



**ZNANOST ZA VSE**  
**SCIENCE FOR ALL**  
**24. 9. 2021**

**EVROPSKA NOČ RAZISKOVALCEV**  
**EUROPEAN RESEARCHERS' NIGHT**

[ern.um.si](http://ern.um.si)

Ta projekt Evropske noči raziskovalcev je prejel financiranje programa Evropske unije za raziskave in inovacije, Obzorje 2020, po pogodbi št. 101036173.



REPUBLIKA SLOVENIJA  
MINISTRSTVO ZA IZOBRAŽEVANJE,  
ZNANOST IN ŠPORT

**Odprta znanost, etika in vključujoča  
znanost v Obzorju Evropa**

**21. 9. 2021**



## PRAVNO OBVESTILO:

Na tem dogodku poteka snemanje in fotografiranje. Če vstopite na lokacijo dogodka, boste lahko posneti in fotografirani. Z vstopom na to lokacijo, dajete dovoljenje organizatorjem in Evropski komisiji, da vas lahko snemajo, fotografirajo, zvočno snemajo in uporabijo vaše posnetke po lastni presoji. Obiskovalci zato ne boste uveljavljali nobene odgovornosti proti organizatorjem in Evropski komisiji v zvezi z zgoraj navedenim.

V kolikor se z zgoraj navedenim ne strinjate, vljudno prosimo, da s tem seznanite organizatorje na: [ern@um.si](mailto:ern@um.si). E-sporočilu obvezno priložite visokokakovostni sken fotografije z osebnega dokumenta, da vas lahko organizator izloči iz vseh posnetkov in fotografij. Pooblaščen oseba za varstvo podatkov Univerze v Mariboru je doc. dr. Miha Dvojmoč ([dpo@um.si](mailto:dpo@um.si)).

Za vsebine in stališča, predstavljene na spletnih straneh, izražene v medijih novicah, publikacijah, socialnih omrežjih, (pred)dogodkih in vseh drugih komunikacijskih oblikah projekta Znanost za vse, Evropske noči raziskovalcev 2021, so izključno odgovorni avtorji. Vsebine ne odražajo stališč Evropske izvajalske agencije za raziskave, ki ni odgovorna za morebitno uporabo predstavljenih vsebin in informacij.



**ZNANOST ZA VSE**  
**SCIENCE FOR ALL**

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# Odprta znanost v Obzorju Evropa

Dr. Ivan Skubic

Ministrstvo za izobraževanje, znanost in šport

**Odprta znanost, etika in vključujoča znanost v Obzorju Evropa**

Evropska noč raziskovalcev

Univerza v Mariboru

21.9.2021





1. Razvoj politik odprte znanosti v okvirnih programih EU
2. Odprta znanost v Obzorju Evropa
3. Prakse odprte znanosti in evalvacija odprte znanosti v Obzorju Evropa
4. Zahteve v „Model Grant Agreement“
5. Open Research Europe (ORE)
6. EOSC
7. Koristne povezave in informacije



## HORIZON EUROPE

## EURATOM

### SPECIFIC PROGRAMME: EUROPEAN DEFENCE FUND

*Exclusive focus on defence research & development*

Research actions

Development actions

### SPECIFIC PROGRAMME IMPLEMENTING HORIZON EUROPE & EIT\*

*Exclusive focus on civil applications*



**Pillar I  
EXCELLENT SCIENCE**

European Research Council

Marie Skłodowska-Curie

Research Infrastructures



**Pillar II  
GLOBAL CHALLENGES &  
EUROPEAN INDUSTRIAL  
COMPETITIVENESS**

Clusters

- Health
- Culture, Creativity & Inclusive Society
- Civil Security for Society
- Digital, Industry & Space
- Climate, Energy & Mobility
- Food, Bioeconomy, Natural Resources, Agriculture & Environment

Joint Research Centre



**Pillar III  
INNOVATIVE EUROPE**

European Innovation Council

European Innovation Ecosystems

European Institute of Innovation & Technology\*

### WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA

Widening participation & spreading excellence

Reforming & Enhancing the European R&I system

Fusion

Fission

Joint Research Center

**Proračun: 95,5 mrd EUR**



## Pridobljene izkušnje

iz vmesne ocene programa Obzorje 2020



Podpreti prodorne inovacije



Doseči večji učinek z usmerjenostjo v misije in sodelovanjem državljanov



Okrepiti mednarodno sodelovanje



Krepiti odprtost



Racionalizirati področja financiranja



Spodbujati udeležbo



## Ključne novosti

v programu Obzorje Evropa

Evropski svet za inovacije

Misije na področju raziskav in inovacij

Razširjene možnosti pridružitve

Politika odprte znanosti

Nov pristop k partnerstvom

Razširjanje odličnosti



## Evolution of OS policies across FPs



## Under Horizon Europe (2021)

- Open Science (OA, RDM, Citizen Engagement, etc.) embedded across the FP
  - **Evaluation** of proposals (excellence - methodology -, quality & efficiency of implementation)
  - **Grant Agreement, guidelines**
  - **Reporting** - during the project's lifetime
  - **Work programmes**
- Strengthening of the obligations with respect to open access and focus on responsible RDM in line with FAIR



**NOVOST: Prakse odprte znanosti se ocenjujejo!**



**Opomba:** Tudi po zaključku projekta se lahko rezultate brezplačno publicira na „Open Research Europe“.





## Uredbe Obzorje Evropa, uvodna izjava 7

Koncepti **odprte znanosti**, odprtih inovacij in odprtosti v svet morajo zagotavljati **odličnost („excellence“)** in **učinek („impact“)** naložb Unije v raziskave in inovacije in hkrati ščititi interese Unije



## Uredba Obzorje Evropa, člen 14 (Odprta znanost)

“**Odprta znanost**“ pomeni **pristop** k znanstvenemu procesu, ki temelji na odprtem sodelovanju, orodjih in razširjanju znanja. Zlasti pa na:

- a) Odprtem dostopu do **znanstvenih publikacij** iz raziskav
- b) Odprtem dostopu do **raziskovalnih podatkov**, tudi tistih, ki so podlaga za znanstvene publikacije, v skladu z načelom „odprto, kolikor je mogoče, zaprto, kolikor je potrebno“.

Odgovorno upravljanje raziskovalnih podatkov v skladu z načeli **FAIR** („**F**indable, **A**ccesible, **I**nteroperable, **R**eusable“) in dolgoročno hranjenje.

Podpirajo in spodbujajo se **druge prakse odprte znanosti**.



## Uredba Obzorje Evropa, člen 36 (Upravičeni stroški)

Stroški, povezani z odprtim dostopom, vključno z **načrti za ravnanje z raziskovalnimi podatki**, so upravičeni do povračila, kot je dodatno določeno v sporazumu o nepovratnih sredstvih.



## Uredba Obzorje Evropa, člen 39 (Izkoriščanje in razširjanje rezultatov)

Upravičenci poskrbijo, da sami ali avtorji obdržijo zadostne pravice intelektualne lastnine, da lahko izpolnijo svoje zahteve glede odprtega dostopa.

Odprt dostop do raziskovalnih podatkov je splošno pravilo, ki zagotavlja **možnost izjem** na podlagi načela „**odprto, kolikor je mogoče, zaprto, kolikor je potrebno**“, ob upoštevanju legitimnih interesov upravičencev, vključno s komercialnim izkoriščanjem, in vseh drugih omejitev, kot so pravila o varstvu podatkov, zasebnost, zaupnost, poslovne skrivnosti, konkurenčni interesi Unije, varnostna pravila ali pravice intelektualne lastnine.

Upravičenci upravljajo vse raziskovalne podatke, nastale v okviru ukrepa Programa , v skladu z **načeli FAIR** ter **pripravijo načrt ravnanja z raziskovalnimi podatki („DMP“)**.

V programu dela se **lahko določijo dodatne spodbude ali obveznosti, da bi se spoštovale prakse odprte znanosti.**



- **Work Programme General Annexes (D-Award criteria: evaluation criteria described, G-Legal and financial set-up of the grant agreements: additional obligations (access for validation and public emergency).**
- **Proposal template** - shows where and how to address open science-definition of open science practices (*ps. 7, 8, 12, 14, 15*)
- **General Model Grant Agreement, article 17** – defines requirements (*pp. 108 -110*)
- **Annotated Grant Agreement (AGA), article 17-** offers explanations and guidance for open science requirements (*pp. 152-161*)
- **Horizon Europe Programme Guide** – presents what is required at proposal stage and how open science is evaluated; open science practices analysed and resources provided-useful for proposers and evaluators (*pp. 33-54*)



What?	How?	Mandatory**/Recommended
Early and open sharing of research	preregistration, registered reports, pre-prints...	Recommended
Research output management	Data management plan (DMP)	<b>Mandatory</b>
Measures to ensure reproducibility of research outputs	Information on outputs/tools/instruments and access to data/results for validation of publications	<b>Mandatory</b>
Open access to research outputs through deposit in trusted repositories	<ul style="list-style-type: none"> <li>• Open access to publications;</li> <li>• Open access to data</li> <li>• Open access to software, models, algorithms, workflows etc.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Mandatory</b> for peer-reviewed publications</li> <li>• <b>Mandatory</b> for research data, with exceptions (as open as possible..)</li> <li>• Recommended for other research outputs</li> </ul>
Participation in open peer-review	Publishing in open peer-reviewed journals or platforms	Recommended
Involving all relevant knowledge actors	Involvement of citizens, civil society and end-users in co-creation of content (e.g. crowd sourcing etc.)	Recommended

\* Listed in the proposal template

\*\* Mandatory in all calls (MGA and call requirements). All the rest recommended.



*Horizon Europe, WP 2021-2022, 13. General Annexes, D-Award criteria*

## **A) V okviru kriterija „excellence“**

- **Spremenjeni so pojmi odličnosti**

## **B) V okviru kriterija „quality of implementation“**

- **Potrebno je prikazati preteklo sodelovanje v praksah odprte znanosti**

*Opombe:*

- *pri ERC programu odprta znanost ni vključena v evalvacijo predlogov,*
- *Pri EIC (WP 2021-2022) se prakse odprte znanosti izjemoma ocenjujejo pod „impact“.*



## Evaluated under 'Excellence' >methodology

“Soundness of the proposed **methodology**, including the underlying concepts, models, assumptions, inter-disciplinary approaches, appropriate consideration of the gender dimension in research and innovation content, and **the quality of open science practices including sharing and management of research outputs and engagement of citizens, civil society and end users where appropriate.**”

- **Mandatory OS practices [=MGA+topic call]:** positively evaluated when sufficiently addressed; negatively (lower score) when insufficiently
- **Recommended OS practices [all other practices]:** positively evaluated when sufficiently addressed; if open science practices duly justified as inappropriate, score not lowered
- Up to 1 page to describe OS practices + up to 1 page to describe research data management/research output management





### Evaluated under ‘Quality of implementation’

Capacity of participant/consortium + List of achievements

- Under **capacity of participant and consortium as a whole**, proposers should describe expertise to practice OS.
  - If no OS practices are involved then no expertise required
- Under **list of achievements of the consortium**, (up to 5 publications, widely used datasets, software, goods, services, or other achievements relevant to the call content).
  - Key elements of the achievement, including a short **qualitative assessment** of its impact and (where available) its digital object identifier (DOI) or other type of persistent identifier (PID) should be provided.
  - **Publications expected to be open access; datasets are expected to be FAIR** and ‘as open as possible, as closed as necessary’; significance of publications to be evaluated on basis of proposers’ qualitative assessment and not per JIF.



**Predloga za pripravo prijave na razpis:**

[https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/temp-form/af/af\\_he-ria-ia\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/temp-form/af/af_he-ria-ia_en.pdf)



- 1. Odprt dostop do znanstvenih publikacij**
- 2. Upravljanje z raziskovalnimi podatki**
- 3. Dodatne zahteve glede odprte znanosti**



- Beneficiaries **must retain sufficient intellectual property rights** to comply with the OA requirements.
- Beneficiaries must ensure deposition and **immediate open access via a trusted repository** under a Creative Commons Attribution licence\* (CC BY) or equivalent (Creative Commons Attribution Non Commercial CC BY-NC or Non Derivatives CC BY ND licences or equivalent are allowed for long-text formats e.g. monographs) + provide information via the repository about any research output/tools/instruments needed for the **validation of the conclusions**.
- **Open access publication fees are refundable** only in **full open access** publishing venues (publication fees in hybrids not reimbursed).
- **Metadata** of deposited publications must be open under Creative Commons Public Domain Dedication (CC 0) or equivalent and in line with FAIR principles.

**Trusted repository:** explained in the AGA (p.156); seek assistance from your library to assess whether a repository is trusted.

\* Creative Commons licencing: <https://creativecommons.org/choose>



**Research data management in line with the FAIR principles** (Findable, Accessible, Interoperable, Reusable), beneficiaries must:

- **Provide and regularly update a data management plan (DMP);**
- **Deposit** data in a **trusted repository** (federated in EOSC if required) and link to publications;
- Ensure **open access** as soon as possible and within deadlines set up in the DMP under **CC BY, CC 0 or equivalent** unless exceptions apply („as open as possible, as closed as necessary“);
- Provide information via the repository about any research output/tools/instruments needed for the **validation or re-use of data;**
- **Metadata** must be open under CC 0 or equivalent (to the extent legitimate interest or constraints are safeguarded), in line with the FAIR principles.



- Some calls may have **additional obligations on OS practices**
- Beneficiaries **must provide (digital or physical) access to data or other results** needed for validation of the conclusions of scientific publications (if not already open access).
- **Additional obligations in cases of public emergency**

If imposed by the call conditions in case of a public emergency, beneficiaries must (if requested by the granting authority) immediately **deposit any research output** in a repository + **provide open access to it under CC BY, CC 0** or equivalent.

As an exception, if the access would be against the beneficiaries' legitimate interests, beneficiaries **must grant non-exclusive licenses** — under fair and reasonable conditions — **to legal entities that need the research output to address the public emergency + commit to rapidly and broadly exploit the resulting products and services at fair and reasonable conditions.**

This provision applies up to four years after the end of the action.



# Open Research Europe (ORE)

The open access publishing platform for Horizon 2020 and Horizon Europe beneficiaries



**An open peer-reviewed publishing platform** (not a repository). Post-publication peer-review model (first you publish, then review takes place). Post grant publication possible. Publication and review reports open access under CC BY licenses.

- Launched in **March 2021** for H2020 and HE beneficiaries
- Supporting **research across all disciplines**
- High **scientific standards** (e.g. editorial policies+guidelines), expert **Scientific Advisory Board** across all fields of science
- **Swift publication times** and **transparent** processes (e.g. open peer-review). No cost to **authors/beneficiaries** (publication fees paid by the Commission)
- **New generation metrics**: each article have a dedicated metrics page
- **Optional: no obligation** to publish there: but if you do, you comply with HE policy
- <https://open-research-europe.ec.europa.eu/>







- **All areas** of the Frascati manual covered (natural sciences, engineering and technology, medical and health sciences, agricultural and veterinary sciences, social sciences, humanities and the arts);
- Editorial **guidelines and policies specified** for:
  - Science, Technology / Medicine;
  - Social Sciences
  - Humanities
 Support **many different article types**
- Data guidelines and policies **in line with EC policies**

STM	SS	Humanities
Research Article	Research Article	Research Article
Brief Reports	Essay	Essay
Data Notes	Review	Review
Method Articles	Case Studies	
Software Tool Articles	Brief Reports	
Study Protocols	Data Notes	
Registered Reports	Method Articles	
Reviews	Software Tool Articles	
Systematic Reviews	Study Protocols	
Clinical Practice Articles	Registered Reports	
Case Reports		
Case Studies		



# ORE since launch (24 March 2021)

**147 submissions – 58 published articles – 8 passed peer-review**  
**Authors from 29 different European countries**

Top 10 countries for submission:

Germany: 36

UK: 30

Spain: 28

Italy: 24

France: 21

The Netherlands: 17

Greece: 15

Austria: 13

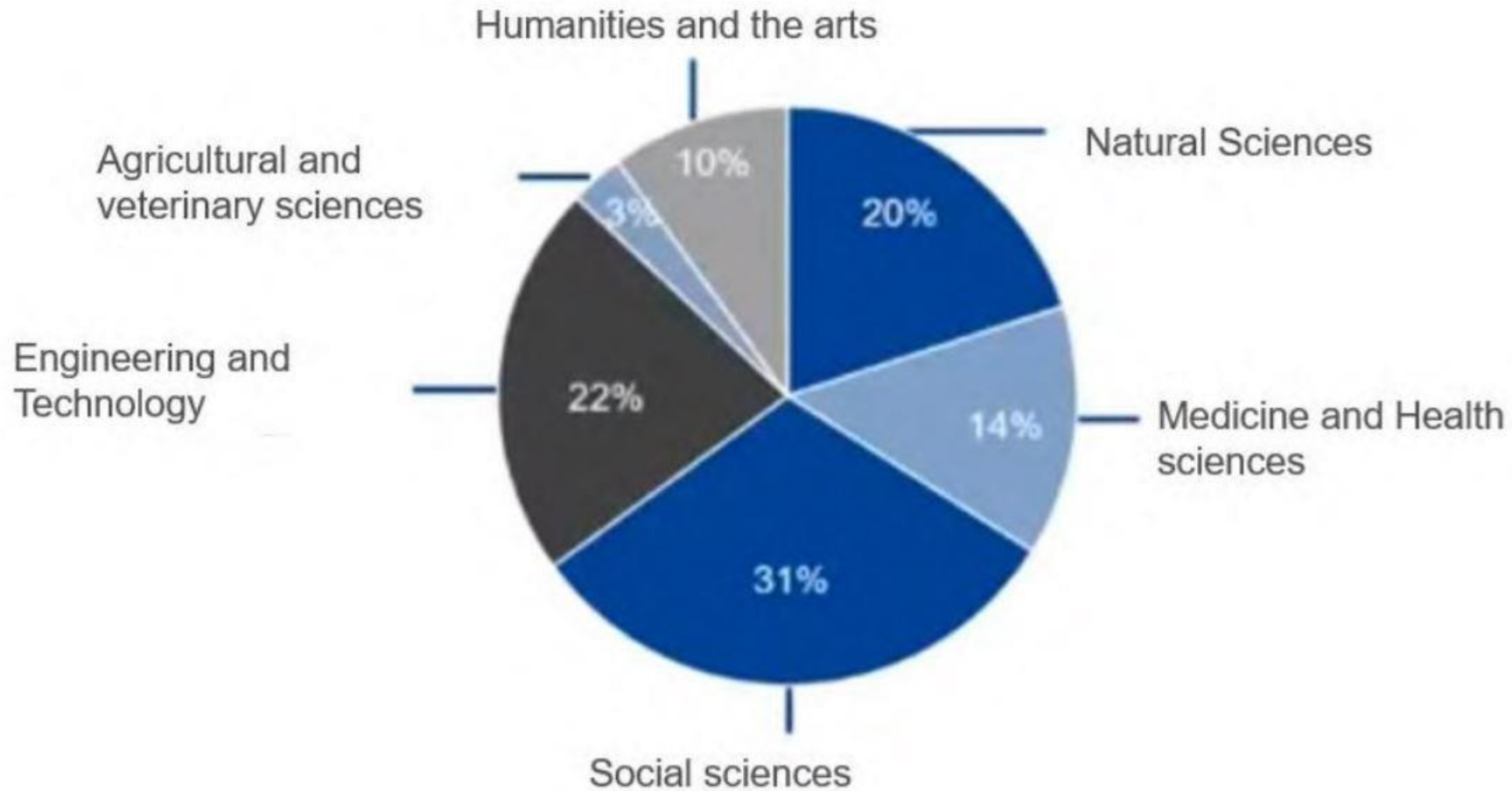
Belgium: 10

Switzerland: 8





# Subject level breakdown





# EOSC

Evropski oblak odprte znanosti



## What is EOSC?

- ✓ Trusted, **federated** and multi-provider **ecosystem** that cuts across borders and scientific disciplines.
- ✓ Brings together institutional, national and European stakeholders, initiatives and infrastructures.
- ✓ Vision: a “**Web of FAIR Data and Services for Science**”.
- ✓ It will enhance the possibilities for researchers to find, share and reuse research outputs like **publications, data, and software** leading to **new insights** and innovations, higher research **productivity** and improved **reproducibility** in science.
- ✓ EOSC phase 1 ended in 2020 (prototyping); starting now: **EOSC phase 2** (enabling an operational, open and FAIR EOSC)



Nekateri delovni programi Obzorja Evropa lahko za shranjevanje raziskovalnih podatkov zahtevajo uporabo zaupanja vrednih repozitorijev, ki so organizirani v EOSC (<https://eosc.eu/>) in podpirajo načela FAIR.

EOSC je trenutno še v fazi razvoja.



- **Work Programme General Annexes** ( [https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2021-2022/wp-13-general-annexes\\_horizon-2021-2022\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2021-2022/wp-13-general-annexes_horizon-2021-2022_en.pdf) )
- **Proposal template** ( [https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/temp-form/af/af\\_he-ria-ia\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/temp-form/af/af_he-ria-ia_en.pdf) )
- **General Model Grant Agreement (MGA)** ( [https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/agr-contr/general-mga\\_horizon-euratom\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/agr-contr/general-mga_horizon-euratom_en.pdf) )
- **Annotated Grant Agreement (AGA)** ( [https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/aga\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/aga_en.pdf) )
- **Horizon Europe Programme Guide** ( [https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/programme-guide\\_horizon\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/programme-guide_horizon_en.pdf) )
- **ERC - European Research Council/Open Science** ( <https://erc.europa.eu/managing-project/open-science>, zbirka dokumentov <https://erc.europa.eu/document-library> )
- **ORE - Open Research Europe** ( <https://open-research-europe.ec.europa.eu/> )
- **EOSC** ( <https://eosc-portal.eu/> )
- **Nacionalni portal odprte znanosti:** <http://www.openscience.si>



- **Sherpa Romeo** (podatki o odprtem dostopu za znanstvene revije)  
<https://v2.sherpa.ac.uk/romeo>
- **Primeri repozitorijev za preregistracijo:**
  - **OSF** (splošen)
  - **AsPredicted** (splošen)
  - **Preclinicaltrials.eu** (veterinarstvo)
  - **PROSPERO** (zdravstvo in socialna oskrba)
  - **EGAP** (politične vede)
  - **RIDIE** (družbene vede)
- **Serverji za preprint:**
  - **Zenodo** (multidisciplinaren)
  - **Preprints** (multidisciplinaren)
  - **bioRxiv** (vede o življenju)
  - **medRxiv** (medicina in zdravstvene vede)
  - **PsyArxiv** (vede o vedenju)
  - **SocArXiv** (družbene vede in humanistika)
  - **LawArXiv** (pravo)
  - **ArXiv** (fizika, matematika, računalništvo)



Mreža NKO  
Obzorje Evropa

HORIZON  
EUROPE



THE EU RESEARCH & INNOVATION  
PROGRAMME 2021 - 2027

#HorizonEU



## Hvala za pozornost! / VPRAŠANJA

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### Mrežo NKO tvorimo predstavniki



REPUBLIKA SLOVENIJA  
MINISTRSTVO ZA GOSPODARSKI  
RAZVOJ IN TEHNOLOGIJO



REPUBLIKA SLOVENIJA  
MINISTRSTVO ZA INFRASTRUKTURO



REPUBLIKA SLOVENIJA  
MINISTRSTVO ZA IZOBRAŽEVANJE,  
ZNANOST IN ŠPORT

SPIRIT SLOVENIJA  
JAVNA AGENCIJA

I FEEL SLOVENIA



REPUBLIKA SLOVENIJA  
MINISTRSTVO ZA OKOLJE IN PROSTOR