



# Virtual Campus - a Core Information Infrastructure of the European University (and how it is related to research information)

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# European Universities

Transnational alliances

Formed under European Universities initiative, part of Erasmus+ programme



# European Universities

Currently:

**50** alliances

with around

**450** HEIs in

**31+** countries

European strategy  
for universities goal:

**60** alliances

involving more than

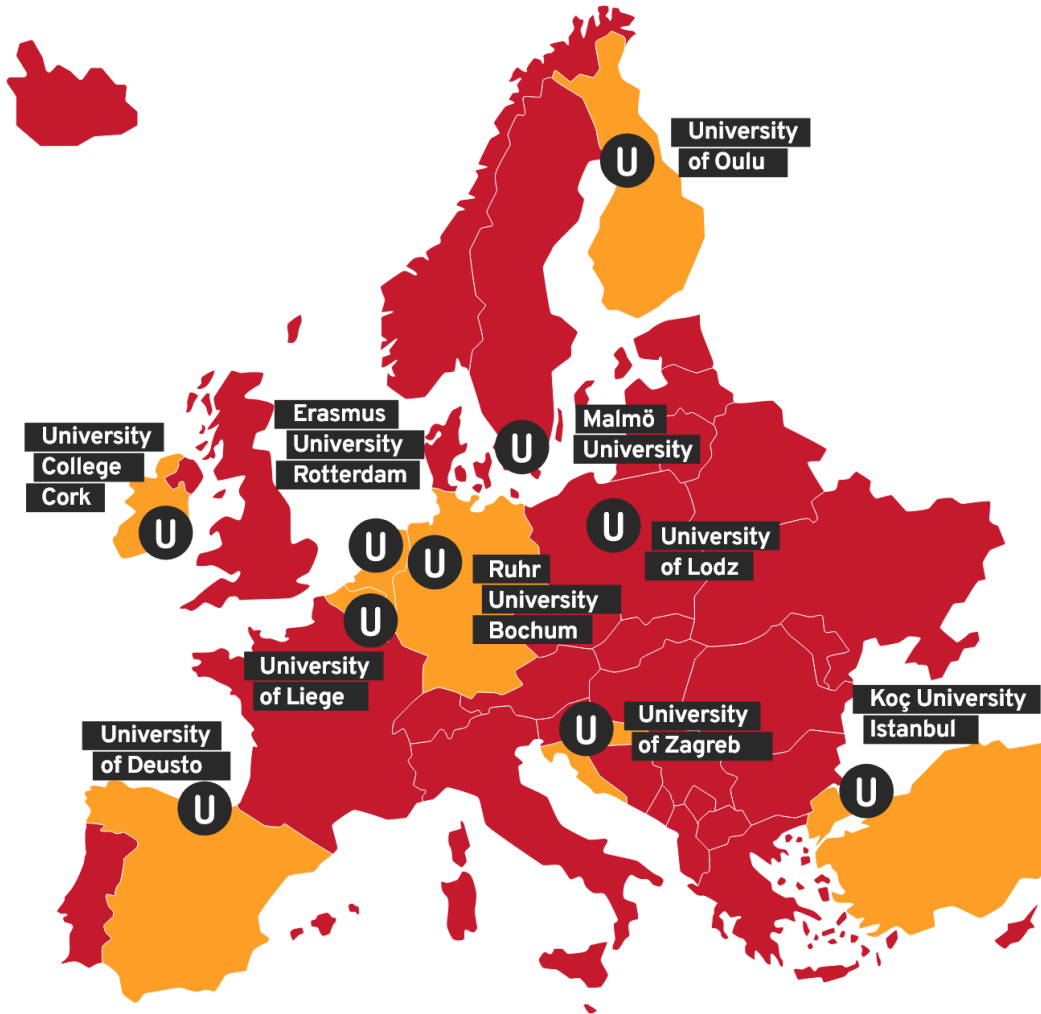
**500** HEIs

by mid-2024

EUROPEAN  
UNIVERSITIES

Erasmus+





over  
**220 500**  
students

more than  
**29 000**  
staff members





**Most common  
goals of European  
universities**





**Virtual Campus  
should support  
those processes**

Increase **student mobility**

Support student identification  
(a form of a **student card**)

Create and implement  
**joint study programmes**

Promote **research output**, especially  
related to open science

Increase **teacher and researcher  
networking / mobility**



**Virtual Campus  
should support  
those processes**

therefore it should be an  
**information system**

(database, applications, APIs,  
procedures, organization, support ...)

and **not be**

a website

a news portal

a file repository

...





# Challenges

Limited IT budget

Each partner holds multiple information systems (SMSs, LMSs, ...)

Different levels of technological readiness and organisation

Some standards and systems are in place

Limited IT budget

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**to solutions**

A central hub for data exchange between alliance members, not a comprehensive database

Minimal impact on the existing processes

Provide multiple ways of doing things

Rely on existing standards whenever possible



## Our vision of VC



## **Our vision of VC**

Provides public access to some  
information  
and protected access to authorized  
users

Administrators

Students

Researchers

...



## Our vision of VC

Specific alliance European Student Card

Course catalogue

Joint programmes catalogue

Virtual mobility – course selection,  
enrolment, grade exchange

Promoting Open Science

Holds minimal set of data in order to support  
the processes

Heavily relies on data exchange

An illustration in a sketchy, grey style showing two people in a meeting. One person is pointing at a large screen displaying a bar chart and a line graph. The other person is holding a laptop. There are various icons around them, including gears, a plant, and a briefcase. The text 'Our vision of VC' is overlaid in red.

## **Our vision of VC**

Most of the data coming from local systems

VC connects the dots, builds the top layer on the available data

A small set of actions needs to be done inside the VC apps

# „Open Science Campus“

- Built as a part of Virtual campus
- Provides a searchable portal of open science resources (publication, datasets, etc) to public
- Provides a portal of researchers and research groups to public
- Promotes open science by linking to important resources

# Open Science Campus

- The main idea is to gather the existing data and to minimize work on a university level
- The existing data could be obtained from ORCID and OpenAIRE through their APIs
- The prerequisite:  
each partner university needs to have their data open to OpenAIRE and researchers to have their ORCID profiles



# Open Science Campus – Researcher data

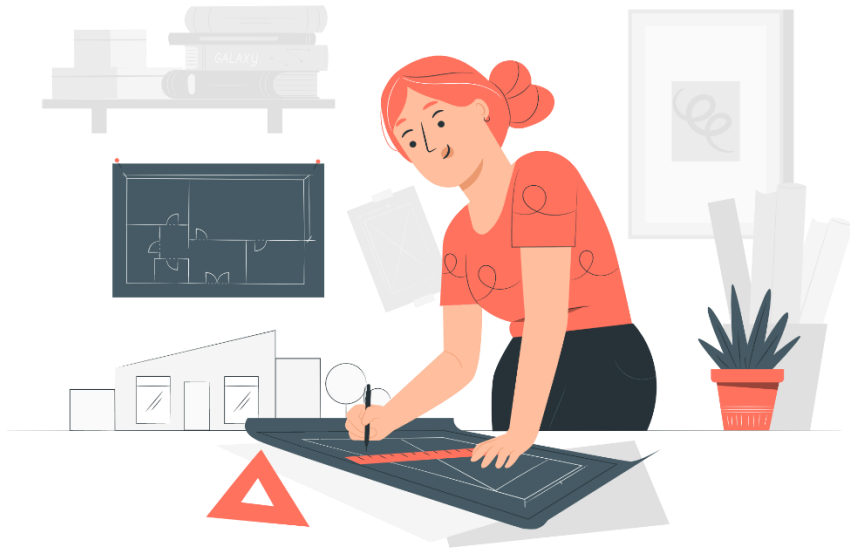
- We let researcher log in to Virtual Campus with their ORCID and ask for permission to copy publicly available data from ORCID to UNIC VC
- No web interface to edit profiles directly in Virtual Campus – it should be done directly at the source (ORCID)

# Open Science Campus – Publications data

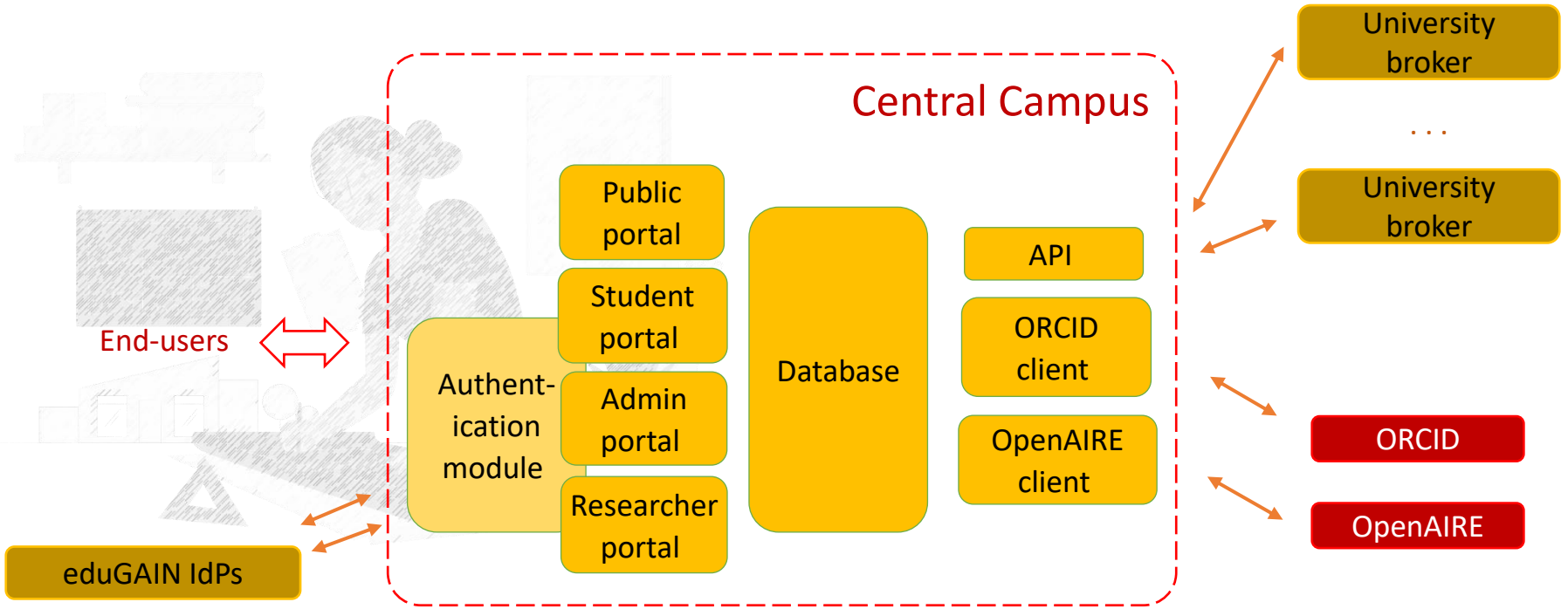
- Harvesting data from OpenAIRE Graph Dataset
  - Not easy to filter out the correct UNIs
- Alternative plan:
  - Connect periodically directly to institutional repository and obtain publications metadata via OAI-PMH protocol
    - Each UNI has to register its repositories in VC
    - Each included repository has to implement OAI-PMH API
      - which they most likely already do;
      - if not, they should anyway, in order to be included in OpenAIRE
- Future: also pick the publications from ORCID profiles
- No web interface to edit the publications data directly in VC

# Open Science Campus – Research groups

- The researcher will be able to establish a research group (via web application) and/or join other groups within european university
- The data about research groups will be publicly visible



## The architecture



## University infrastructure

Identity  
Provider  
(IdP)  
(eduGAIN)

Current Research Information System (CRIS)  
and/or Institutional Repository (IR)

Learning Management System (LMS)

Student Management System (SMS)

Virtual Campus Broker

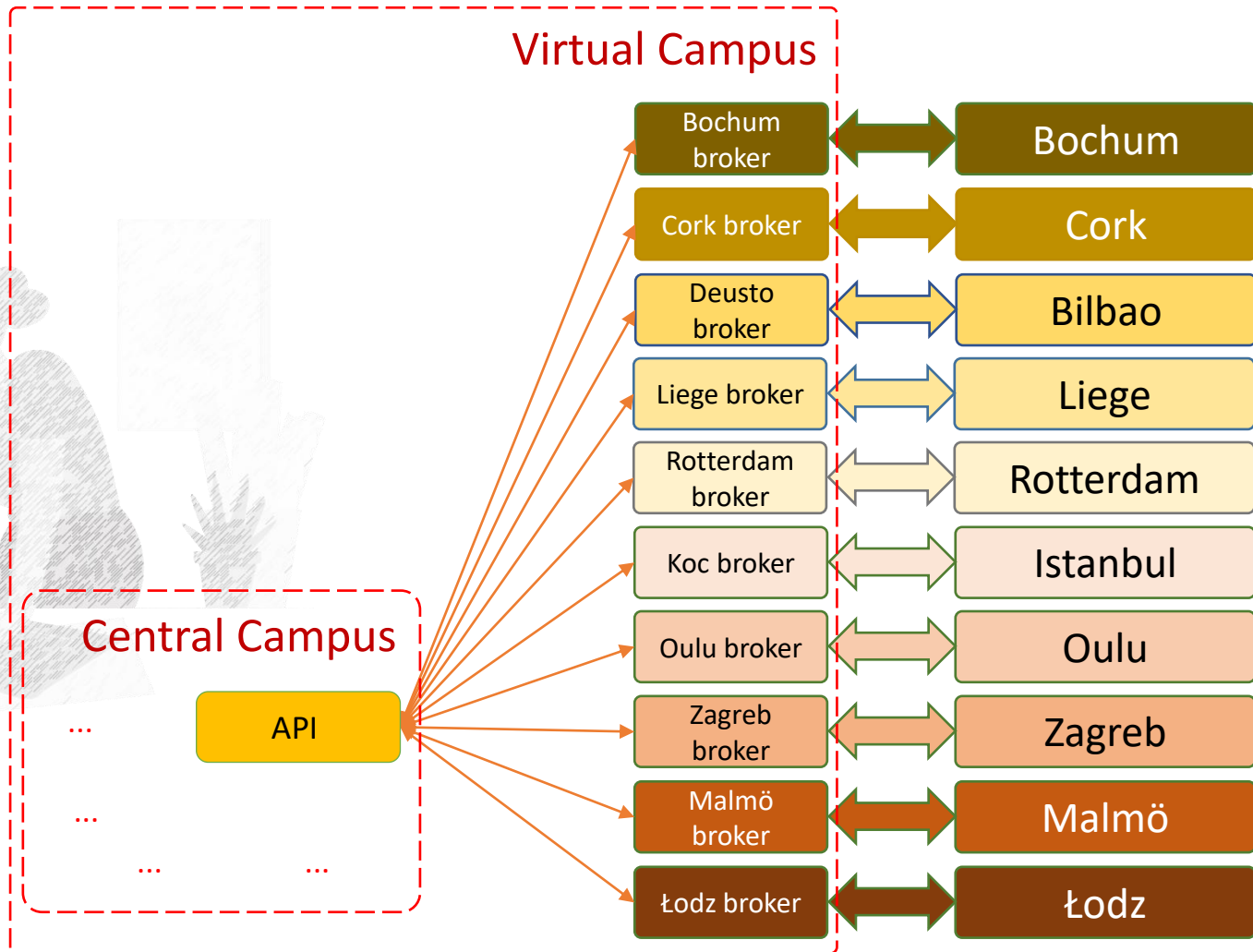
ORCID

OpenAIRE

## Central Campus

API

# UNIC perspective

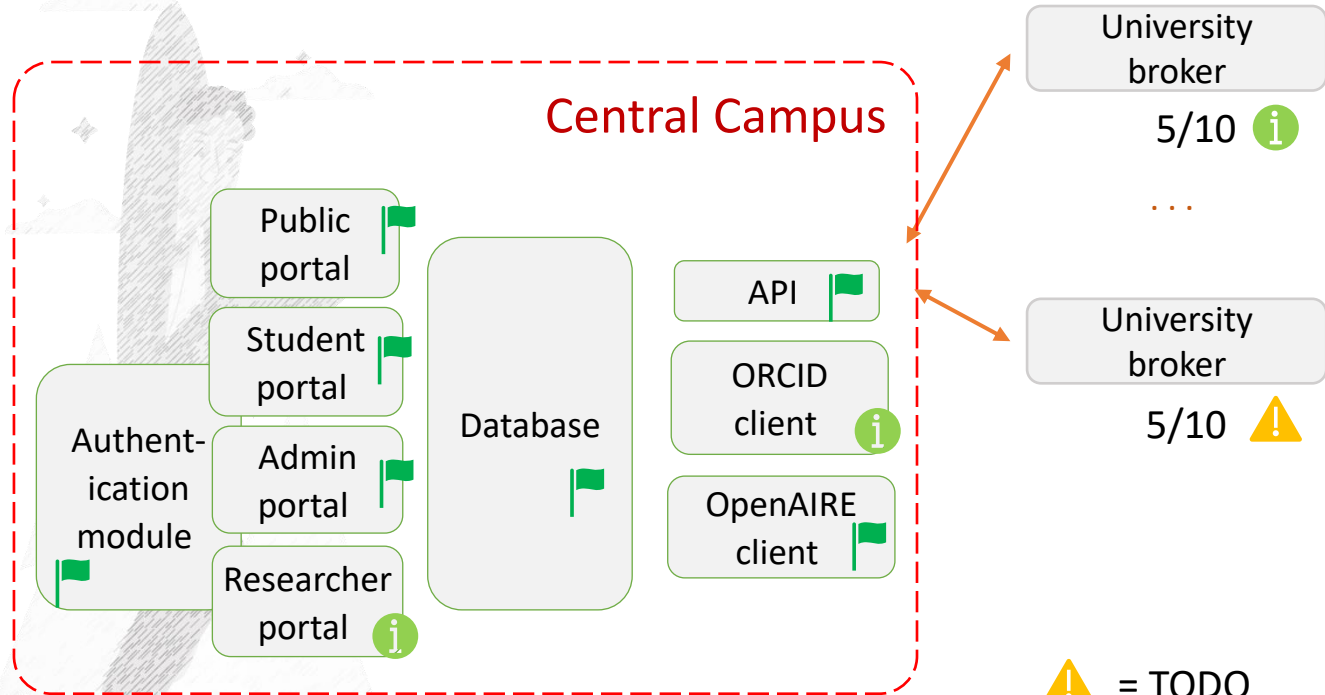




**The present and  
the future**



# Where we are now?



! = TODO

i = In progress

🚩 = In production

# Virtual Campus

This portal gives an overview of all courses, joint programmes and extra modules that are available through UNIC universities' study programs. Besides that, it gives access to meta-repository containing research outputs which are produced within UNIC alliance.

For more information about UNIC alliance visit [unic.eu](#).

For more information about UNIC Open Science campus visit [open science campus](#).



For more information about UNIC Extra modules visit [online](#)



ⓘ These research outputs are harvested from OpenAIRE Graph Dataset, which harvests the data from local universities' repositories. If any of the data presented is not correct, please make sure it is corrected in your local university repository, and the correct entry will be propagated to OpenAIRE and consequently to UNIC Virtual Campus.

## Research outputs



Original title	Creators	Date of acceptance	Type	Publisher	Details
Ponašanje loma drva pri vlačnom opterećenju (model I.) u tangentnom smjeru	Arif Caglar Konukcu	15 Nov 2022	publication	Faculty of Forestry and Wood Technology, University of Zagreb	
Non-discipline specific sustainability knowledge and competences in the Chemical Engineering	Fitzpatrick, John J.; Byrne, Edmond P.	14 Jun 2021	publication	University College Cork	



## Research details **(Non-discipline specific sustainability knowledge and competences in the Chemical Engineering Programme at UCC)**

### Country

Ireland

### Research description

This paper is presented within the broader theme of considering what non-engineering-discipline specific sustainability / sustainability development (SD) knowledge and competences should be included in engineering education, in particular for four year undergraduate or four to five year integrated master's programmes. Over the last 20 years, sustainability / SD has grown in importance, and consequently many engineering programmes have endeavoured to integrate it within their programmes. The UCC chemical engineering is one of these programmes. The inclusion of sustainability / SD content inherently contains engineering discipline specific content, but also includes content that is non-discipline specific and could potentially be undertaken by any engineering student. This paper looks at the University College Cork (UCC) Process and Chemical Engineering programme, and outlines the content that is considered as non- discipline specific. This includes the following which are briefly outlined in more detail within the paper: Basic concepts in sustainability and SD: What is it all about? The importance of framing; The environmental dimension, ecological systems thinking and importance of ecological limits; The role of environmental legislation; Humanity's grand





## Lessons learned

Continuous communication

Having the right people in the meetings

Inadequate budgeting

IT needs more visibility and inclusion

Not all partners are at the same place



## **Future work**

- ◆ Finish what we promised to do

- ◆ Broker development

- ◆ EWP integration

- ◆ Basic analytics (dashboards)

- ◆ UNIC 2.0; YUFE implementation; further collaborations



**We are open for  
collaboration!**

# Thank you

ognjen@srce.hr



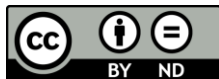
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