

# Higher education and research information landscape in Croatia

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# Data and information in A&R



We support ...

... 95 HEIs in Student management system (ISVU) (of 119)  
... all public HEIs

... 140.000 students enrolling exams



... scholarships > 100M €

> 950.000 diplomas and supplements

... 159.000 students taking part in the student subsidy programme (ISSP system)



> 160.000 digital objects in institutional repositories (single installation)

> 500 Croatian open-access journals in Hrčak



190 research institutions  
> 920.000 research publications

# Data infrastructure and services



PORTAL HRVATSKIH ZNANSTVENIH I STRUČNIH ČASOPISA



DIGITALNI AKADEMSKI ARHIVI I REPOZITORIJI



POHRANA I UPRAVLJANJE PODACIMA

## CROATIAN OA JOURNALS

- ✓ Since February 2006
- ✓ 575 scientific & professional journals (404 active)
- ✓ 324.000 + OA articles
- ✓ 70.000+ visits daily

## PRESERVATION & DISEMINATION

### Digital archives and repositories

- ✓ 16 types of digital objects
- ✓ 185 digital repositories of research & HE institutions
- ✓ 342.000 digital objects

## (TEMPORARY) STORAGE & SHARING SERVICE

- ✓ 800+ researchers and lecturers
- ✓ 200 GB (default)

# Developing and supporting information systems for HE

## ISVU

Information System of Higher Education Institutions

95+ HE institutions,  
140.000+ students,  
1.700.000+ exams/ac.year  
2000+ study programmes



## ISSP

Information System of Student Rights

130+ HE institutions  
159.000+ student benefits per year

25+ years of system operation

## ISAK

Information System of Academic (student) Cards

15+ years of system operation

40.000 of printed student cards per year

8 mil. usages of a card

## Vidra

28.000 applications  
6 national calls  
27+ millions of euros



## ISRHKO

Information System of Croatian Qualifications Framework

1200+ standards

## CroRIS

Croatian Research Information System



# Developing and supporting information systems for HE

## ISVU

Information  
System of  
Higher  
Education  
Institutions

95+ HE institutions,  
140.000+ students,  
1.700.000+  
exams/ac.year  
2000+ study  
programmes

## Support (1)

- ✓ Storing data about students, teachers and other employees
- ✓ Storing data about courses, curricula and syllabi
- ✓ Students' enrollment - at a HEI, in the academic year

## Support (2)

- ✓ Examination process
- ✓ Support for student mobility
  - ✓ Thesis topics and completion of studies
  - ✓ Generation of certificates, diplomas and diploma supplements
- ✓ Generation of various reports

## Stakeholders

- ✓ HEIs
- ✓ Students
- ✓ Teachers
- ✓ Other systems

# Developing and supporting information systems for HE

## ISSP

Information  
System of  
Student Rights

130+  
HE institutions

159.000+ student  
benefits per year

25+  
years of system  
operation

## Stakeholders

- ✓ HEIs
- ✓ Student centres
- ✓ Restaurants /  
canteens
- ✓ Other systems

## Student benefits

- ✓ Student nourishment
  - ✓ Student cards
  - ✓ Scholarships
- ✓ Work as a student

# Developing and supporting information systems for HE

## ISAK

Information  
System of  
Academic  
(student) Cards

15+  
years of system  
operation

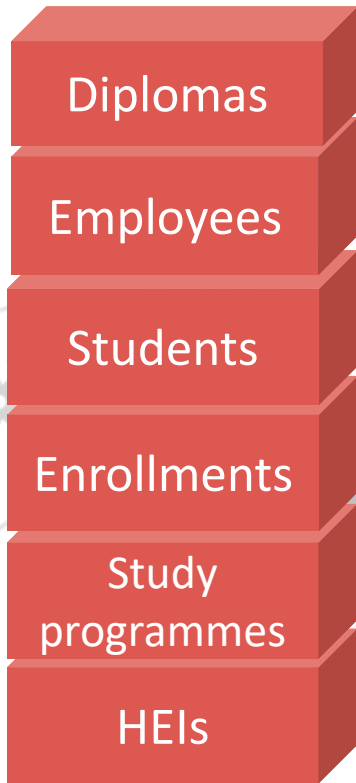
40.000  
of printed student  
cards per year

8 mil.  
usages of a card

## Support

- ✓ Physical (plastic) card
- ✓ Contactless chip
- ✓ European Student Card
- ✓ Digital Card (NFC)

## New kid on the block: national registers in HE (ISeVO)



Data collection from various sources

THE source of truth

Strong emphasis on analysis and reporting

# Croatian Research Information System – CroRIS

An element of project Scientific and Technological Foresight lead by Ministry of Science and Education of the Republic of Croatia



- New national Research Information System of the Republic of Croatia, gradually being put in production
- Information and processes about institutions, researches, projects, publications, equipment, patents, services, events and much more
- Integration with many national systems and international platforms, such as ORCID, OpenAire, WoS, Scopus

- Promote open science
- Provide information reliability
- Ensures openness and interoperability
- Support decision making

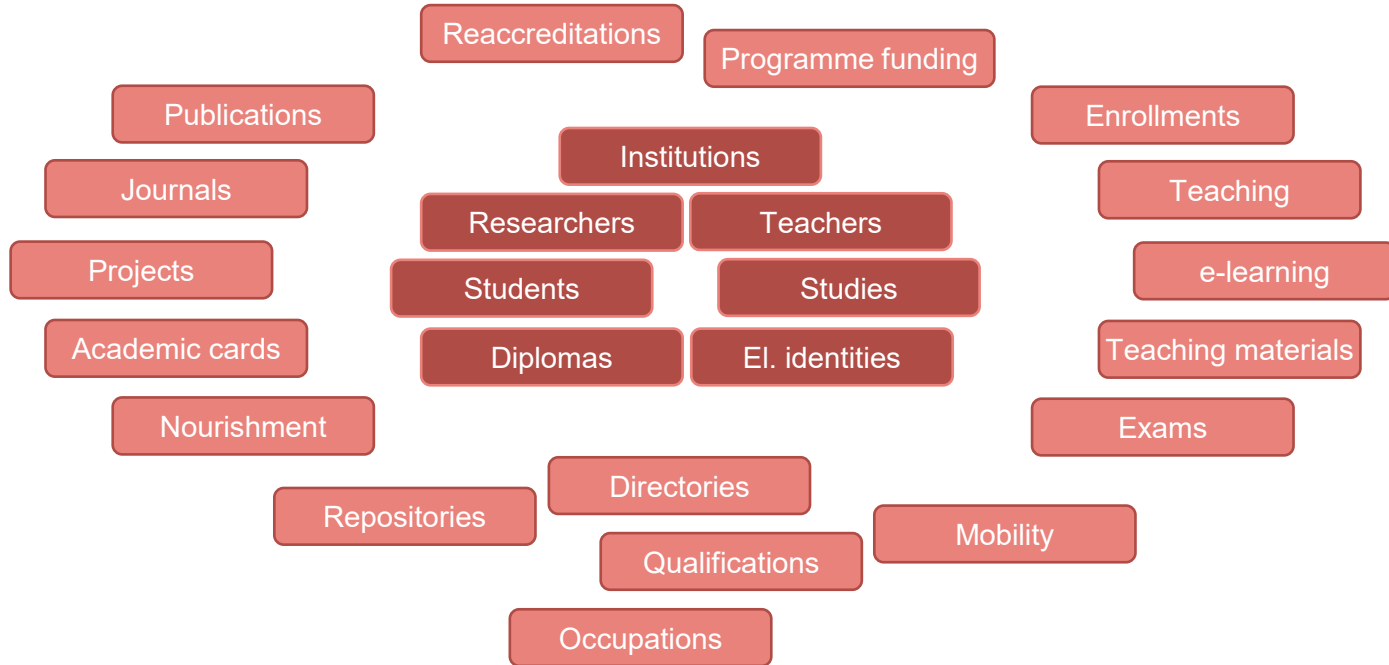


Project is co-funded by European Union from European Regional Development Fund



**How does it all play together?**

# Data and information in A&R



# The overview

- Projects HRZZ (EPP)
- URN:NBN
- HR-DOI
- NSK
- NISpVU
- AZVO

Hrčak

- Journals
- Issue
- Publications

ISPiK

- Reaccreditation process
- Dabar
  - Publications
  - Education materials
  - Research data
  - Theses
  - Multimedia

ISRHKO

- Occupation standards
- Qualification standards

ISAK

- Academic cards
- ISSP
  - Restaurants

CroRIS

- Publications
- Journals
- Patents and products
- Projects
- Equipment and services
- Events

- Researcher register
- Res. inst. register
- HEI register
- Research areas and fields

- Study programme register
- Students and diplomas register
- Enrollments register
- Teacher and staff register

ISSP

- Nourishment
- Students
- Curriculum
- Students
- Ac. year enrollments
- Exams and grades
- Classes
- End of studying
- Student mobility

HE&R Funding programme

ISPiK

- El. identities
- Directories
- Resources

ISeVO

- Scholarships
- Student contests

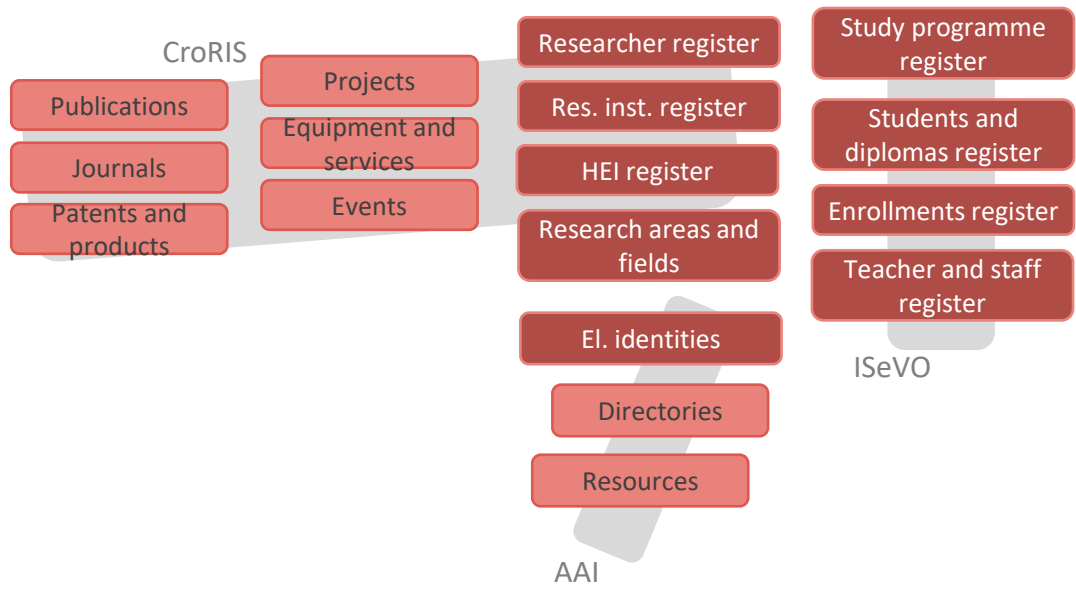
AAI

Vidra

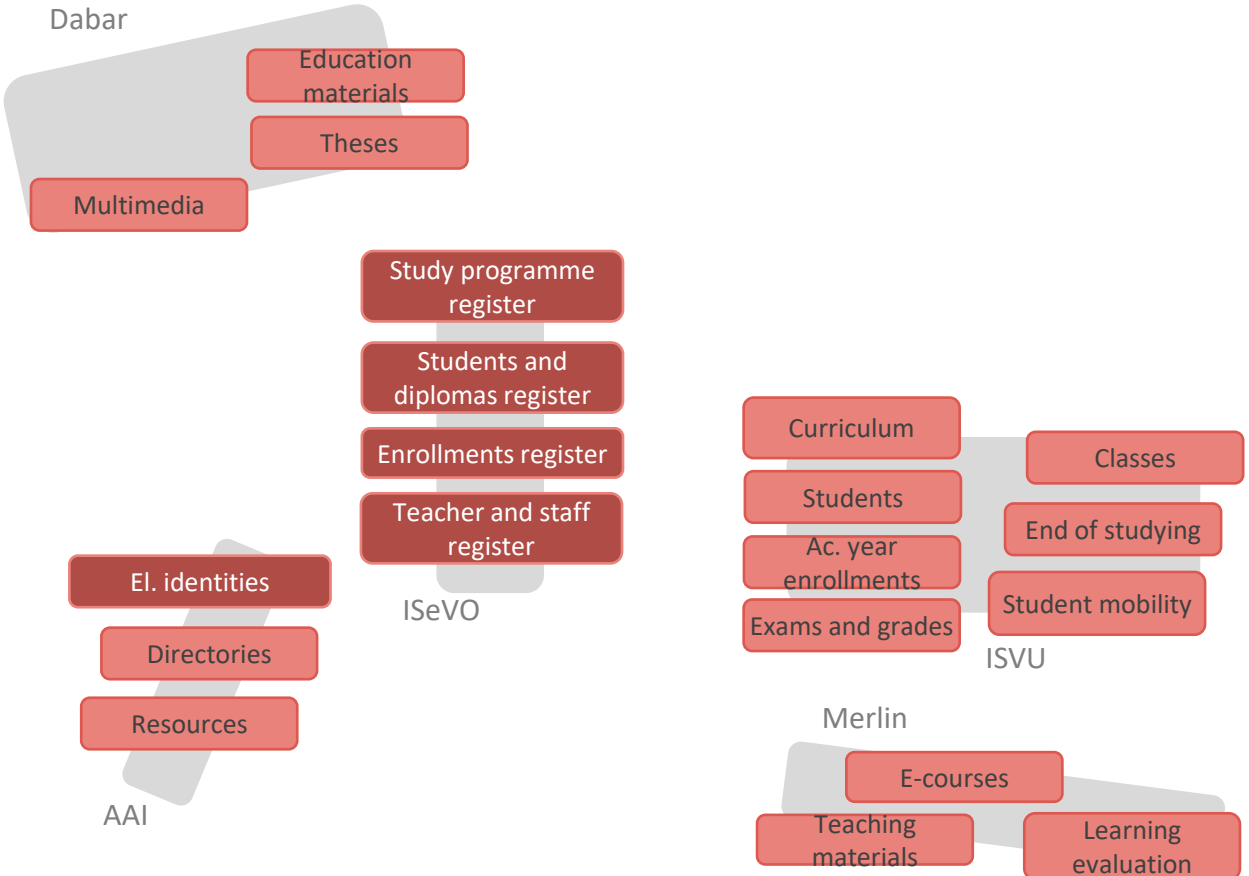
Merlin

- E-courses
- Teaching materials
- Learning evaluation

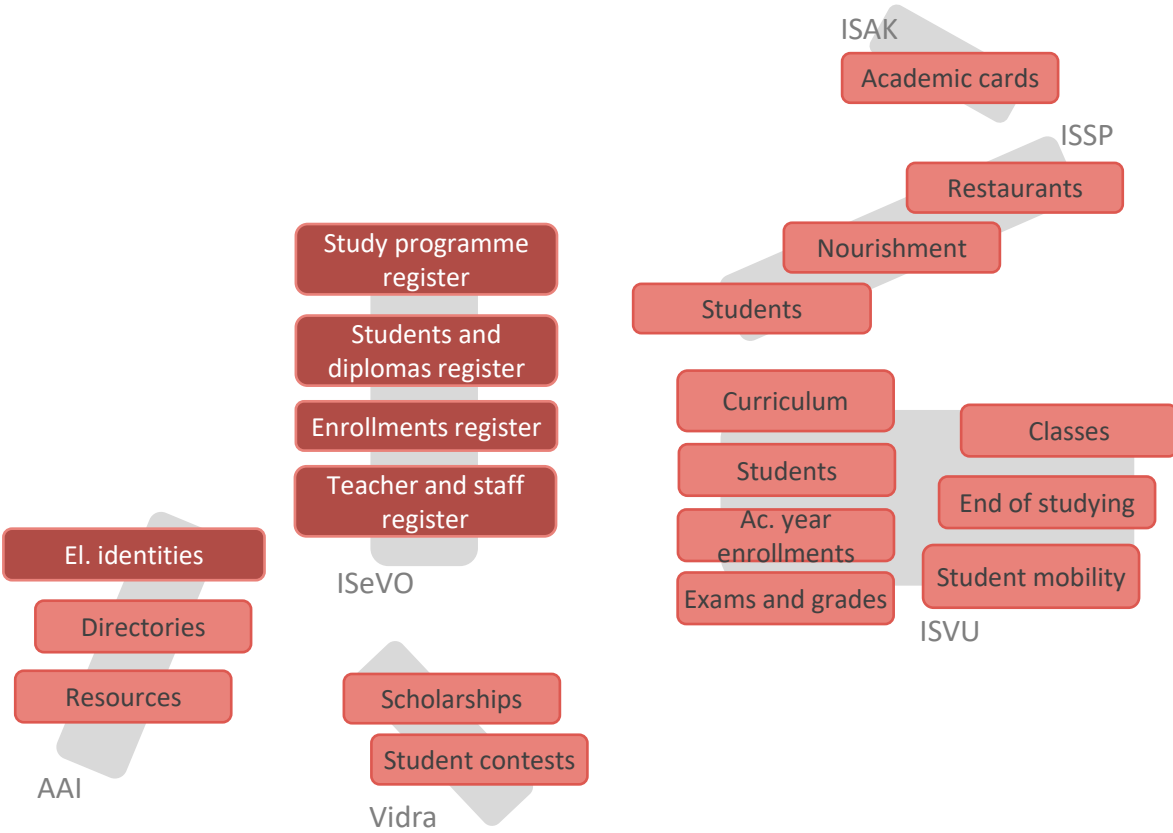
# The core



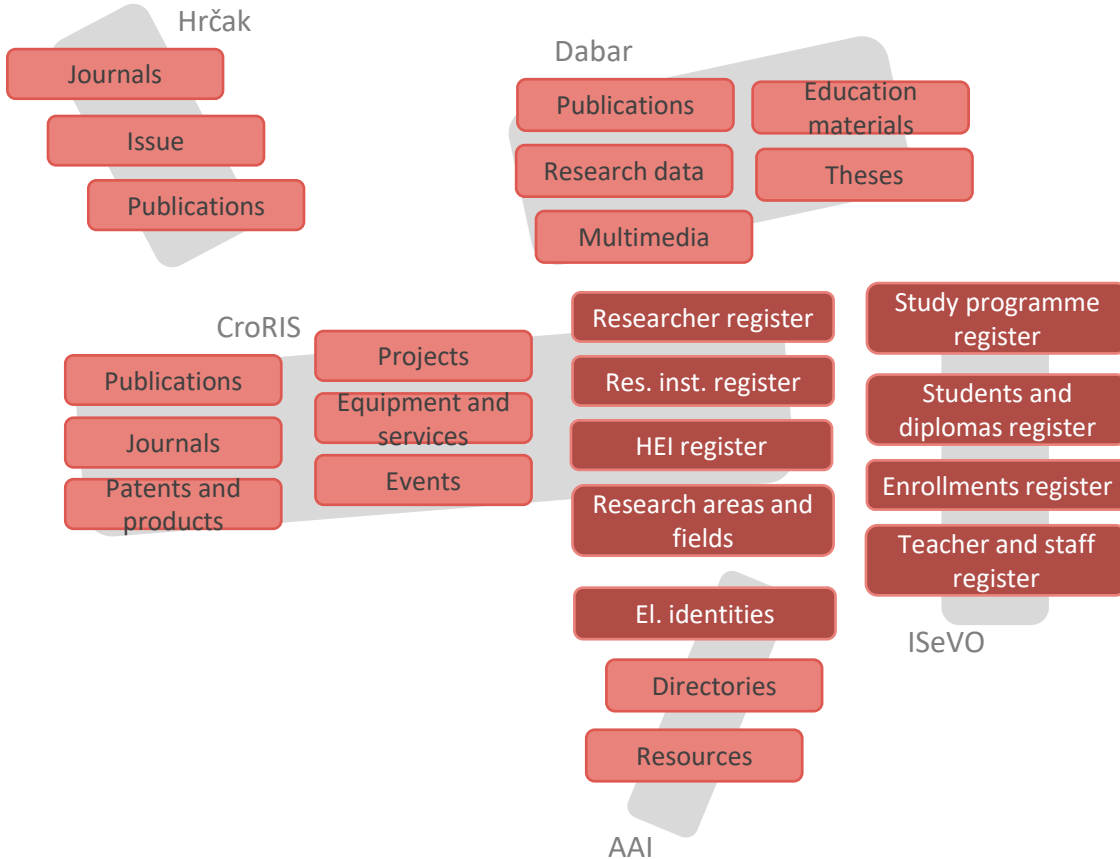
# Study



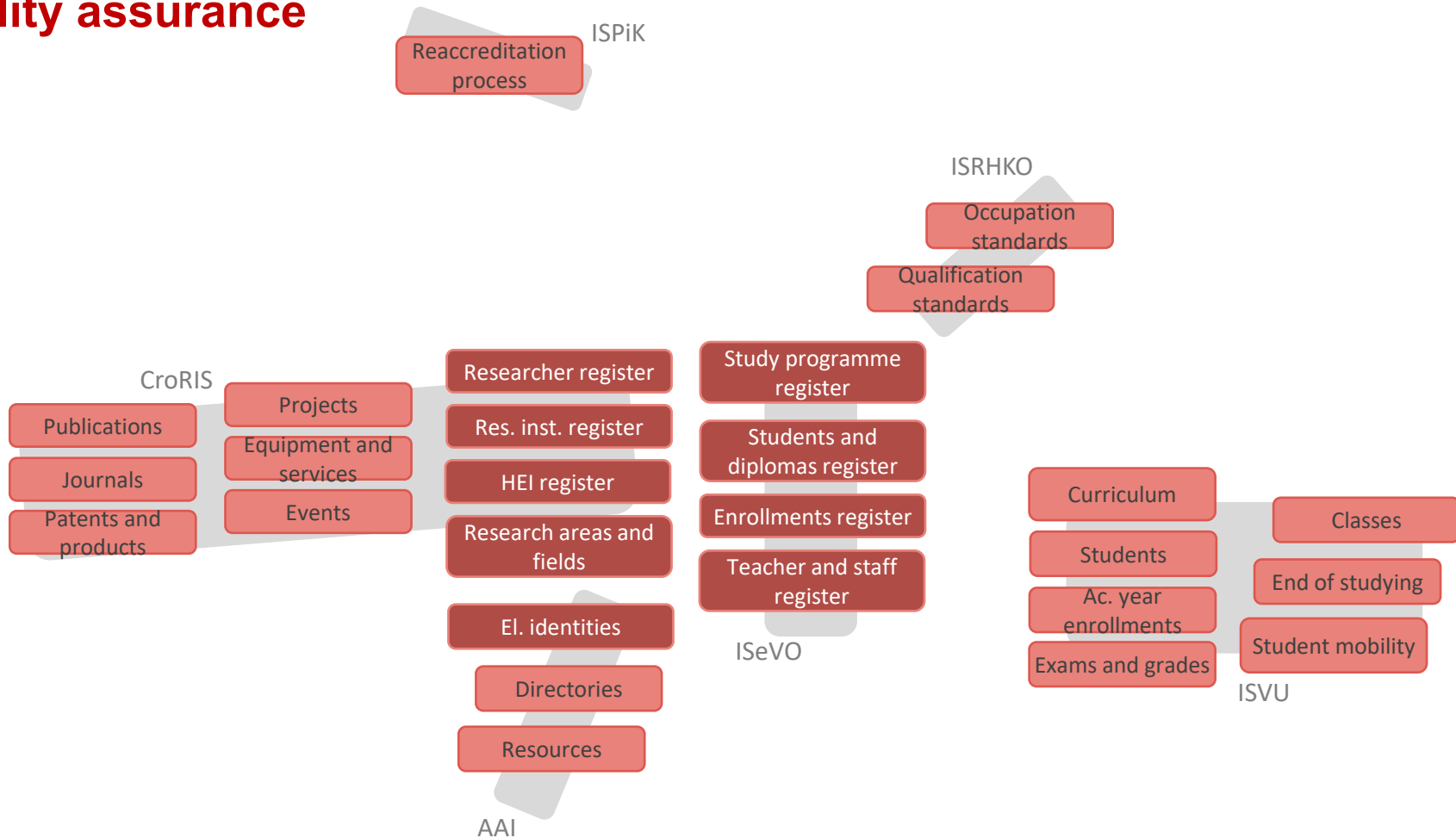
# Student standard



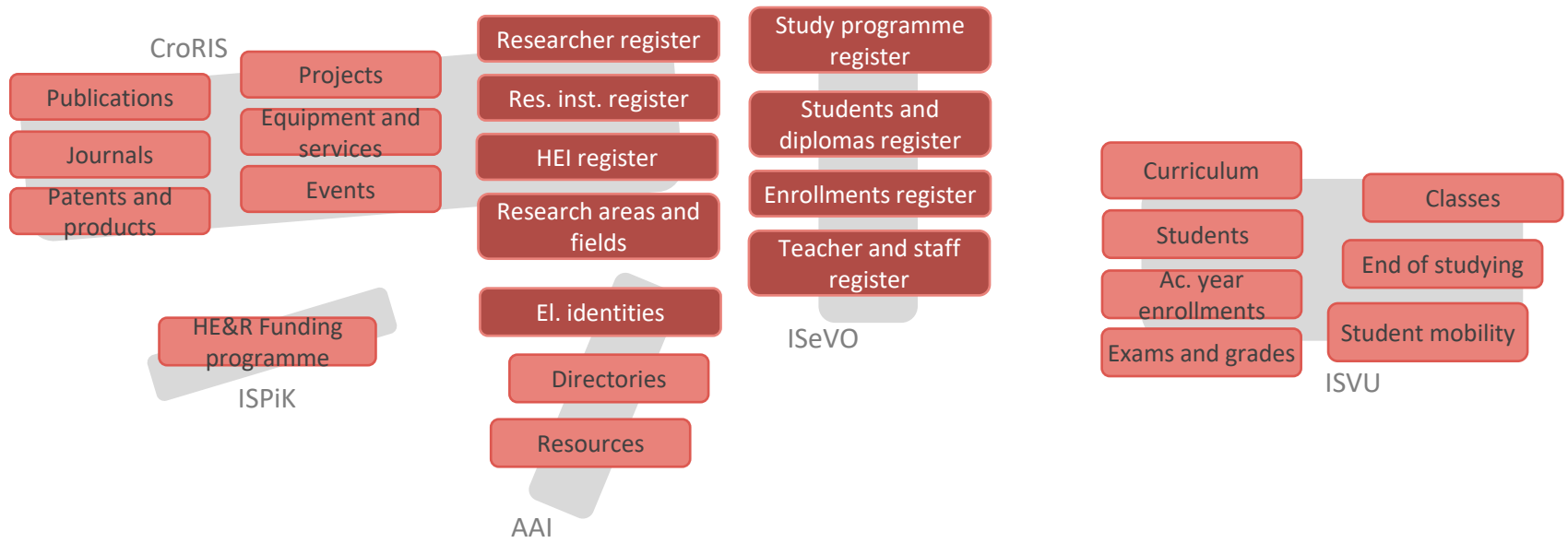
# Research



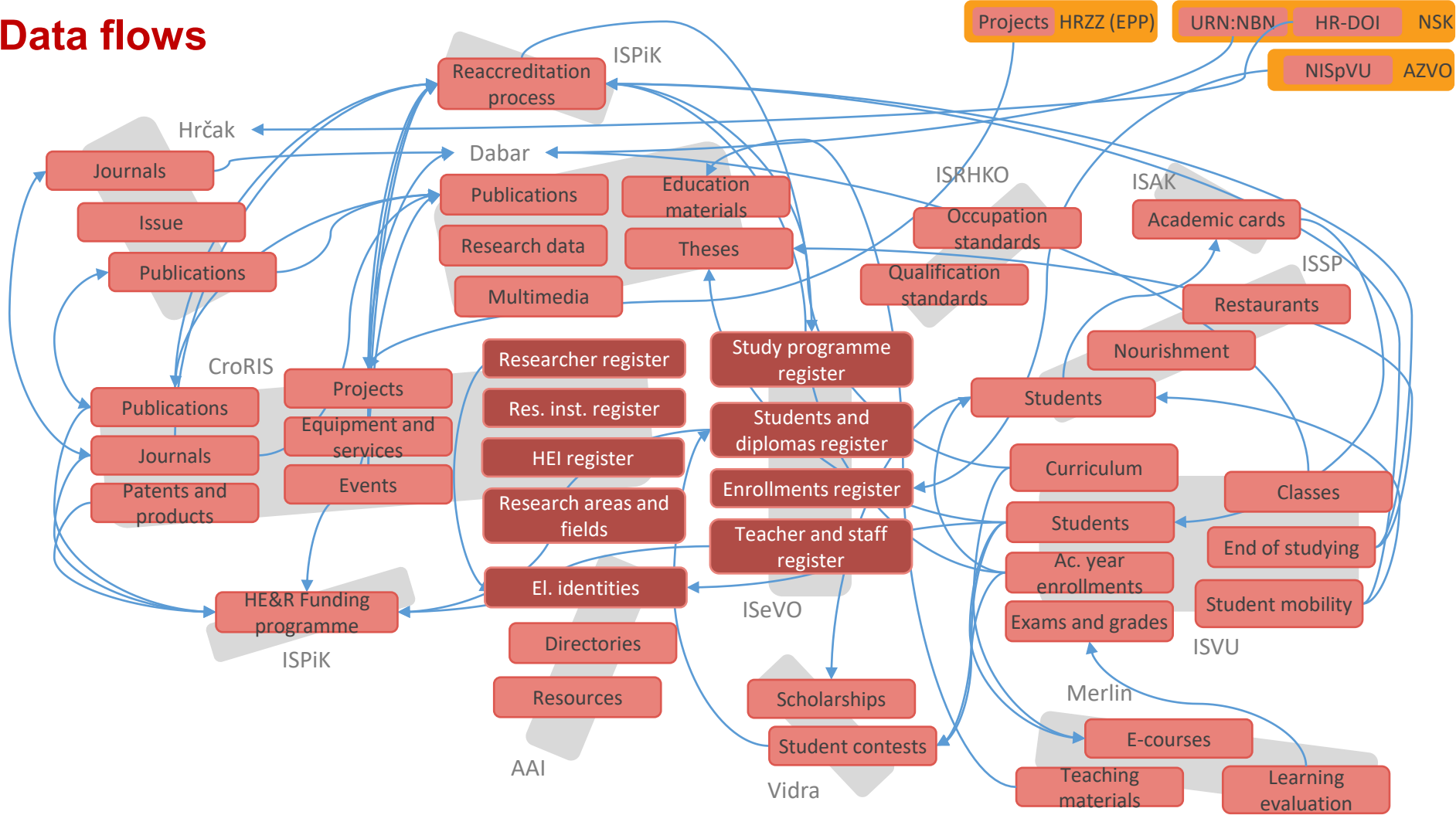
# Quality assurance



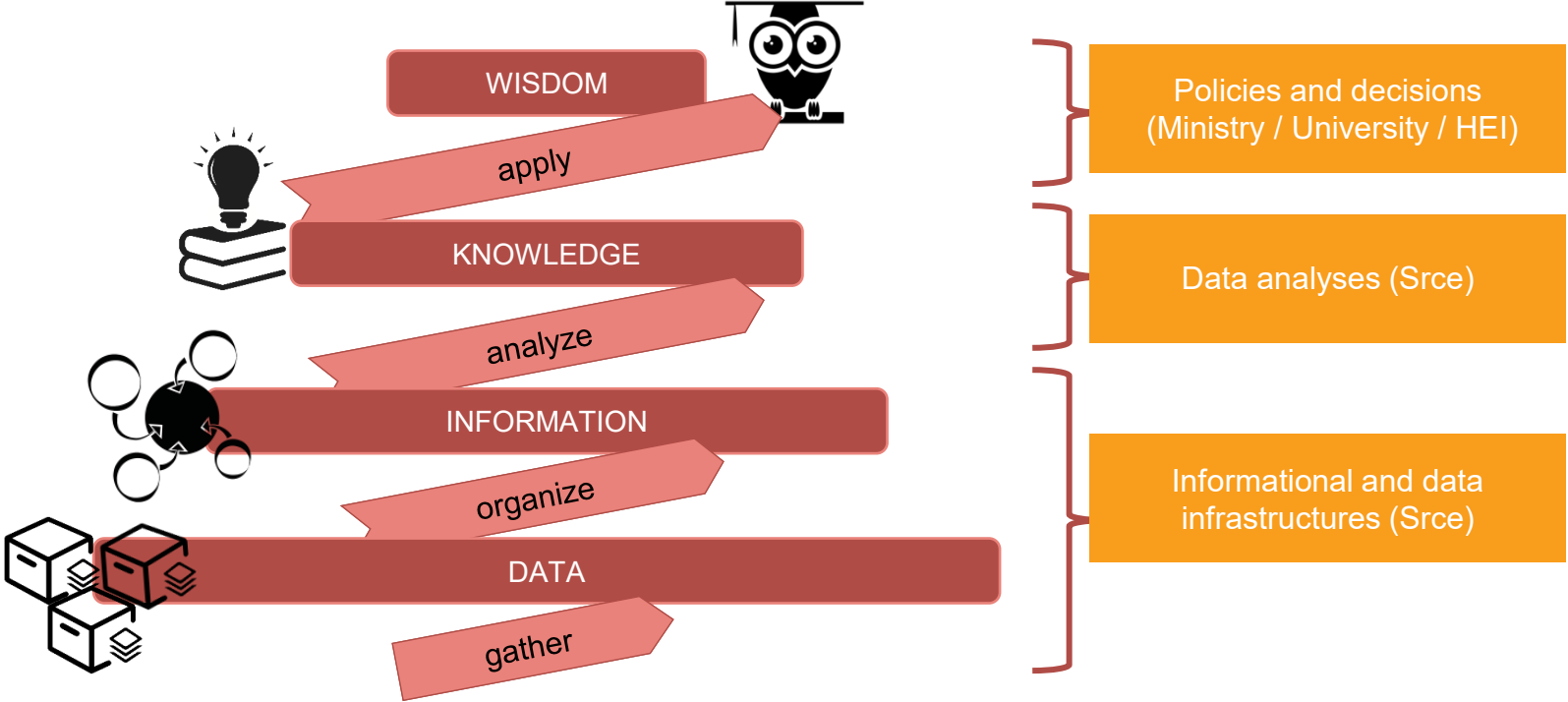
# HE&R Funding



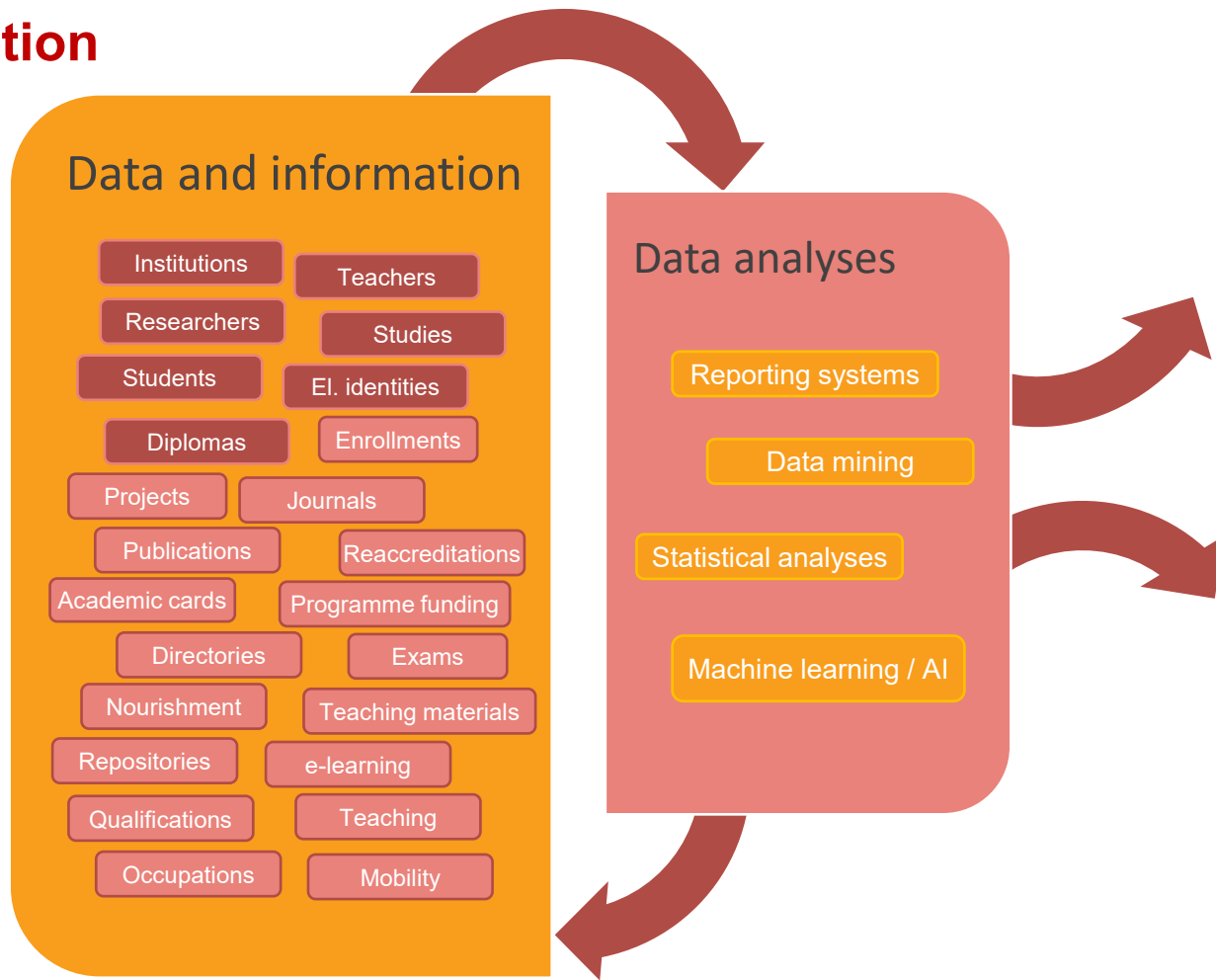
# Data flows



# Importance of data

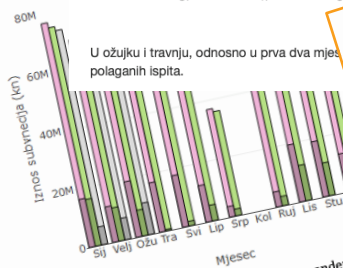
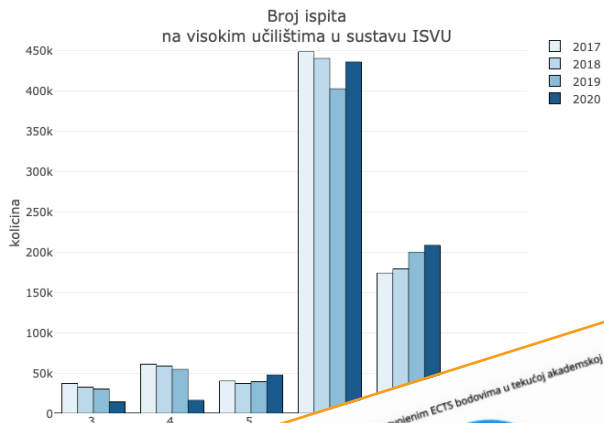


# From information to knowledge and back



## Količina ispita

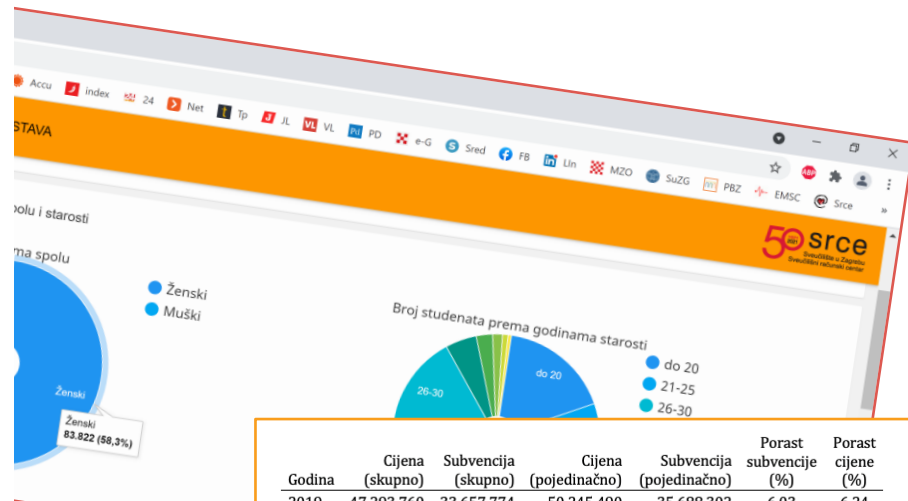
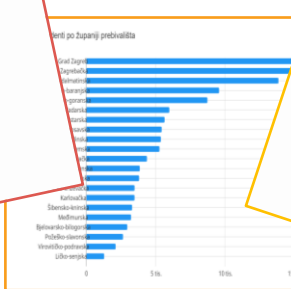
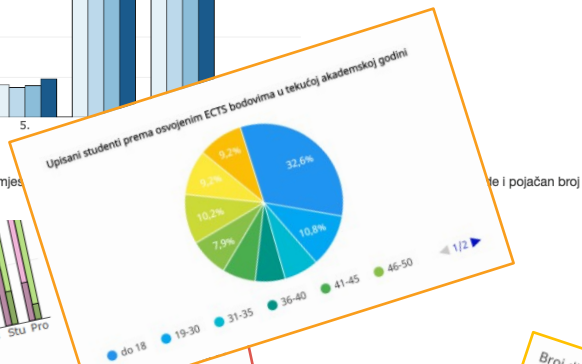
Za početak, pogledajmo kako je pandemija utjecala na broj polaganih ispita.



Udio ostvarenih subvencija u dodijeljenima prije pandemije bio je - 27 %, dok je od početka pandemije ispod 17 %.

U donjoj tablici dan je sumarni prikaz ukupnih godišnjih dodijeljenih i ostvarenih subvencija, te udio ostvarenih u dodijeljenim subvencijama po danim razdobljima.

Razdoblje	Dodijeljene Subvencije	Ostvarene Subvencije	Udio (%)
2019	769.857.596	155.290.348	20
2020	760.428.680	77.735.000	10
2021 Q1	218.061.483	24.357.906	11



Godina	Cijena (skupno)	Subvencija (skupno)	Cijena (pojedinačno)	Subvencija (pojedinačno)	Porast subvencije (%)	Porast cijene (%)
2019	47.293.760	33.657.774	50.245.490	35.688.302	6,03	6,24
2020	22.242.285	15.830.439	23.655.384	16.784.517	6,03	6,35
2021 Q1	6.538.058	4.649.884	6.923.214	4.910.151	5,60	5,89

Iz dobivenih rezultata može se iščitati kako bi pojedinačnom naplatom artikala, koji su tijekom 2019. i 2020. godine prodani u okviru menija, studenti iste u prosjeku platili 6,3 % više, a pritom bi se ostvarena subvencija na tim artiklima povećala za približno 6 %. Tijekom prvog kvartala 2021. navedeni postotci su nešto niži, no usporedivi.

### Broj artikala unutar menii obroka

Broj artikala u meni obrocima najčešće varira između 2 i 11, pri čemu vegetarijanski meni obroci često sadrže veći broj artikala. Promatrajući strukturu menii obroka prodanih u promatranom razdoblju, dobije se prosječan broj i prosječna količina artikala po meni obroku, kako slijedi u donjoj tablici.

Godina	Broj prodanih menii obroka	Broj artikala po meni obroku	Količina artikla po meni obroku
2019	2.092.540	5,58	7,41
2020	984.073	5,67	7,52
2021 Q1	288.996	5,67	7,51

# Future

Capacity building  
for data driven  
decision making in  
A&R

Programme  
funding tracking  
system (ISPiK+);

Scholarship and  
student contests  
systems (Vidra)



EduGAIN-ization  
of resources;  
introducing more  
APIs



Enhancement of  
National Research  
Information  
System (CroRIS)

Creation of  
central portal for  
A&R data  
analyses; building  
reporting and ML  
capacities;  
permanent SW  
licencing

Education and  
marketing of  
knowledge-driven  
decisioning

Creation and  
implementation of  
legal acts and  
policies for  
analytical usages



## Public information available (in english)

- CroRIS – Croatian Research Information System: [www.croris.hr](http://www.croris.hr)
- ISeVO – National HE Registers: [visokoobrazovanje.hr](http://visokoobrazovanje.hr)
- Dabar – Institutional Repositories: <https://dabar.srce.hr/en>
- Hrčak – Open Access Journals: <https://hrcak.srce.hr/en>
- Register of Study Programmes: <https://hko.srce.hr/usp/?lang=en>
- Croatian Qualifications Framework: <https://www.kvalifikacije.hr/en>

# Hvala!



Sveučilište u Zagrebu  
Sveučilišni računski centar

[www.srce.unizg.hr](http://www.srce.unizg.hr)

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[www.srce.unizg.hr/otvoreni-pristup](http://www.srce.unizg.hr/otvoreni-pristup)

