



Romanian
research priorities,
strategies and strengths

Prof. Adrian CURAJ

UE fiscdi

Executive Agency for Higher
Education, Research, Development
and Innovation Funding

RDI National Strategy 2014-2020



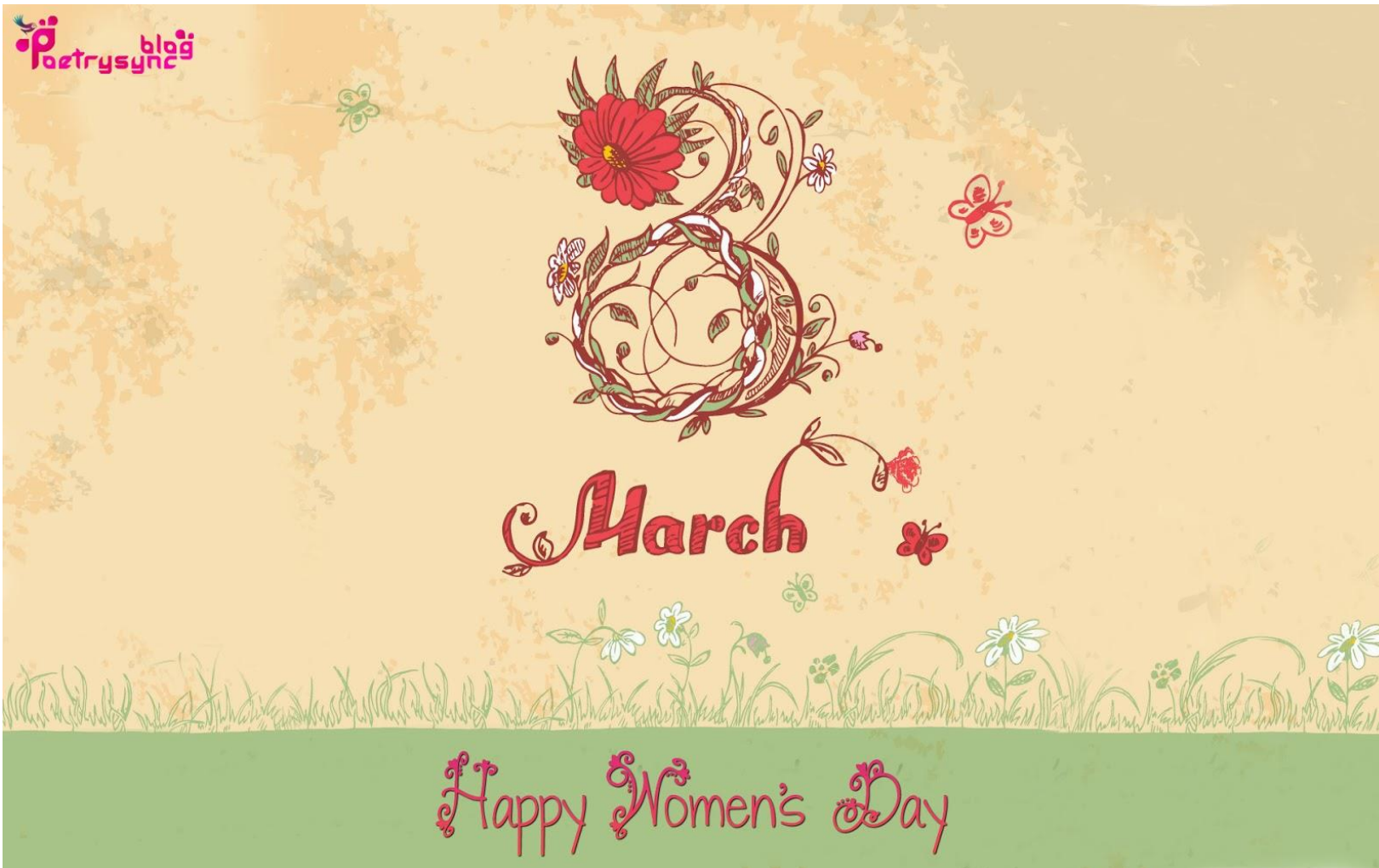
increase competitiveness of Romanian economy through innovation



increase Romanian contribution to the progress of frontier knowledge

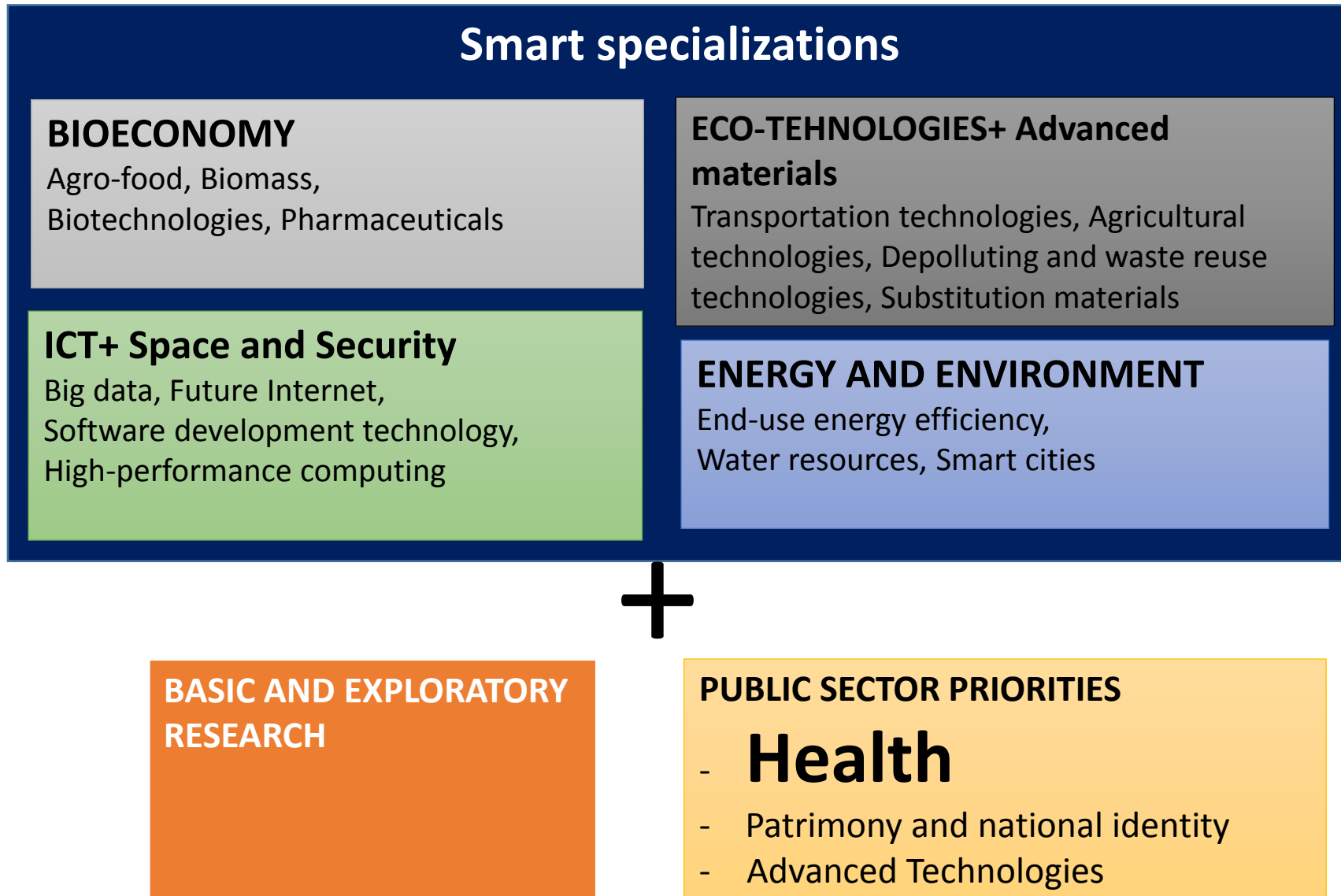


increase the role of science in society



*I just wanted to thank you from bottom of our heart for all things you do! **Happy Women's Day!***

Priorities



A large participative consultation process (2013) -> Smart specialisation priorities

Online exploratory consultation



28000+ persons invited
1500+ responses
2000 new persons have been nominated



13 panels
20 experts/ panel



Online real-time Delphi

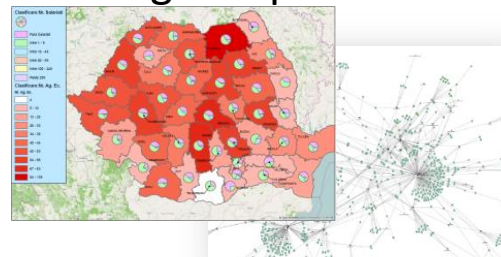


44.111 persons invited
4091 respondents
Average 161 respondents per microvision



Key stakeholders meeting

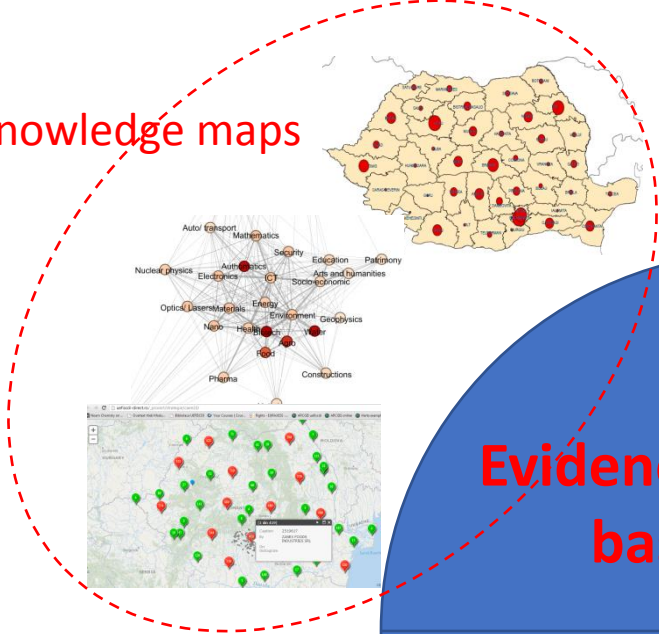
Knowledge maps



- Data analytics of**
- National RTDI projects (5000+)
 - Projects FP7 (600+)
 - RTDI Structural funds projects (500+)
 - Patents (7000+)
 - ISI Thomson articles (100.000+)
 - Companies track record (600.000+)
 - Top export companies

National consultation process

Knowledge maps



Obiectul 2. Relevante prezente pentru CDI

In ce masura considerati ca subdomeniul **Inteligenta artificiala** este un domeniu de cercetare inovatoare promitatoare?

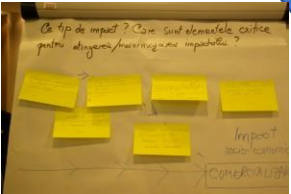
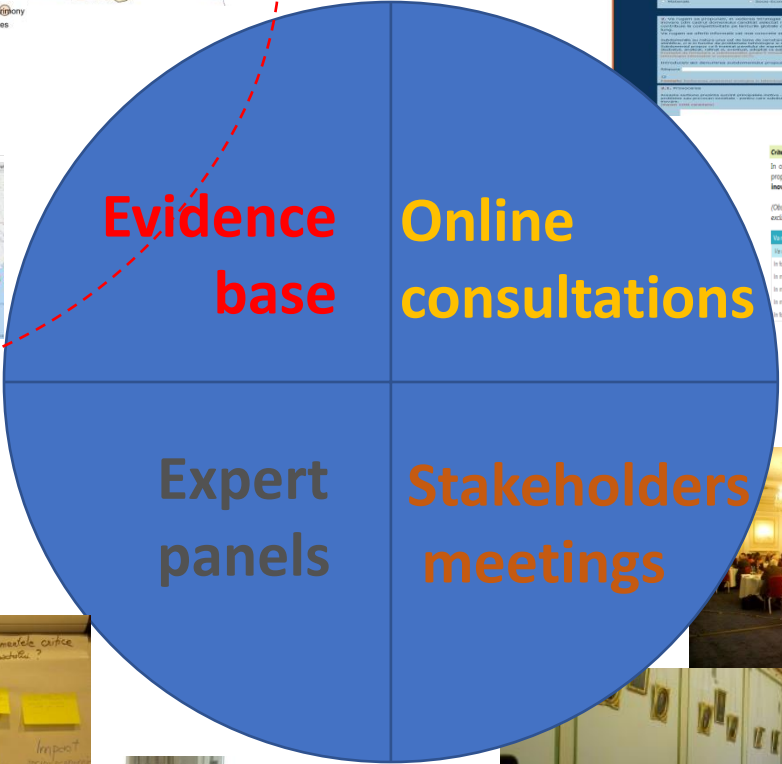
CDI: Aveti anii mei sa reflecte in mod adecvat la cercetarea romanoneasca?

Intelegere actuala:

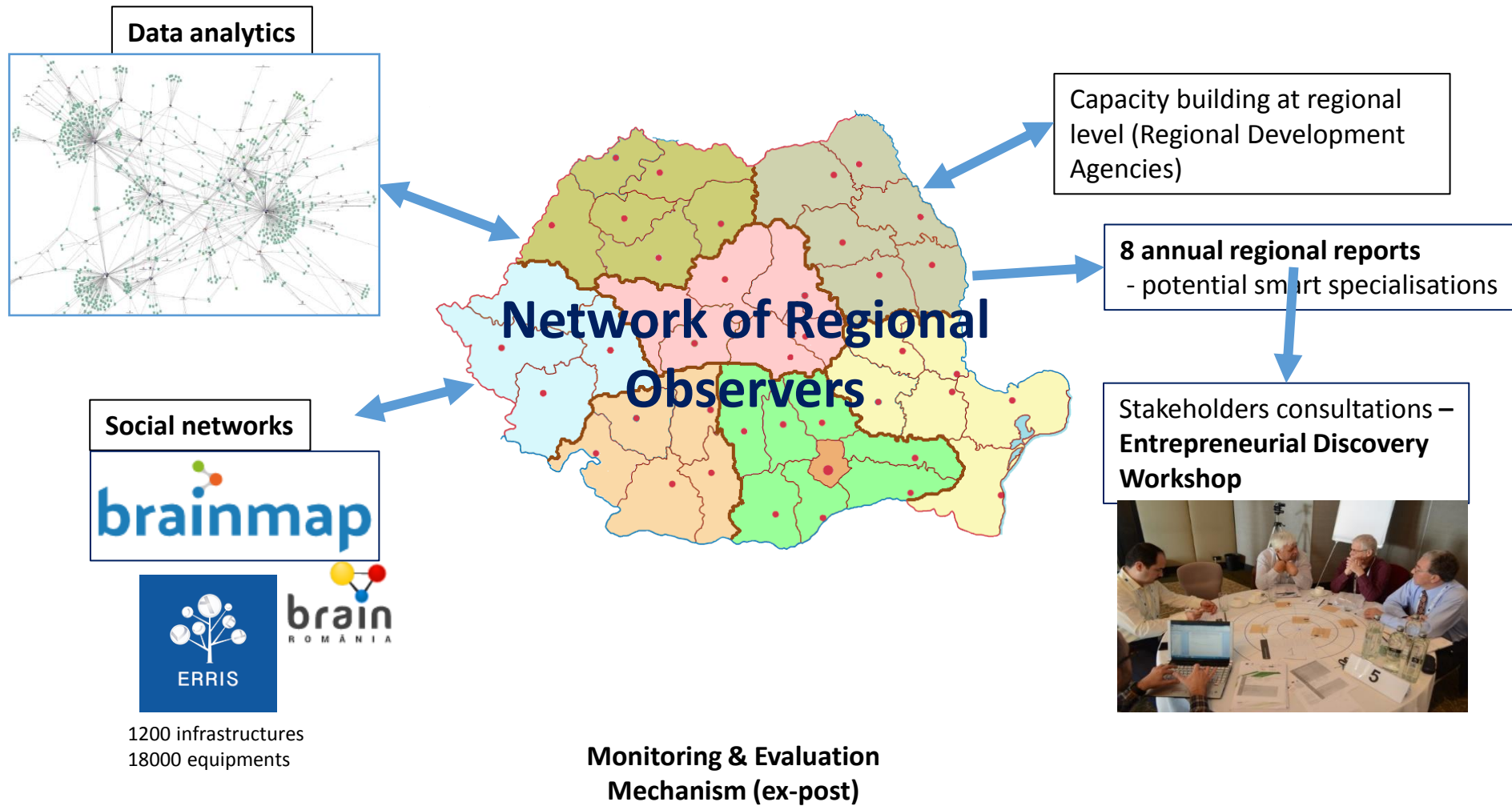
- In foarte mica masura
- In mica masura
- In masura moderata
- In masura inalta
- In foarte mare masura

Nota: CDI-ul din prezent este un raport Anchetă de evaluare a nivelului de expertiză pentru consultanță care se selectează după următoarele criterii:

- Cercetări privind siguranța (de exemplu pe domeniile: siguranța, protecția și securitatea informației)
- Cercetări privind siguranța (de exemplu pe domeniile: siguranța, protecția și securitatea informației)
- Cercetări privind partajarea, interoperabilitatea și realizarea colecțiilor de date de mari dimensiuni (BI)
- Cercetări privind dezvoltarea de sisteme funcționale de servicii de analiză prescriptivă și data mining (SM)
- Performanțele de proiect de valorile tehnice și științifice specifice (ST)
- Cercetări privind evaluarea volumului mari de date (SD)
- Analiză aprofundată de securitate și integritate (proiecții) a datelor în contextul analizei la scară largă a informațiilor de mare viteză (SI)
- In masura moderata
- Cercetări privind distribuția virtualizată de tip "big data" (SD)
- Cercetări privind analiza datelor (de exemplu: analiza textului) din diverse surse în scopul detectării și identificării unor modele care pot fi folosite în diverse scopuri (SD)

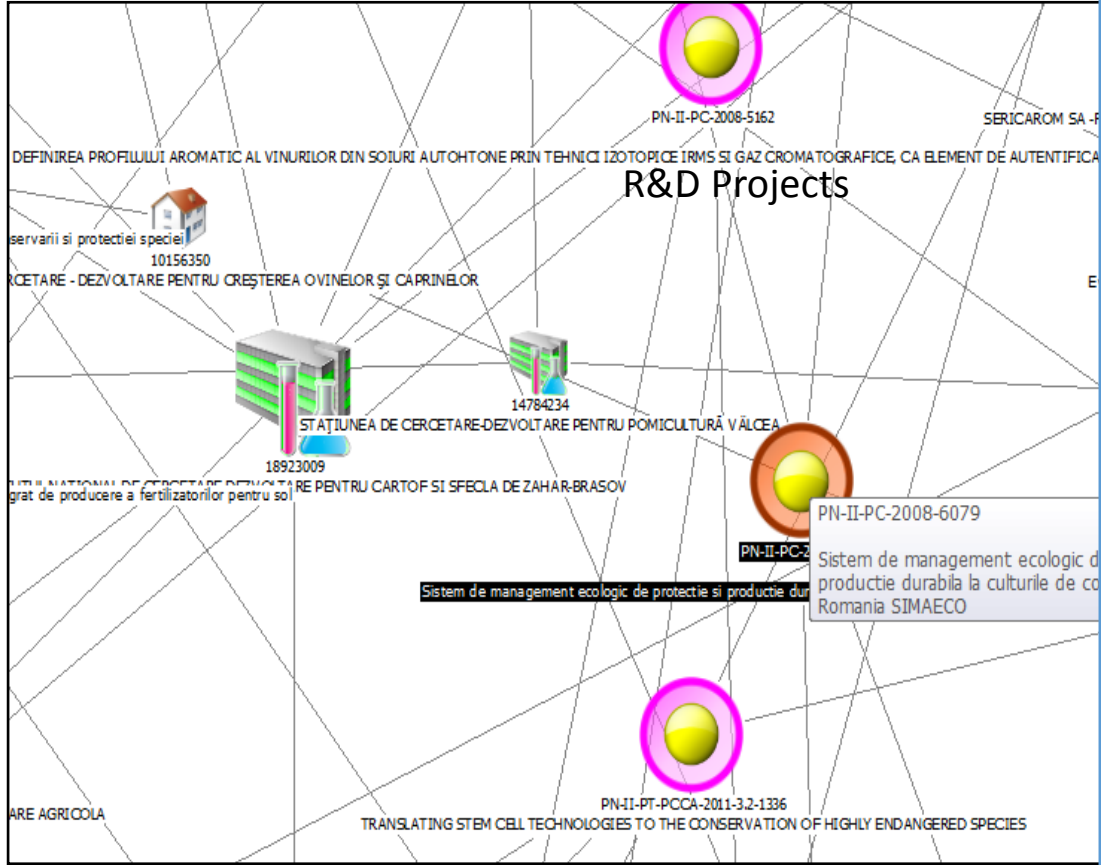


Entrepreneurial Discovery Mechanism



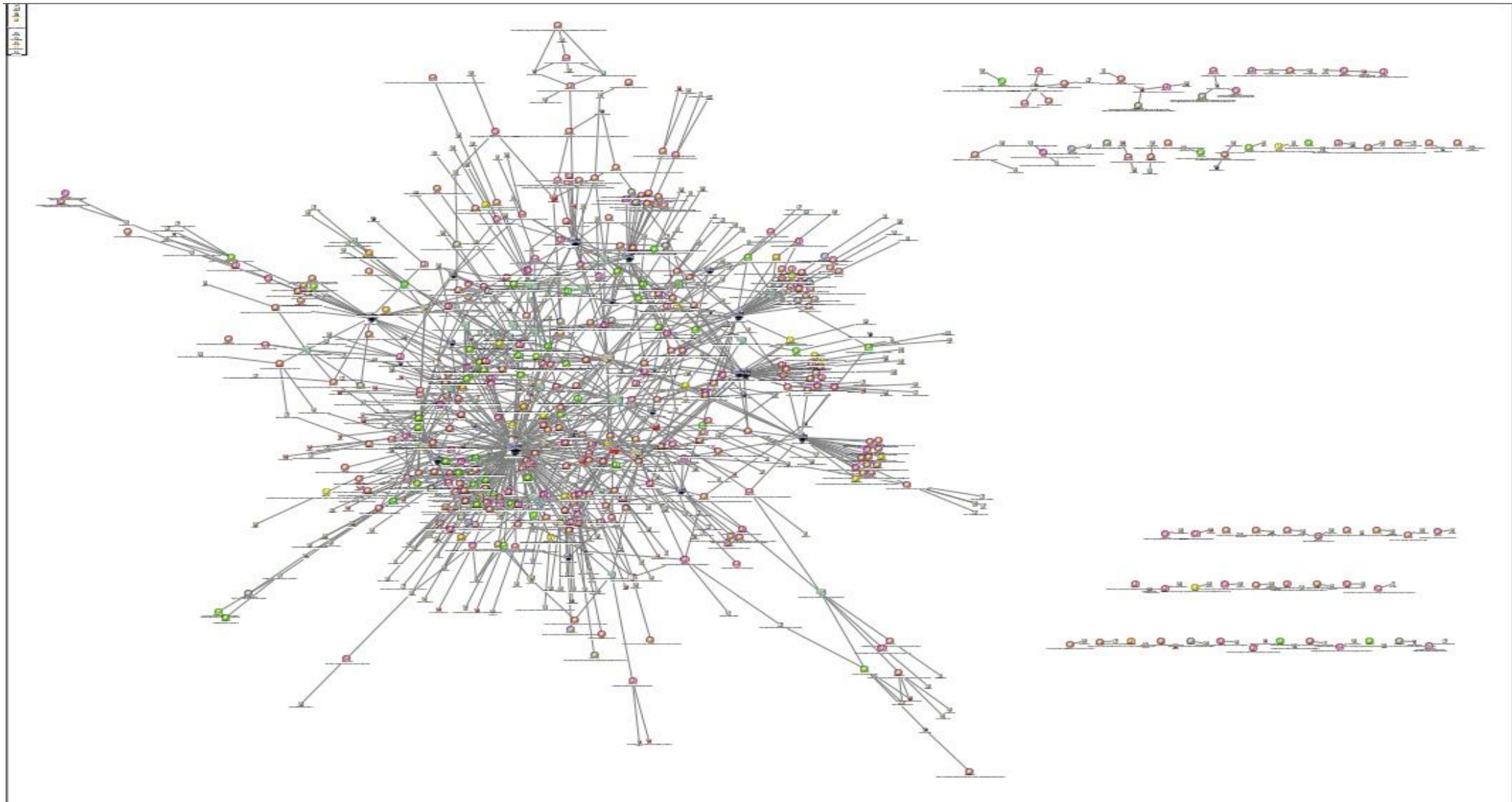
The Entrepreneurial Discovery Mechanism (EDM)

Mapping Key Actors in S & T fields



The Entrepreneurial Discovery Mechanism (EDM)

Mapping Key Actors in S & T fields



RADAR- Identifying the emergent technologies

<https://www.facebook.com/NOSEit>



NOSEit 21 May at 14:41 · 🌐

#gamifyingneuroscience
More and more people from all over the world can contribute to neuroscience research by mapping connections of billions of neurons through a 3D game.



EyeWire Is Making Neuroscience Research Cool Again

SOCIAL.TECHCRUNCH.COM

Like · Comment · Share

NOSEit 15 May at 14:45 · 🌐

Instagram for doctors - it's high time for crowdsourcing diagnoses.




Instagram for doctors

THEGUARDIAN.COM | BY SAMUEL GIBBS

Like · Comment · Share

NOSEit 25 May at 16:25 · 🌐

Nanoscale memory devices store and process information in the very same way the brain does. This could enable replicating the human brain outside of the human body.

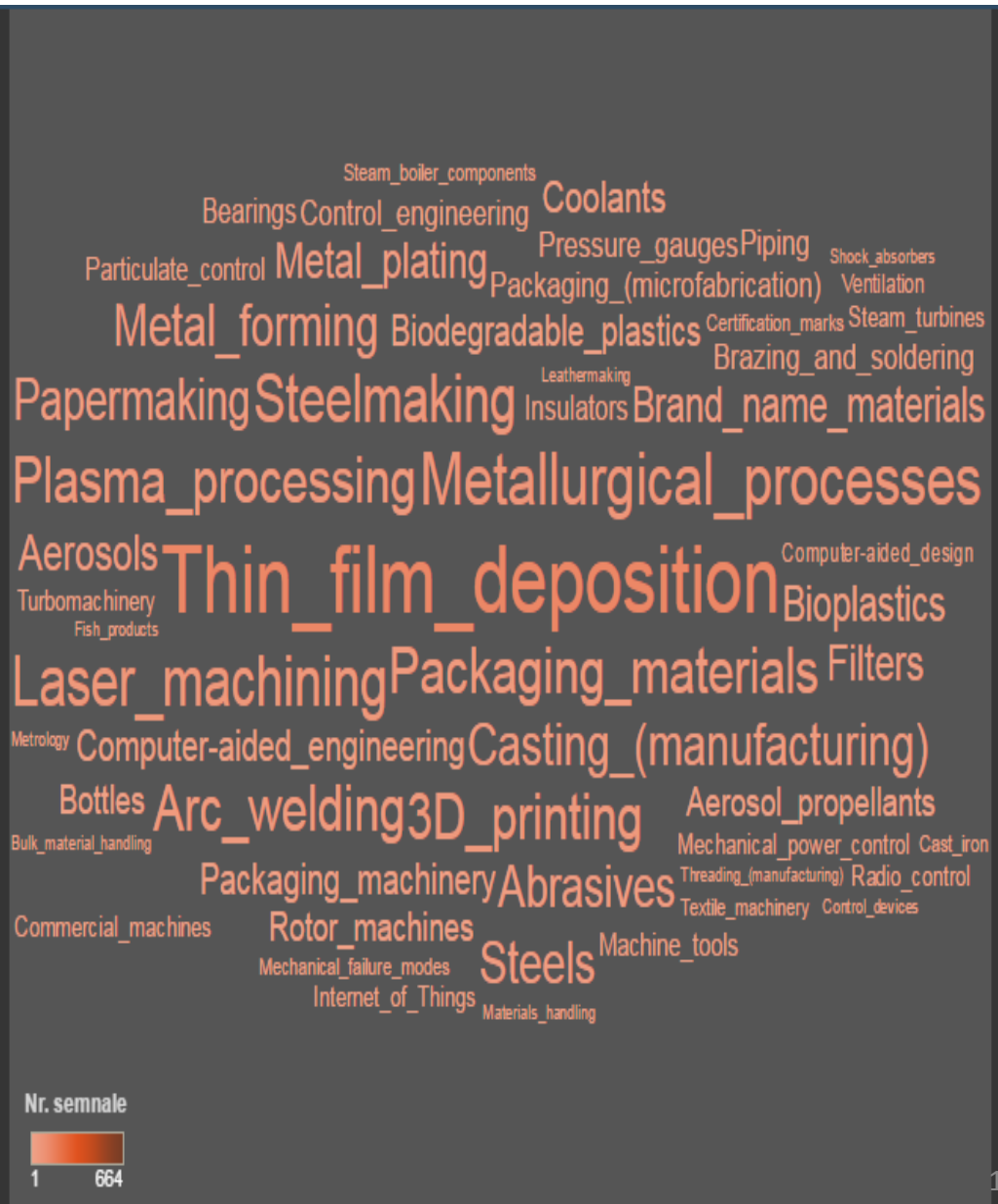
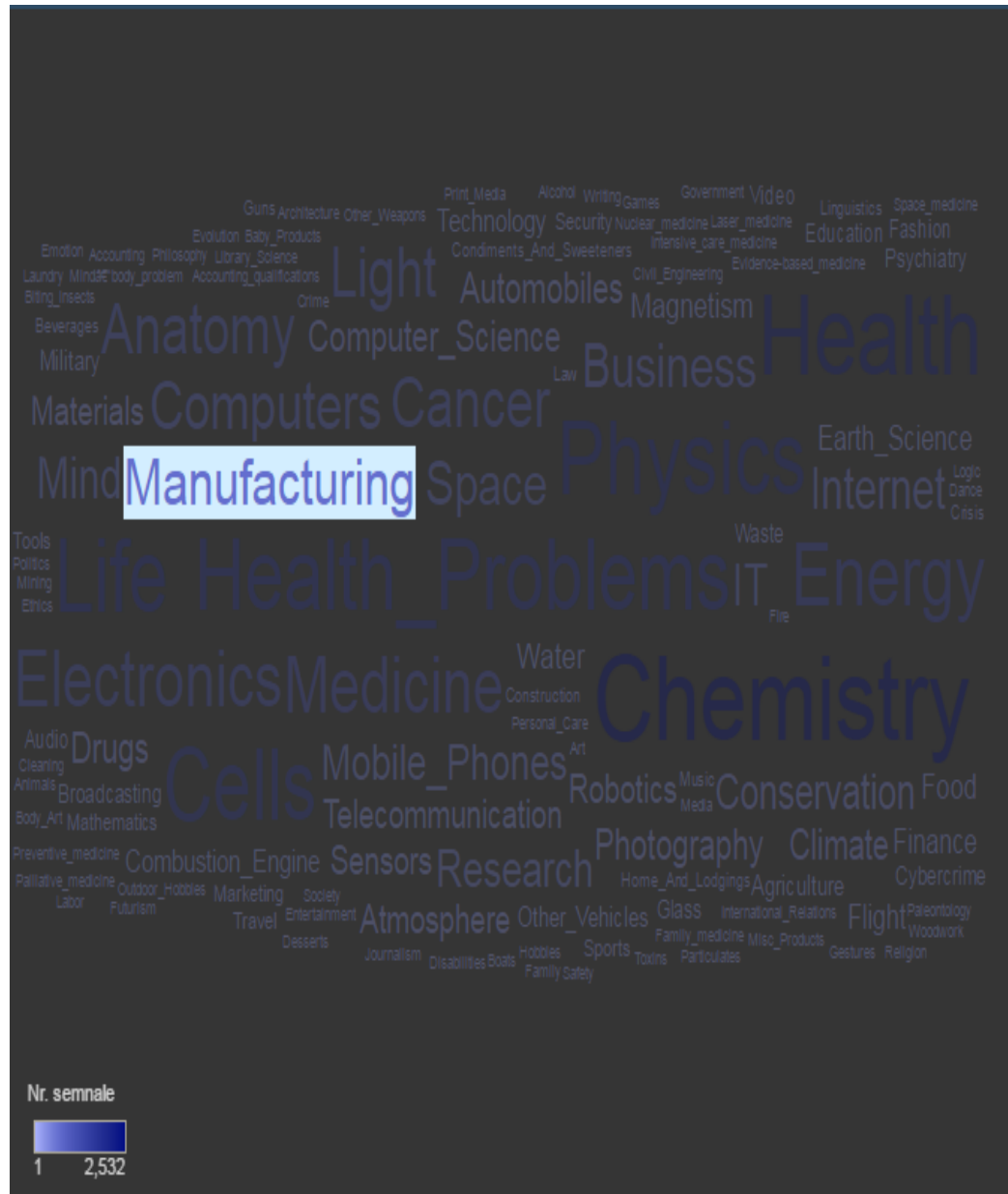


New Memristors Could Usher in Bionic Brains

SPECTRUM.IEEE.ORG | BY DEXTER JOHNSON

Like · Comment · Share

Smart analytics



Romanian Knowledge & Physical Assets 3.0 Innovation and Entrepreneurship Ecosystems 3.0



Institutions 3.0

**BrainMap
a BrainRomania 3.0**

**ERRIS
Research
Infrastructures 3.0**

**Romanian
Entrepreneurial
Ecosystem**

BrainMap

BrainMap represents a wide community of actors involved in the Romanian research and innovation ecosystem.

BrainMap is undergoing a vast process of visual and conceptual updates and improvements, so that it will integrate both the functions of the previous BrainMap platform and the social features and friendly appearance and user experience of BrainRomania.

The image shows a composite of two screenshots from the BrainMap website. The left screenshot displays the homepage with a search bar and navigation options. The right screenshot shows a detailed profile for Mr. Romeo Florin SUSAN-RESIGA, including his photo, title, institution, and a list of research grants with download links.

brainmap
your one stop source for finding experts

Search for an expert by name:

Search for an expert on the interactive map:

Login | Sign Up

Mr. Romeo Florin SUSAN-RESIGA
Professor, PhD

Professor
UNIVERSITATEA POLITEHNICA TIMIȘOARA
Romania

mechanical engineering
hydrodynamics
hydraulic machinery and systems
computational fluid dynamics

Copy this link to share the profile via a public share link.

Institution/lab web page: [🔗](#) Experience as research project coordinator:
Personal web page: [🔗](#) Experience as project evaluation expert:
Ph.D. degree award: 1996 Experience as researcher (years): 10

Download CV
Click to download (763.86 kb) 27/05/2016

Projects Publications Patents Entrepreneurship Domains of expertise

FILE DESCRIPTION	DOCUMENT
List of research grants as project coordinator	Download (55.93 kb) 21/05/2016
List of research grants as partner team leader	Download (48.39 kb) 21/05/2016
Significant R&D projects for enterprises, as project manager	Download (61.73 kb) 21/05/2016
R&D activities in enterprises	
Peer-review activity for international programs/projects	
Hirsch Index (ISI): 7,00	
Citizenship: Romania	

www.brainmap.ro

The image displays three overlapping screenshots of the Brainmap.ro website interface. The top-left screenshot shows a user profile for Ion Andea Pop, featuring a summary of 27 publications, 329 views, and 39 citations, along with a 'Six Provocations for Big Data' article. The middle screenshot shows a profile for Ioan Adrian, a National Institute of Statistics employee, with 190 publications, 329 views, and 52 citations. The rightmost screenshot shows a profile for Ion Adrian Popescu, PhD, with 27 publications, 329 views, and 37 citations, highlighting research in force sensing and control during movement.

www.brainmap.ro

Ion Andea Pop
27 PUBLICATIONS | 329 VIEWS | 39 CITATIONS
Six Provocations for Big Data
AAL Forum 2014

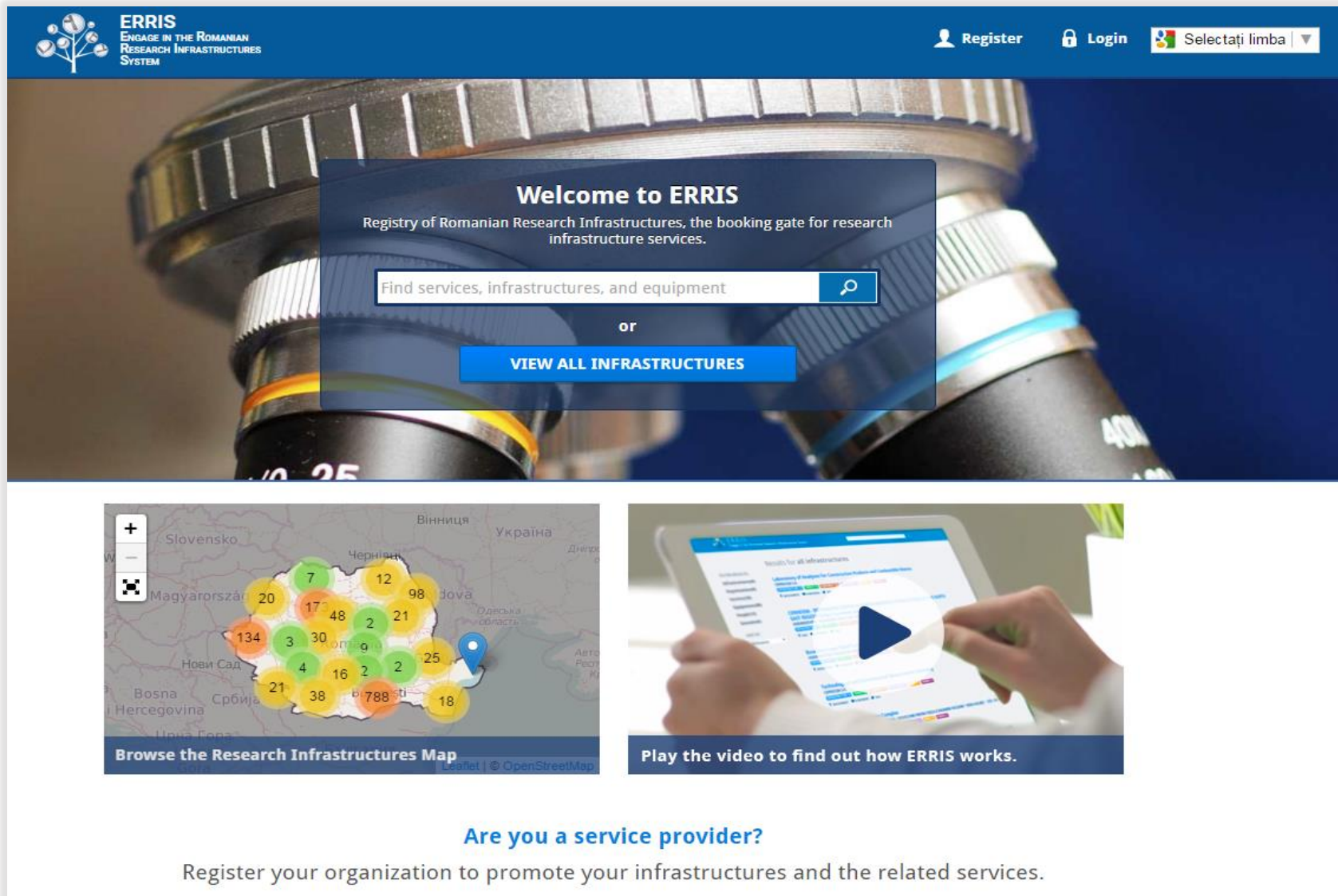
Ioan Adrian
National Institute of Statistics
190 Publications | 329 Views | 52 Citations | 231 Downloads

Ion Adrian Popescu, PhD
National Institute of Research and Development in Biological Science
27 PUBLICATIONS | 329 VIEWS | 37 CITATIONS | 231 DOWNLOADS

Force Sensing and Control during Movement and Object Manipulation in TRIPS Walking Robots
Co-Authors: Ion Ion, Ion Adrian, Aurelian Pop, Iulia Dor, Grigore Grigorescu

Quality and Leadership for Romanian Higher Education
Co-Authors: Liviu Andreescu, Adrian Ion, Marius Gheorghiu, Iulia Oancea, Alexandra Dinca, Iulian Zulean

ERRIS



ERRIS
ENGAGE IN THE ROMANIAN
RESEARCH INFRASTRUCTURES
SYSTEM

Register Login Selectați limba

Welcome to ERRIS

Registry of Romanian Research Infrastructures, the booking gate for research infrastructure services.

Find services, infrastructures, and equipment

or

[VIEW ALL INFRASTRUCTURES](#)

[Browse the Research Infrastructures Map](#)

[Play the video to find out how ERRIS works.](#)

Are you a service provider?
Register your organization to promote your infrastructures and the related services.

UNIVERSITY OF BUCHAREST
UNIVERSITATEA BUCURESTI

The University of Bucharest is a leading academic ce reference in society, and it adheres to the principles o thinking. The University is one the leading higher educa South-East Europe by actively contributing through development and use of knowledge. The University's quality academic programmes and research facilities, research and teaching. The University is an important global intellectual community working towards prote values, as well as towards promoting diversity and intern

Website: www.unibuc.ro
Email: contact@pr.unibuc.ro
Phone: +40 21 3077300

CONTACT:
Mihail Kogalniceanu Bvd, 36-46, Zip code: 050107
Bucuresti Bucuresti - Sector 5, ROMANIA



Boundary Layer Wind Tunnel 1 (TASL 1)
TECHNICAL UNIVERSITY OF CIVIL ENGINEERING BUCHAREST

Length: 27 m;
Test section dimensions: 1.75 * 1.75 m;
Maximum speed: 25 m/s;
Variable roughness;
Variable speed fan (200 kW).

Domains of activity
- Civil Engineering Research Infrastructures
- Wind Engineering

Infrastructure direct public Link: <https://erris.gov.ro/Boundary-Layer-Wind-Tunnel-1-TAS>

944 VISITS 0 REVIEW(S) ***** [Facebook Share] [LinkedIn Share] 1

SCIENTIFIC & TECHNICAL TEAM:

Coordinator:
Prof. Dr. Andrei-Mugur GEORGESCU



SERVICES:

- Experimental and numerical evaluation of wind induced structural loads
- Estimation of pedestrian confort in urban areas
- Aeroelastic structures
- Evaluation of snow deposits and snow drift at ground level

EQUIPMENT:

- Variable roughness
- Con
- Las
- 3D
- Par
- Inte
- Las

CONTACT:

Tel. +40 21 242.12.08
Fax. +40 21 242.07.81

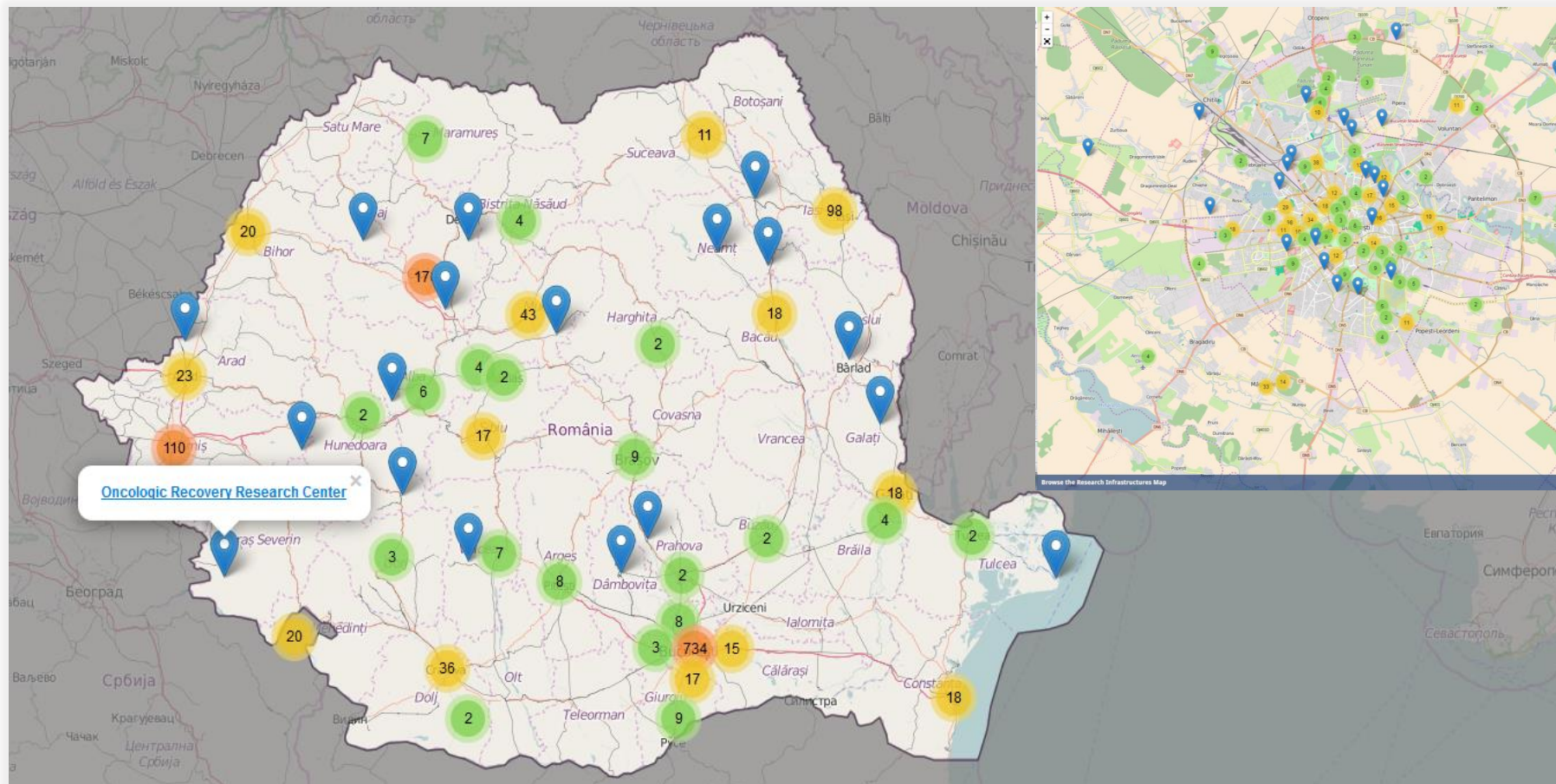
Lacul Tei bvd, 122-124
Zip code: 020396
Bucharest - Bucuresti - Sector 2, ROMANIA



REVIEWS:

Rating	Percentage	Count
1★	0%	0
2★	0%	0
3★	100%	1
4★	0%	0
5★	0%	0

Latest Reviews



- ❖ **1384** research infrastructures;
- ❖ **7406** research services;
- ❖ **49** technological services;
- ❖ **19633** equipments;

<http://erris.gov.ro>

Research Infrastructures Roadmap

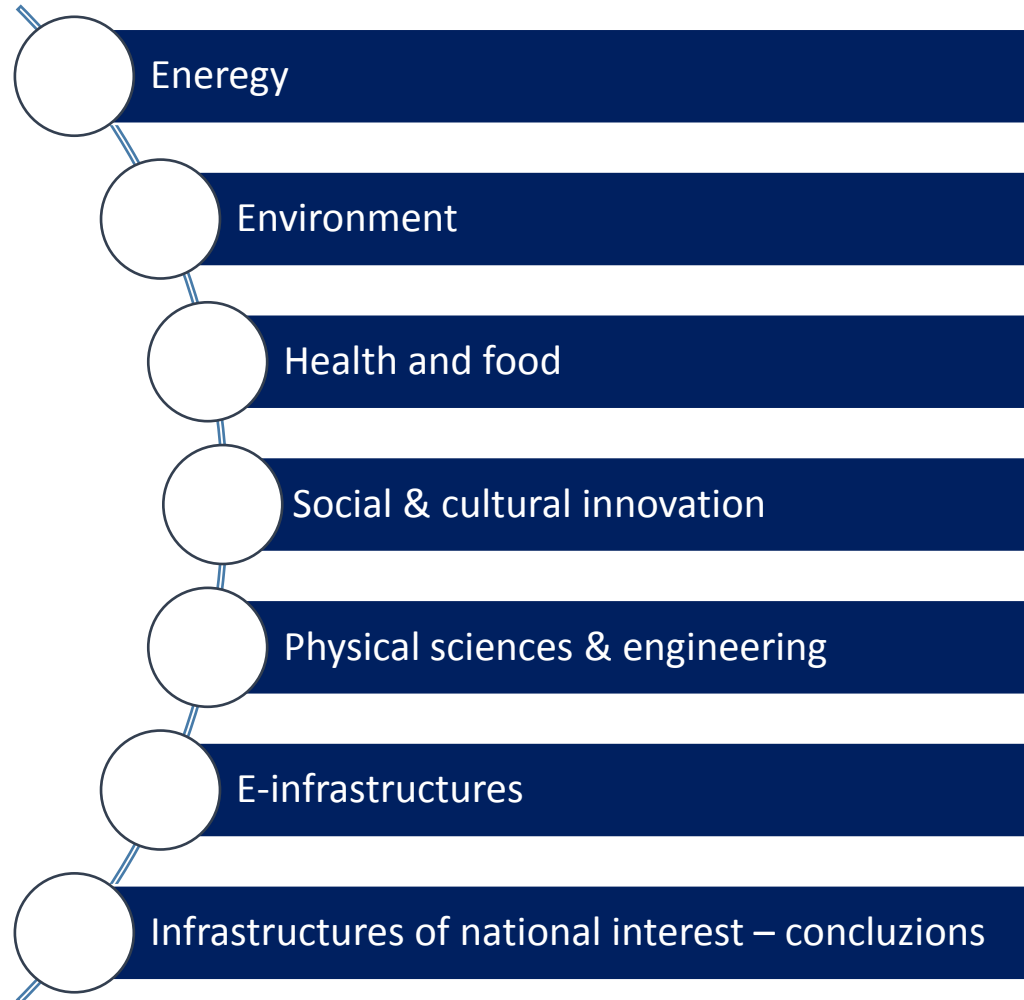
Criteria for RI evaluation

Criteria	Description
Scientific relevance	The unique character of RI; If it has produced profound changes in its field/ or if it has the capacity to produce profound changes; The capacity to operate to the highest international standards (eg membership in international organizations / research programs).
Socio-economic relevance	Socio-economic impact of RI; RI's ability to serve as a facilitator for national/ regional development; Environmental impact of RI.
National relevance	RI's ability to meet certain needs identified at national level; RI's relevance in the context of national and / or sectoral strategies.
Sustainability & feasibility	Ensuring long-term continuity of RI; The existence of highly qualified human resources in RI.
Utilization	Open access character; The interest shown by the private sector and other partners.

To be included in the Roadmap, the Romanian Research Infrastructures (RIs) will be analyzed and evaluated within 7 panels of experts:



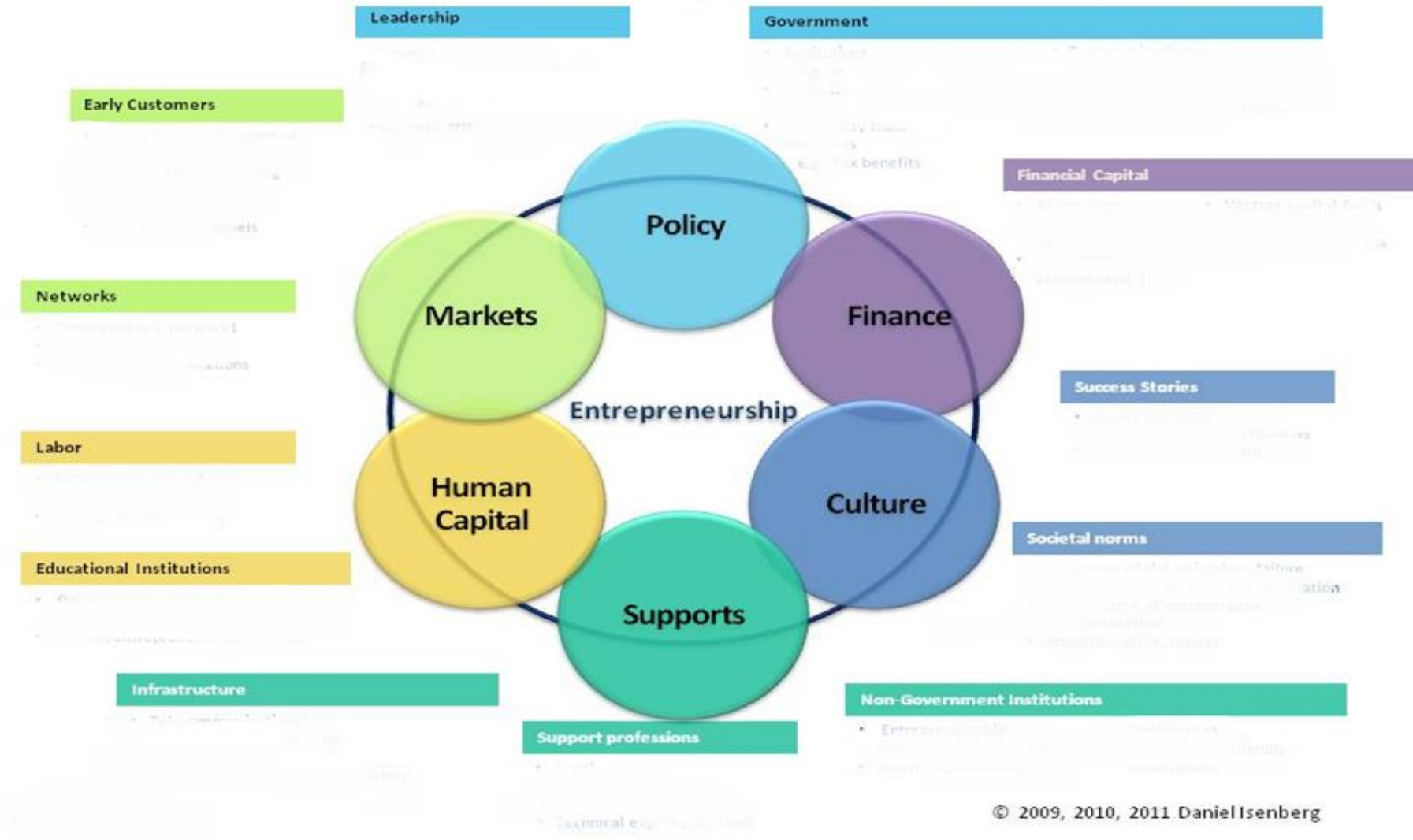
Types of RIs



Romanian Entrepreneurship Ecosystem



Domains of the Entrepreneurship Ecosystem



5 dimensions to an ecosystem-made entrepreneur

1. Inspiration



2. Work Experience



3. Consultancy



4. Mentorship



5. Investment



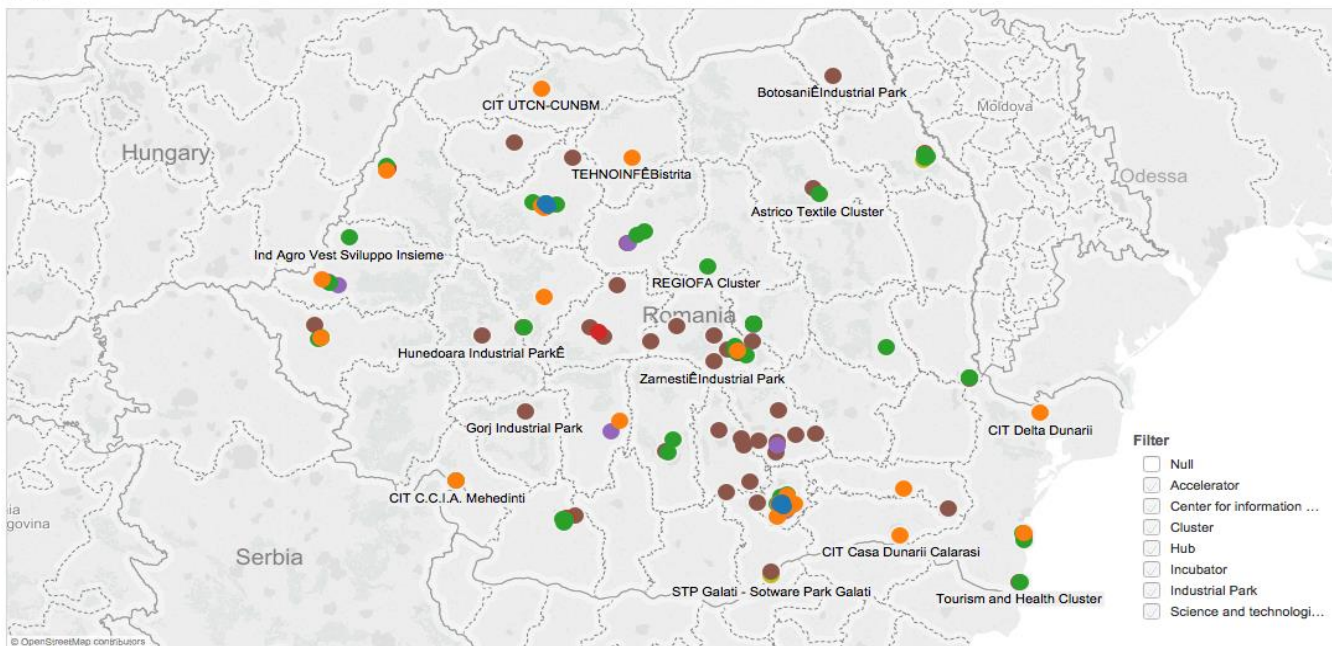
For more information



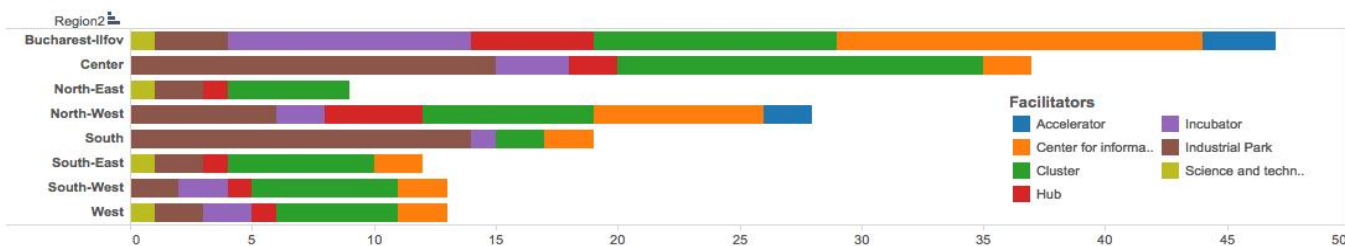
Cafeneaua de Inovare
4th edition - 11 June 2015

Business facilitators & support entities

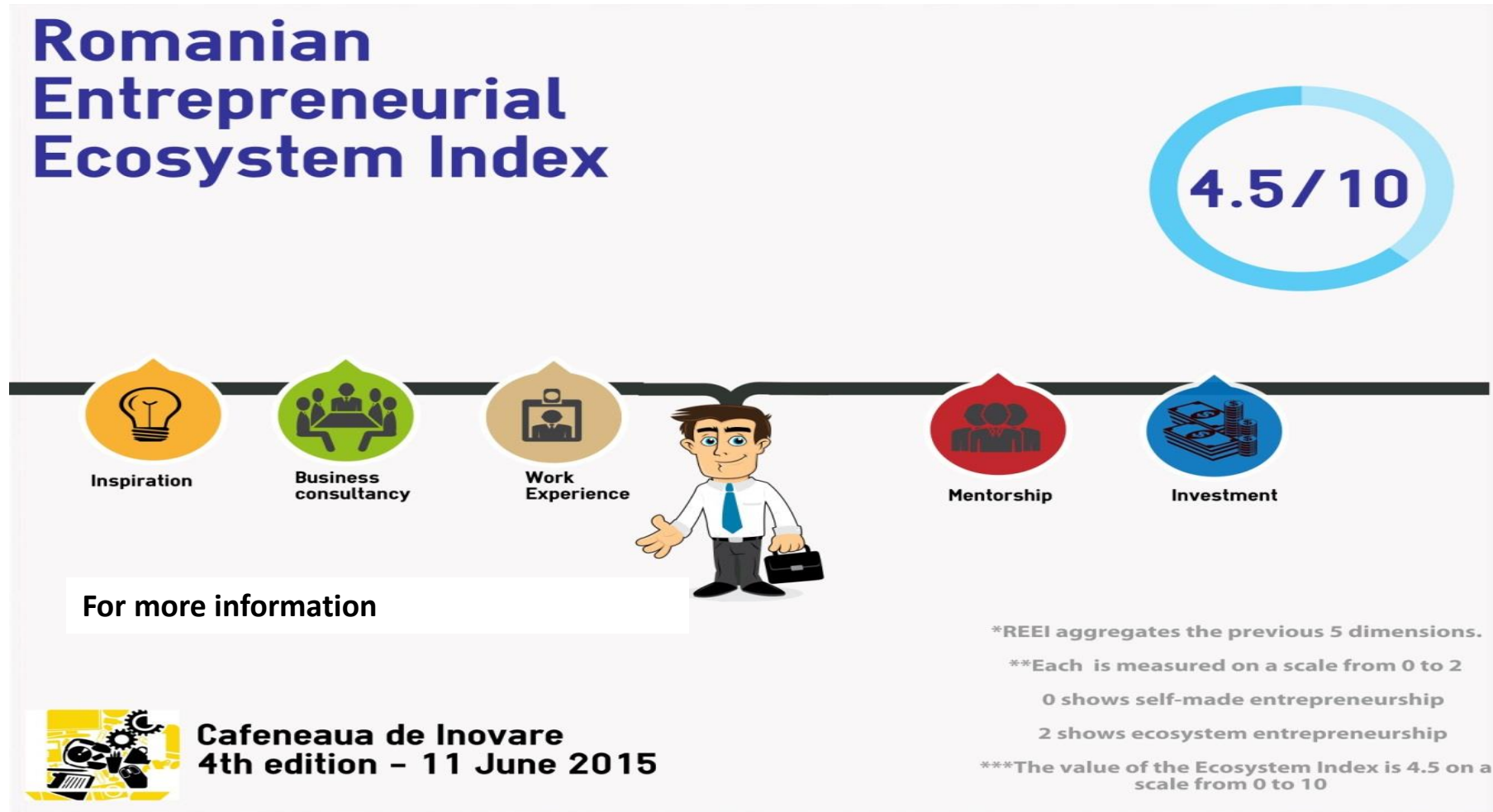
Map



Regional spread



Entrepreneurial Ecosystem Index:



EI ranges from 0 to 10



Horizon 2020 Policy Support Facility

Start-ups, Scale-ups and Entrepreneurship in Romania

Draft recommendations of the PSF Panel

Specific Support to Romania under the H2020 - Policy Support Facility



EC-RO collaboration objectives

Assess the Romanian innovative entrepreneurship, start-up and scale-up ecosystem

Identify and recommend concrete measures to further develop, strengthen and improve the efficiency of the innovative entrepreneurship ecosystem, and the growth of Romanian start-ups.

Roadmap



Romanian Entrepreneurship Ecosystem recommendations

Policy

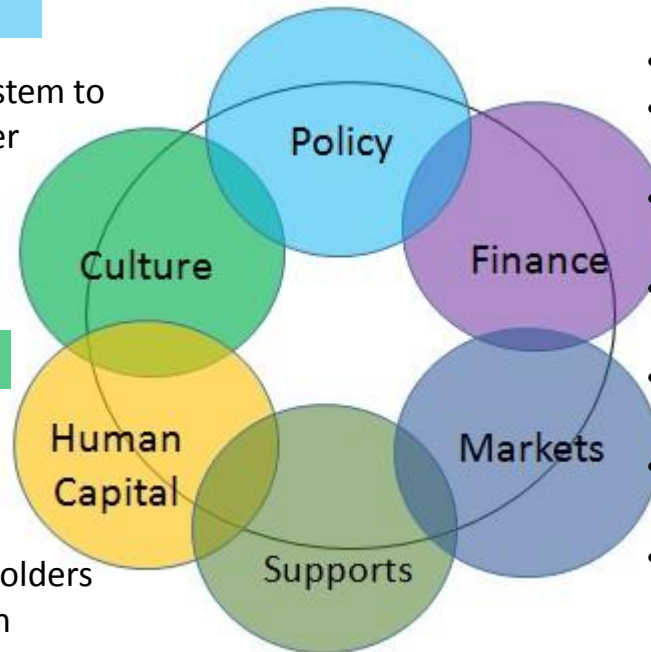
- Develop an IT system to allow ecosystem to insert data and connect each to other
- Monitor and measure the performance of the ecosystem
- Romanian Entrepreneurship Agency

Culture

- Entrepreneurship Award under the auspices of the President
- Entrepreneurship in education
- Transparent policies involving stake holders
- Entrepreneurship-Friendly Regulation

Human Capital

- Upgrade entrepreneurship education in HEI
- Allow non-PhD business people to teach at universities
- Attract foreign /diaspora talent
- Start-up visa



Support

- Non-financial support for start-ups/SMEs
- Shared services to be used by incubators/TTO
- Incubators Voucher scheme
- International Accelerator based in Romania
- Update incubation law

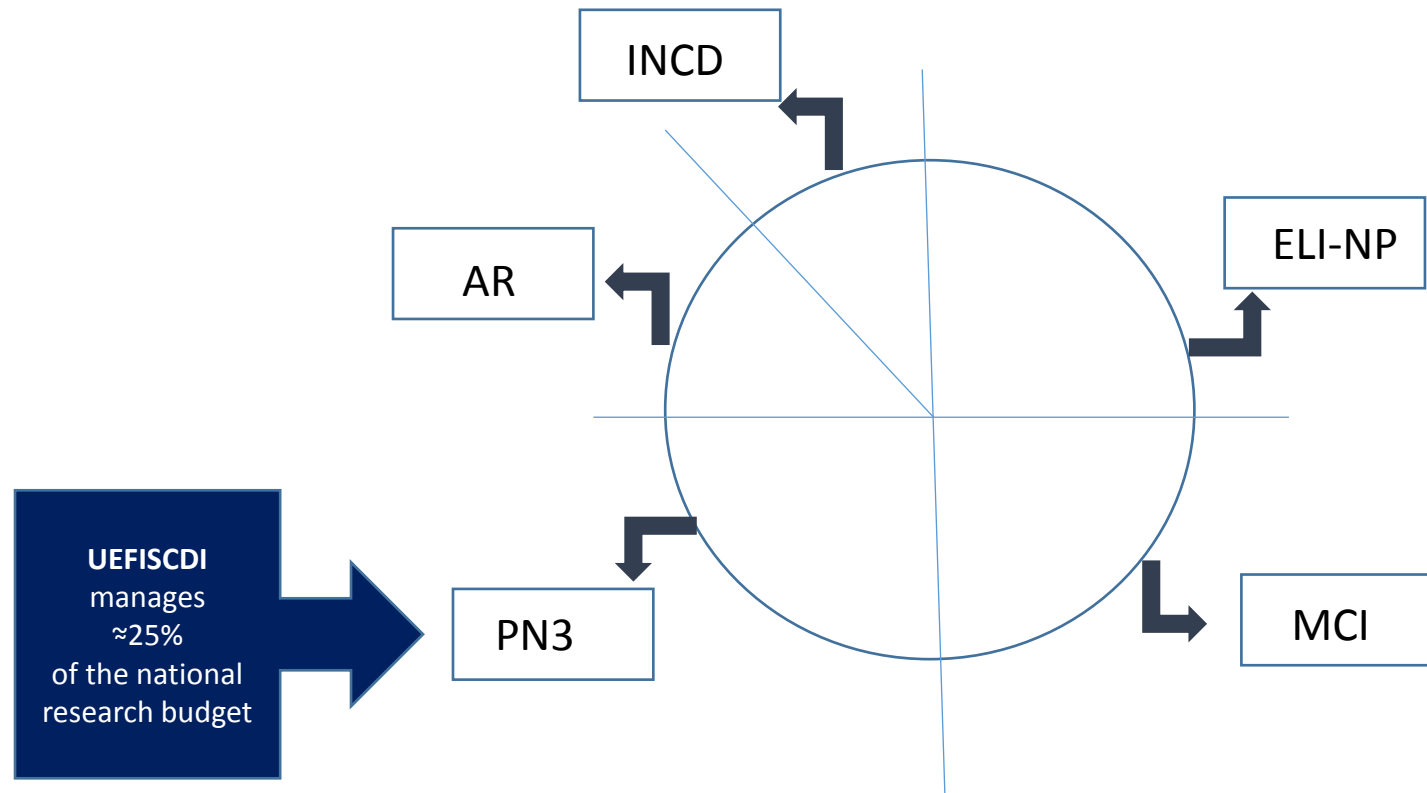
Finance

- Withdraw Business Angel (BA) Law
- Support to Business Angel Networks (BAN)
- Accreditation/certification of BAN/BA
- Business Angel co-investment scheme
- Venture Capital co-investment (FoFs and deal by deal)
- Funding for Romanian Counter-guarantee Fund (FCR)
- Tax incentive for investors in funds that invest in listed companies in AERO

Markets

- Connecting Hub as Brokerage Platform
- Smart procurement

RDI – national budget



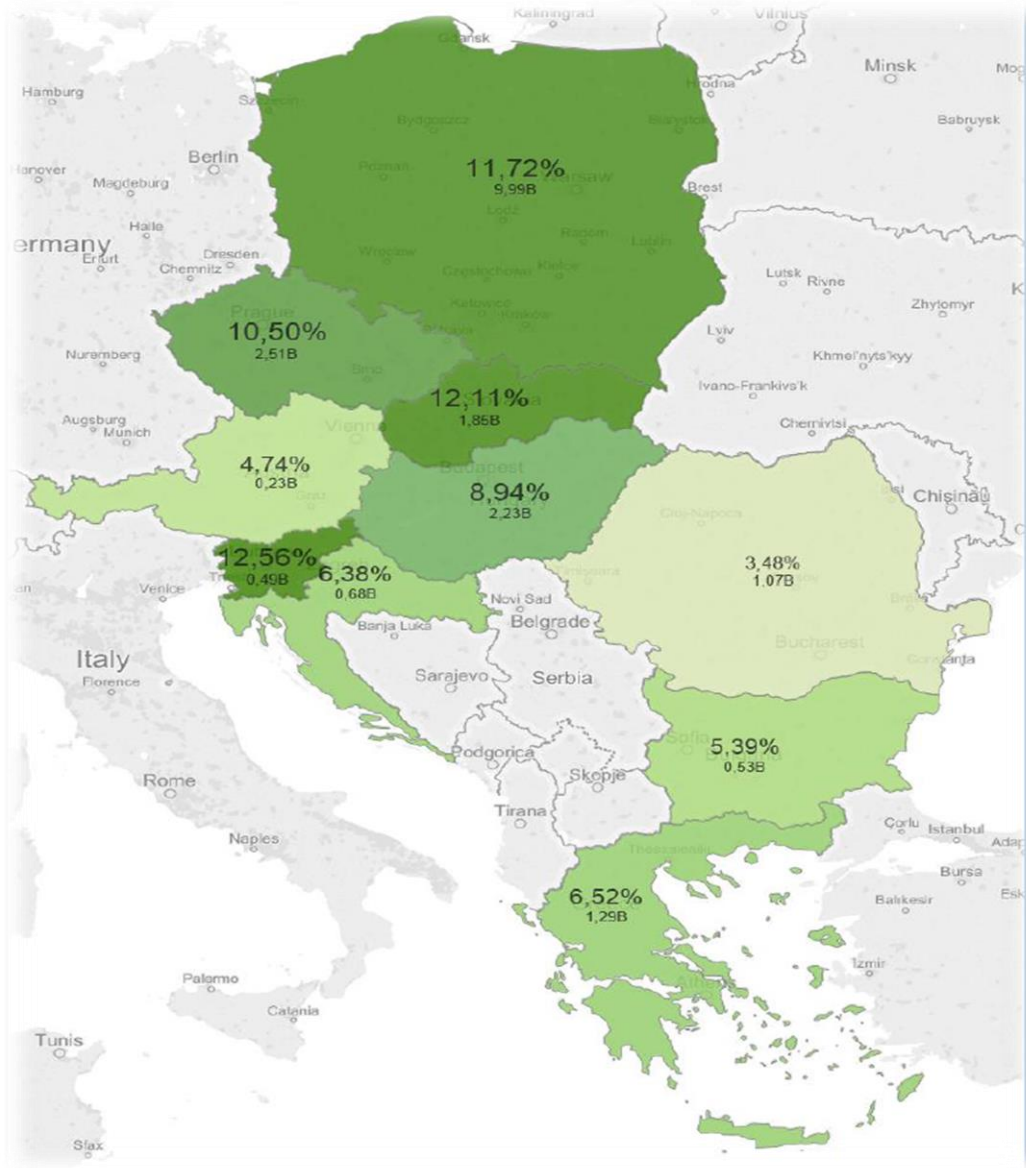
MCI – Ministry of Research and Innovation

AR – Romanian Academia

INCD – Research Institutes

PNCD – National Plan for Research, Development and Innovation

National share of ESIF TO1 (% of ESIF allocation)

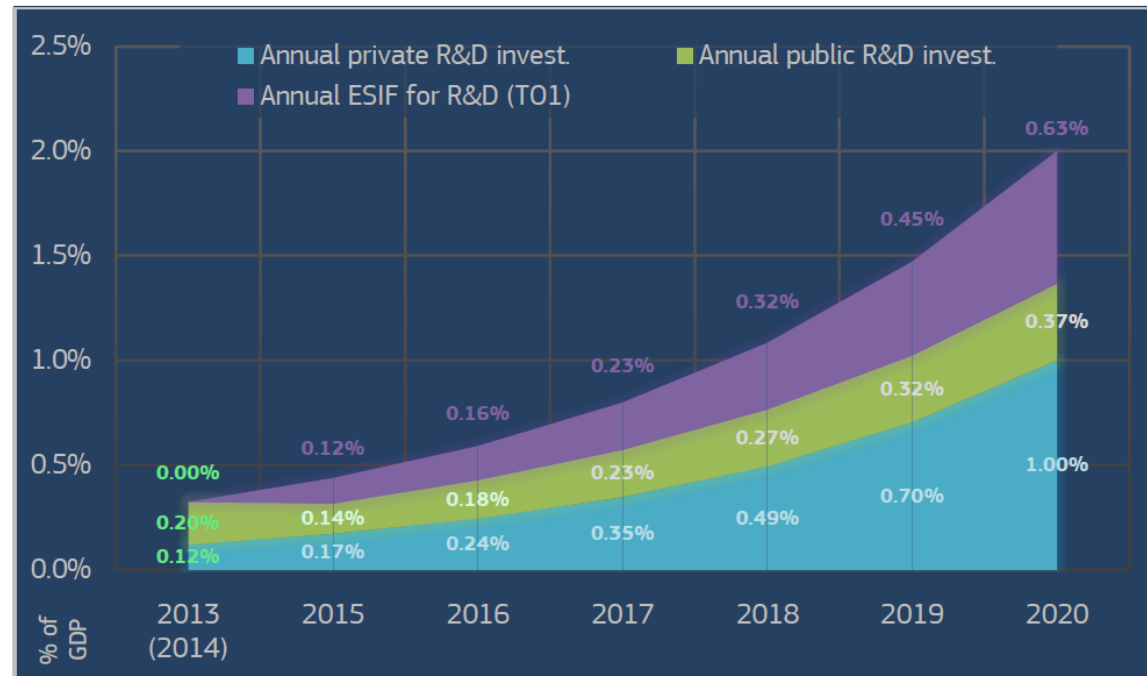


Source: calculations based on the data presented in the partnership agreements between the EC and MS

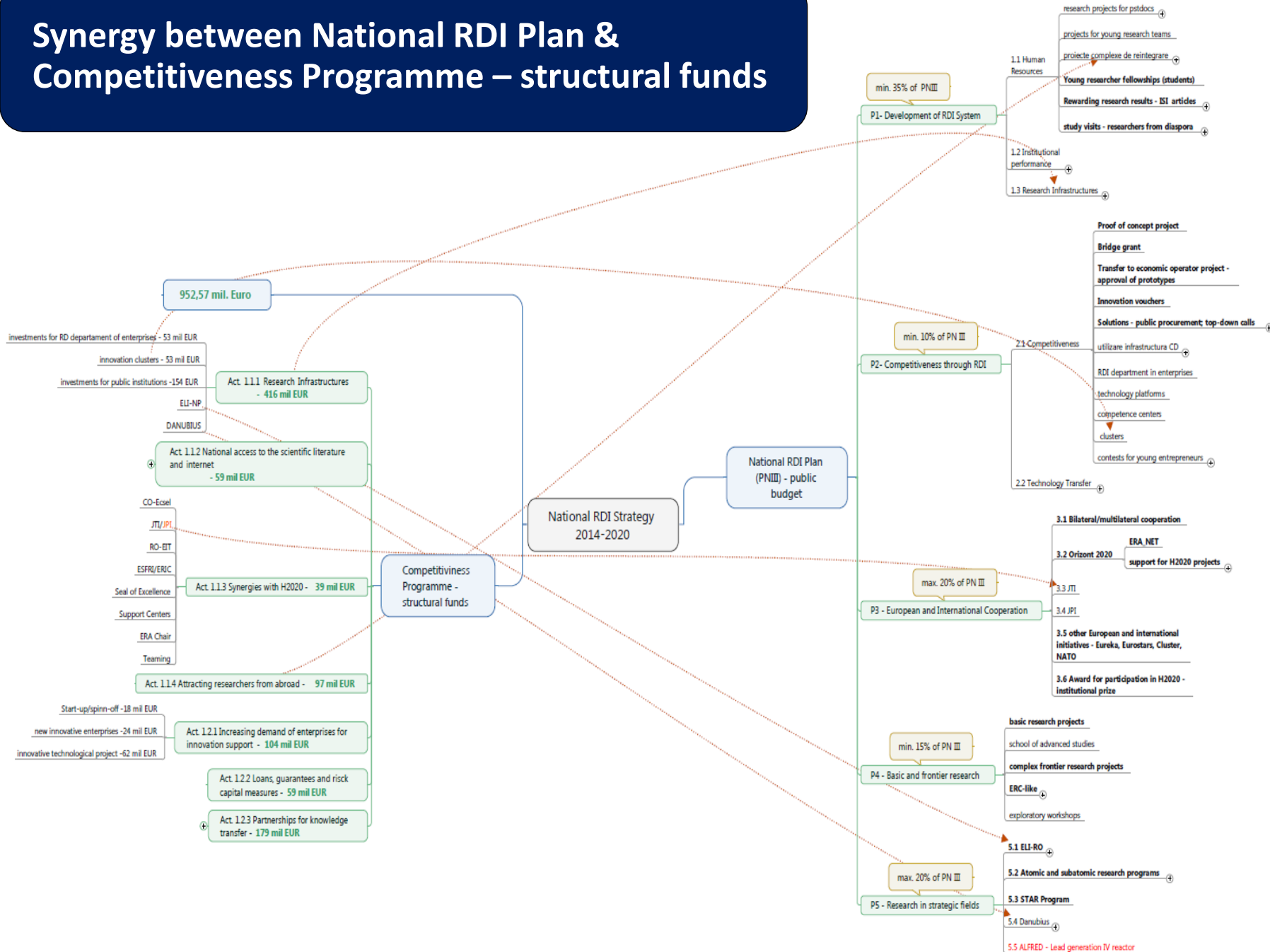
Annual public GERD, private GERD and ESIF for R&I expenditures needed to attain the EU 2020 target

Annual public GERD, private GERD and ESIF for R&I expenditures needed to attain the EU 2020 target of 1% public and 1% private investments in R&I (% of GDP).

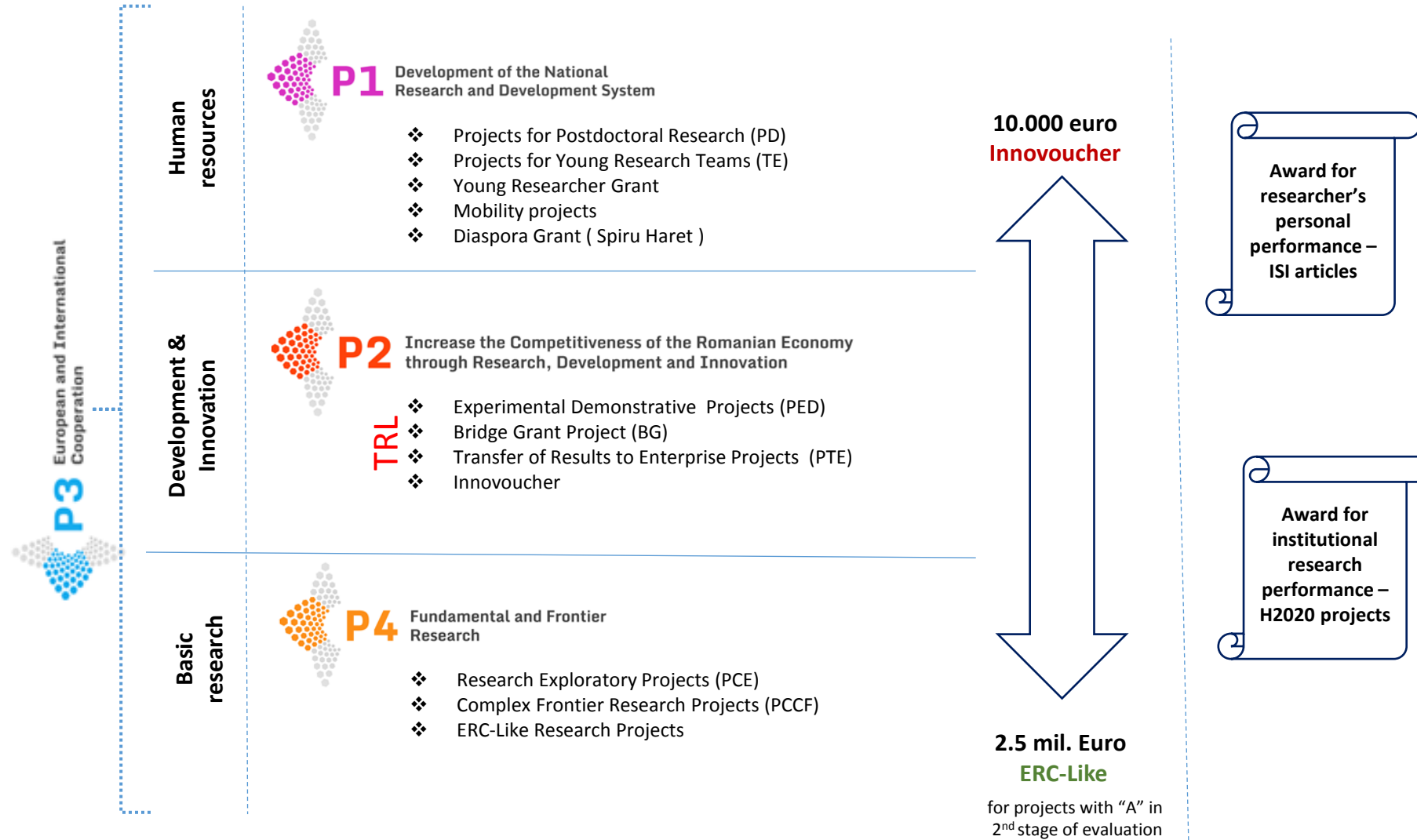
Simulation: If the total ESIF for R&I (TO1) allocation would have been 12.56% (Slovenia's case¹², the highest TO1 share of ESIF in the region).



Synergy between National RDI Plan & Competitiveness Programme – structural funds

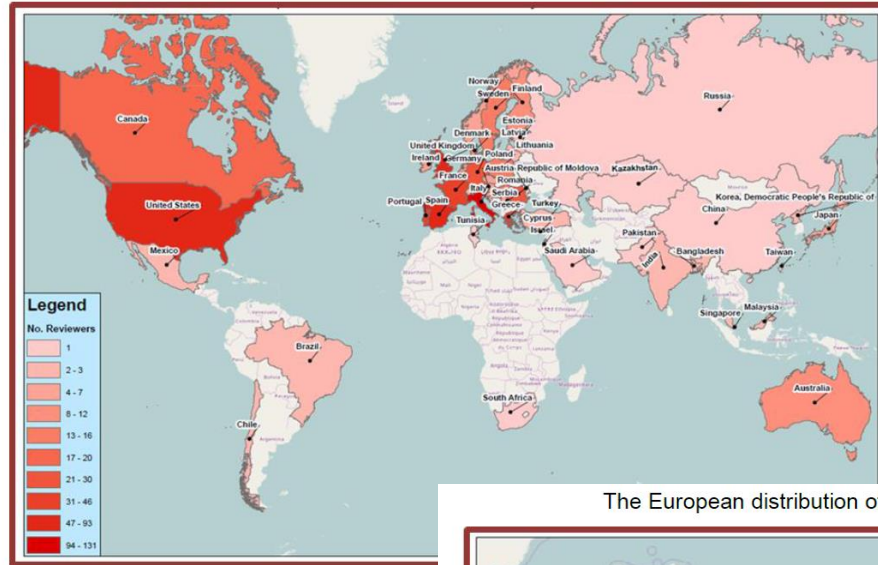


Funding instruments for RDI activities

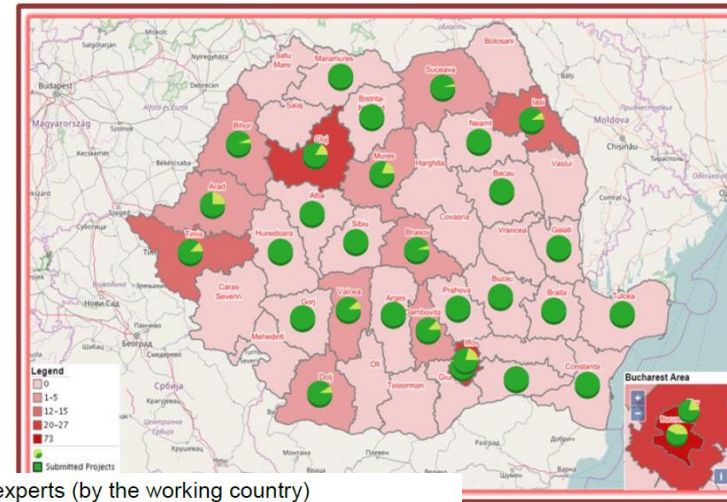


International evaluation

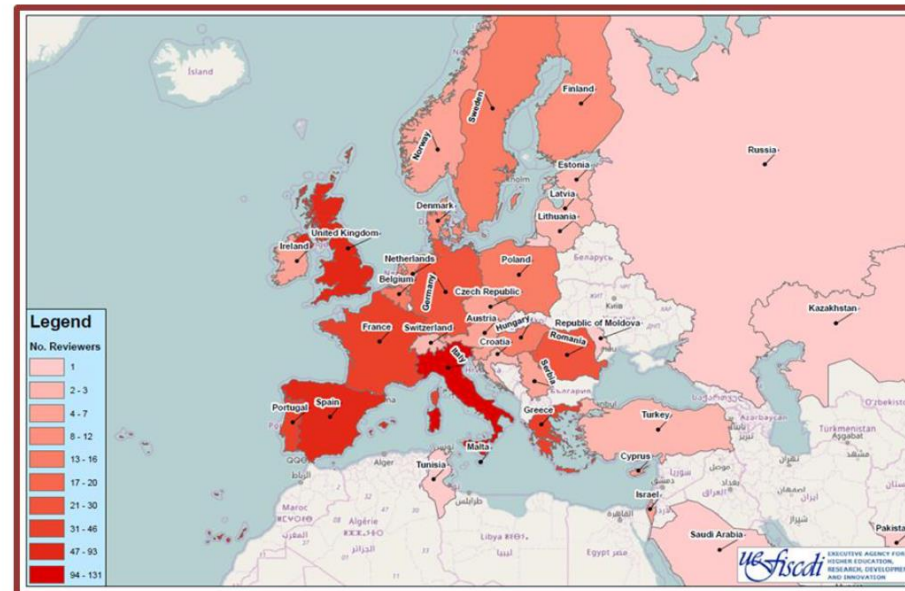
Global distribution of the experts (by the working country)



Distribution of submitted/financed projects by the geographical area

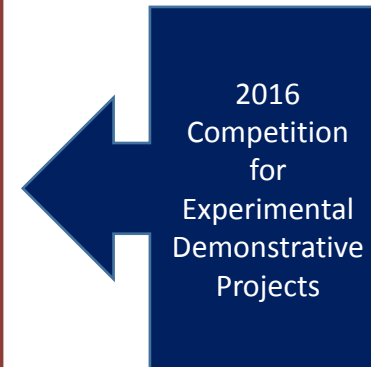


The European distribution of the experts (by the working country)



No barriers – Scientific Visa
Grant portability

2016
Competition
for
Experimental
Demonstrative
Projects



HORIZON 2020

UEFISCDI

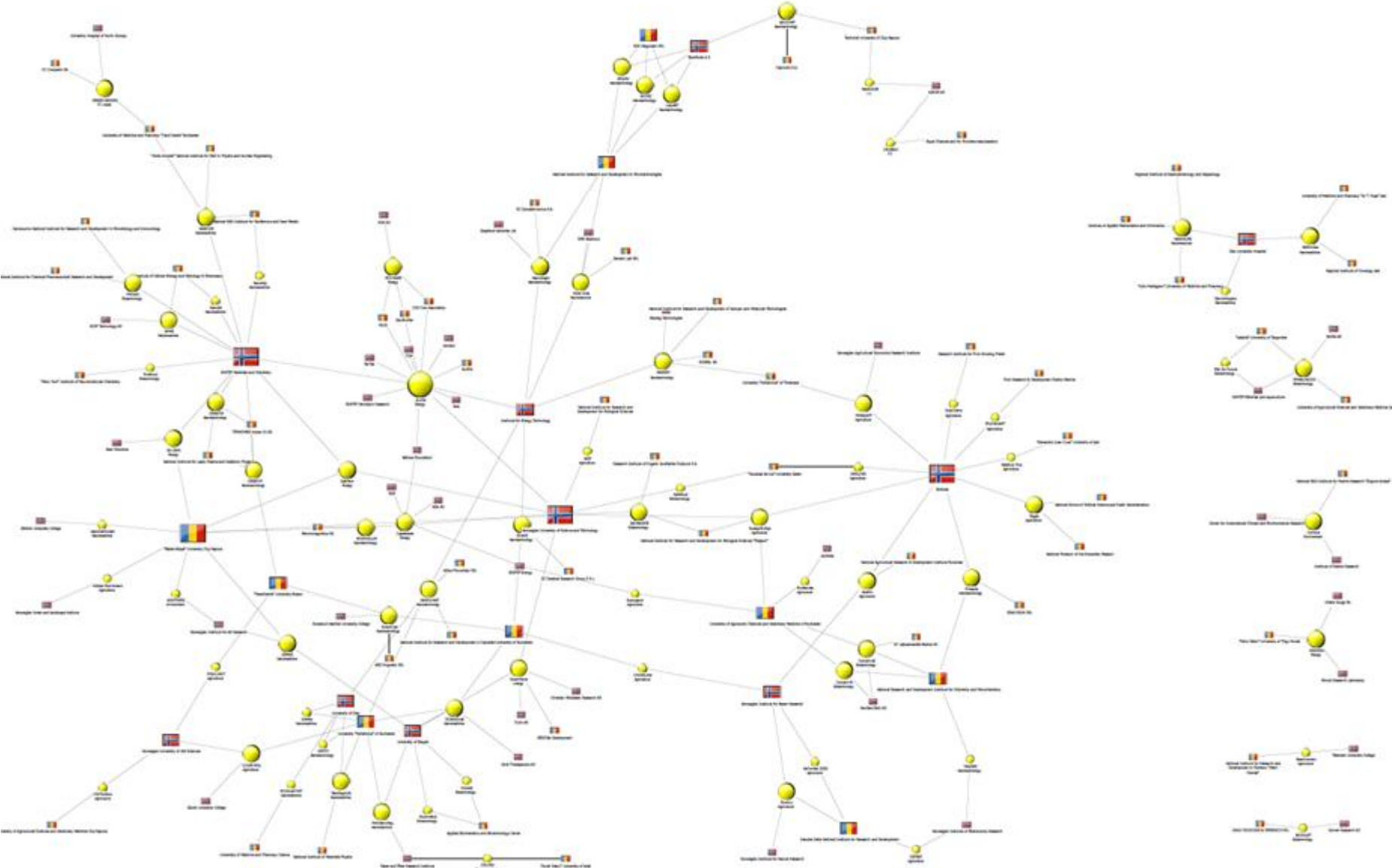
33

ERA-NET
calls



- 2014 → 1st place (EU-13) in ERA-NET COFUND (Horizon 2020)
 - 2015 →
 - 2013 → 2nd place
 - 2012 → 1st place
- } in the list of Romanian entities accessing FP 7 projects (European Research Ranking)

Norway – Romanian partnerships in ERA_NET and AAL



Strategic projects for Romania



Extreme Light Infrastructure - Nuclear Physics facility (ELI-NP)

Pan European distributed infrastructure



ELI-Beamlines Facility (CZ)



ELI-Attosecond Facility (HU)



ELI-Nuclear Physics Facility (RO)

A revolution in laser science

SOURCE: EC

Extreme Light Infrastructure - Nuclear Physics facility (ELI-NP)



From the uniqueness of science and technology to a smart territorial development

2015 –

Vision building exercise

Laser Valley – Land of Light



**L A S E R
V A L L E Y**
Land of Lights



PRINCIPIILE DEZVOLTĂRII

THE PRINCIPLES FOR DEVELOPMENT

CERCETARE LA FRONTIERĂ FRONTIER RESEARCH



EDUCAȚIE PRIN ȘTIINȚĂ SCIENCE-BASED EDUCATION



ANTREPRENORIAL HIGH-TECH HIGH-TECH ENTREPRENEURSHIP



COMUNITATE IMPLICATĂ EMPOWERED COMMUNITY



MOBILITATE INTERMODALĂ INTERMODAL MOBILITY



ECO-LOCUIRE ECO-LIVING



MOBILITATE INTERMODALĂ
INTERMODAL MOBILITY

NOD INTERMODAL / INTERMODALE NODE

*Acces prin lift la pasajul supratetron.
Elevator access to overpass.*



Nodul Intermodal este al tuturor. Viteză, confort, cu trenul, cu light rail sau cu bicicleta, oricine poate ajunge în Laser Valley!

The Intermodal Hub is for everyone. Speed, comfort, with the train, light rail or bicycle, anyone can reach Laser Valley!



CENTRU MULTIFUNCȚIONAL / MULTIFUNCTIONAL CENTRE
*Loc de interacțiune și creație, activități sociale, sportive și culturale.
A place for interaction and creativity, social, cultural and sportive activities.*

COMUNITATE IMPLICATĂ / EMPOWERED COMMUNITY



Comunitatea Laser Valley la o sesiune de Co-Design de la Coloana Infinitului 2.0. Vizualizarea prin realitate augmentativă va transforma spațiul public în locul de întâlnire a prezentului cu ideile viitorului, al oamenilor de AICT cu cei de PREȚUTINDENI.

Laser Valley Community at a CO-DESIGN session at the Infinity Column 2.0. Viewing through augmentative reality will transform the public space into the meeting place between the present and the ideas of the future, between the people HERE with the people EVERYWHERE.

COMUNITATE IMPLICATĂ / EMPOWERED COMMUNITY



**EDUCAȚIE PRIN ȘTIINȚĂ /
SCIENCE-BASED EDUCATION**

Dezvoltarea valorilor sociale pentru a deveni un cetățean responsabil și orientarea către cariere științifice.
Develop social values needed in order to become a responsible citizen and undertake science related careers.



EXPLORE ROOM



**EDUCAȚIE PREUNIVERSITARĂ /
PRE-UNIVERSITY EDUCATION**

Realitatea augmentată oferind un cadru potrivit pentru creativitate, educație și colaborare.
Augmented reality offering a suitable framework for creativity, education and cooperation.

**EDUCAȚIE PRIN ȘTIINȚĂ /
SCIENCE-BASED EDUCATION**



**CAMPUS UNIVERSITAR /
UNIVERSITY CAMPUS**

Studentii dispun de spații publice creative, cu acces la tehnologii de ultimă generație.
Students have at their disposal creative public spaces, with access to last generation technologies.

**EDUCAȚIE PRIN ȘTIINȚĂ /
SCIENCE-BASED EDUCATION**





**ECO - LOCUIRE /
ECO - LIVING**

*Energie regenerabilă, agricultură
urbană, arhitectură biologică,
gestionarea deșeurilor.*

*Renewable energy, urban agricul-
ture, bio architecture, waste
management*



**COMUNITATE ÎMPlicATĂ
EMPOWERED COMMUNITY**

**CENTRU DE SĂNĂTATE PUBLICĂ /
PUBLIC HEALTH CENTRE**

*Servicii variate și de calitate pentru sprijinirea
tuturor aspectelor legate de sănătate, bunăstare și
dezvoltare personală.*

*Varied and qualitative services to support all aspects
of health, wellbeing and personal development.*



INCUBATOR DE AFACERI / BUSINESS INCUBATOR
Print 3D / Afaceri și inovație tehnologică
 3D Printing
 Business and technological innova-
ANTREPRENORIAT HIGH-TECH / HIGH-TECH ENTREPRENEURSHIP



CENTRU C&D ȘTIINȚELE VIEȚII / LIFE SCIENCES R&D CENTRE
 ILLUSTRATION OF A PERSON WITH A GLOVE AND A FLASK

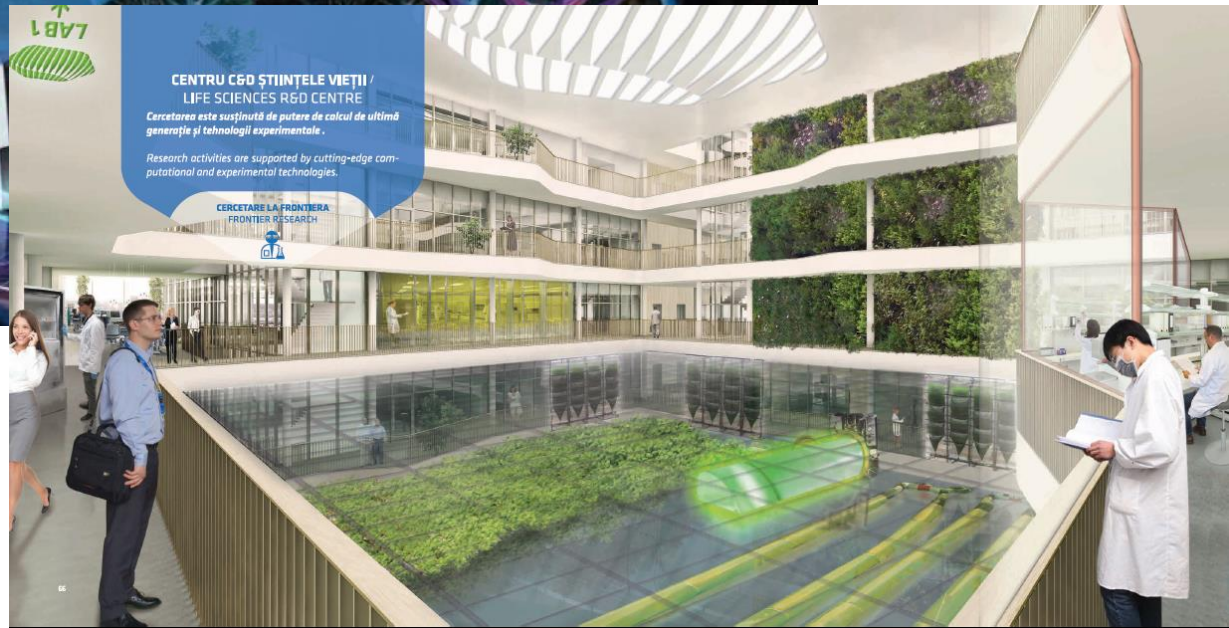


CENTRU DE ANTREPRENORIAT SOCIAL / SOCIAL ENTREPRENEURSHIP CENTRE
 În cadrul comunității se găsesc soluții inovatoare la problemele sociale cele mai prezente ale societății. Lucrând împreună, vom crea și inova.
 The most innovative solutions to society's most pressing social problems are found within the community. Working together, we will create and innovate.

ANTREPRENORIAT HIGH-TECH / HIGH-TECH ENTREPRENEURSHIP



Zona de Cercetare valorifică eforturile și continuitatea tradiției în domeniul științei. Interfețele inteligenței artificiale integrate apar sub forma legendelor cercetării românești.
 The Research Area symbolizes the efforts and the continuity of tradition in science. The integrated A.I. interface - the legends of Romanian research.



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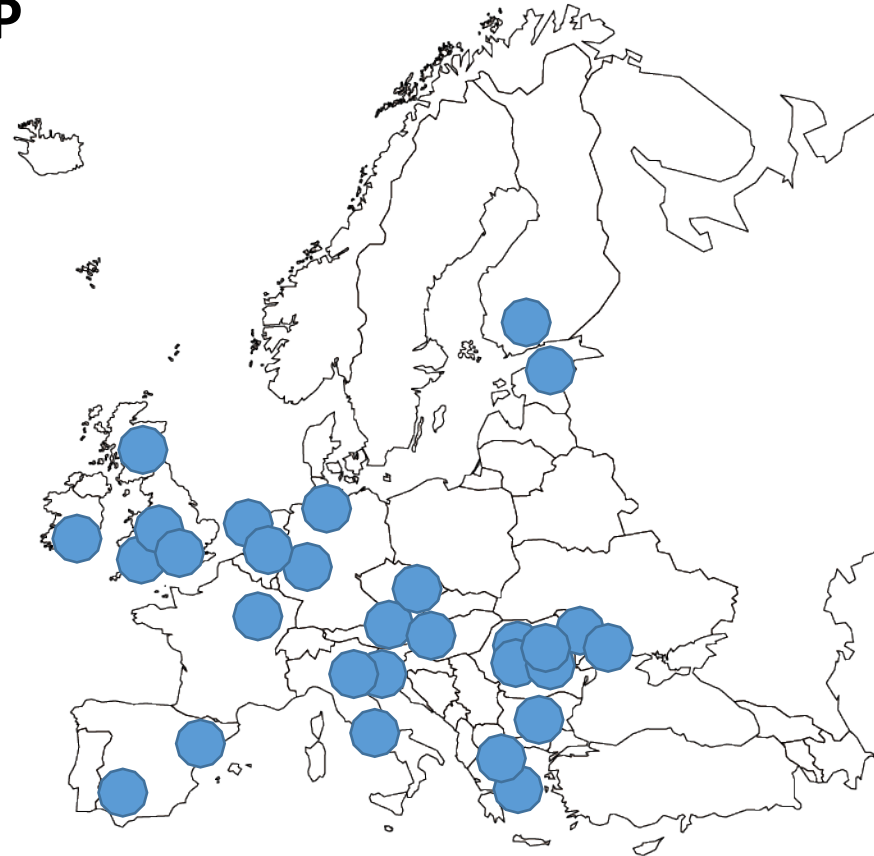
Strategic projects for Romania

2

DANUBIUS-PP



Austria (1), Bulgaria (1), Czech Republic (1),
Estonia (1), France (1), Germany (2), Greece
(2), Hungary (1), Ireland (1), Italy (2),
Moldova (1), Netherlands (1), Romania (4),
Spain (2), Ukraine (1), United Kingdom (4)
+ international (3):
EMSO-ERIC, ICOS-ERIC, UNESCO-IHE



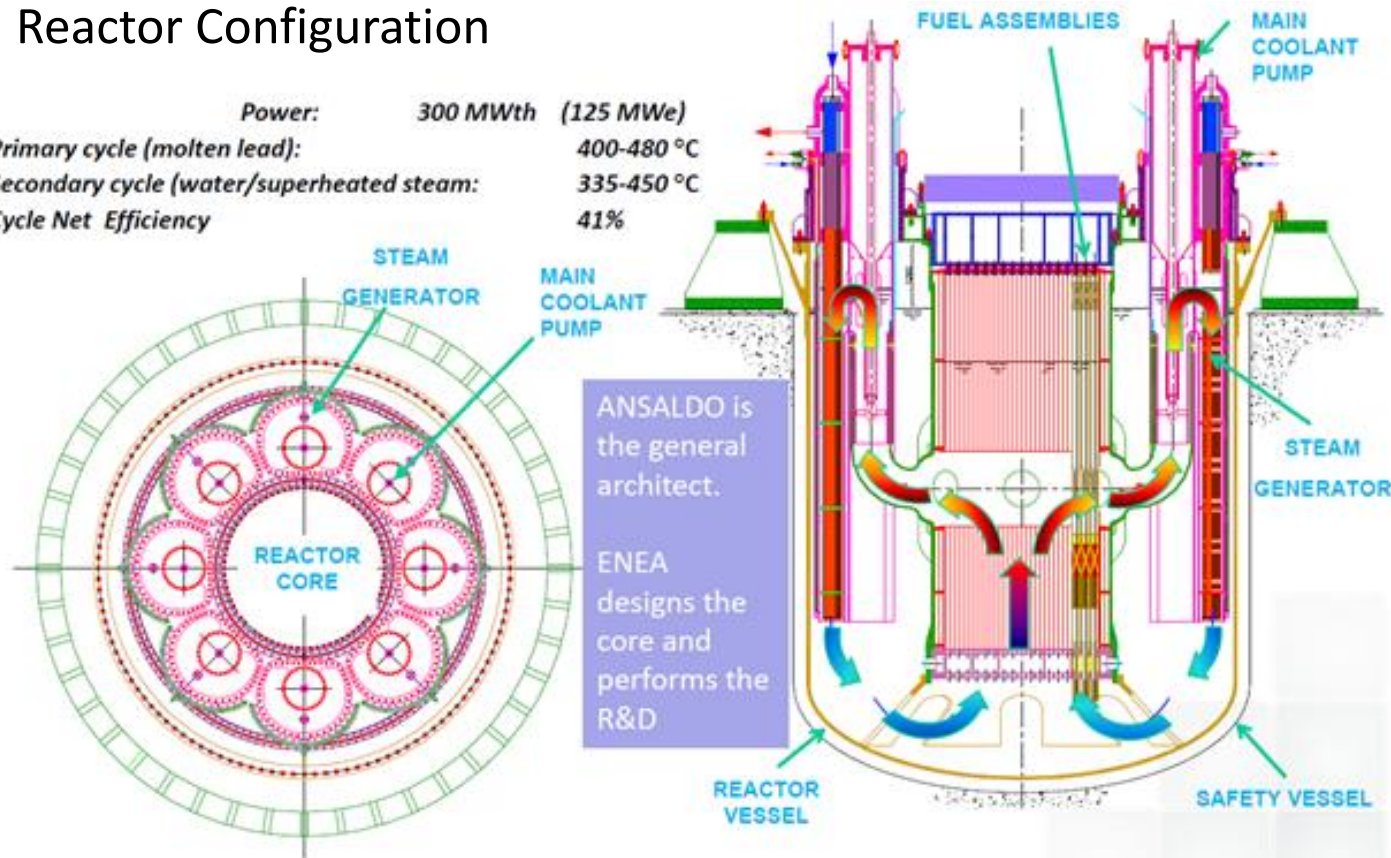
Strategic projects for Romania

3

ALFRED

Reactor Configuration

Power: 300 MWth (125 MWe)
Primary cycle (molten lead): 400-480 °C
Secondary cycle (water/superheated steam): 335-450 °C
Cycle Net Efficiency 41%





Think outside the box
Be a visionary and act!

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