Interreg Europe



**Co-funded by** the European Union

### **Building thriving** innovation ecosystems through university-industry collaboration

Skopje, North Macedonia

19 November 2024

Capacity-building event

Follow us on social media: **f y in D O** 





Nicolas Singer Head of Unit - Projects & Platform Interreg Europe



Elena Ferrario Senior Thematic Manager Policy Learning Platform



Co-funded by the European Union

# Welcome!



Marc Pattinson Thematic Expert – Smarter Europe Policy Learning Platform



Arnault Morisson Thematic Expert – Smarter Europe Policy Learning Platform



Vladimir Sestovic Communication and Partnerships Expert Policy Learning Platform

# Jasmina Majstoroska, Ministry of Economy, North Macedonia

The agenda – 11:15-12:30

The good ingredients – part I: governance and funding for university industry collaboration



#### Ivan Popov Executive Director, Executive Agency "programme education", Ministry of Education and Science, Bulgaria.



Balázs Barta Founder, managing director – am-LAB, Hungary – SKALE2CT project The agenda – 14:00-15:15

The good ingredients – part II: placed-based policies, innovation vouchers and competitions for universityindustry collaboration



**Zdeněk Hušek** Ústí Region, Czech Republic – RATIO project



#### Nicola Doppio

Open Innovation Officer at HIT - Hub Innovazione Trentino, Trento, Italy The agenda – <mark>15:45-17:00</mark>

### Policy Design



#### Marc Pattinson Thematic Expert – Smarter Europe Policy Learning Platform

#### Innovation vouchers





Arnault Morisson Thematic Expert – Smarter Europe Policy Learning Platform

#### Hackathons





### The agenda – 17:30-19:00

### Networking cocktails





Interreg Europe



**Co-funded by** the European Union

## Interreg Europe

Policy learning for regional development



**Nicolas Singer** Head of Unit - Projects & Platform Interreg Europe



Elena Ferrario Senior Thematic Manager Policy Learning Platform

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19 November 2024

## Cohesion policy & Interreg programmes

- 4 strands, each strand with its own scope and objectives
- 86 programmes, 10 billion euros ERDF

Α	Cross-border	<b>64</b> programmes EUR 6.7 billion			
В	Transnational	<b>13</b> programmes EUR 2.3 billion		_	MEUR394
С	Interregional	<b>4</b> programmes EUR 560 million	<b>Interreg Europe</b> Urbact, Interact, Espon		PROGRAMME BUDGET
D	Outermost regions	<b>5</b> areas EUR 330 million		_	

### Interreg Europe objective

To improve regional development policies through the identification and transfer of good practices among EU regions

Helps policymakers to find new solutions to their challenges

- Primarily dedicated to **policymakers**
- Focus on exchange of experience



Different from crossborder or transnational cooperation

### Programme area

### **36 Partner States**

All EU27 + Norway and Switzerland

Seven new countries joined in 2024

- Albania
- Bosnia and Herzegovina
- Moldova
- Montenegro
- North Macedonia
- Serbia
- Ukraine



The designations employed and the presentation of material on this map do not imply the expression of any ophion whetever on the part of the European Union concerning the legislations of any country, the trans, and it is authorities, or concerning the delimitation of its transies on bautodaries. Knows: This designation is without predicte to positione or sature and is in life with UNROR 1247/1999 and the IC Jonion on the Costor declaration of independence.

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### Programme scope

### 1 priority on capacity building — All topics of Cohesion policy eligible



### Two actions



### Projects

Limited number of regions exchanging and transferring experience on a shared regional development issue



### Policy Learning Platform

Further exploiting projects' achievements and opening up the programme benefits to all

### Overview of projects approved so far

GREEN

SMART

SOCIAL

CITIZENS

### 150 running projects

- 1,297 partners
- 35 countries represented



### Calls for proposals – state of play

(5 Apı	<b>First call</b> ril – 31 May 2022)	<b>Second call</b> (15 March - 9 June 2023)		
134	project proposals	146	project proposals	
72	approved projects	78	approved projects	
54%	success rate	53%	success rate	
EUR 102 million	Interreg funds allocated	EUR 112 million	Interreg funds allocated	

More than 60% of projects' budget already allocated. Third call closed on 7 June 2024 – evaluation ongoing

### Participation of North Macedonia in projects

## **Three partners** in running projects (after restricted call)

Municipality of Kocani

Foundation for Management and Industrial Research

Center for research and policy making CRPM Skopje



### Participation of North Macedonia in applications

### **29** applicants in the third call (decision end 2024)





Smart Green Social Citizens Governance

## Platform in a nutshell

**Policy-learning** services through access to:

Knowledge Find policy solutions (good practice database, thematic publications)



**People** Meet our **community** (thematic events, webinars)

**Expertise** Get **policy advice** (peer reviews, matchmakings, policy helpdesk)

### The platform team



















곗많 SMART





Laura Varisco





Astrid Severin Magda Michalikov; Thorsten Kohlisch Elena Ferrario Karine Gevorgyan











Mario Vadepied Valentine Dufaye Lotte van Meijel Vladimir Sestovic Antoine Duquennoy

























### The Policy Learning Platform can help



Azores, Portugal



**Research valorisation** 



Entrepreneurial Universities: Key learnings



## Peer learning in practice

- 89 peer reviews implemented since 2019
   15 peer reviews in the pipeline
- ♥ 51 matchmaking sessions

Apply to benefit from expert support any time https://www.interregeurope.eu/get-policy-advice



# Peer review: How to structure Centres of Excellence and Centres of Competence

Ministry of Education and Science, Bulgaria

Peers from: Finland, Belgium, Czech Republic, Lithuania

**Recommendations:** 

- Focus on governance and financial models, and private sector involvement
- Importance of extra-regional knowledge and interregional cooperation

5 Peers 18-19 June 2019

More information available <u>here</u>



# Peer review: Economic diversification in the Hungarian Health Sector

City of Szombathely, Hungary

Peers from: Austria, Italy, Spain, Sweden

#### **Recommendations:**

- Pursue diversification in related health sectors and make strategic bets
- Set up a "hot spot" / establish an "innovation campus" at the teaching hospital





More information available here

# Peer review: New financial instruments to support development of enterprises



Innovation Center Ústí nad Labem, Czech Republic

Peers from: Germany, Hungary, Poland, Spain

Recommendations:

- Know the needs and absorption capacity of clients is crucial
- Piloting can help validate concepts and avoid large failures
- Follow a project-based approach rather than a financial-instrument based approach



SLIDE 26



More information available here

## Regional innovation ecosystems: Interactions

The EU aims to create more connected and efficient innovation ecosystems to support the scaling of companies, encourage innovation and stimulate cooperation among national, regional, and local innovation actors.



### Regional innovation ecosystems: regional innovation scoreboard





Innovation Leaders	1 - 18 of 36 < >
+ Hovedstaden	169.5 🔺 2.5
🗲 Etelä-Suomi	165.0 🔺 6.3
🛑 Oberbayern	164.3 • 1.5
🛟 Stockholm	162.4 🔻 3.5
1 Berlin	160.0 🔺 0.2
🔁 Zürich	155.6 🔻 <mark>0.8</mark>
e Karlsruhe	154.5 🔺 0.2
Didtjylland	152.7 🔺 3.0
🔁 Ticino	150.7 🔹 1
🛟 Västsverige	150.2 🔺 4.8
Nordwestschweiz	148.8 🔻 2.4
Noord-Holland	148.7 🔻 0.3
🜔 Hamburg	148.1 <b>v</b> 0.6
🛟 Sydsverige	147.5 🔻 4.7
Cutrecht	145.3 ▼0.01
🛟 London	142.2 🔻 1.3
Zuid-Holland	142.2 🔺 0.7
😯 Ostschweiz	141.9 🔻 1.8

3.5 ▲ 0.2 • 0.8 Find weaknesses in ▲ 0.2 A 3.0 your regional • 1 innovation A 4.8 ecosystem and • 2.4 design the right • 0.3 • 0.6 policy-mix! • 4.7

Strong Innovators

Moderate Innovators

## Regional Innovation Ecosystems: university-industry collaboration



- Research and Development (R&D) activities are essential for the competitiveness of private companies.
- There is a lack of incentives for private companies to participate in R&D activities.
- There is a lack of absorptive capacity of private companies.
- There is asymmetry of motives between university and industry to collaborate. Universities are primarily driven to create new knowledge and to educate, whereas private firms are focused on economically capturing useful knowledge to gain a competitive advantage.

Financial policy tools	Regulatory policy tools	Soft policy tools
R&D innovation subsidies/grants for industry-science research	IP regulations publicly-funded research	Outreach activities to raise awareness of science-industry opportunities
Tax incentives for companies purchasing research from universities	Regulation of spin-offs founded by researchers & students	Training programs on knowledge collaboration
Grants for IP applications from universities	Sabbaticals & mobility schemes for researchers to work in industry	Collective industry-science roadmapping & foresight
Financial support to academic spin-offs	Career rewards for researchers engaging in knowledge collaboration	Guidelines, standards, & codes of conduct for science-industry collaboration
Financial support to firms to recruit PhDs & post-docs	Open access & open data provisions for publicly-funded research	Networking support to build science- industry linkages
Financial support for universities to host industry researchers		
Public procurement of university research		
Innovation vouchers for R&D services from universities		
Performance-based funding systems for university linkages with industry		
Public-private partnerships creating joint research laboratories		
Funding of infrastructures & intermediaries for collaboration		

### Regional Innovation Ecosystems: research valorisation



**Research valorisation** 



### Building thriving innovation ecosystems Ice-breaking exercise



## Introduction

1/ Find the person

2/ Country, region, organisation, why this workshop?

3/ Present the person

## Nikola Dodov, Fund for Innovation and Technological Development, Director, North Macedonia.

The good ingredients – part I: governance and funding for university industry collaboration



Ivan Popov Executive Director, Executive Agency "programme education", Ministry of Education and Science, Bulgaria.



**Balázs Barta** Founder, managing director – am-LAB, Hungary – SKALE2CT project







### Centers of Excellence and Centers of Competence in Bulgaria



Building thriving innovation ecosystems through university-industry collaboration

Tuesday 19 November 2024, Skopje

Ivan Popov Deputy Executive Director Executive Agency "Program Education", Bulgaria







### **Executive Agency "Program Education" – who we are:**

2007-2013	Intermediate Body Human Resources Development OP (ESF)	€ 436 993 047 (ESF)	€ 1 123 716 386	Trainings for students, teachers, university professors; student practices; educational integration	<ul> <li>Schools</li> <li>Kindergartens</li> <li>Municipalities</li> <li>NGOs</li> <li>Universities</li> </ul>
2014-2020	Managing Authority Science and Education for Smart Growth OP (ERDF & ESF)	€ 686 723 339 (ERDF & ESF)		Establishment and development of Centers of Excellence and Centers of Competence	<ul> <li>Universities</li> <li>Academy of Sciences</li> </ul>
2021-2027	Managing Authority Program Education (ESF+)	€ 964 919 788 (ESF+)		Trainings for students, teachers, university professors, student practices; educational integration	<ul> <li>Schools</li> <li>Kindergartens</li> <li>Municipalities</li> <li>NGOs</li> <li>Universities</li> </ul>
2021-2027	Intermediate Body Program RIDST (ERDF)	€ 268 411 957 (ERDF)	● € 1 945 928 245	Sustainable Development of Centers of Excellence and Centers of Competence	<ul> <li>Universities</li> <li>Academy of Sciences</li> </ul>
2022-2026	RRF Bulgaria	€ 712 596 500 ( <b>RRF</b> )		Investments in educational infrastructure, STEM centers 10 research universities	<ul> <li>Schools</li> <li>Universities</li> <li>Municipalities</li> <li>National STEM Center</li> </ul>






### **Bulgaria on the European Innovation Scoreboard**



#### **Emerging Innovator**

- 46% of the EU Innovation Index average
- Below 70 % of the 2024 EU average
- Underperforms the Emerging Innovators' average
- Improving, but slower than the EU overall
- Behind 7 non-EU
   countries (Switzerland,
   Norway, UK, Iceland,
   Serbia, Turkey,
   Montenegro)
- Second-lowest in the EU

EIS Interactive Tool, 2024,







#### Conditions for creating Centers of Excellence and Centers of Competence in Bulgaria









Б 🖻 Т

Университет

по Библиотекознание

и Информационни

технологии



София, България

ВЕТЕРИНАРНОМЕДИЦИНСКИ ИНСТИТУТ "ПРОФ. Д-Р Г. ПАВЛОВ"



на Министерство на вътрешните работи

УНИВЕРСИТЕТ ПО АРХИТЕКТУРА СТРОИТЕЛСТВО И ГЕОЛЕЗИЯ









23

**Universities** 

Non-

governmental

organizations



СОФИЙСКИ УНИВЕРСИТЕТ -СВ. КЛИМЕНТ ОХРИЛСКИ\*

**Beneficiaries** 



1928 МУЗЕЙ ЗА ИСТОРИЯ НА СОФИЯ

26

Institute a of

the BAS

**Other research** 

organizations

Министерство на здравеопазването Национален център по заразни и паразитни болести Codua SENTAPU









#### **Relevance to the Integrated Strategy for Smart Specialization**

#### Thematic area "Informatics and ICT";

- **CoC:** Digitization of the economy in an environment of Big data **(DEBD)**, University of National and World Economy
- CoC: Establishment and Development of a Center of Competence "Quantum Communication, Intelligent Security Systems and Risk Management" (Quasar), Institute of Robotics - BAS
- CoE: Universities for science, Informatics and technology in society (UNITe), Sofia University "St. Kliment Ohridski"
- **CoE:** Centre of Excellence in Informatics and Information and Communication Technologies, Institute of Information and Communication Technologies BAS
- CoE: Big Data for Smart Society (GATE), Sofia University "St. Kliment Ohridski"

#### Thematic area "Mechatronics and microelectronics";

- **CoC:** Smart Mechatronic, Eco- and Energy Saving Systems and Technologies; Technical University – Gabrovo;
- CoC: Centre of competence HITMOBIL—Technologies and Systems for Generation, Storage and Utilization of Clean Energy; Institute of Electrochemistry and Energy Systems BAS
- CoC: Mechatronics and Clean Technologies (MIRACle); Institute of Mechanics – BAS
- **CoE:** National Centre for clean technology and Mechatronics, Institute of General and Inorganic Chemistry BAS

#### Thematic area "Healthy living industries, bioeconomy and biotechnologies";

- **CoC:** Sustainable utilization of bio-resources and waste of medicinal and aromatic plants for innovative bioactive products, Institute of Organic Chemistry with Centre of Phytochemistry BAS
- CoC: CoC in the field of personalized medicine, 3D and telemedicine, robotic-assisted and minimally invasive surgery, Medical university Pleven
- CoC: Personalized Innovative Medicine Competence Centre (PERIMED), Medical University - Plovdiv
- **CoC:** Fundamental Translational and Clinical Investigations on Infections and Immunity, National Centre of Infectious and Parasitic Diseases;
- **CoE:** Center of Plant Systems Biology and Biotechnology (**PlantaSYST**), Center of Plant Systems Biology and Biotechnology

Thematic area "New technologies in creative and recreationalindustries";

• CoE: Construction and development of the Centre of excellence "Heritage BG", Sofia University "St. Kliment Ohridski"

#### Thematic area "Clean technologies, circular and low carbon economy".

 CoC: Clean technologies for sustainable environment – water, waste, energy for circular economy (Clean&Circle), Sofia University "St. Kliment Ohridski"





business



#### **CoC & CoE results and outputs**



$\checkmark$	Total number of <b>scientific publications</b> , incl .:	2817			
	Q1 637 Q2 360 Q3 173 Q4 513				
$\checkmark$	Publications in the top 10% of the most cited:	72			
$\checkmark$	Number of <b>patents,</b> incl. requests:	<u>70</u>			
$\checkmark$	Number of <b>useful models</b> , incl. requests	<u>41</u>			
<ul> <li>✓ Number of young scientists up to 34 years old who participate in research and development activities in the center (in EPRV)</li> <li><u>180</u></li> </ul>					
$\checkmark$	Number of leading national researchers	272			
$\checkmark$	Number of leading international researchers	<u>86</u>			
$\checkmark$	✓ Number of doctoral students, postdoctoral students				
and	d specialists in ISIS thematic areas (in EPRV)	<u>161</u>			
✓	Number of attracted scientists from other countries were employed in foreign scientific organizations	and/or Bulgarian scientists who <u>37</u>			
✓	Number of <b>scientists trained</b> through transnational cooperation	mobility and international			
$\checkmark$	Joint research projects developed between the centers (CVP and Central Committee) and				

257







#### JRC Strategic Evaluation of Bulgarian CoEs and CoCs (2021)

**Conclusion:** 



**Recommendation:** 

Development of a **Vision** and a **Strategy** for the post 2023 period with a **Business Plan** that should contain the following elements:

CoEs and CoCs – strongly focused on scientific research excellence and less so on commercialization, market orientation, innovation capacity-building, or selfsustainability.

**Technology transfer** activity is still relatively **limited** 

Analysis of the opportunities of the market (national and international)

Identification of national and international business partners, and national and international R&D support programs

Identification of international collaborators for R&D and technology development

Detailed organizational and governance reporting structures

Mix of income sources and their evolution whilst the center matures

Presentation of a detailed roadmap towards institutional, scientific, and financial sustainability









#### **TAIEX-REGIO PEER 2 PEER support**

**1.** Workshop on exchange of experience between the Central Project Management Agency of Lithuania, the Managing Authority of the OP "Science and Education for Smart Growth" and the project managers for the construction and development of Centers of Excellence and Competence Centers April 17, 2019





2. Workshop with experts from the Czech Republic on the topic "Commercialization and internationalization of the results of the projects for centers of excellence and centers of competence" November 12-13, 2020









#### **Support under the Interreg Europe**





1. Working visit of experts in the field of scientific research and innovation from Belgium, Lithuania, Finland, France and the Czech Republic to provide support to the management teams of the Centers of Excellence and Competence Centers based on the existing experience in the other European regions - June 18 - 19, 2019

2. Partnership meeting with experts in the field of technology transfer from the Czech Republic, the Netherlands, Spain and Finland in relation to policies and activities for the transfer of knowledge and technology and the use of research infrastructure based on the existing experience in other European regions - 14 - 15 December 2021 Mr.













JASPERS: Review and advice on the preparation of Development and Sustainability Programs with Business Plans (DSPBP) for the CoEs and CoCs in Bulgaria









#### Support from the European Regional and Development Fund









#### Performance based funding of CoE & CoC 2021-2027

**1. Direct staff costs** 

2. A flat rate of 40 % of eligible direct staff costs to cover the remaining eligible costs

Unit costs per month – Researchers R1-R4, Administrative Director, Innovation professionals

**1. Check – conditions for reimbursement of the unit cost** (full-time or part-time employment contract, 1-page report)













+

ълчедоъм





#### ЛЕГЕНДА

✓		Информатика и ИКТ	Брой: 8	Сума: 75 214 972 лв.
✓	P	Мехатроника и микроелектроника	Брой: 30	Сума: 114 770 777 лв.
✓	9	Индустрия за здравословен живот, биоикономика и биотехнологии	Брой: 18	Сума: 111 010 909 лв.
✓	۲	Нови технологии в креативни и рекреативни индустрии	Брой: 13	Сума: 12 496 428 лв.
✓	Ó	Чисти технологии, кръгова и нисковъглеродна икономика	Брой: 8	Сума: 18 340 208 лв.









### Ivan Popov

### Deputy Executive Director Executive Agency "Program Education"

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http://opnoir.bg

# Working groups

Discuss with your colleagues at your table:

 What are the main challenges to establishing a center of competence in your region,

and

what is the policy rationale for pursuing such an initiative?

## Summarise 2 takeaways



Ivan Popov

Executive Director, Executive Agency "programme education", Ministry of Education and Science, Bulgaria.





### How to finance research and innovation infrastructures?

Pannon Business Network - Hungary





Mission Statement

Pannon Business Network is a center for applied research and training to catalyze added value manufacturing and digital care solutions, by liaising industry and academia, enabling digital, sustainable, resilient business transformation.



## Key Achievements on the Road



### 500+

international partners

11

partner universities

500m<sup>2</sup>

laboratory space

### 110+

European research & cooperation projects

36

full time engineers, economists, social scientists

30+

digitalization applications developed

### 150+

serviced business customer

**No 1.** DIH in EU in 2020 by

DIH in EU in 2020 by DIHNet consortium

## 1.000+

Citizens, SMEs trained on digitalization annually









#### Technological key competence – 2018-2021 Data access and visualization Segmentation/classification AI algorithms Spicke ( Data Science advanced **Collaborative robotics** 3Dprinting Mobile robotics Avanced Added Value Spoke 1 Spoke 3 Robotics 3D Tech Manufacturing 3Dscanning Drones Prototype development Industrial robotics voanneed treatment Spoke # Extended Reality 3D animation AR applications Maintenance and Service functions







### Technological key competence – 2022-2023











## What do we do in Manufacturing – 2023-2024

#### Data to Knowledge

#### **Data-display**

Real-time, direct information in AR

### **Analytics**

Anomaly detection in large datasets

### **MI stock**

Flexible optimization of stock level

### AR

Augmented reality for knowledge database

### Grey to Green

### Zero waste

Recycling module design, operation

### Solar energy

Solar panel, batter operated system

### Al-on-the-edge

Local solution with green application

### Smooth Operator

### Distributed

Integration of physically distant plants

#### **Robotics**

Customized gripper with complex application

#### **Quality Control**

Neural network-based image recognition

### Mini Me

### Digital mR Twin

Digital clone with remote operation

### **Digital Twin Platform**

Open-source framework for fast customization

### Controlling

Real-time financial monitoring









## Senior Product Demo and Test Environment – 2021-2023

### Multidevice

50 digital applications included with latest technology

### Accredited

Only Hungarian Accredited Health Reference Site

### Connected

34 seniors in their own private households

















### Industry5.0 Devices for Emotion Detection

Facial Monitoring Breathing Monitoring EEG Monitoring











## Financing

### **Challenges**

Zero fix income Fluctuation of projects "Copycats" – innovation in verbality Dependance on projects

### **Opportunities**

Independence Strategic approach due to 3-year perspective Contract with 11 universities Multifund funding Constantly new impulses – ahead of others

#### Numbe of Projects and Staff members



No of Projects Avg. Staff









### **Interreg Europe**

- Learning from all over Europe about cooperation with policy owners
- Cohesion building opportunity with local/national policy makers
- Possibility to pilot individual actions to support policy change

#### Further connected cooperations



Novel methods improving production innovation potential with examples of senior care-related solutions



Strengthening the availability and processing of Open Data



Supporting digital transformation & cooperation between DIHs, adapting international good practices at local level



Development of Local Ecosystems & Creation of Local Hubs – "Unicorn Forests" – to Retain Promising Companies in the Region



Management and recycling of biowaste in the agri-food and forestry sector



Waste management in the construction sector



Co-funded by the European Union

#### SKALE2CT

<u>Scope</u>

Enhance resources of public & intermediary organizations to improve Business Acceleration providers and services, in particular it comes to scale-up phase.

#### Good Practice Example

,Tarmac Incubator' from Grenoble to provide early-stage financing for start-ups

,Call INNOV-ID – Early-stage VC investment' from Portugal to support financially spin-offs and early-stage startups

#### Policy instruments

Focusing on scaling-up services with I4.0 and AI component







### **Active Assisted Living Programme**

- Healthy ageing projects
- Tangible pilots, like MCI application

### **EIT programme**

- Multiple thematic units manufacturing, digital, health, water, climate, urban mobility, creative industries
- Operational, company-oriented projects, in a 1-year implementation phase, with international partners



Stimulating innovation, in particular by linking research, business and education



Vertical integration between Teaching and Learning Factories and related training materials



Digital twin development and related training materials; Open call for manufacturing companies



Modular training program in the field of advanced metal forming processes







### **Interreg Danube**

- Thematic priorities for macro-regional know-how transfer
- Important of Danube Strategy, as a framework for developing ideas and partnerships









### **Interreg Central Europe**

- Macro-regional cooperation
- Vienna-led programme
- Intermediate between policy focus on Interreg Europe and operative cross-border programmes









### **Interreg Cross-Border**

- Operational projects, for us mostly in Austria-Hungary
- Actions like cross-border DIH with joint service portfolio
- Currently aiming at cross-border research center

### Horizon and FP10 programme

- Cooperation with the most advanced technological leaders in Europe
- Cascade funding tool is essential for company implementation
- Highly competitive



Enabling competitive AI-at-the-Edge digital transformation of Industry 5.0 Manufacturing SMEs. 2 rounds of open call for SMEs



Using creative pedagogical tools at different levels of education to develop skills in an interdisciplinary way



Supporting European SMEs in the uptake of Artificial Intelligence applied to manufacturing, with a specific focus on the use of AI-enabled applications at the edge







### **Erasmus**

- Key for universities and training organizations
- Also import tool for intermediary and RTOs



Development of a curriculum and digital platform on circular design for students and teachers in the VET system



Developing skills in Intellectual Property Rights open data for sustainability and circularity

### UNIDO

- Development programmes coordinated by the UN in Vienna
- Both as service provider and beneficiary position
- Low level of Central and Eastern European involvement

### **World Bank**

- Opportunity both as supplier and beneficiary

### **Private Foundations**

- Dominantly German, Swiss and Nordic countries







### **Dual Education**

- Both undergraduate and graduate
- 2 years scholarships, with fixed salary

### **Thesis Writing**

- Development programmes coordinated by the UN in Vienna
- Both as service provider and beneficiary position
- Low level of Central and Eastern European involvement

### **Practice Location**

- 4 weeks to 6 months periods
- Scholarships paid to students

### **Case Study Partnership**

4-6 months with dedicated thematic areas

### PhD programmes

- 3 months to 3 years
- Joint research fields



t University of Technology and Ed





FITF

EÖTVÖS LORÁND

UNIVERSITY



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Pannon Egyetem University of Pannonia	









**NIVERSITY OF** NOTRE DAME









## University Partnerships

## Innovation Vouchers

### Concept

Objective to introduce new technologies, solutions or market access Companies and/or RTOs apply together for dedicated applied development Short term projects with quick funding schemes

### Experience

First one in 2010 in Central Europe programme – Centrope\_TT keep.eu/projects/5487/Tools-for-Transnational-Inno-EN/

- SME innovation support across the borders

Recent one in Austria-Hungary in 2019 – IMPROVE! <a href="https://www.interreg-athu.eu/en/improve/">https://www.interreg-athu.eu/en/improve/</a>

- Joint digital services for companies from the border region like new CGI commercial, 3Dprinted test bodies Current one in Central Europe programme – <u>RehAllianCE https://www.interreg-central.eu/projects/rehalliance/</u>
- Testing new products and services in the rehabilitation area









## Start-up Ecosystem

### **Concept based on experience**

Identify potential collaborators from the quadruple helix members Define common goals, elaborate together, sign up for the joint implementation Build a broad partnership around, with citizen involvement Always communicate Importance of the Ambassador/Change Agent Focus on low hanging fruits Be patient and persistent over time Focus on niche, due to lack of economies of scale













## Thank you for your attention.

### <u>www.pbn.hu</u> <u>www.am-lab.hu</u> <u>www.at-home.hu</u>









# Working groups

Discuss with your colleagues at your table:

What are the main challenges for funding innovation infrastructures,

and

what is the policy rationale for pursuing such an initiative?

## Summarise 2 takeaways



**Balázs Barta** Founder, managing director – am-LAB, Hungary – SKALE2CT project


The good ingredients – part II: placed-based policies, innovation vouchers and competitions for universityindustry collaboration



**Zdeněk Hušek** Ústí Region, Czech Republic – RATIO project



#### Nicola Doppio

Open Innovation Officer at HIT - Hub-Innovazione Trentino, Trento, Italy



## Innovation Vouchers for university-industry collaboration

**Zdeněk Hušek** 19.11.2024

## Zdenek Hušek, Usti region

Regional Innovation strategy (RIS3) manager, Usti region authority

Team leader Smart Accelerator (RIS3 implementation) – Innovation centre Usti region

Industrial transformation (chemistry, energy, automotive) 800 000 inhabitants Challnge in lack of high skilled





## **Industry needs – EBN analysis**

- Access to finance, 85 % of incubator tenants
- Company acceleration, 69 %
- Access to markets (especially B2B), 65 %
- Internationalization (access to foreign market), 63 %
- Access to open innovations (Universities),56 %
- HR services, 55 %
- Cooperation with corporates, 55 %



**Innovation Network** 



## **Innovation vouchers - design**

Description: small grant for business development, digitization, product development, testing,

Scale: 20 th. EUR, 40 th.EUR innovations

Resources: Just Transition Funds/regional

Provider: Regional authority

Target: leveraging of cooperation in future (bigger!) projects!



## **Innovation vouchers – design recommendations**

>Voucher must be part of ecosystem, not isolated action!

- There must be some ecosystem orchestrator (Innovation agency, technology transfer centre) who promote vouchers in "context".
- >Active selling! Promotion, marketing, key account management
- >Also voucher is an innovation (early adopters' approach).
- >Simple evaluation!
- >Impact evaluation (World bank)



## **Innovation ecosystem model – role of vouchers?**



## Financing "one stop shop"! Role of vouchers

- RaD Grants (national and European level)
- Technology incubation (Czechinvest), startup grant
- Soft loans (10year, 0 % interest rate),
  - National Development Bank/JTF
- Semiprivate capital (equity funds co funded by EIB/EIF)
- Private capital (venture capital, corporates,

business angels)









## **New initiative/vouchers**

- Proof of concept grant (pre seed financing for RaD and spin offs), technical and market evaluation of promising technology.
- Scholarships for startups and spinoffs founders (students, PhD, academic staff, start uppers), one year, before company founding.







## **Policy recommendations**



- Combination of grants and returnable financial tools
- Combination of resources (one stop shop approach)
- Covering different stages in company life (pre seed, seed, growth, A and B level of financing)
- Covering different level in Innovation process (TRL technology readiness level)









## **Usti region – open for new challenges!**





European Commission

#### husek@icuk.cz, www.icuk.cz



## Working groups

Discuss with your colleagues at your table:

 What are the main challenges for having innovation youchers in your region,

and

what is the policy rationale for pursuing such an initiative?

## Summarise 2 takeaways



Zdeněk Hušek Ústí Region, Czech Republic – RATIO project





#### Challenge competitions for universityindustry collaboration

Nicola Doppio Skopje, 19 November 2024

WWW.TRENTINOINNOVATION.EU

#### Fostering innovation via tech & knowledge transfer





- Ranked 1<sup>st</sup> in the Censis ranking 2024-2025 in the category of medium sized universities
- Ranked 1<sup>st</sup> for the quality of scientific outputs in its category by ANVUR Research Quality Assessment (VQR)
- Worldwide ranking 198 (Times Higher Education 2016)



- Local economic development agency
- 6 incubators
- 120.000 m3 of spaces



- Over 350 researchers
- 3 scientific & tech areas: ICT, Materials & Microsystems, Theoretical Physics
- Excellence in data analytics, semantics, cybersecurity, graphene



- Combining together research, training, experimentation, consultancy and services in the environment and agri-food sectors
- FEM ranking in Italy #1 Chemistry, #1 Agriculture, #4 Biology
- Full genome sequences: grape, apple, strawberry, small fruits; olive, citrus (ongoing)





#### **Action** areas



1. TECH TRANSFER & OPEN INNOVATION

#### 2. NEW BUSINESS CREATION

#### **3. INNOVATION ECOSYSTEMS**























#### **Innovation prizes**







مؤسسة دبي للمستقبل DUBAI FUTURE FOUNDATION



#### **Innovation Challenge**





User-centered design



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### **Final events**









# Industrial AI Challenge

Artificial intelligence applied to industrial challenges

#### **APPLY BY 19 SEPTEMBER h 12.00**









Predicting inflow of rainwater in water treatment plants allows to switch off oxygenator machineries



Adapted **DMLC XGBoost** model integrating plant sensor data with weather data (4-year time series)



Reduction of operating costs of oxigenators



#### **Available formats**



Improvement and innovation of the User Experience with Design Thinking and User-Centered Design methods



Process optimization and resolution of industrial challenges with Management Engineering methods



Topological and structural optimization and mechanical redesign to maximize the benefits of Additive Manufacturing



Development of PoC – Proof of Concept plans for biotechnological solutions for the biomedical sector



Development of data science and Artificial Intelligence solutions to industrial challenges



Creation of technological solutions and PoC – Proof of Concept for Vascular Surgery



Data science and Artificial Intelligence solutions to challenges form Public Administrations



Resolution of industrial challenges with applied and experimental physics methods



#### **100+ supported companies and PAs**





#### **Challenge impact**



50% need follow-up support



### **Innovation Challenge Design Canvas**







www.innochallenge-project.eu



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 804454





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Nicola Doppio Open Innovation Officer at HIT -Hub Innovazione Trentino, Trento, Italy



## Policy Design



#### Marc Pattinson Thematic Expert – Smarter Europe Policy Learning Platform

#### Innovation vouchers





Arnault Morisson Thematic Expert – Smarter Europe Policy Learning Platform

#### Hackathons





## What are Innovation Vouchers?



**Innovation vouchers** are small lines of credit (usually ranging from €2,000 to €20,000) provided by regional or national governments to Small- and Medium-sized Enterprises (SMEs) to purchase services from knowledge providers such as universities, research centres, or consulting firms with a view to introducing new products, processes, or services in their business operations.

#### Innovation vouchers have three main objectives:

- To stimulate the introduction of product, process, organisational or service innovation in SMEs,
- To promote university-industry collaboration and stimulate knowledge transfer.
- To foster the formation of networks between SMEs and other academic, research and private partners.

Voucher schemes: implementing innovation vouchers

## The main stages of an innovation voucher



SLIDE 105



## What are hackathons and challenge prizes?



SLIDE 106

Hackathons (short-term) and/or inducement prizes are flexible policy tools that can engage a broad audience and diverse groups of actors and sponsors to deliver solutions to challenges thanks to its low barriers of entry. The main objectives of innovation inducement prizes are to orient research efforts and to incentivize the creation of a desired technology.

Policymakers can introduce innovation inducement prizes or hackathons with a **challenge-oriented approach to solve regional societal challenges.** 

Innovation Inducement Prizes: small steps to transformative changes

## Amsterdam startup in residence





SLIDE 107

# How to design hackathons and challenge prizes?



- Hackathons and challenge prizes must be carefully designed not only to identify the **regional challenge and to attract the most competent solvers** but also to answer questions such as:
- selecting co-sponsors,
- defining the eligibility of participants,
- creating the competition's rules,
- defining participant's rights such as regarding intellectual property right issues,
- setting the awards and their criteria,
- and finding ways to capture the imagination of the public.
## The Innovation Challenge Design Canvas

Challenge Name







**Co-funded by** the European Union

# Next steps with Interreg Europe



Marc Pattinson Thematic Expert -Smarter Europe **Policy Learning Platform** 



Arnault Morisson Thematic Expert -Smarter Europe **Policy Learning Platform** 

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# Many thanks!



Zdeněk Hušek Ústí Region, Czech Republic – RATIO project



**Ivan Popov** Executive Director, Executive Agency "programme education", Ministry of Education and Science, Bulgaria.



### Nicola Doppio

Open Innovation Officer at HIT - Hub Innovazione Trentino, Trento, Italy



### **Balázs Barta** Founder, managing director – am-LAB, Hungary – SKALE2CT project



• Policy advice services from our thematic experts







**Peer reviews** In-dept analysis and peer recommendations

# Matchmakings

Solutions on how to resolve a policy challenge

Policy helpdesk Ideas on how to resolve

a policy challenge

https://www.interregeurope.eu/get-policy-advice

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28 March 2024 | By Platform



#### Digital transformation of public services

This policy brief provides a general overview of the most relevant initiatives, regulations, and strategies of the European Union, which are shaping Europe's digital future.

Read the policy brief

WEBINAR

#### GovTech and digitalising the public sector

On Wednesday 23 November 2022, the Policy Learning Platform held a webinar on the topic of GovTech and the digitalisation of the public sector. Watch the recording and access the presentations.

#### Read more

POLICY BRIEF

#### Digital innovation hubs and demonstrators

Explore this policy brief to learn about digital innovation hubs and how they can foster competitiveness and contribute to a sustainable and digital Europe.

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Mobile app

12 July 2023 · Liepāja, Latvia





**Open Data: Spotlight on Veneto** Region

Read more

14 May 2024 | By Platform

In the digital age strategies, the importance of open data has increasingly come to the forefront of policymaking, recognising its potential to drive innovation, stimulate this service economic growth, and

Liepaia City citizens can follow public transport Regional policymakers are creating open on the interactive map in the Liepaja City innovation platforms to harness regional mobile app. Open GPS data have been used for knowledge and strengthen innovation.

Read more

GPS open data in Liepaja City



#### AI for local authorities and policymakers: Key learnings

On 7 November 2023, the Policy Learning Platform hosted a webinar on the topic of AI for local authorities and policymakers. Access the recording, presentations and the key learnings here.

#### Watch the recording

13 November 2023 | By Platform



#### **Embracing the future: The EU AI** Act

With the recent adoption of the EU AI Act, the European Union has taken a monumental step towards shaping the future of our continent. Read how local authorities can use it as a powerful tool.

Read more

20 February 2024 | By Platform

## SLIDE 114

**NEW** 

### https://www.interregeurope.eu/collections/digitalisation-in-the-public-sector

24 November 2022

Read more

Operationalising the Concept o

Open Innovation with Open...

# Feedback survey



https://www.surveymonkey.com/r/NorthMacedoniafeedback





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Nicolas Singer Head of Unit - Projects & Platform Interreg Europe



Elena Ferrario Senior Thematic Manager Policy Learning Platform



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# Many thanks!



Marc Pattinson Thematic Expert – Smarter Europe Policy Learning Platform



Arnault Morisson Thematic Expert – Smarter Europe Policy Learning Platform



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Vladimir Sestovic Communication and Partnerships Expert Policy Learning Platform