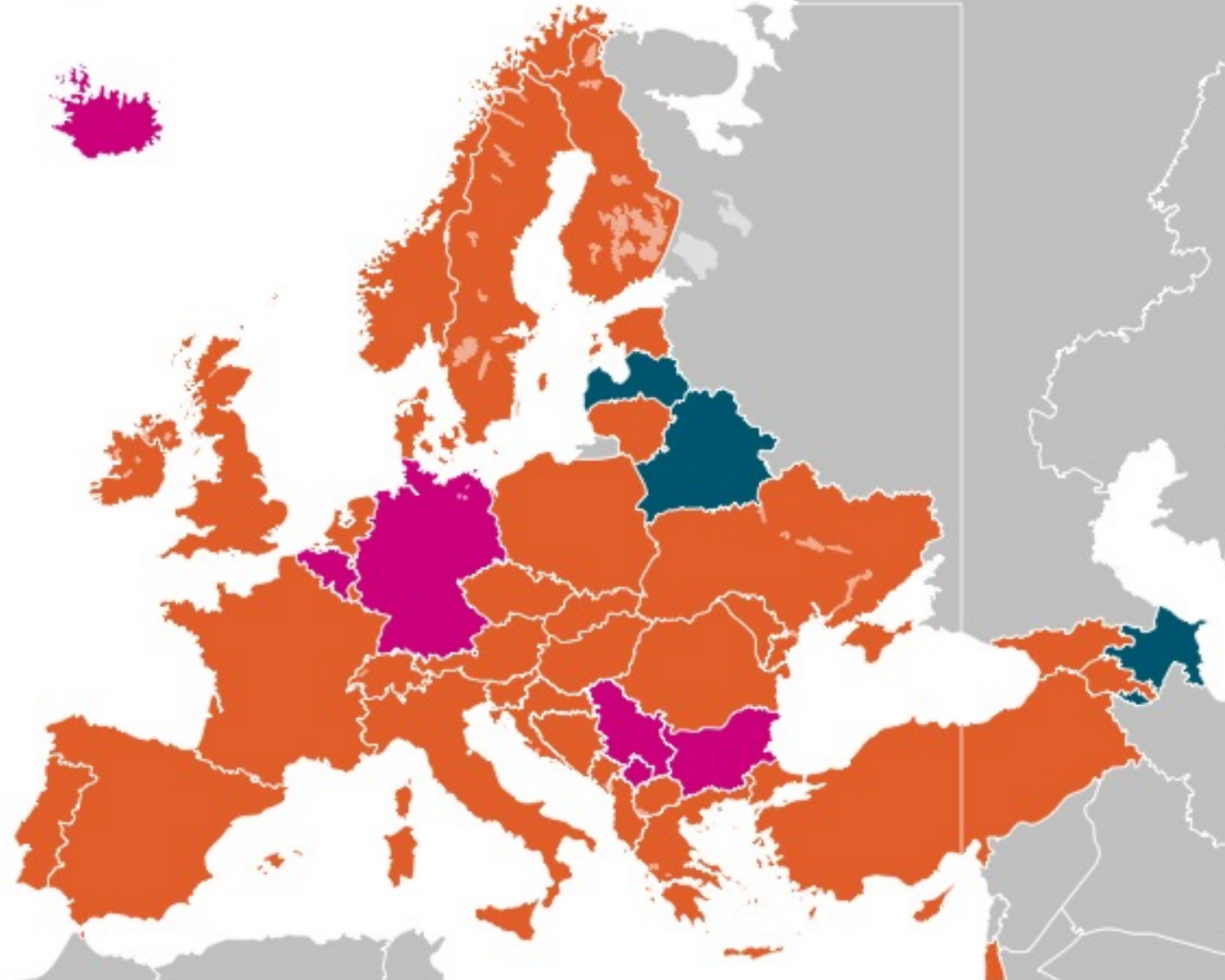


Additional activities and services beyond connectivity (fiber, network, wifi) to supporting educational institutions with their technological evolution: innovation challenges and opportunities.

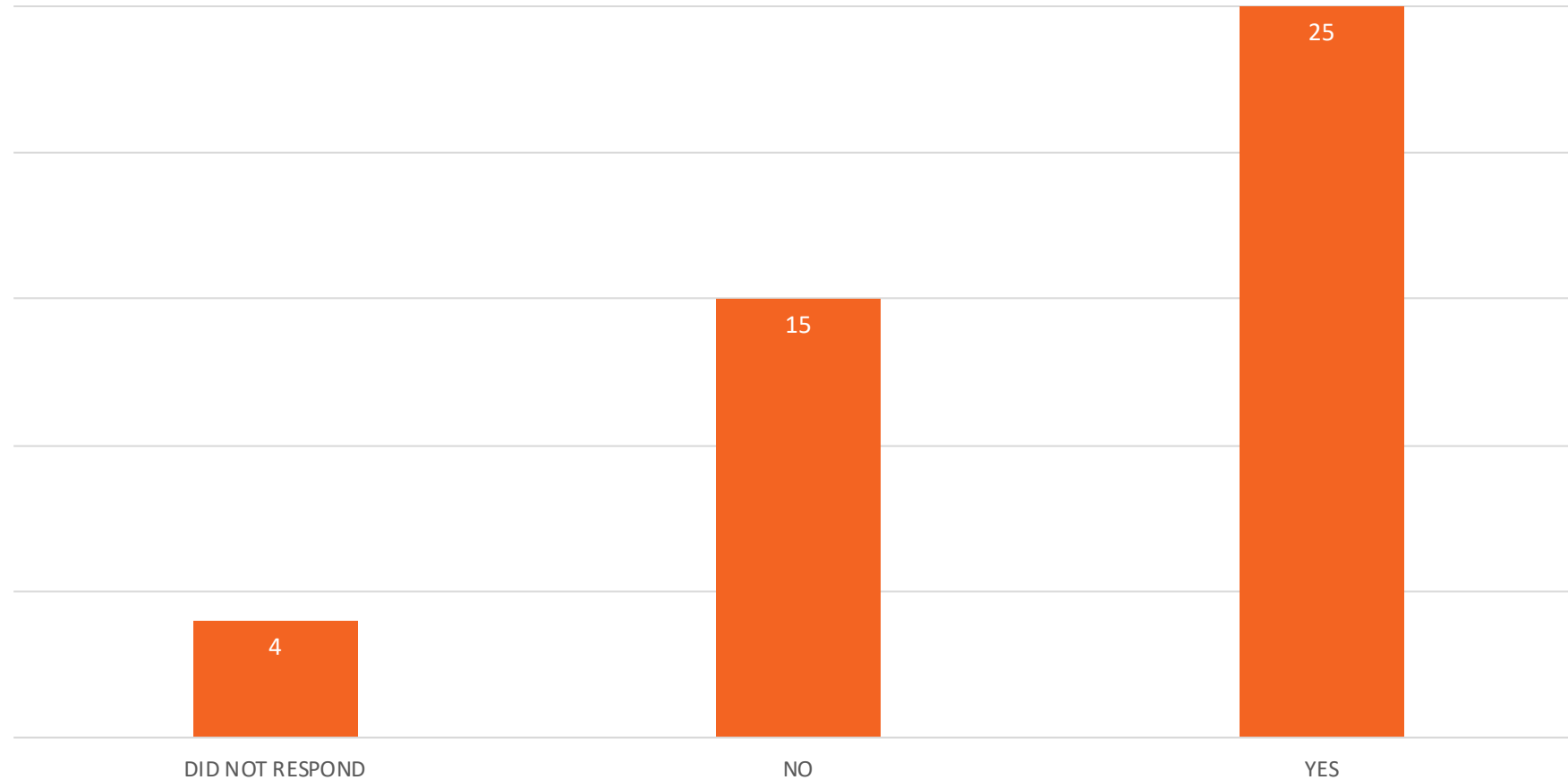
Targeting:

- ◆ Teaching & learning communities
- ◆ Educational institutions

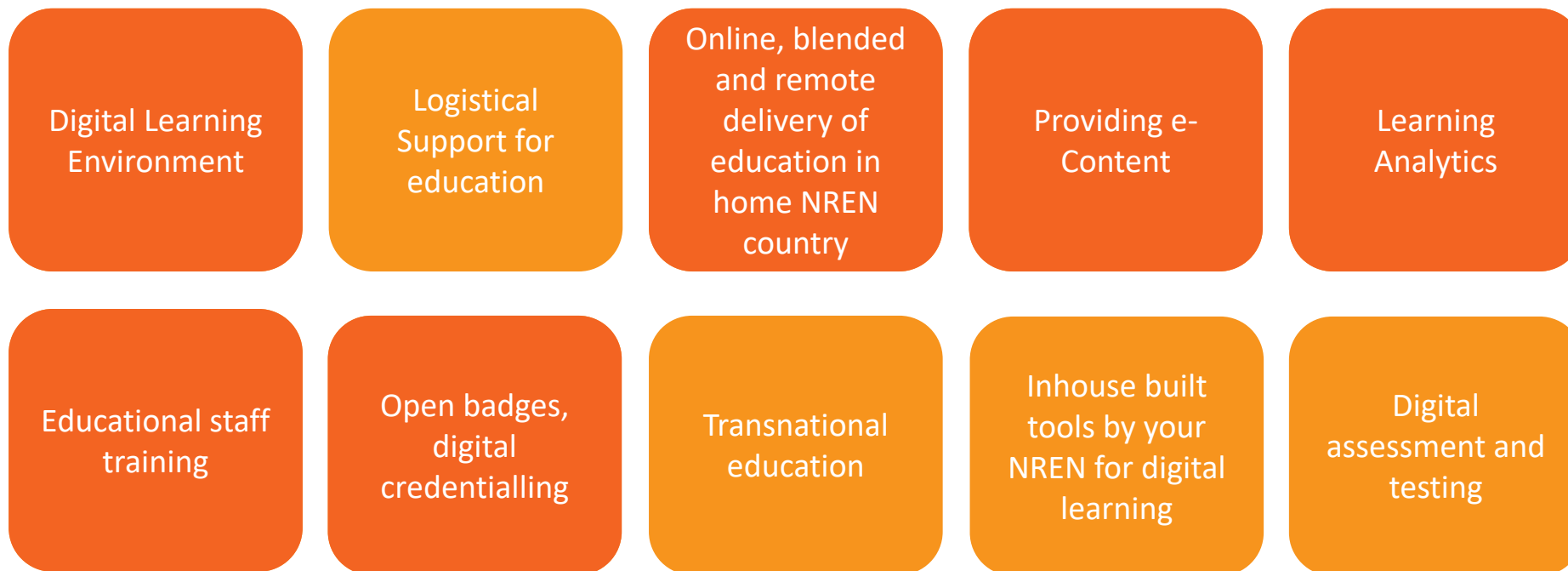
NREN provide educational services



NRENs provide educational services beyond connectivity



Educational services



Educational service levels

Initiative level

Informal joint exploration of an idea by an expert group. In most cases there is some investment to explore this initiative further, supporting the NREN's participation in this initiative.

Project level

Formal joint follow up of an initiative with a project owner and a budget.

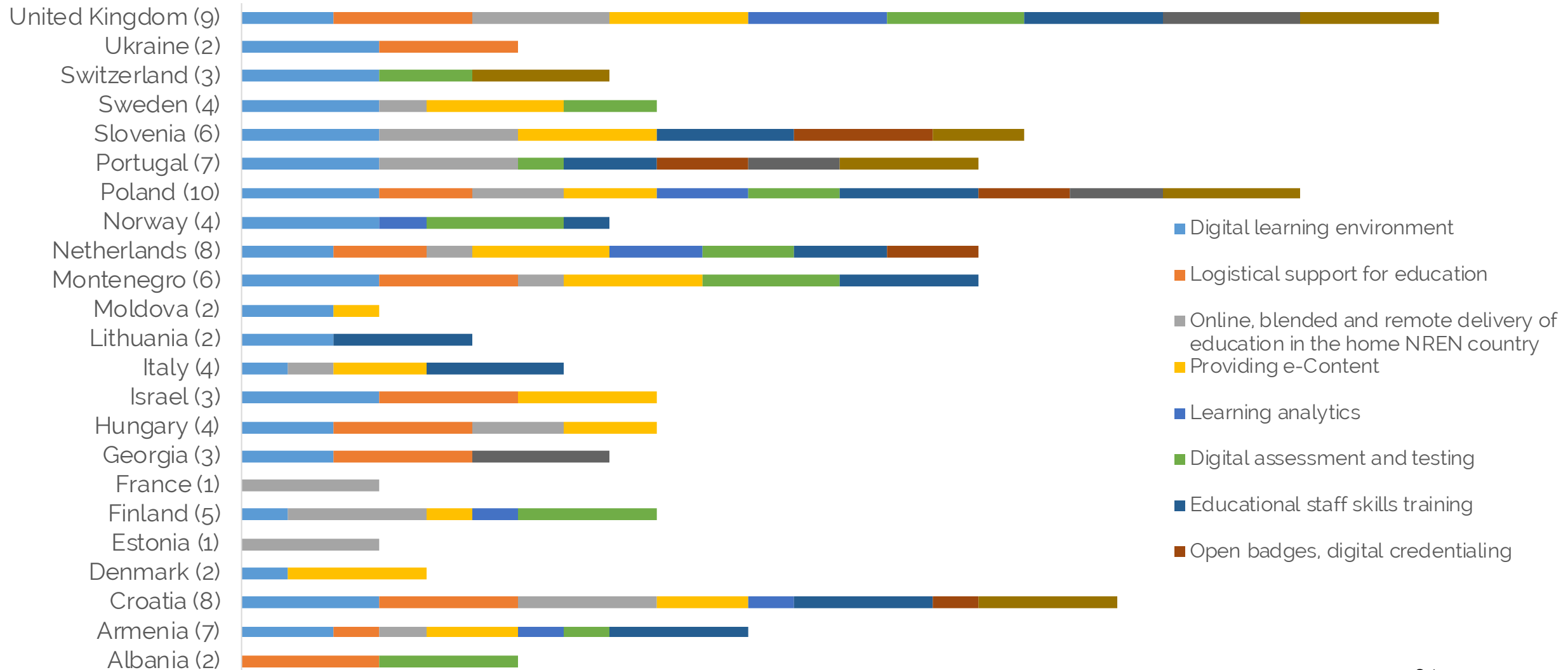
Service level

An integrated service implemented by the NREN.

	Digital learning environment	Logistical support for education	Online, blended and remote delivery of education in the home NREN country	Providing e-Content	Learning analytics	Digital assessment and testing	Educational staff skills training	Open badges, digital credentialing	Transnational education (delivery of your national education overseas)	Inhouse built tools by your NREN for digital learning
Albania										
Armenia										
Austria										
Azerbaijan										
Belarus										
Belgium										
Bulgaria										
Croatia										
Cyprus										
Czech Republic										
Denmark										
Estonia										
Finland										
France										
Georgia										
Germany										
Greece										
Hungary										
Iceland										
Ireland										
Israel										
Italy										
Latvia										
Lithuania										
Luxembourg										
Macedonia										
Malta										
Moldova										
Montenegro										
Netherlands										
Norway										
Poland										
Portugal										
Romania										
Serbia										
Slovakia										
Slovenia										
Spain										
Sweden										
Switzerland										
Turkey										
Ukraine										
United Kingdom										
Nordics										

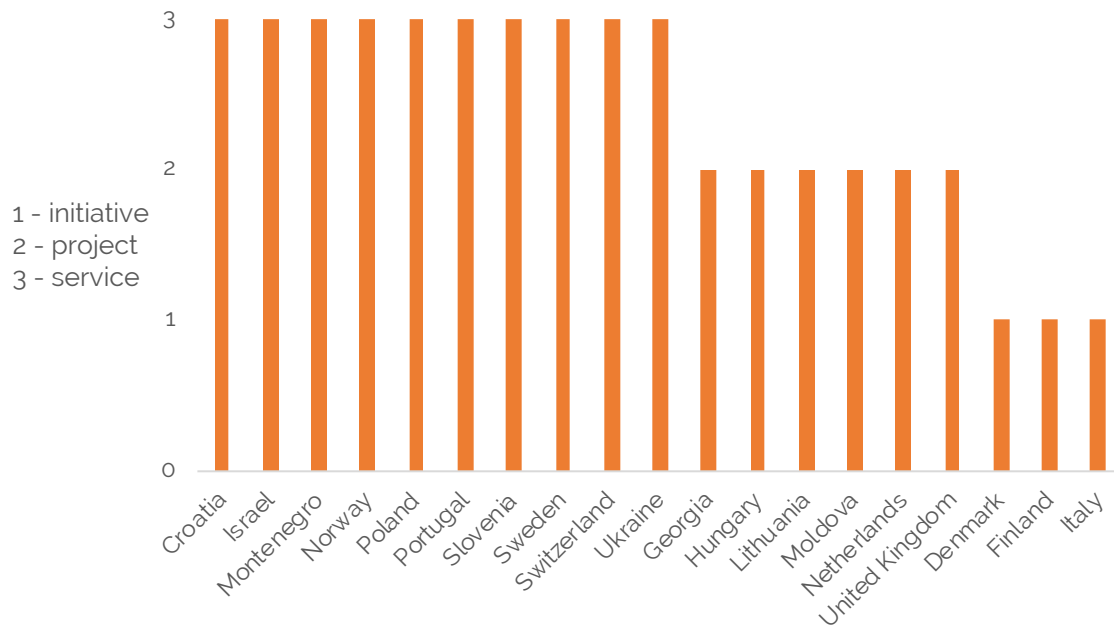
did not respond
Do not provide
N/A
No - Out of scope
No - But interested
Yes - Initiative level
Yes - Project level
Yes - Service level

Educational services per NREN and their levels

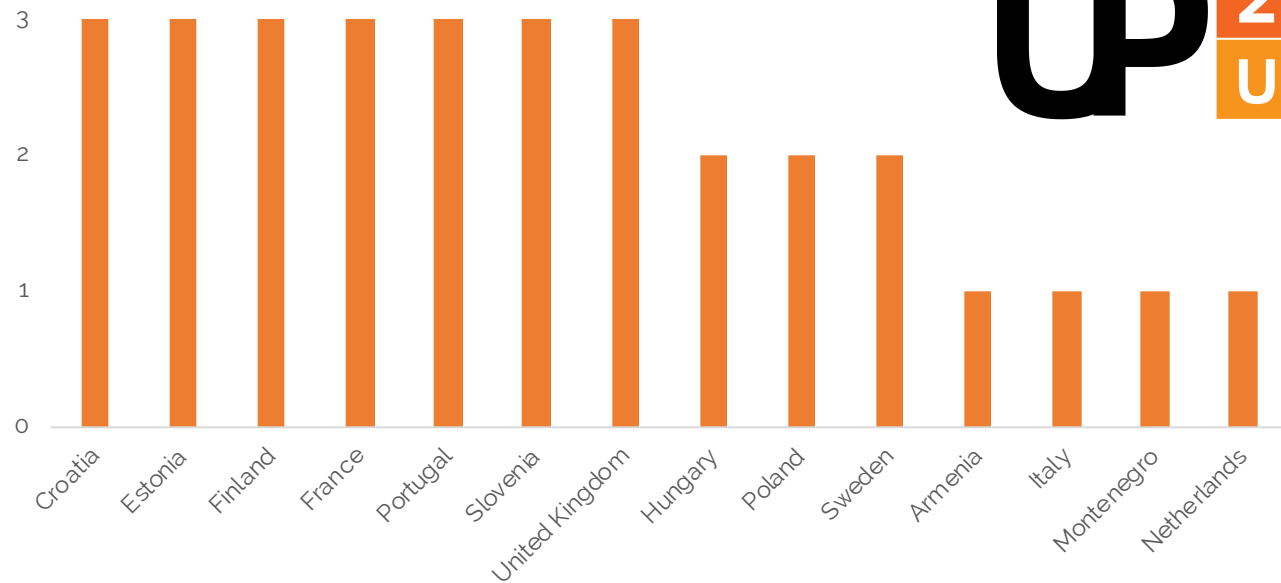




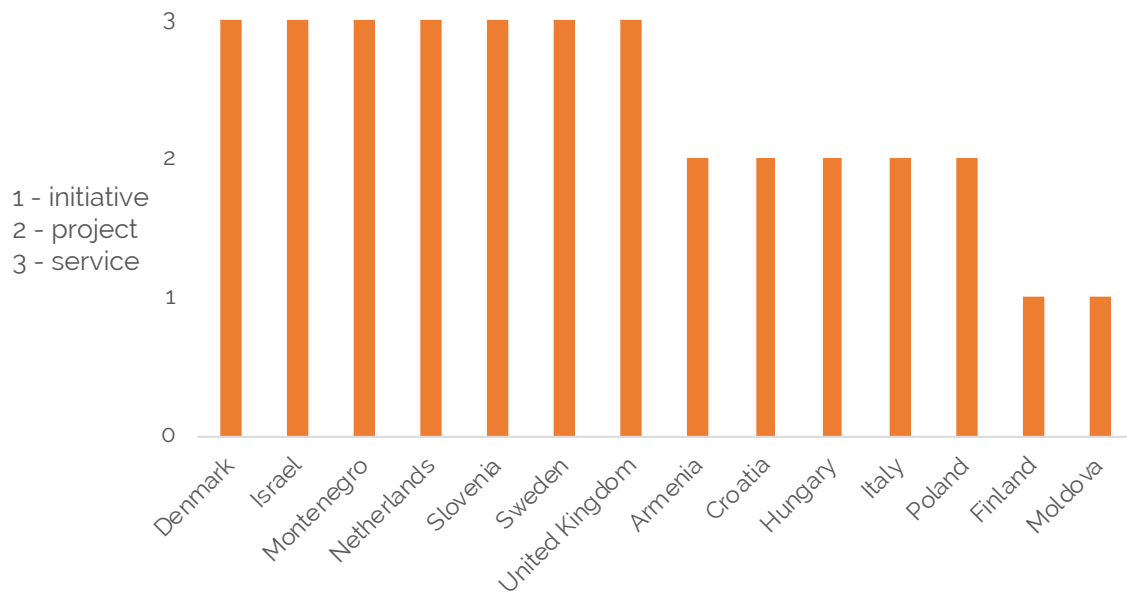
Digital learning environment



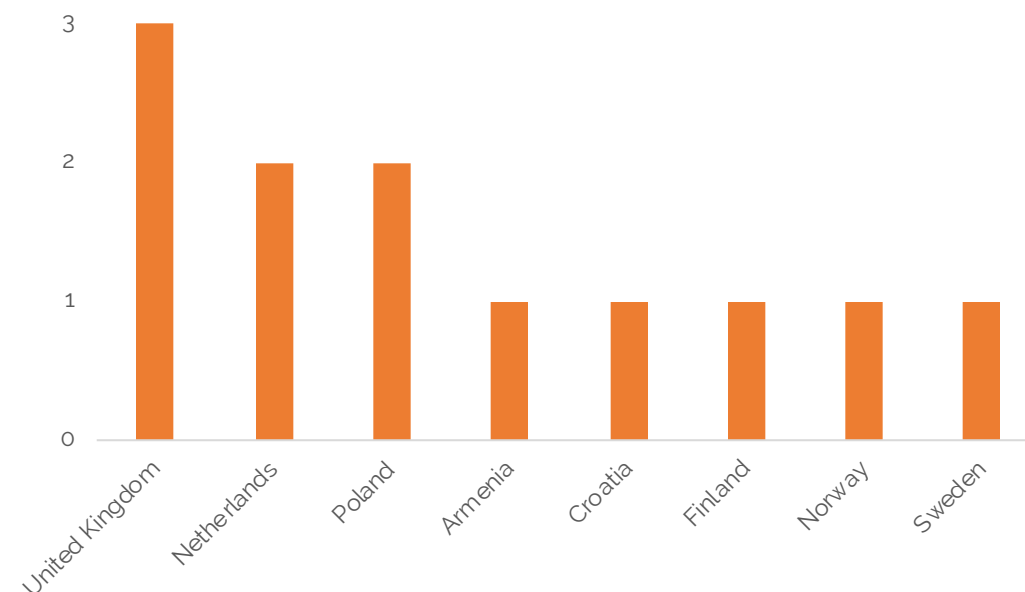
Online, blended and remote delivery of education in the home NREN country



Providing e-Content



Learning analytics



TF-EDU Main objective

The Task Force aims to establish collaborations across the education sector on commonly identified topic areas, providing a coordinated approach to improve NREN educational services and activities.

You want to get more involved?



Join us **4-5 November 2019** at the next NREN educational technologies workshop in Budapest, Hungary!

Register here:

<https://eventr.geant.org/events/3146>

Up2U NGDLE and Pilots?

Michał Zimniewicz

PSNC, Poland

Up2U Application Toolbox

Next Generation Digital Learning Environment

◆ Learning Management System



◆ Content



◆ Collaborative Editing and Doc Sharing



◆ Real-Time Interactions



◆ Recording & Publishing



◆ Learning Analytics

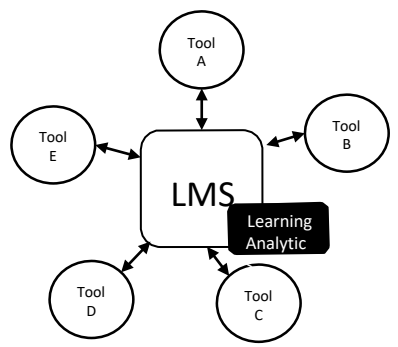


◆ Open Badges

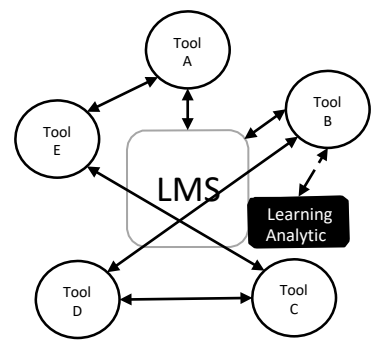
...to an Open Garden



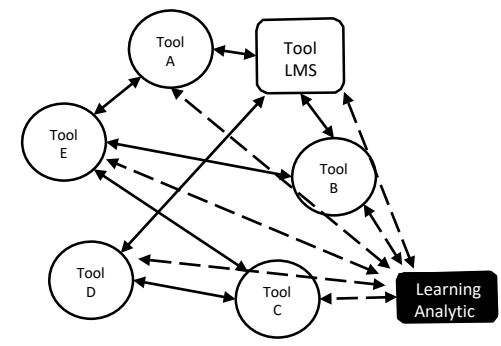
From a Walled Garden...



LMS-based architecture



Transitional architecture



NGDLE architecture

Single Sign-On



Welcome

Wybierz źródło autentykacji

Federated Login

Use the federated EduGAIN AAI to log in. After selecting your affiliation you will be redirected to login page of your school.

LOGIN WITH EDUGAIN

Social Network Login



Up2U Login

The Up2U login is for users from schools that don't participate in the EduGAIN AAI. You can **register here** for a new account.

LOGIN WITH UP2UID

CERNBox – File Sync&Share



The screenshot shows the CERNBox web interface. The top navigation bar includes the UP2U logo, the text "Pliki", a search bar, and the user name "Michał Zimniewicz". The main content area displays a file list with columns for "Nazwa", "Rozmiar", and "Modyfikacja". The files listed are:

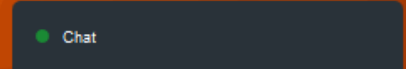
Nazwa	Rozmiar	Modyfikacja
test	0 KB	miesiąc temu
01 Obiekty 3D.ipynb	2 KB	sekund temu
02 high energy physics LHC.ipynb	406 KB	sekund temu
03 arytmetyka.ipynb	2 KB	sekund temu
04 funkcje.ipynb	2 KB	sekund temu
05 wykresy.ipynb	3 KB	sekund temu
06 operacje na danych.ipynb	12 KB	sekund temu
pandas.ipynb	93 KB	sekund temu
pomiary.txt	1 KB	za kilka sekund
Simple_ROOTbook_py.ipynb	32.5 KB	sekund temu



The screenshot shows the Moodle File picker interface. The top navigation bar includes the Moodle logo and the user name "Admin User". The main content area displays a file tree structure with the following items:

- Server files
- Recent files
- Upload a file
- URL downloader
- Private files
- Wikimedia
- CERNBox
 - myFolder
 - myNotebooks
 - .bash_history
 - CERN-OPEN-2016-005.pdf
 - FST_volumes
 - grafana_swan.png
 - owncloud.png
 - Untitled.ipynb
 - Untitled1.ipynb

Knockplop, Multiparty Meeting



SWAN – Jupyter Notebooks



UP2U 02 high energy physics LHC (autosaved) Control Panel Logout

File Edit View Insert Cell Kernel Help Not Trusted Python 2

Momentum is a **vector** quantity, it has x,y, and z components. Try calculating the **magnitude** of the momentum of the first kaon candidate and plotting a histogram of this, you'll need the H1_FX, H1_PY and H1_PZ variables.

```
In [11]: # Selects the vector components of the momentum of H1 and computes the magnitude of the vector
# Only consider data where H1_PROBK = 1.0 (note, this could be relaxed to H1_PROBK >= <some threshold value>)

p_tot = sql("""
select H1_FX, H1_PY, H1_PZ, round(sqrt(H1_FX*H1_FX + H1_PY*H1_PY + H1_PZ*H1_PZ),2) H1_PTOT
from sim_data
where H1_PROBK = 1.0""")

p_tot.show(5) # displays the first 5 rows of the result
```

H1_FX	H1_PY	H1_PZ	H1_PTOT
3551.84	1636.96	23904.14	24221.96
-2525.98	-5284.05	35822.0	36297.62
-700.67	1299.73	8127.76	8260.79
3364.63	1397.3	222815.29	222845.07
-581.66	-1305.24	22249.59	22295.43

only showing top 5 rows

```
In [12]: # calculate a variable for the magnitude of the momentum of the first kaon
# plot a histogram of this variable

h1tot_data_plot = p_tot.select("H1_PTOT").toPandas().plot.hist(bins=31, range=[0, 55000])
xlabel('H1_PTOT (MeV/c)')
ylabel('Count');
```



H5P – Interactive quizzes and assignments



Accordion

Create vertically stacked expandable items



Agamotto

Create a sequence of images that gradually



Arithmetic Quiz

Create time-based arithmetic quizzes



Audio Recorder

Create an audio recording



Chart

Quickly generate bar and pie charts



Collage

Create a collage of multiple images



Column

Column layout for H5P Content



Course Presentation

Create a presentation with interactive slides



Dialog Cards

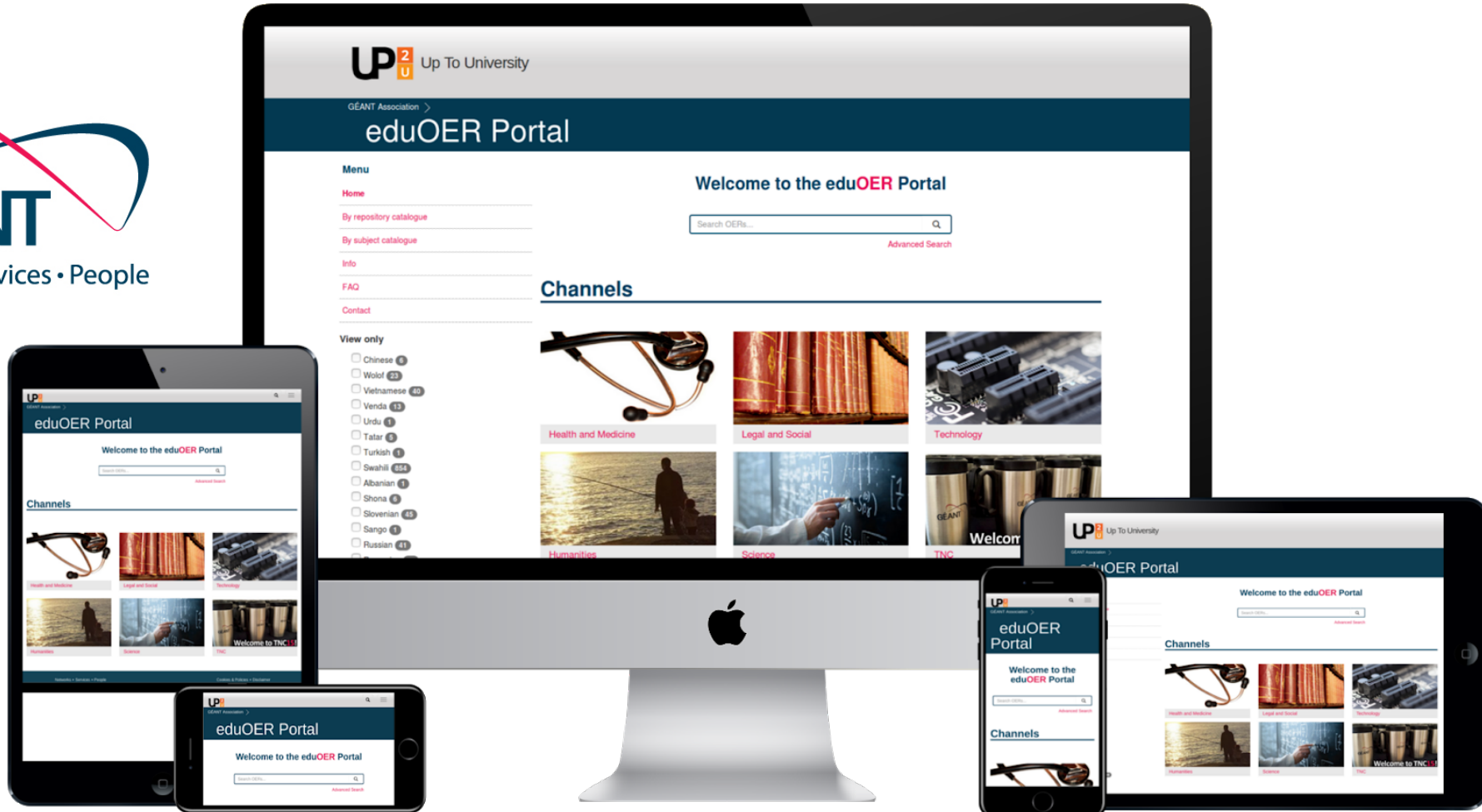
Create text-based turning cards



Documentation Tool

Create a form wizard with text export

EduOER – Content across multiple repositories



DSpace – Share and reuse OER



The screenshot shows the UP2U DSpace website interface. At the top, there is a navigation bar with links for Home, Browse, and Help, a search bar for 'Search UP2U DSpace', and a 'Sign on to:' dropdown. Below the navigation bar, the main content area features the 'UP2U DSpace' logo and a description: 'UP2U DSpace preserves and enables easy and open access to all types of digital content including text, images, moving images, mpegs and data sets for K12 educational level'. A 'Learn More' button is positioned below the description. The main content is divided into three sections: 'Communities in UP2U DSpace', 'Discover', and 'Date issued'. The 'Communities in UP2U DSpace' section has a dropdown menu with 'UP2U' selected. The 'Discover' section contains three tables: 'Author', 'Subject', and 'Date issued'. The 'Date issued' section has a 'Has File(s)' dropdown menu with 'true' and 'false' options.

UP2U DSpace
UP2U DSpace preserves and enables easy and open access to all types of digital content including text, images, moving images, mpegs and data sets for K12 educational level

[Learn More](#)

Communities in UP2U DSpace
Choose a community to browse its collections.

UP2U

Discover

Author	Count
Nick, Mastoris	5
Andrea Corleto	4
Maria Grammatikou	2
Pantazatos, Dimitris	2
Dimitris, Pantazatos	1
Iván Otero	1
Kostas, Vogias	1
morgado, nuno	1

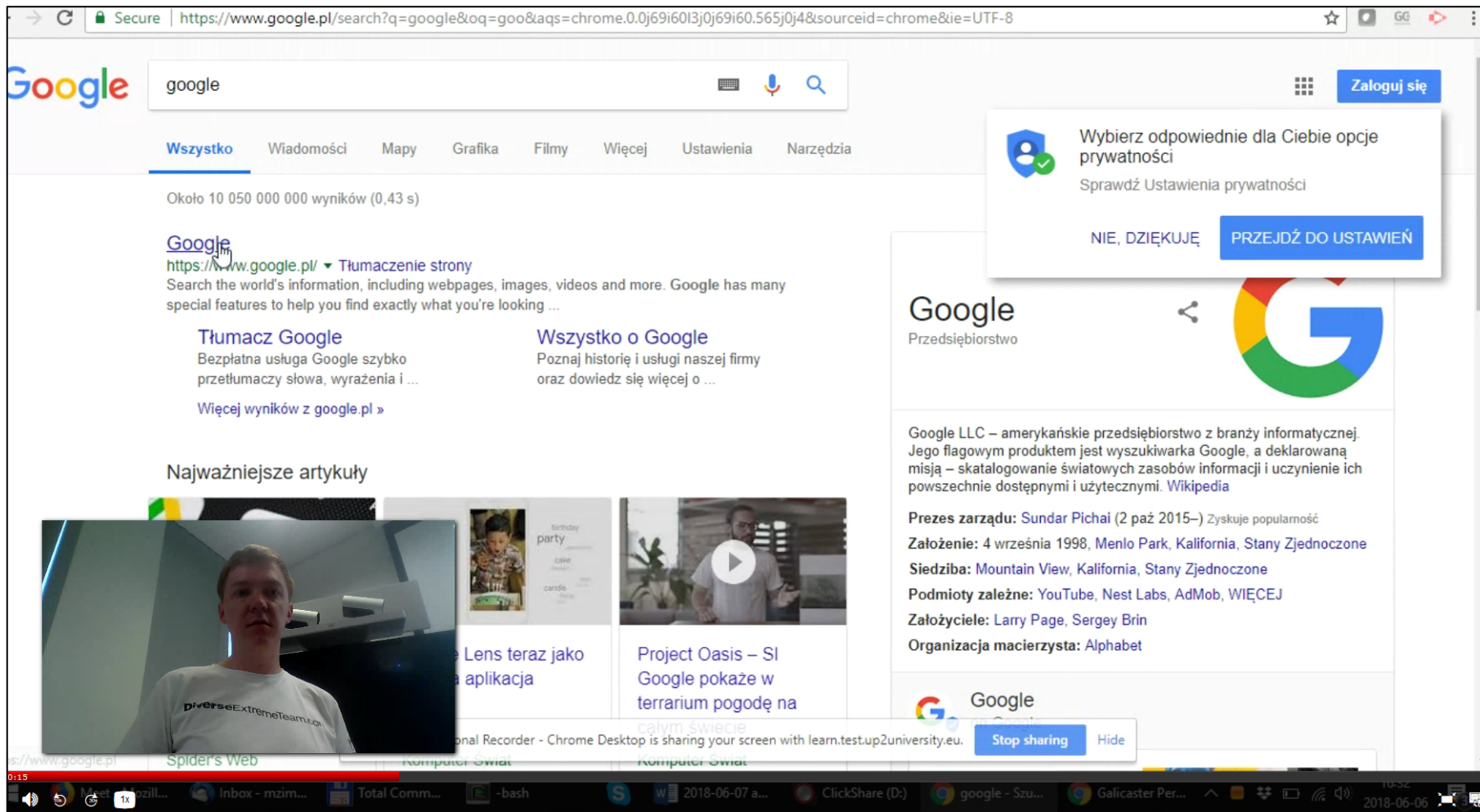
Subject	Count
SeLCont	2
tutorial, eduoer	2
tutorial, eduoer, moodle	2
animali, biologia	1
bandiera	1
demo homework	1
Eduoer	1
eupalinos	1

Date issued	Count
2019	7
2018	4

Has File(s)

true	13
false	4

Poddium – Personal Video Recorder



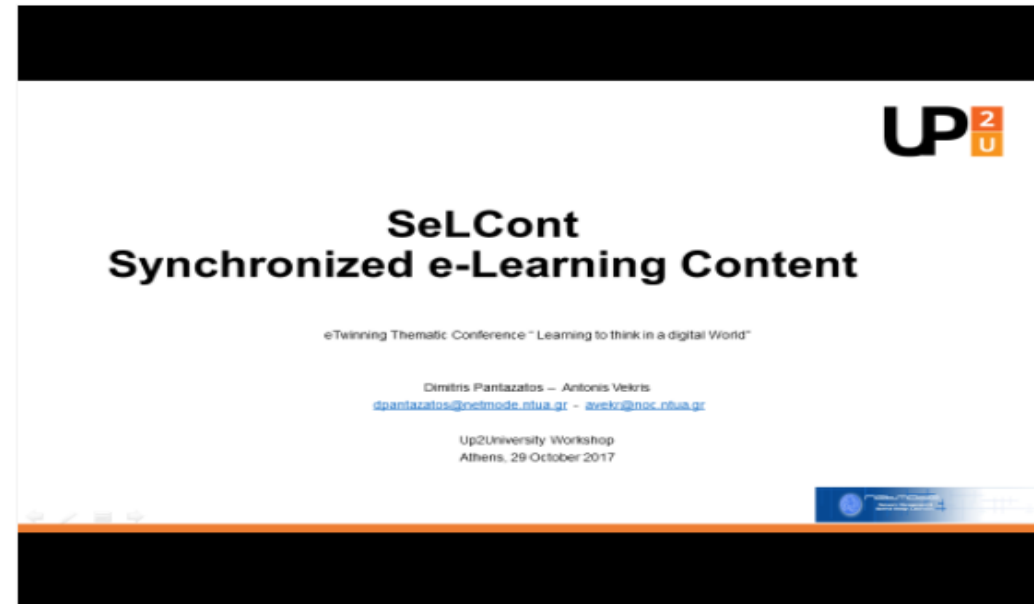
The screenshot shows a Google search page in Polish. The search term is "google". The results include the main Google link, "Tłumacz Google" (Google Translate), and "Wszystko o Google" (All about Google). A privacy notice is displayed on the right, asking to choose privacy options. Below the search results, there are video thumbnails, including one for "Project Oasis" and another for "Spider's Web". A video player is visible at the bottom of the page, showing a person speaking. The browser's address bar shows the search URL. The taskbar at the bottom indicates the system date is 2018-06-06.

SeLCont – Online Synchronised Lectures



Demo Lecture

This is a demo lecture.



Antonis Vekris
E-Twinning Up2University Workshop
[Διαφάνειες](#)

Learning Management Systems

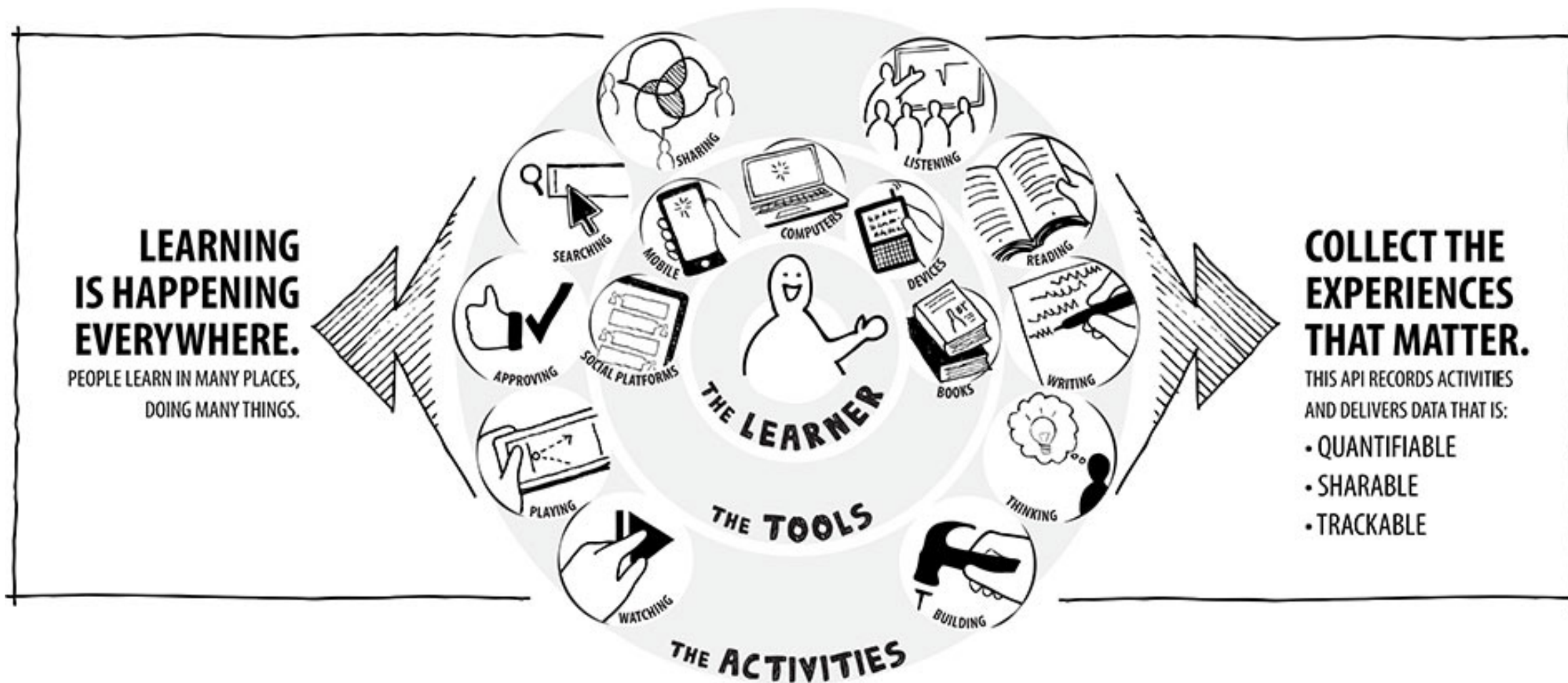


A screenshot of the Up2U LMS interface. The browser address bar shows 'https://learn.test.up2university.eu/?lang=pl'. The navigation menu includes 'Up2U', 'MY COURSES', 'POLSKI (PL)', and 'SITE ADMINISTRATION'. The user profile is 'Michał Zimniewicz'. The main content area features a banner with a group of diverse students looking at a tablet. A text overlay asks 'Are your students university-ready?' and encourages joining the Up2U initiative to revolutionize teaching methods.

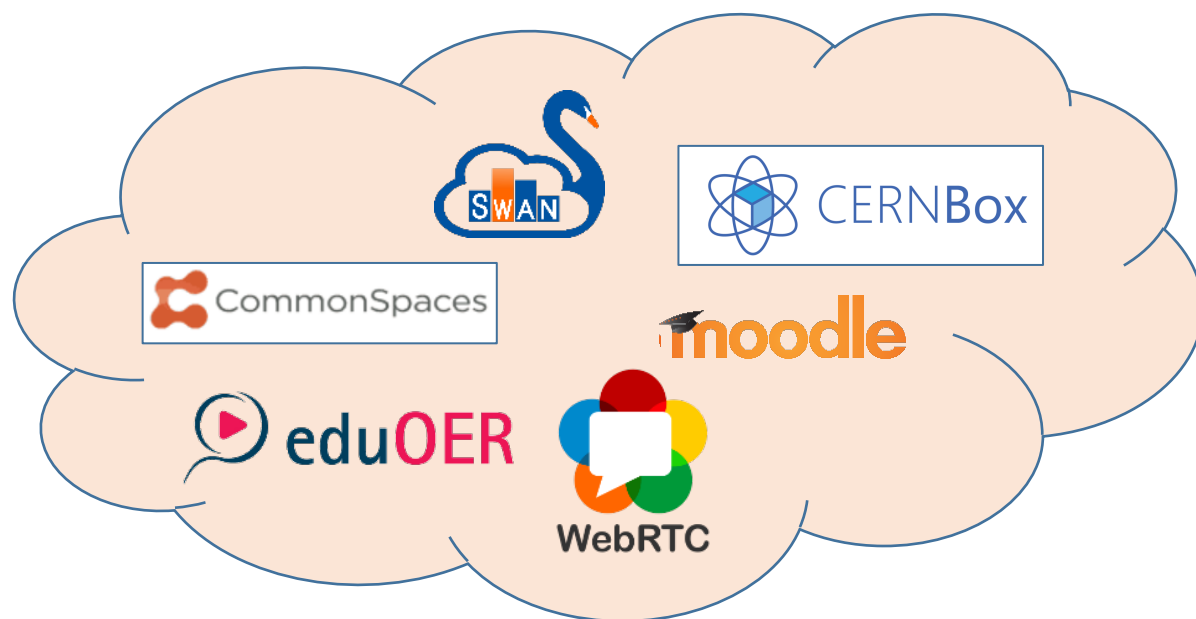


A banner for the Up2U MOOC platform. The top navigation bar includes 'UP2U', 'MOOC-STUDIO', 'UP2U PLAZA', and a 'Sign in' button. The main banner features a background image of people working on laptops and a white text box that says 'Welcome to the Up2U MOOC platform!' followed by the quote 'Education is about learning – Sr Ken Robinson'. Below the banner is a grid of four tiles: 'edX' with a blue icon of people holding up puzzle pieces, 'Teltek' with a laptop displaying a course, another 'Teltek' with a laptop and a smartphone, and 'TEST 1' with a light gray background.

Learning Analytics

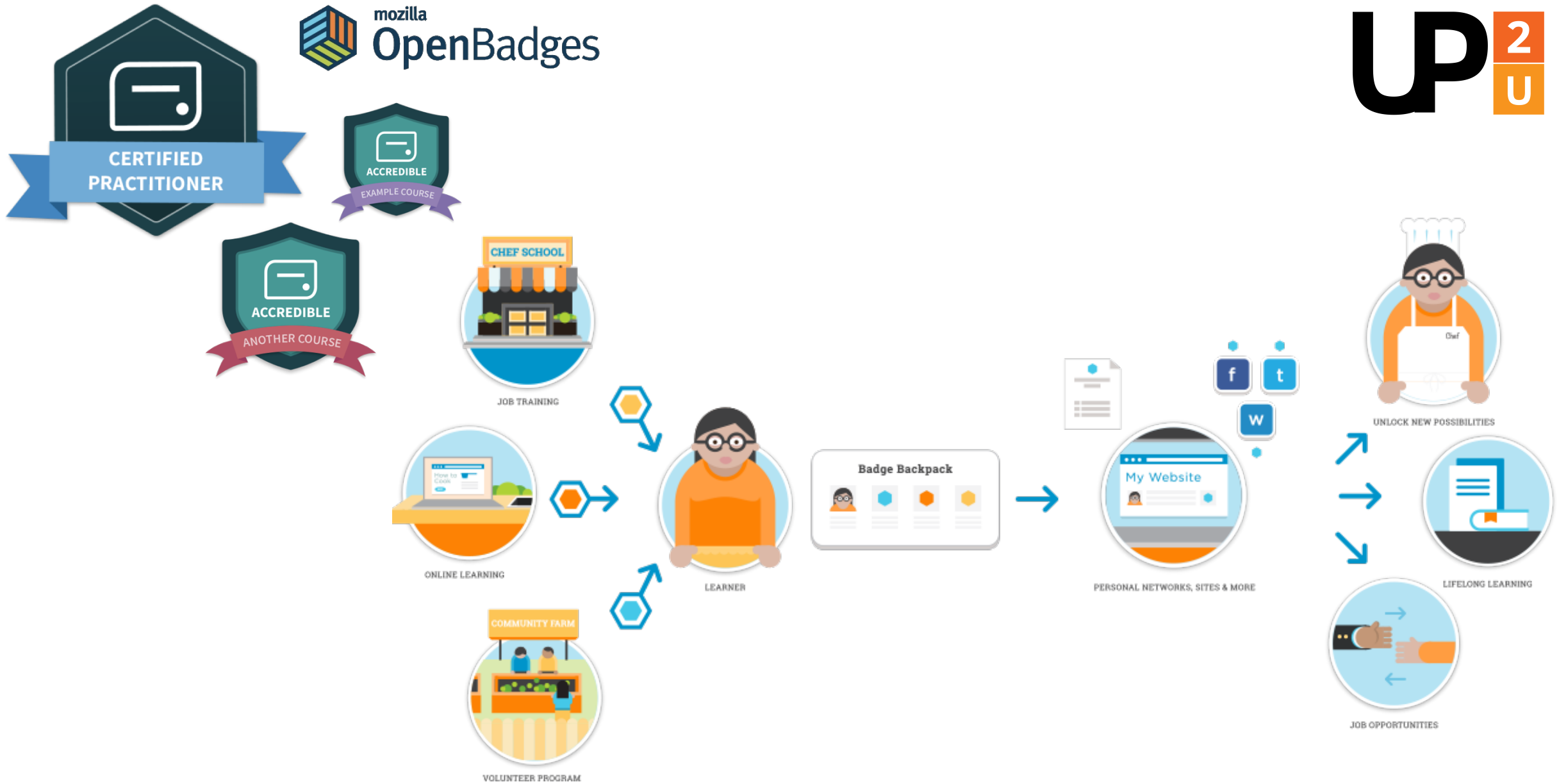


Learning Analytics

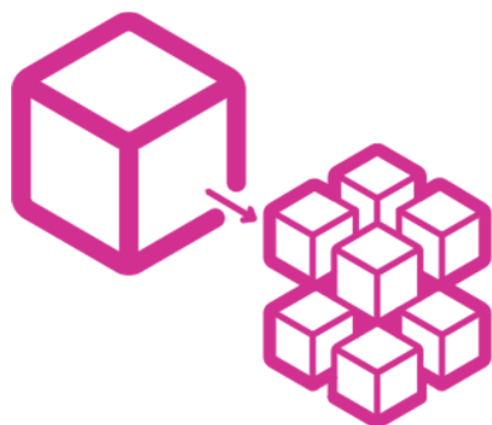


Learning records
EXPERIENCE
LAPI™



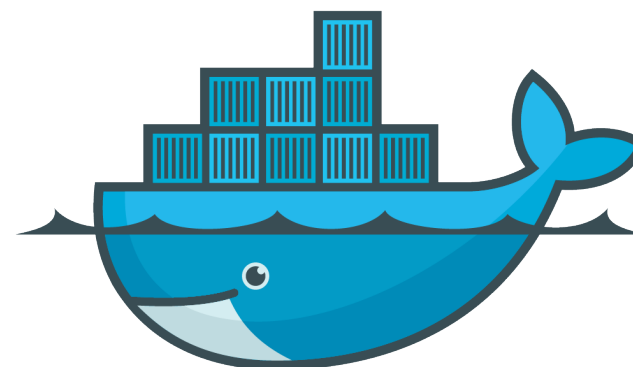


Architecture – Containers



Microservices architecture

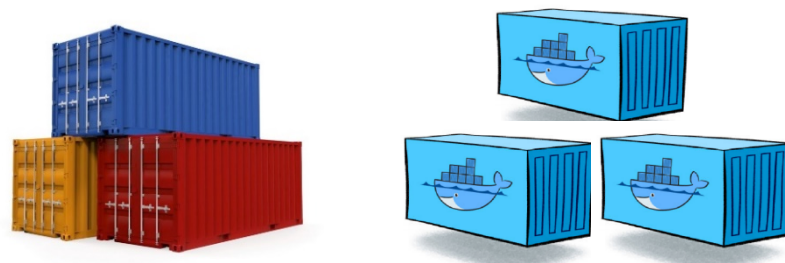
Containerized deployment



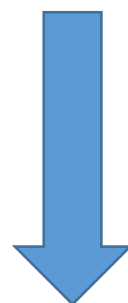
docker

Architecture – Orchestration

Containers



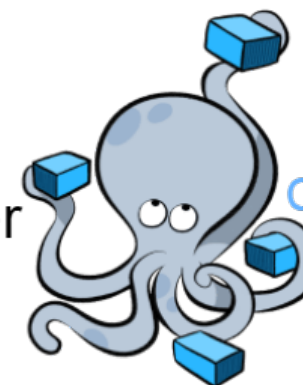
Orchestration



Servers



Docker



Compose



kubernetes

UP2U up2university
<https://up2university.eu/>

Repositories 21 Packages People 28 Teams 1 Projects Settings

Find a repository... Type: All Language: All Customize pins [New](#)

docker-moodle
 Forked from sergiogomez/docker-moodle
 A Dockerfile that installs the latest Moodle, Apache, PHP, and MySQL
 PHP 137 2 29 0 Updated 7 days ago

DSpace
 DSpace customized for UP2U
 Java 0 0 1 0 Updated 11 days ago

cdn-assets
 Assets to be published in the project's CDN
 JavaScript 0 0 0 0 Updated on 5 Aug

moodle_statistics
 Forked from arvnns/moodle_statistics
 moodle course statistics in excel
 PHP 2 0 0 0 Updated on 1 Aug

Top languages

- JavaScript
- PHP
- Shell
- Python
- Java

People 28 >

[Invite someone](#)



GitHub.com/up2university

Pilot – Definition

Students using the Up2U NGDLE

- ◆ Students – to practice their key competences
- ◆ The Up2U project – to improve our services

- ◆ Teacher training, Continuous Professional Development (CPD)
- ◆ Official certification in some countries
- ◆ „Soft“ CPD
- ◆ Training materials for self-start – up2university.eu/tutorials/

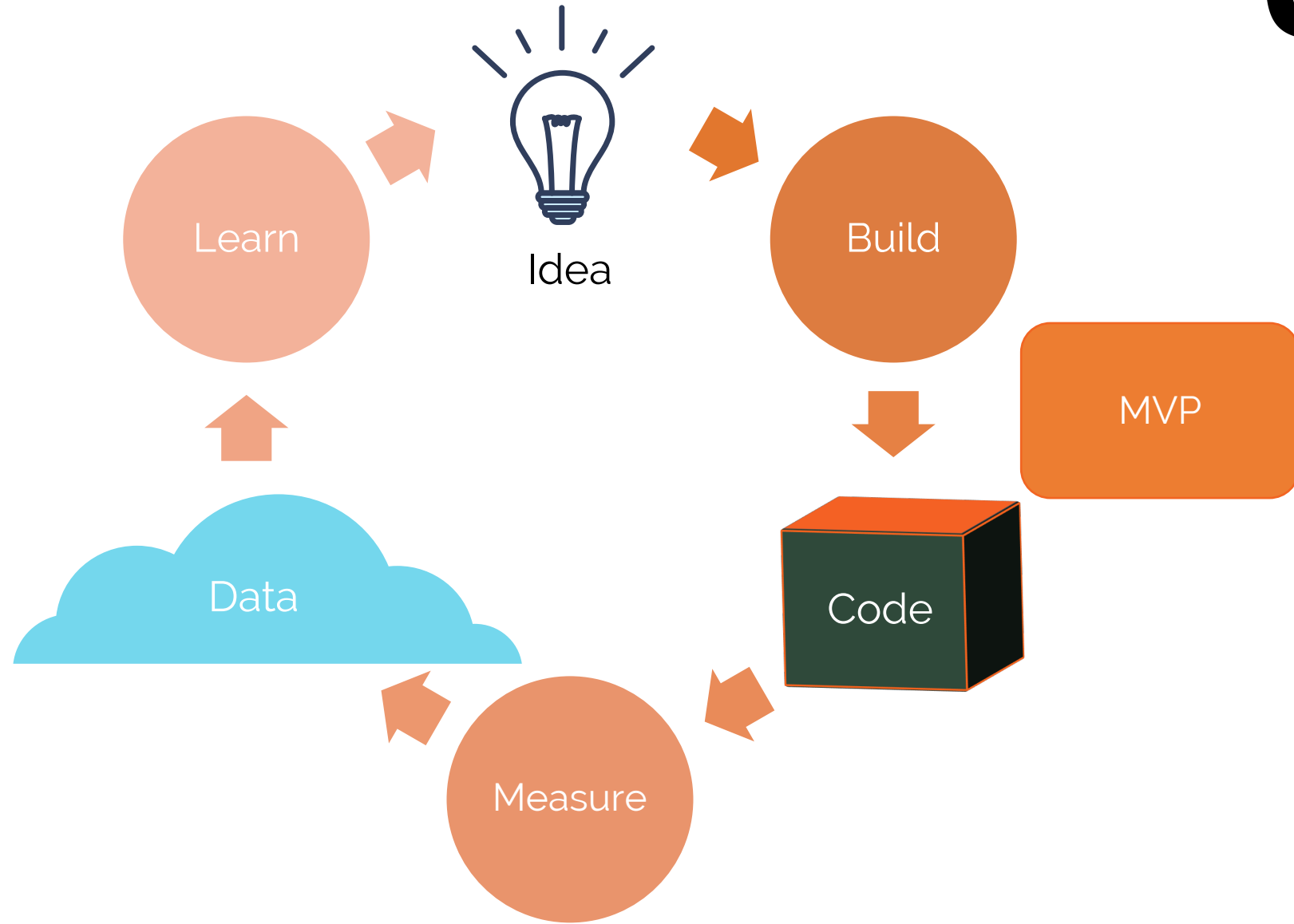
Pilot Countries



Pilots – Current status

Country	Teacher trainings		Pilots	
	Schools	Teachers	Schools	Students
Greece	10	80	5	50
Hungary	8	66	3	42
Italy	79	100	6	72
Lithuania	185	341	133	15.000
Poland	26	47	11	300
Portugal	7	50	1	20
Spain	6	17	1	100

Minimum Viable Product



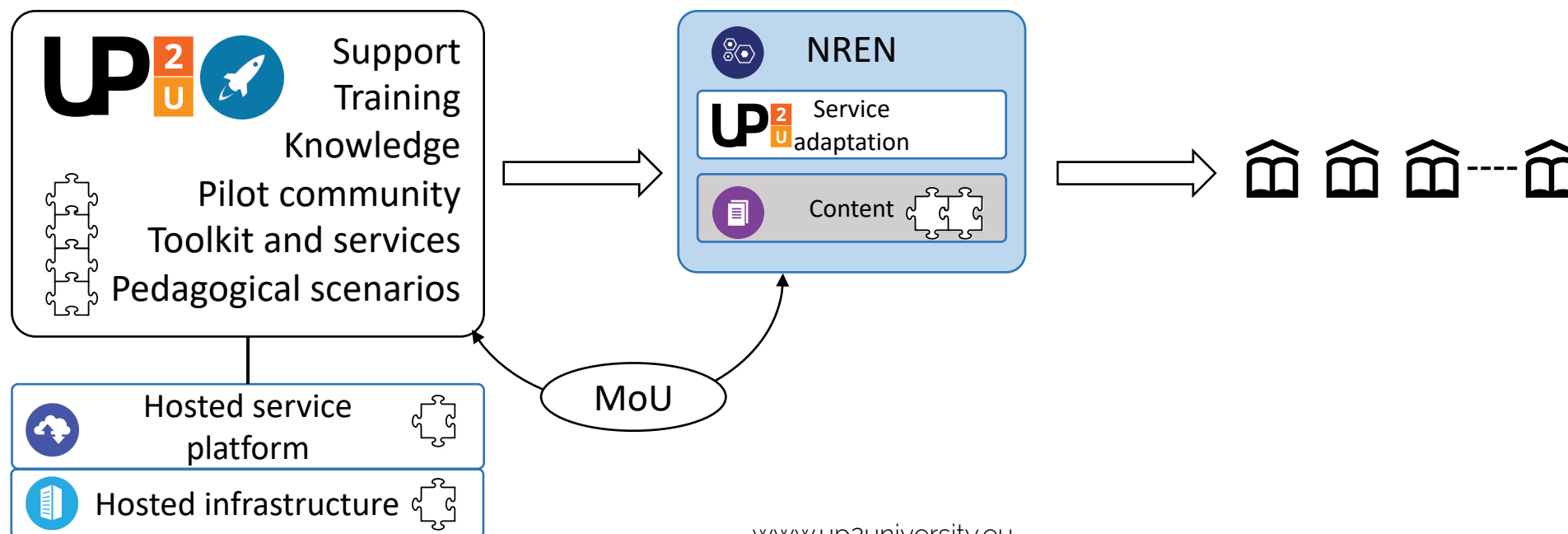
Engagement of NRENs

Raimundas Tuminauskas

PSNC, Poland

UP2U pilot for NRENS

- ◆ Open for any interested NREN
- ◆ Free until the end of the project
- ◆ Based on the fully hosted solution, independent possible
- ◆ Limited scalability



Pilot how to ?

1. Contact the Up2U team

For Pilot:



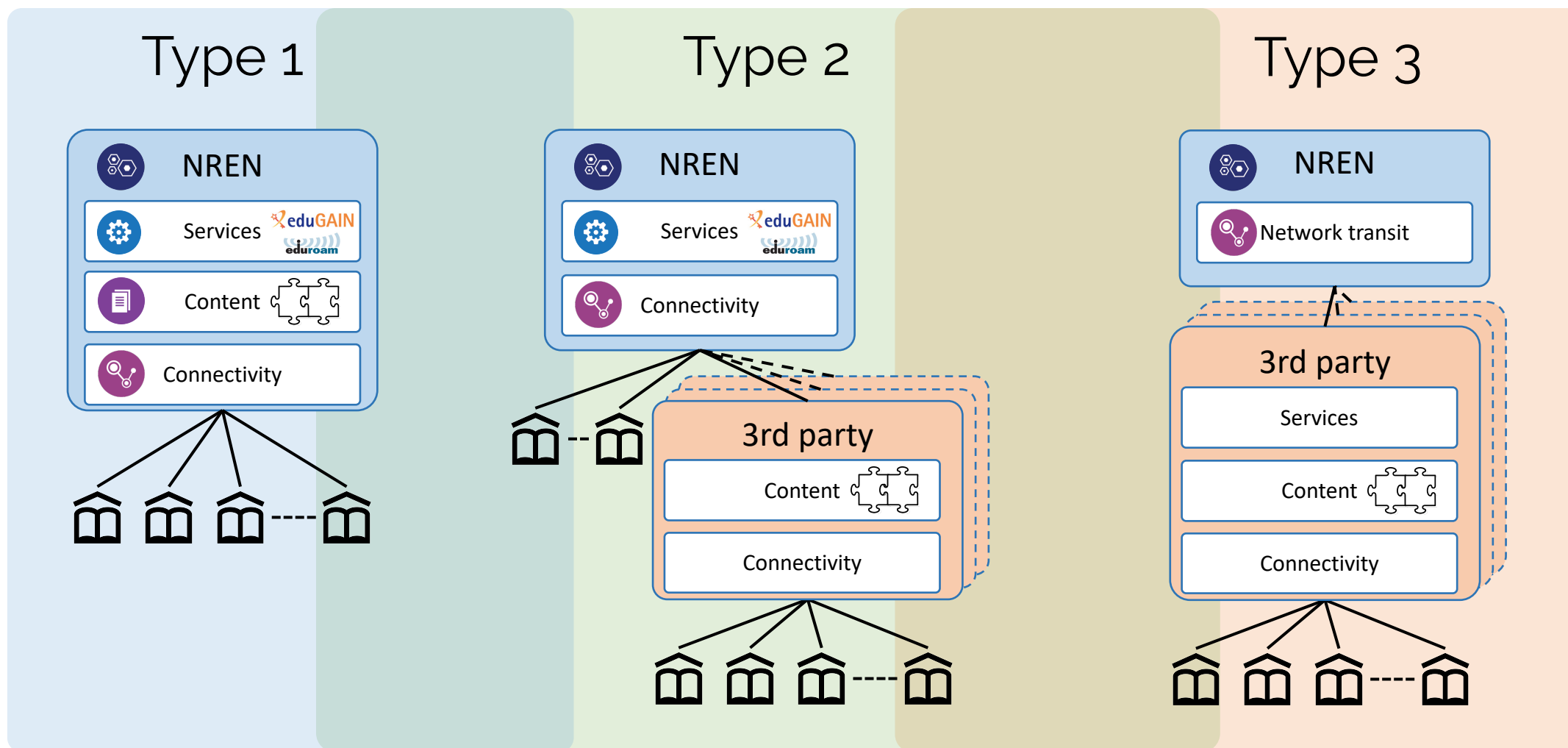
- Contact point
- Motivation
- Potential No. of schools and students
- Requirements for training and support

For production:



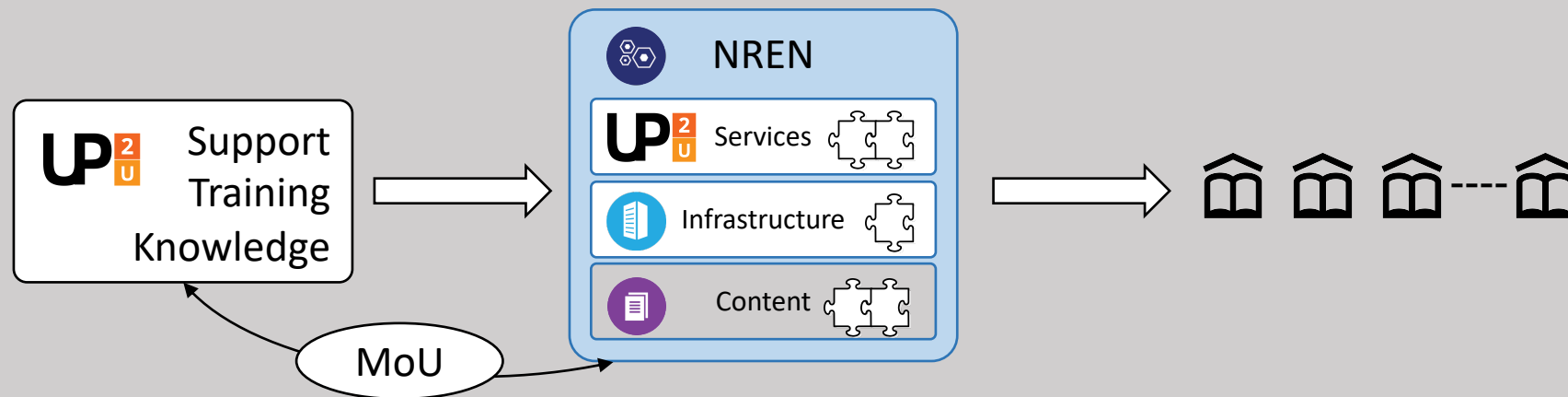
- Contact point
- Desired scalability

NRENs in education sector

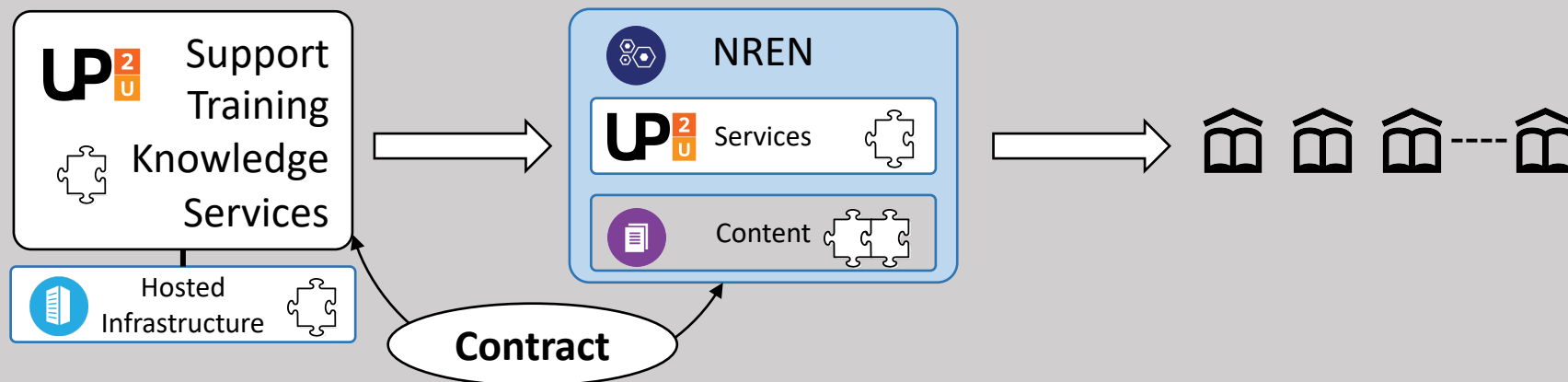


NREN engagement scenarios

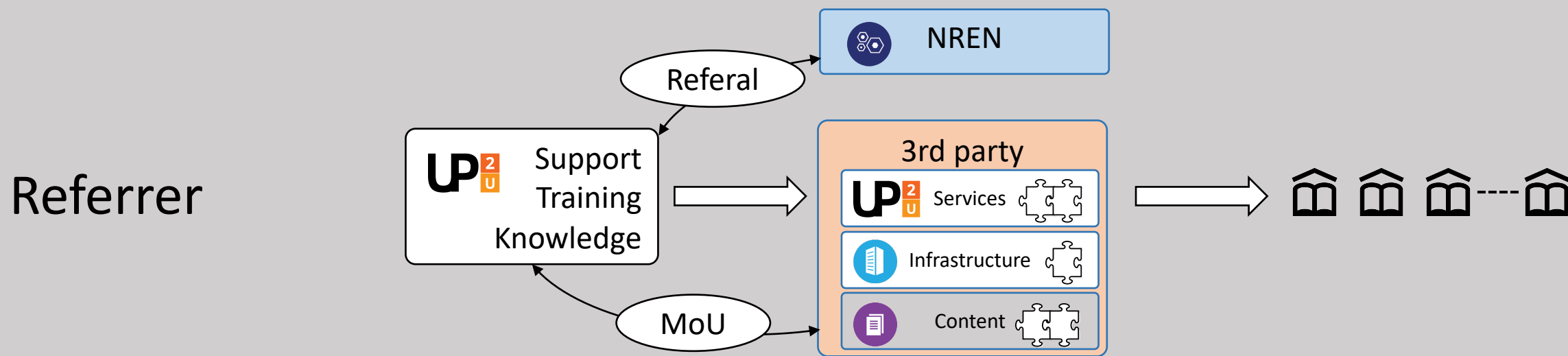
Service provider



Integrator

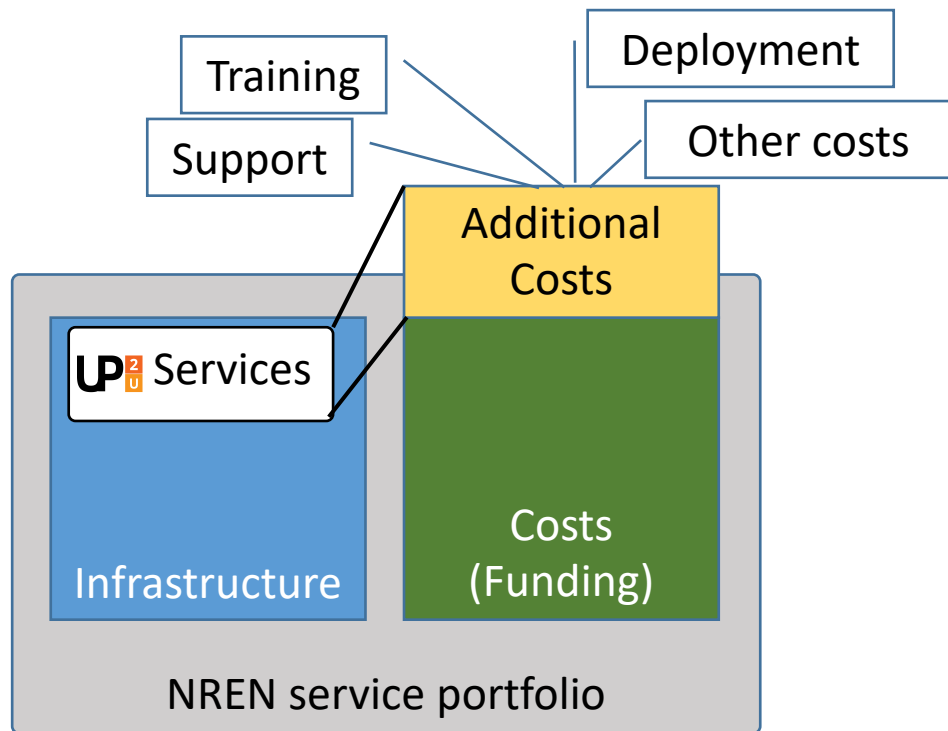


NREN engagement scenarios

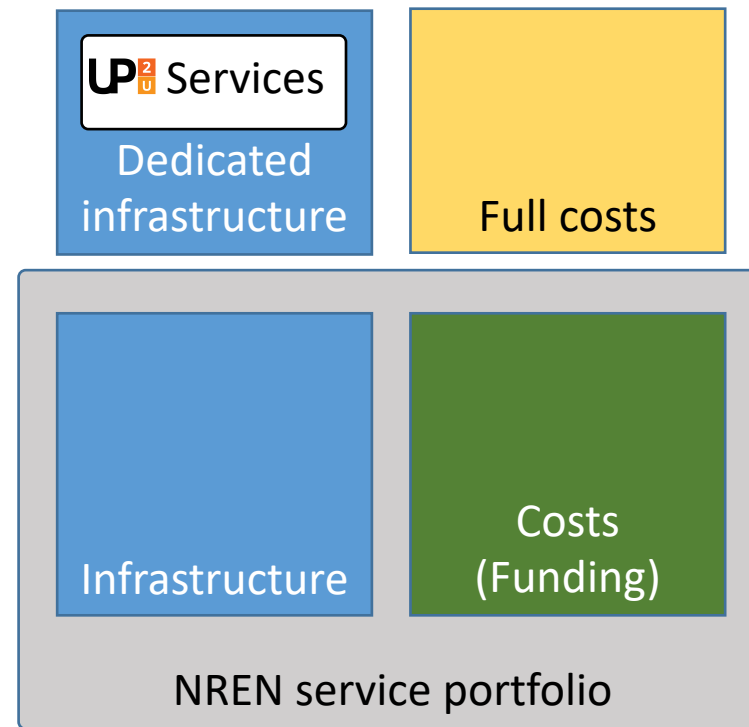


Cost structure for NRENs

1. Additional cost model



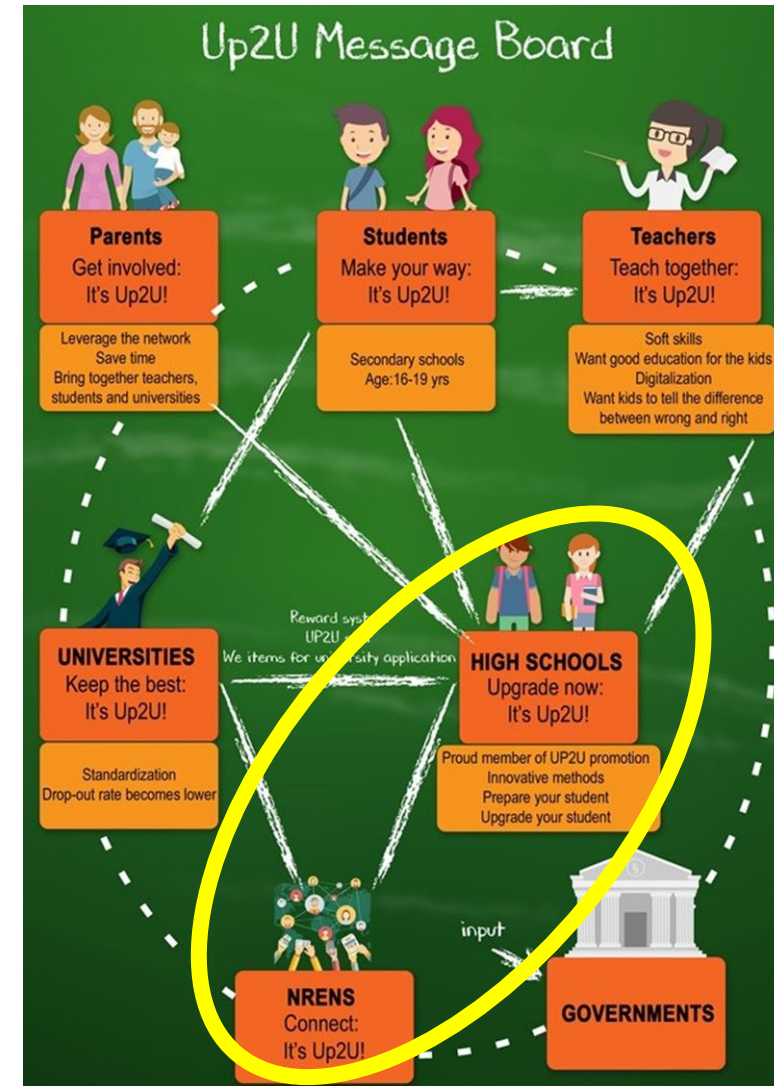
2. Full cost model



How to get engaged?

Barbara Tóth
KIFÜ, Hungary

Goal: get engaged!



What worked for us so far?

- ◆ **Top-down** approach

- ◆ Approach schools via local/ central governments.
- ◆ Explain them why this solution would be useful in their classrooms.



- ◆ **Bottom up** approach:

- ◆ Reach out to schools, principals, teachers
- ◆ Organize local workshops/conferences/training.
- ◆ Accredited trainings are appreciated!

How can we help?



- ◆ General Flyer
 - ◆ IT Security Flyers
 - ◆ Roll-up
 - ◆ Promotional video
 - ◆ Poster (general)
 - ◆ Poster (NREN focus)
 - ◆ Introductory slides to the project
- ◆ All these materials are accessible via the wiki page of the webinar!

Project website

The primary platform we use is the project website:

www.up2university.eu

Under the [„Contact us“](#) we included the national coordinators, so interested parties can put a face next to a contact. Here, we also indicated the pilot schools on a map.

We would be happy to include contacts of NRENs who are not part of the consortium.

Social media presence

Up2U is present on multiple social media platforms. We use **#Up2U** and **#Up2Universe** hashtags.

Please follow us on:



Up2Universe

A map of Europe with the countries highlighted in a light orange color. The text is overlaid on this map.

**THANK YOU FOR YOUR ATTENTION!
QUESTIONS?**

contact@lists.up2university.eu

[#up2universe](#)

A light gray map of Europe with several countries highlighted in a light orange color, including the United Kingdom, France, Germany, Italy, Spain, and Greece.

**We'd like to get some
feedback!**

Please go to www.menti.com!

Insert:

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