INITIATE – Supporting European R&I Through stakeholder collaboration and institutional reform

Energetska tranzicija Hrvatske: Inovacije i prilike kroz EU projekte

25. travnja 2025.
The Westin Hotel Zagreb, Kršnjavoga 1, 10000 Zagreb, Hrvatska

Predavač: izv. prof. dr. sc. Goran Krajačić

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Uvod

Institucije visokog obrazovanja (HEI) kao ključni akteri u promicanju održivosti i digitalizacije



Zelena i digitalna tranzicija zahtijevaju da se sveučilišta prilagode svojim strukturama i modelima upravljanja

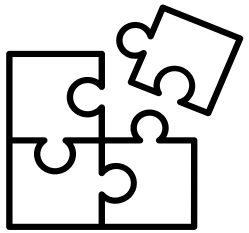
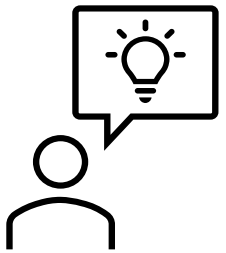
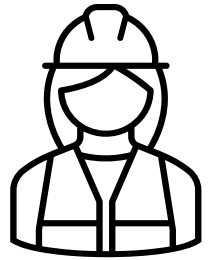


Kako možemo transformirati visokoobrazovne institucije kako bismo unaprijedili izvrsnost u području istraživanja i inovacija

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Važnosti HEI u zelenoj i digitalnoj tranziciji

- Institucije visokog obrazovanja pokreću inovacije, kruženje znanja i razvoj radne snage za nove zelene i digitalne sektore
- Sveučilišta moraju uskladiti svoje istraživačke strategije s politikama održivosti i digitalizacije Europske unije.

*EU ima za cilj postati klimatski neutralna do 2050. godine – gospodarstvo s neto nultom emisijom stakleničkih plinova. Taj je cilj u središtu Europskog zelenog plana i zakonski je obvezujući zahvaljujući Europskom zakonu o klimi.

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Što možemo učiniti?



Društvena uključenost, istraživanje i inovacije



Tehnički alati



Financijska, regulatorna i administrativna podrška

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Osnovne informacije o projektu INITIATE

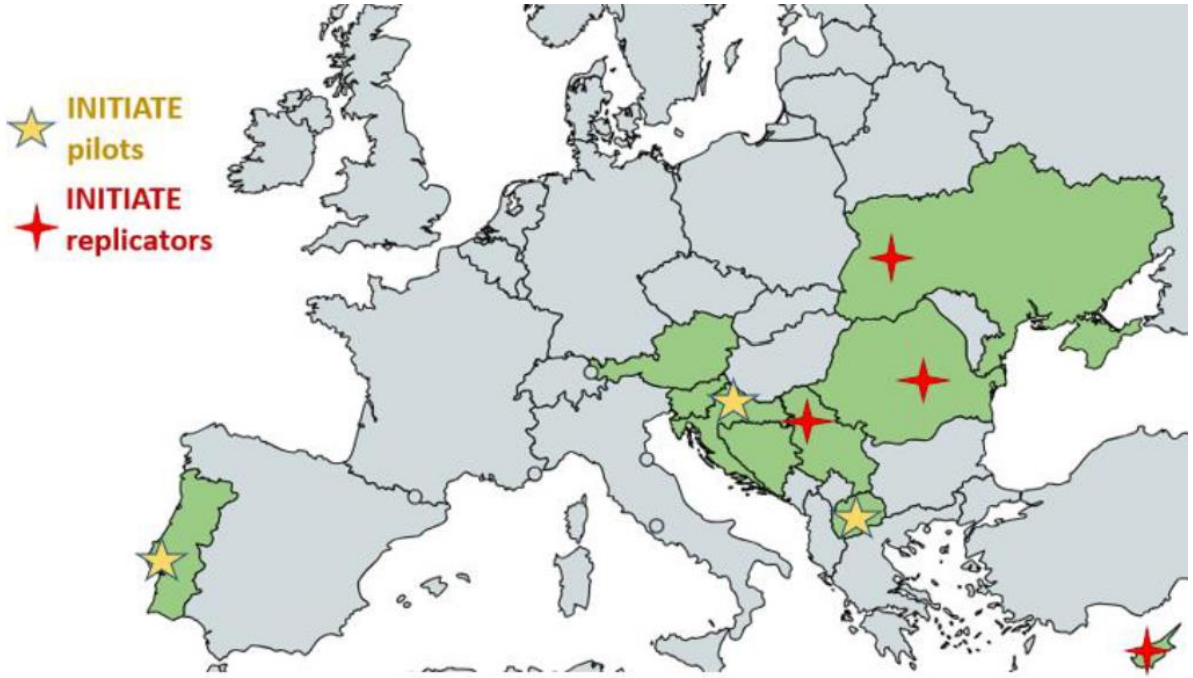
Naziv: Supporting European R&I Through stakeholder collaboration and institutional reform
Natječaj: HORIZON-WIDERA-2023-ACCESS-03-01 - European Excellence Initiative
EC Web stranica:
https://cordis.europa.eu/project/id/101136775

HORIZON-CSA HORIZON Coordination and Support Actions
HORIZON Lump Sum Grant [HORIZON-AG-LS]

- **Project Grant Agreement**: 101136775
- **Kordinator projekta**: Sveučilište u Zagrebu, Fakultet strojarstva i brodogradnje (UNIZAG FSB)
- **Budžet**: 4.577.108,94 €
- **Grant**: 4.577.108,94 €
- **Trajanje**: 42 mjeseca
- **Početak**: 01/02/2024
- **Kraj**: 31/07/2027

Konzorcij

UNIZAG FSB - koordinator
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INITIATE piloti

Pilot #1: University of Zagreb, Faculty of mechanical engineering and naval architecture



Pilot #2: Iscte – University Institute of Lisbon



Pilot #3: Faculty of electrical engineering and information technology in Skopje



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Ciljevi projekta INITIATE

1. **Potaknuti suradnju** između institucija visokog obrazovanja i dionika (stručnjaka, istraživača, donositelja politika, SME) radi unaprjeđenja istraživanja i inovacija (R&I)

2. **Razviti INITIATE pristup za transformaciju visokog obrazovanja**, uključujući osposobljavanje, izgradnju kapaciteta i razmjenu znanja u zemljama širenja sudjelovanja (Widening zemljama)

3. **Demonstrirati INITIATE pristup** u tri Widening zemlje radi jačanja R&I i znanstvene izvrsnosti

4. **Uspostaviti Savez za zelenu energetsku tranziciju** i izraditi strategiju za iskorištavanje i repliciranje rezultata projekta INITIATE

5. **Promicati svijest i usvajanje INITIATE pristupa** kako bi se podržala energetska tranzicija EU-a kroz jačanje R&I, znanstvene izvrsnosti i suradnje unutar lokalnih ekosustava

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Očekivani rezultati

- **Institucionalna reforma i unapređenje** institucija visokog obrazovanja u području R&I, osnaživanje tih institucija kao aktera promjena kroz suradnju

- **Promicanje kulture znanstvene izvrsnosti** i stvaranja vrijednosti, osobito u institucijama s nižim intenzitetom istraživanja i Widening zemljama kroz dugoročne saveze

- **Ubrzavanje institucionalne reforme** i jačanje R&I kapaciteta, posebno u Widening zemljama

- **Povećanje globalne konkurentnosti** istraživanja kroz unapređivanje vještina, stvaranje i cirkulaciju znanja, osobito u područjima zelene tranzicije i ključnim europskim političkim područjima

- **Podrška provedbi ERA političke agende** unutar sektora visokog obrazovanja

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Očekivani utjecaji

EI1: Povećani kapacitet za znanost i inovacije za sve aktere u R&I sustavu u Widening zemljama

EI2: Strukturne promjene koje vode moderniziranim i konkurentnijim R&I sustavima

EI3: Reformirani R&I sustavi i institucije koji rade na privlačnosti i zadržavanju talentiranih istraživača

EI4: Mobilizacija nacionalnih i EU resursa za strateške investicije

EI5: Veći uspjeh u sudjelovanju u programu Horizon Europe i više voditeljskih pozicija u konzorcijima

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Očekivani utjecaji

EI6: Snažnije povezivanje između akademske zajednice i poslovnog sektora te razmjenjivanje znanja

EI7: Ojačana uloga sektora visokog obrazovanja u istraživanju i inovacijama

EI8: Snažnije uključivanje regionalnih aktera u R&I proces

EI9: Poboljšana međunarodna povezanost za sve aktere

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Rezultati prethodnih 13 mjeseci projekta

- Započeli proces angažmana i održali tri korisne radionice s dionicima u Zagrebu, Lisabonu i Skopju
- Pripremili elemente za diseminaciju i komunikaciju, uključujući postavljanje web stranice projekta i pokretanje društvenih medija
- INITIATE pristup na 3 pilot-lokacije
- Kick-off meeting, 3 pilot radionice, 2 znanstvene publikacije, 1 ugovor o dodjeli bespovratnih sredstava, 2 R&I laboratorija, 1 studijski posjet, razni događaji i konferencije

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Kick-off meeting Zagreb


Workshop Zagreb


Prvi R&I Lab Skopje


Kick-off meeting Zagreb


Workshop Lisabon

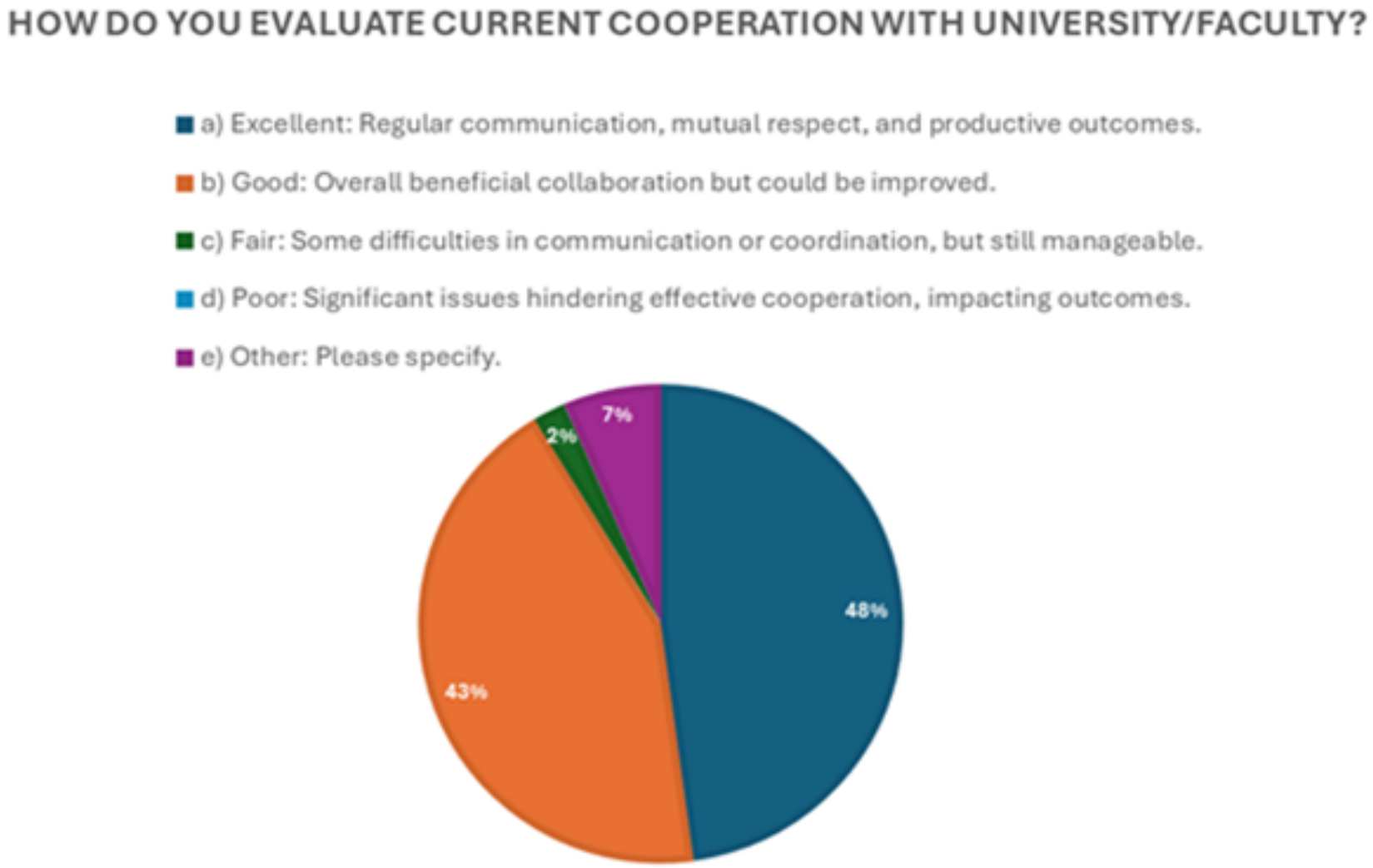

Potencijalne suradnje


iscte
General Assembly Lisbon


Workshop Skopje


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Okrugli stolovi

UNIZAG FSB

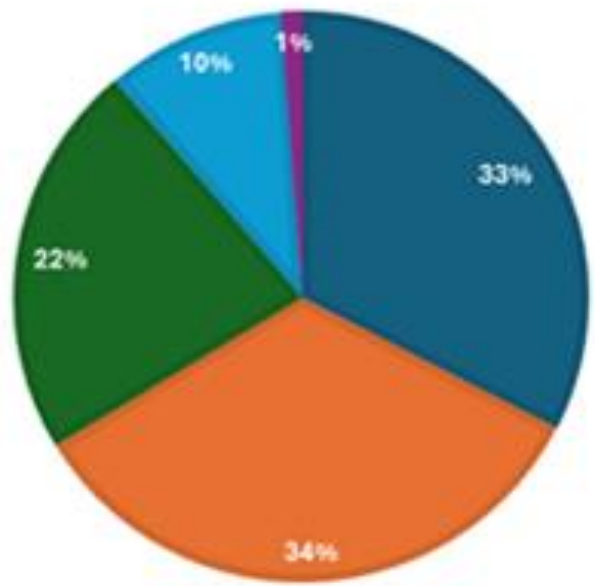


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WHAT STEPS WOULD YOU BE WILLING TO TAKE TO ENHANCE COOPERATION WITH FACULTY/UNIVERSITY?

- a) Regularly attending industry-academic networking events.
- b) Offering internships or mentoring opportunities for students.
- c) Participating in joint research projects or advisory boards.
- d) Providing financial support for specific programs or initiatives and participating as lecturer on the institution.
- e) Other: Please specify.

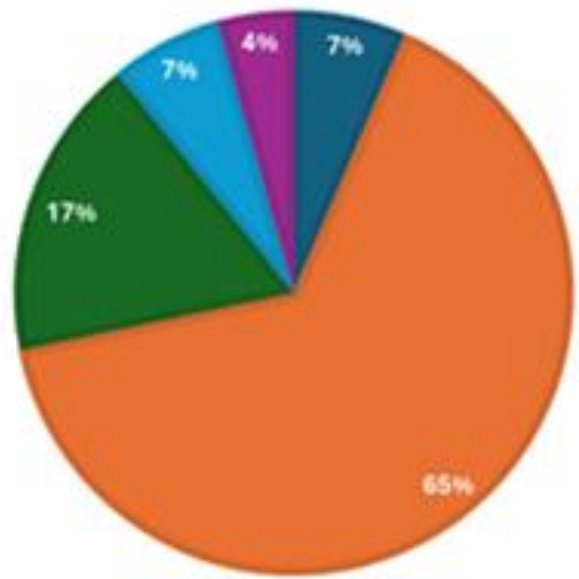


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HOW DO YOU EVALUATE CURRENT STRUCTURE AND PROGRAM OF FACULTY/UNIVERSITY YOU ARE COOPERATING WITH – HOW WELL IS IT ALIGNED WITH THE CURRENT NEEDS OF THE INDUSTRY?

- a) Strong alignment with industry needs, offering relevant courses and research.
- b) Some alignment, but room for improvement in updating curriculum or research focus (more joint projects and cooperations).
- c) Limited alignment, requiring significant restructuring to meet industry demands.
- d) Poor alignment, with curriculum and programs outdated or irrelevant to industry needs.
- e) Other: Please specify.

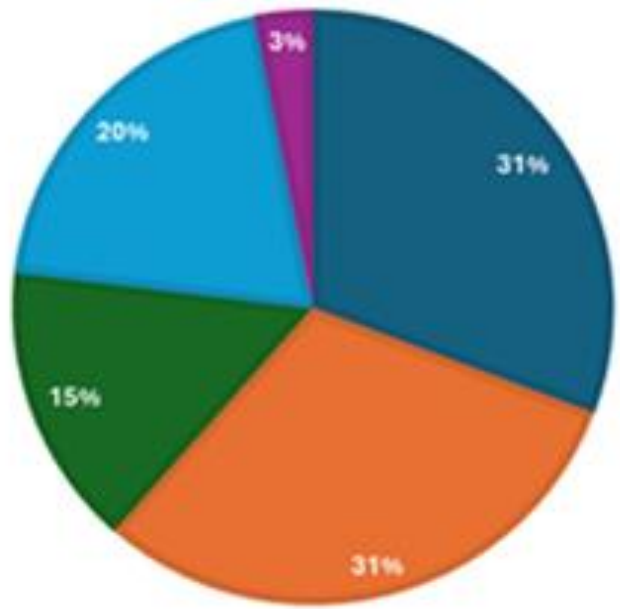


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WHAT ARE THE KEY CHALLENGES IN ESTABLISHING/MAINTAINING SUCCESSFUL COLLABORATION WITH YOUR UNIVERSITY/FACULTY?

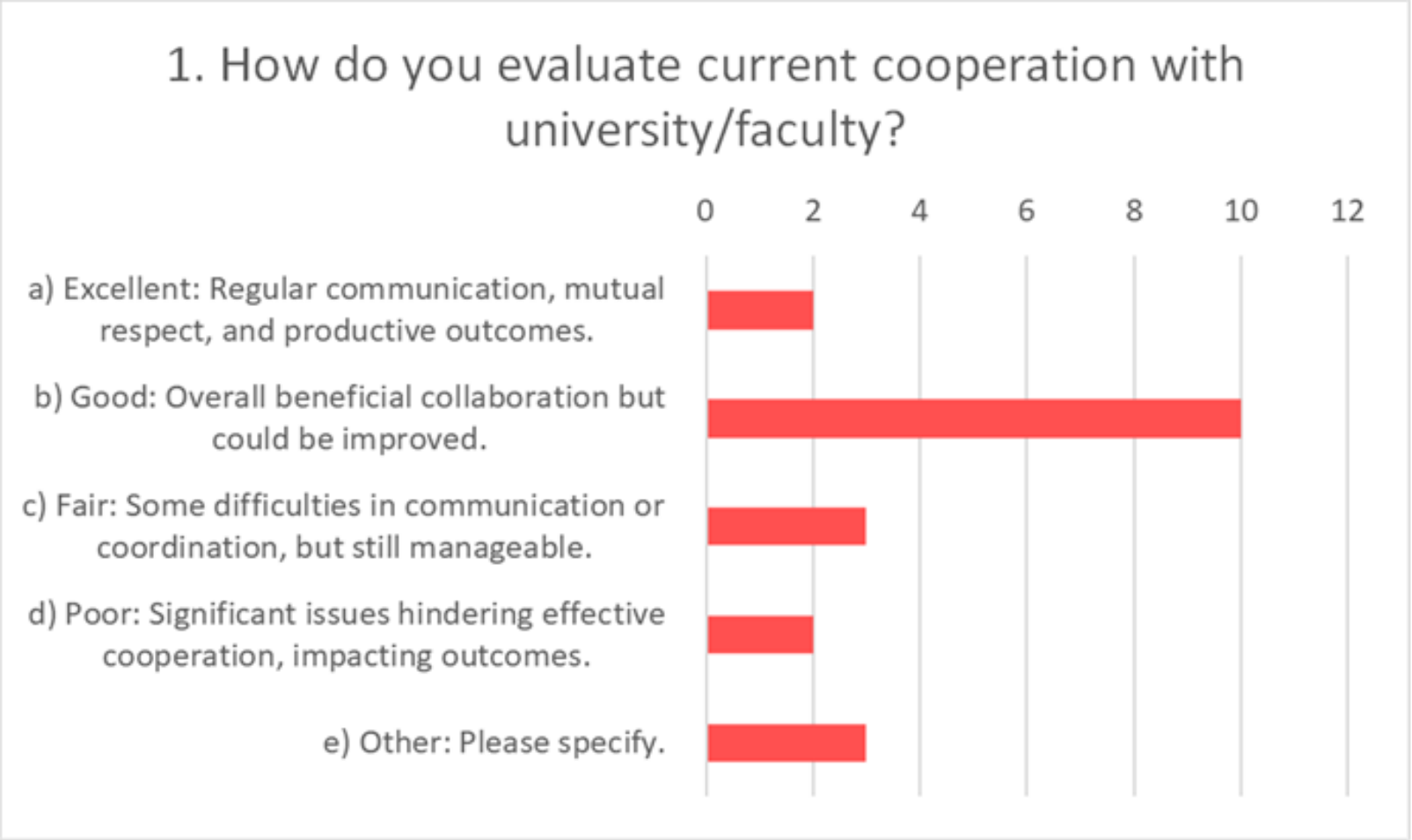
- a) Differences in objectives, priorities and timelines.
- b) Lack of joint events for cooperation.
- c) Lack of clear communication channels.
- d) Lack of funding opportunities.
- e) Other: Please specify.



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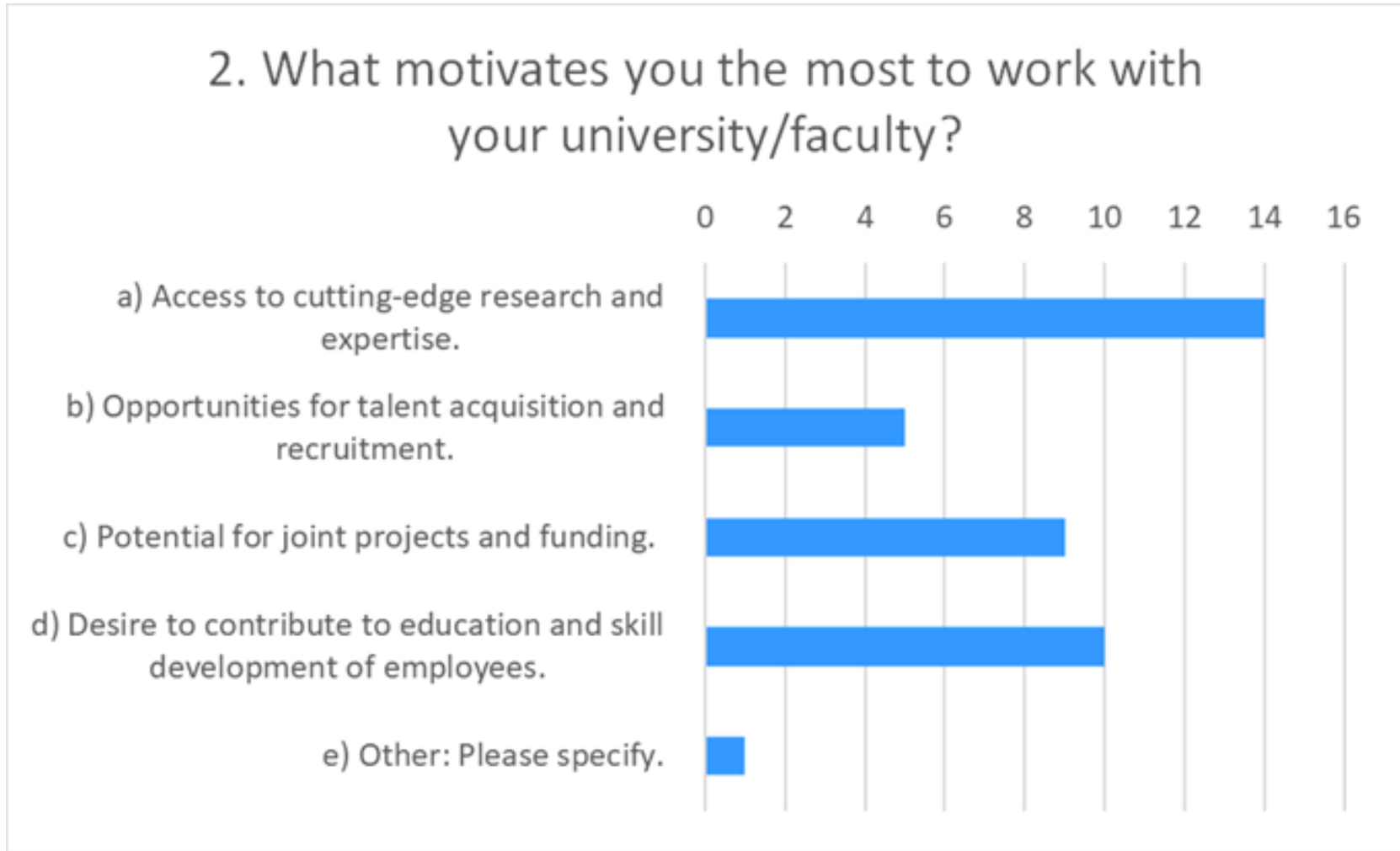
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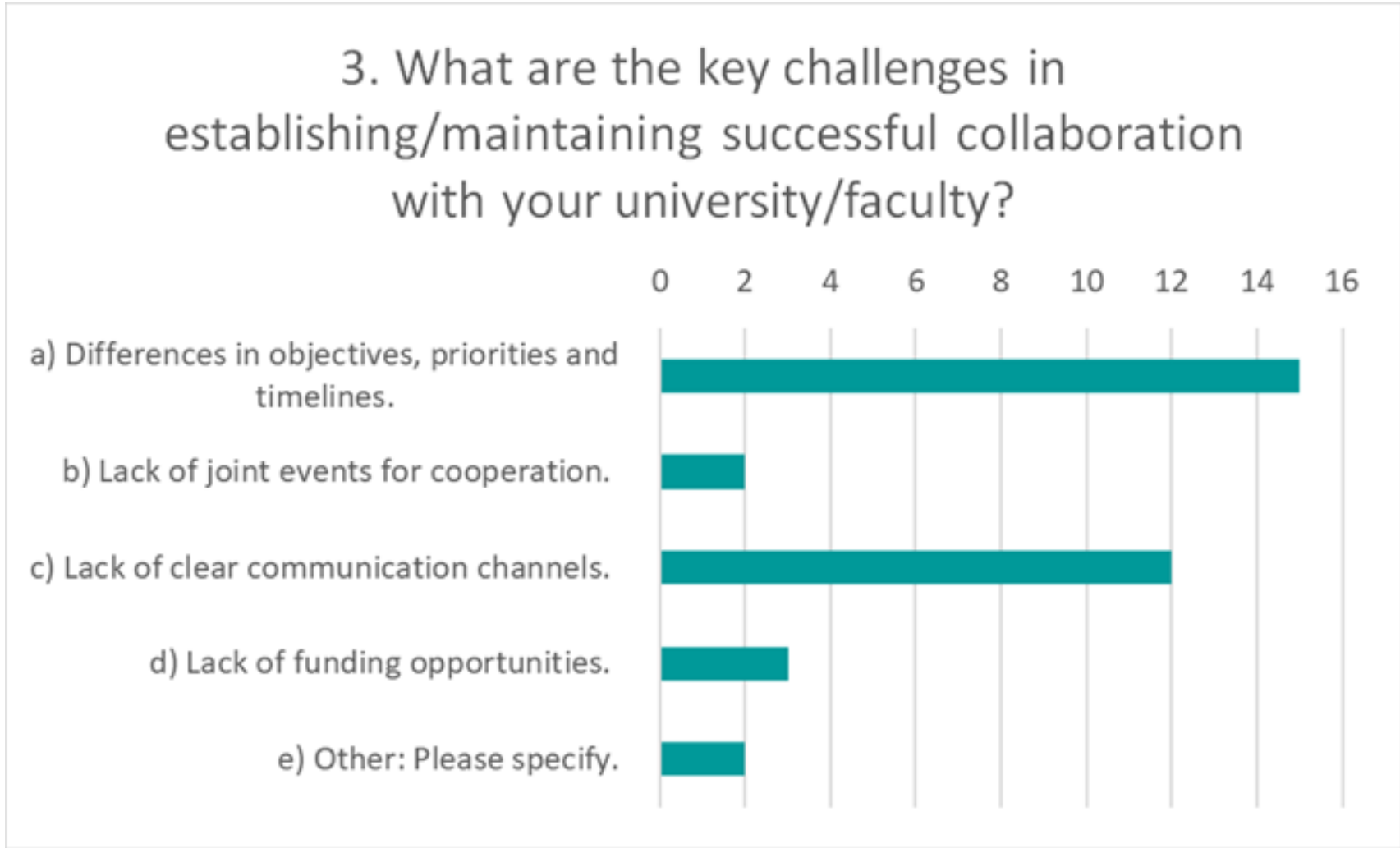
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2. What motivates you the most to work with your university/faculty? (Choose 2 answers)

Answer	Share (%)
a) Access to cutting-edge research and expertise.	30.4
b) Opportunities for talent acquisition and recruitment.	56.5
c) Potential for joint projects and funding.	65.2
d) Desire to contribute to education and skill development of employees.	43.5
e) Other: Please specify.	-

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3. What are the key challenges in establishing/maintaining successful collaboration with your university/faculty? (CHOOSE **2 ANSWERES**)

Answer	**Share (%)**
a) Differences in objectives, priorities and timelines.	47.8
b) Lack of joint events for cooperation.	47.8
c) Lack of clear communication channels.	47.8
d) Lack of funding opportunities.	39.1
e) Other: n/a	4.3

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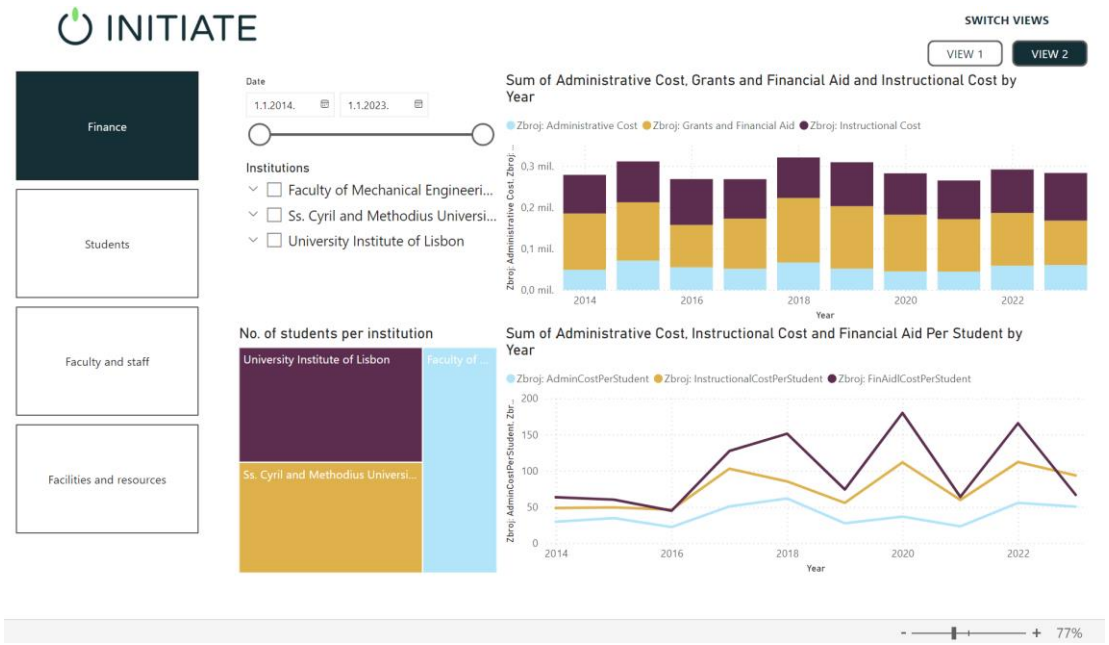
6. How do you evaluate current structure and program of faculty/university you are cooperating with – how well is it aligned with the current needs of the industry? (CHOOSE **1 ANSWER**)

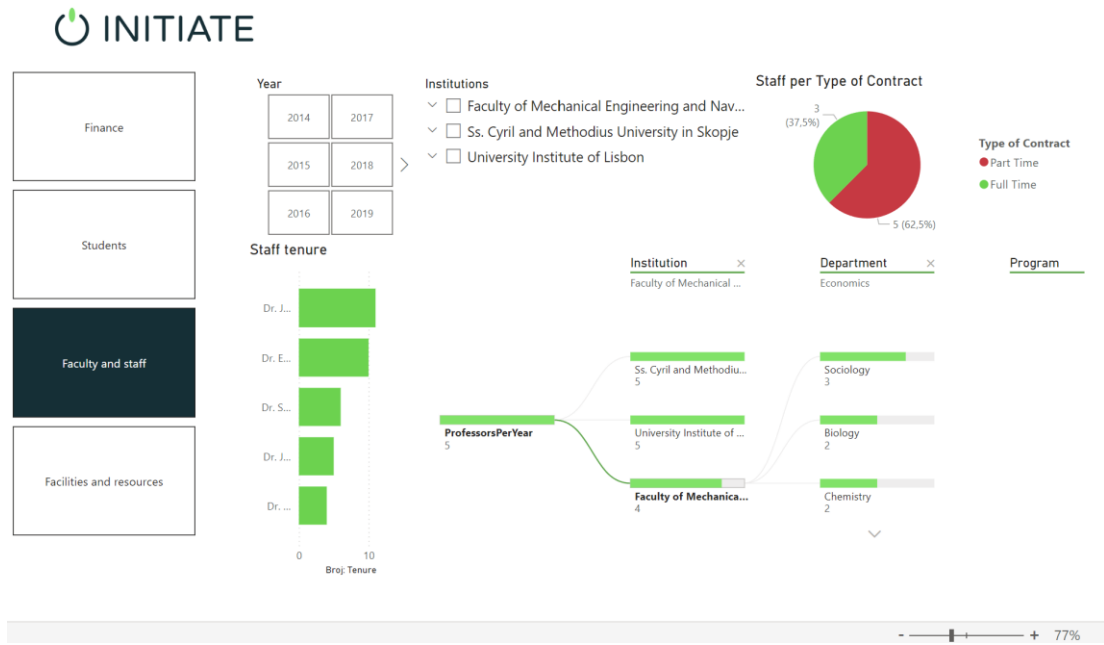
Answer	**Share (%)**
a) Strong alignment with industry needs, offering relevant courses and research.	13.0
b) Some alignment, but room for improvement in updating curriculum or research	60.9
c) Limited alignment, requiring significant restructuring to meet industry demands.	21.7
d) Poor alignment, with curriculum and programs outdated or irrelevant to industry	0.0
e) Other: n/a.	4.4

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Prvih 13 mjeseci

- Napravljeni početni koraci za izradu Knowledge Base-a





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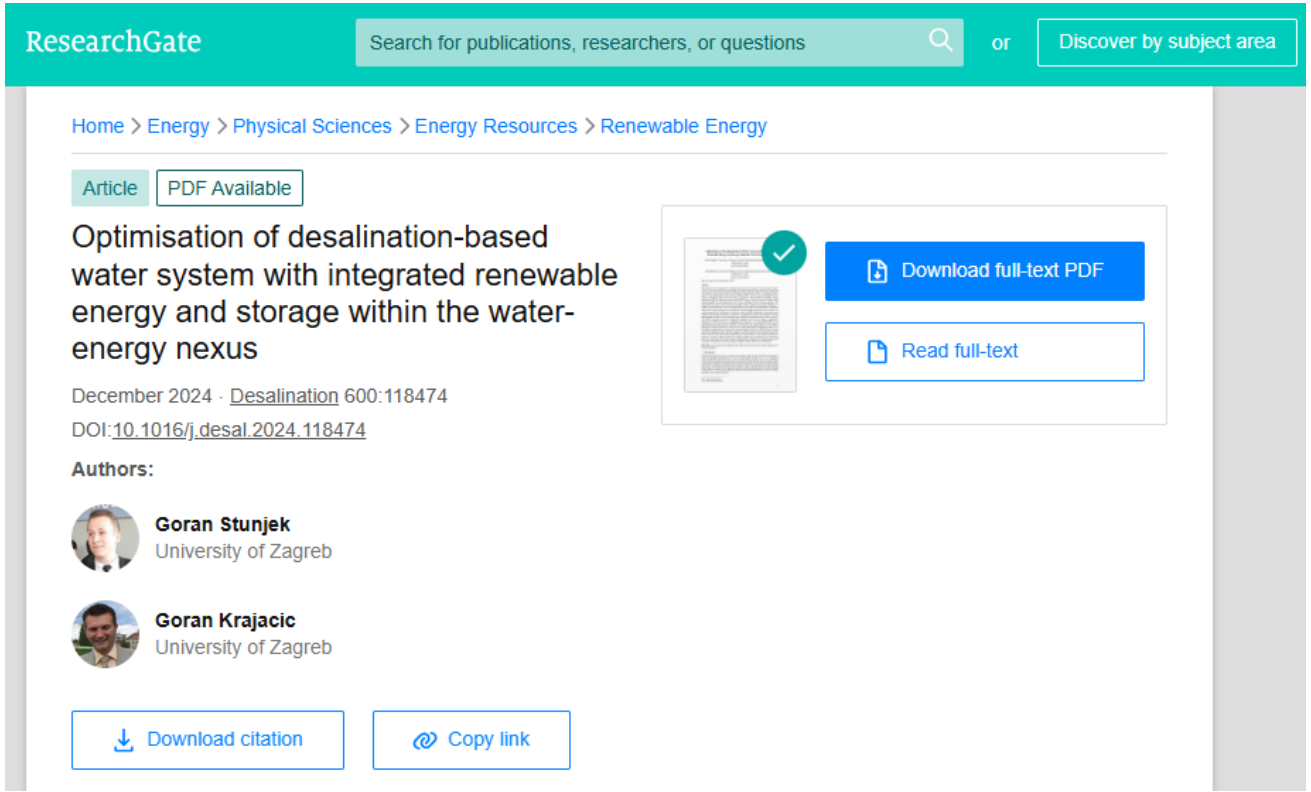
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Prvih 13 mjeseci

- Znanstvene publikacije

FSB University of Zagreb Faculty of Mechanical Engineering and Naval Architecture



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Article | PDF Available

Optimisation of desalination-based water system with integrated renewable energy and storage within the water-energy nexus

December 2024 · Desalination 600:118474

DOI:10.1016/j.desal.2024.118474

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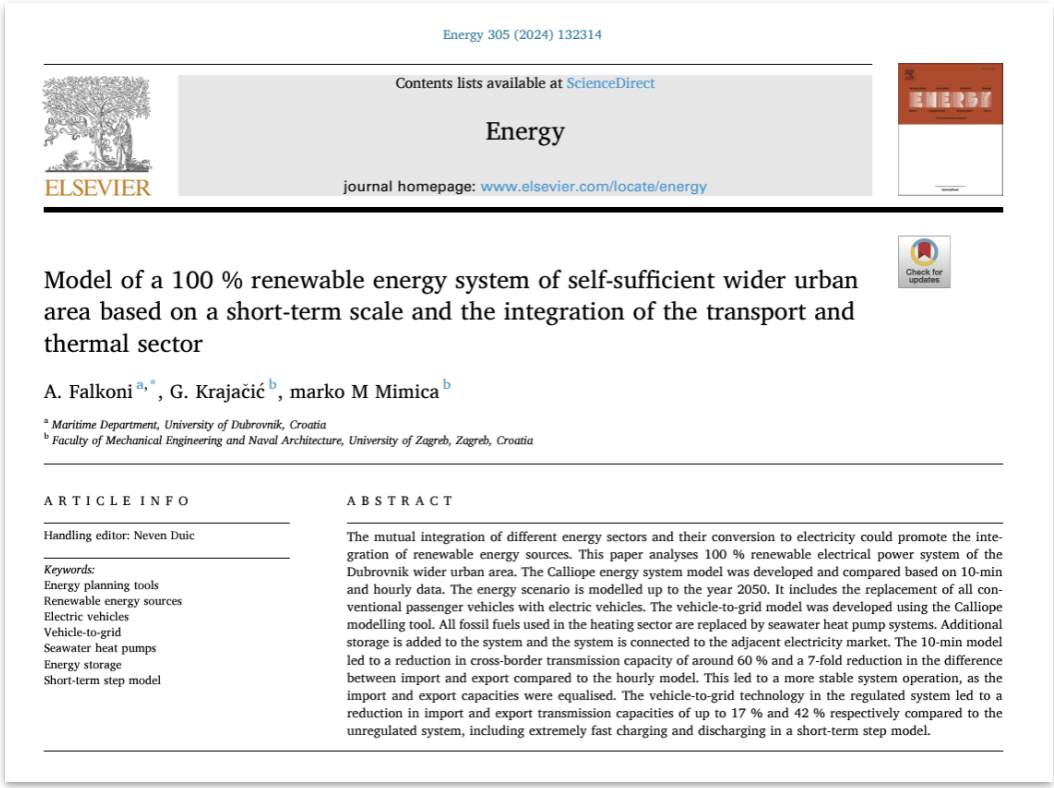
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Energy

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ELSEVIER

Model of a 100 % renewable energy system of self-sufficient wider urban area based on a short-term scale and the integration of the transport and thermal sector

A. Falkoni [a,*], G. Krajačić [b], marko M Mimica [b]

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Vehicle-to-grid
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Energy storage
Short-term step model

ABSTRACT

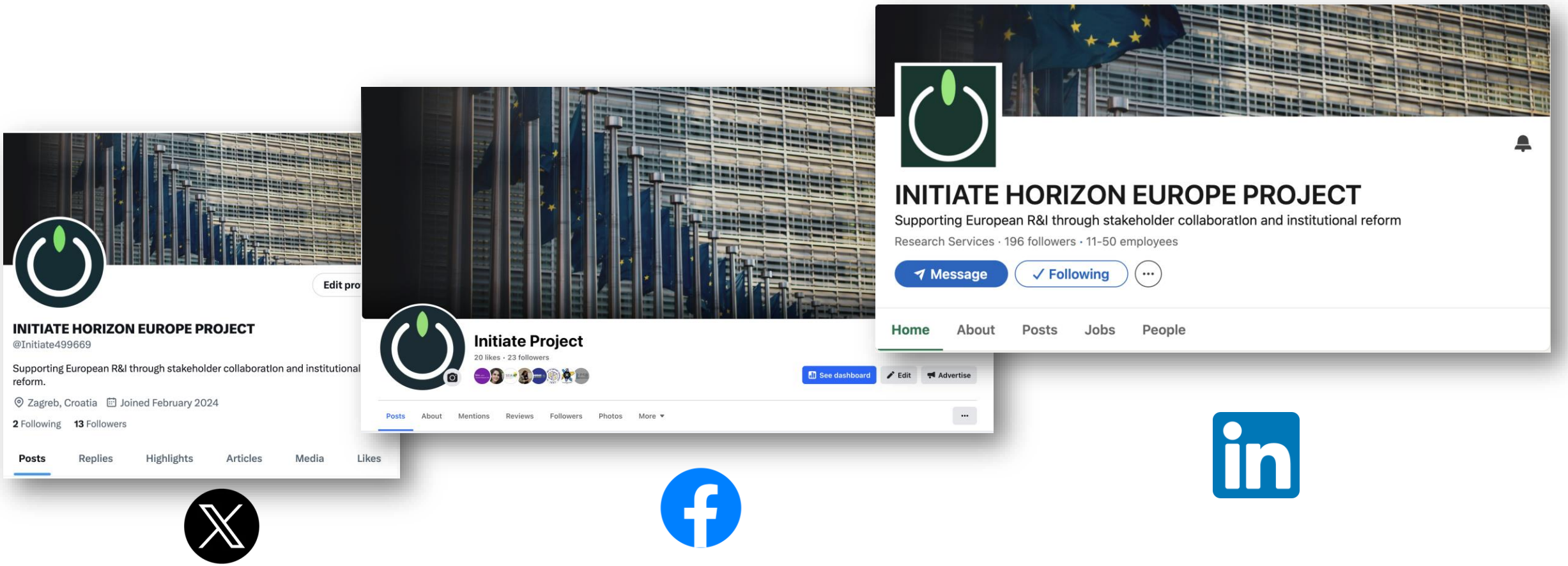
The mutual integration of different energy sectors and their conversion to electricity could promote the integration of renewable energy sources. This paper analyses 100 % renewable electrical power system of the Dubrovnik wider urban area. The Calliope energy system model was developed and compared based on 10-min and hourly data. The energy scenario is modelled up to the year 2050. It includes the replacement of all conventional passenger vehicles with electric vehicles. The vehicle-to-grid model was developed using the Calliope modelling tool. All fossil fuels used in the heating sector are replaced by seawater heat pump systems. Additional storage is added to the system and the system is connected to the adjacent electricity market. The 10-min model led to a reduction in cross-border transmission capacity of around 60 % and a 7-fold reduction in the difference between import and export compared to the hourly model. This led to a more stable system operation, as the import and export capacities were equalised. The vehicle-to-grid technology in the regulated system led to a reduction in import and export transmission capacities of up to 17 % and 42 % respectively compared to the unregulated system, including extremely fast charging and discharging in a short-term step model.

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Društvene mreže



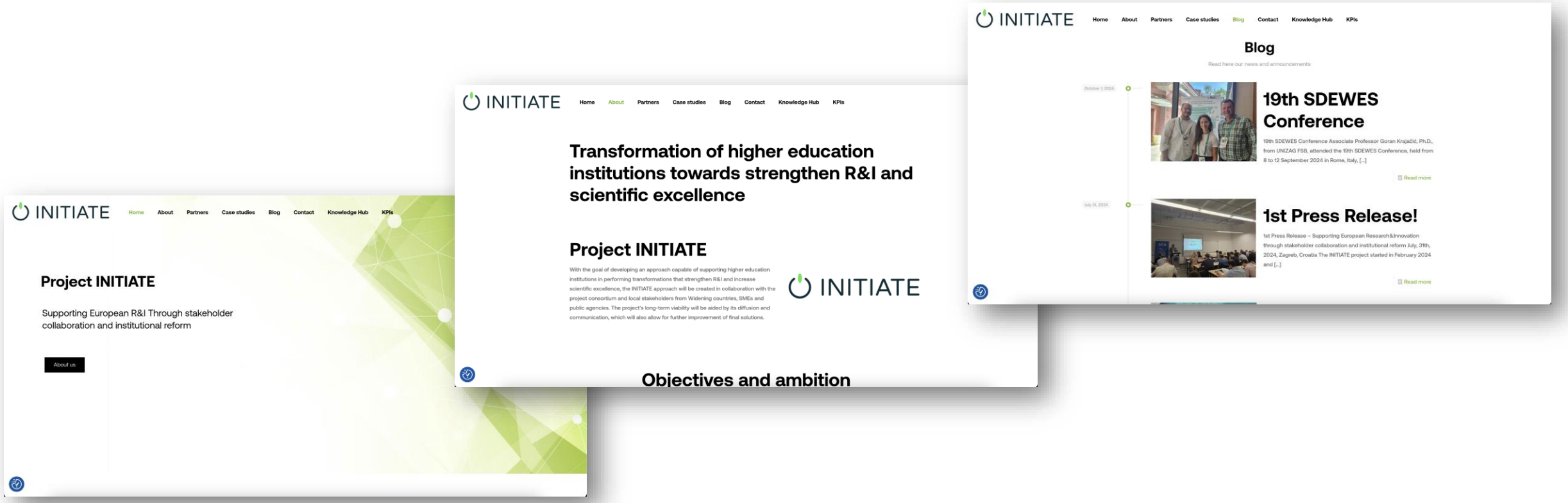
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