

ROMANIA

Country Report

Of the participants from Romania at CISIP 2021

Speaker: Dionisie Lefter



Category / Topics

- The presentation of the Country
- Who are the members of the Romanian team participants at the CISIP 2021
- Context of interest for CISIP 2021, purpose and benefits pursued
- Compatibility assessments
- Particular scientific interest of Romanian participants at CISIP 2021
- Initiative, proposals, necessary conditions, concrete involvement
- Summary / Conclusion



The presentation of the Country

- Romania is a country of 20 million inhabitants located in Central Europe, member of the European Union.

European Union and Romania

On 1 January 2007, Romania became a Member State of the European Union. The quality of Member State involves both rights and obligations. All this derives from the Treaties and legislation adopted by the European Union since its inception so far, as in the case of any other Member State of the European Union.

The official language spoken: Romanian.

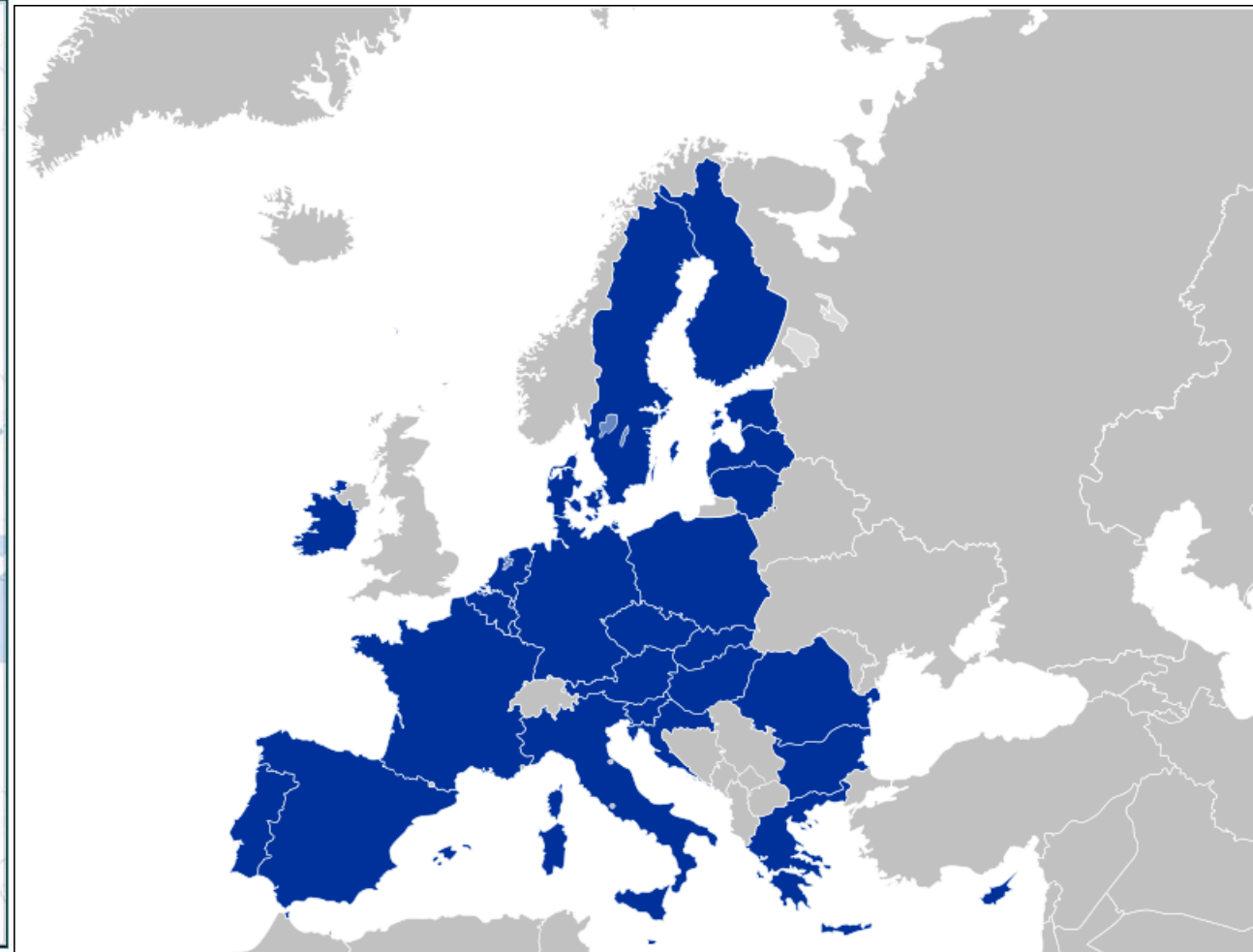
It is adjacent to the East with the Republic of Moldova, the second country in Europe, but which is not a member of the European Union that has Romanian as a formal language.

Romania needs to recover the gaps for the rest of the European Union in order to have a sustainable economy.

At this time, Romania is not among the first countries of the European Union as economic performance and consequently social. Support for evolution and growth is based primarily on supported by the European Union. But it tries to make its own efforts and has **his eyes open to other world-wide opportunities.**



EUROPE

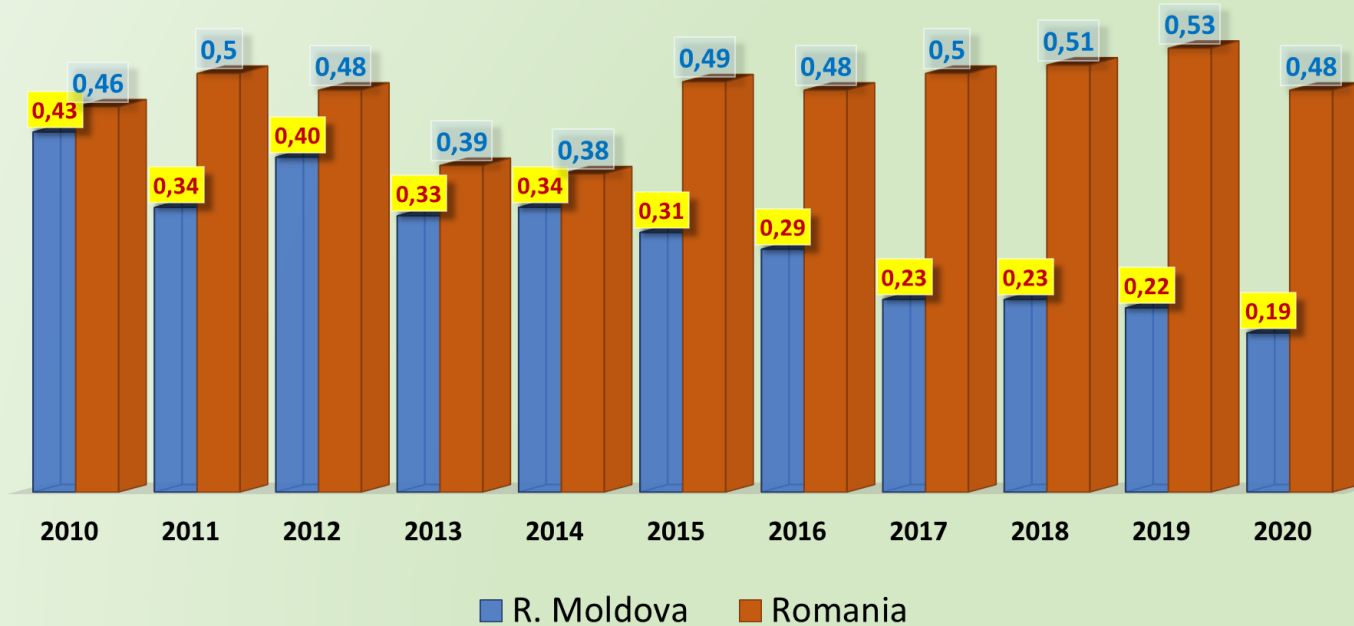


EUROPEAN UNION

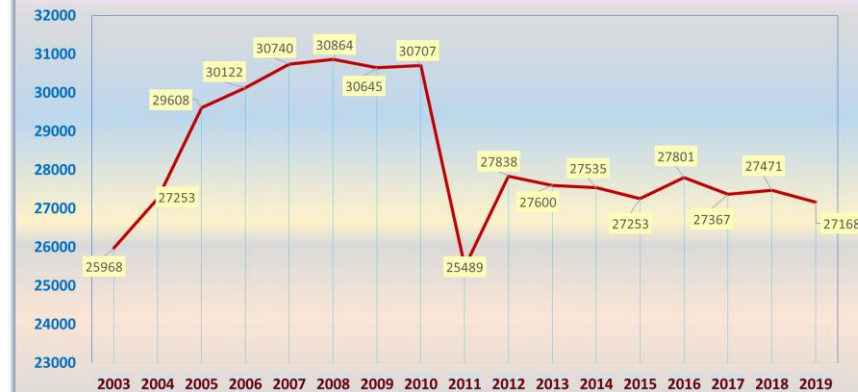


How much is allocated for research and innovation

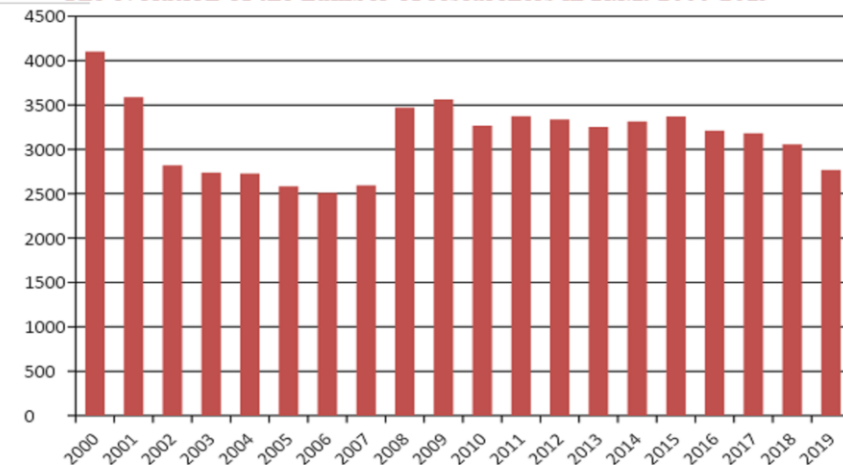
THE AVERAGE SHARE OF FINANCING RESEARCH AND DEVELOPMENT ACTIVITIES IN THE GDP OF THE ROMANIA AND R. MOLDOVA, 2010-2020



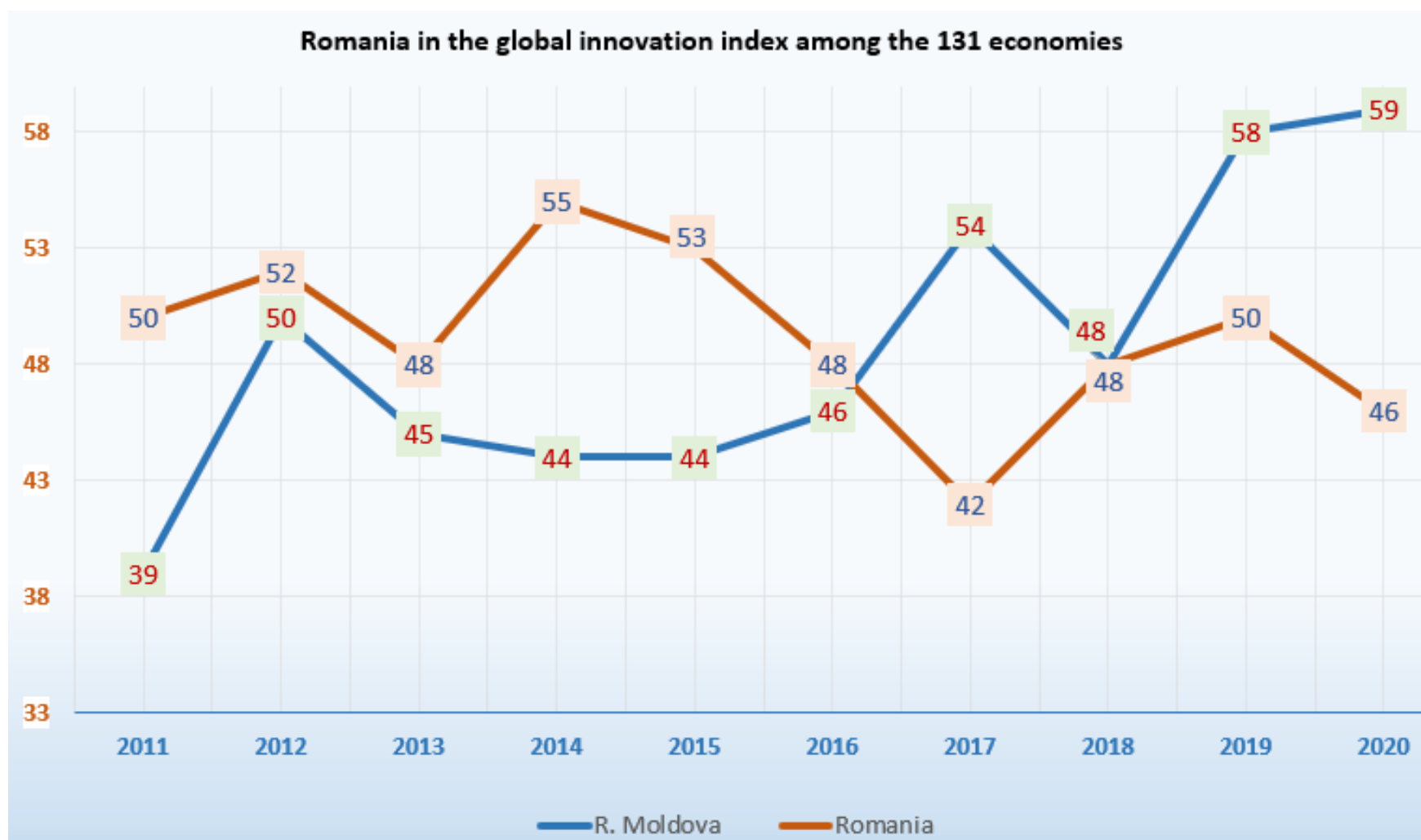
The evolution of the number of researchers in Romania 2003-2019



The evolution of the number of researchers in R.M. 2000-2019



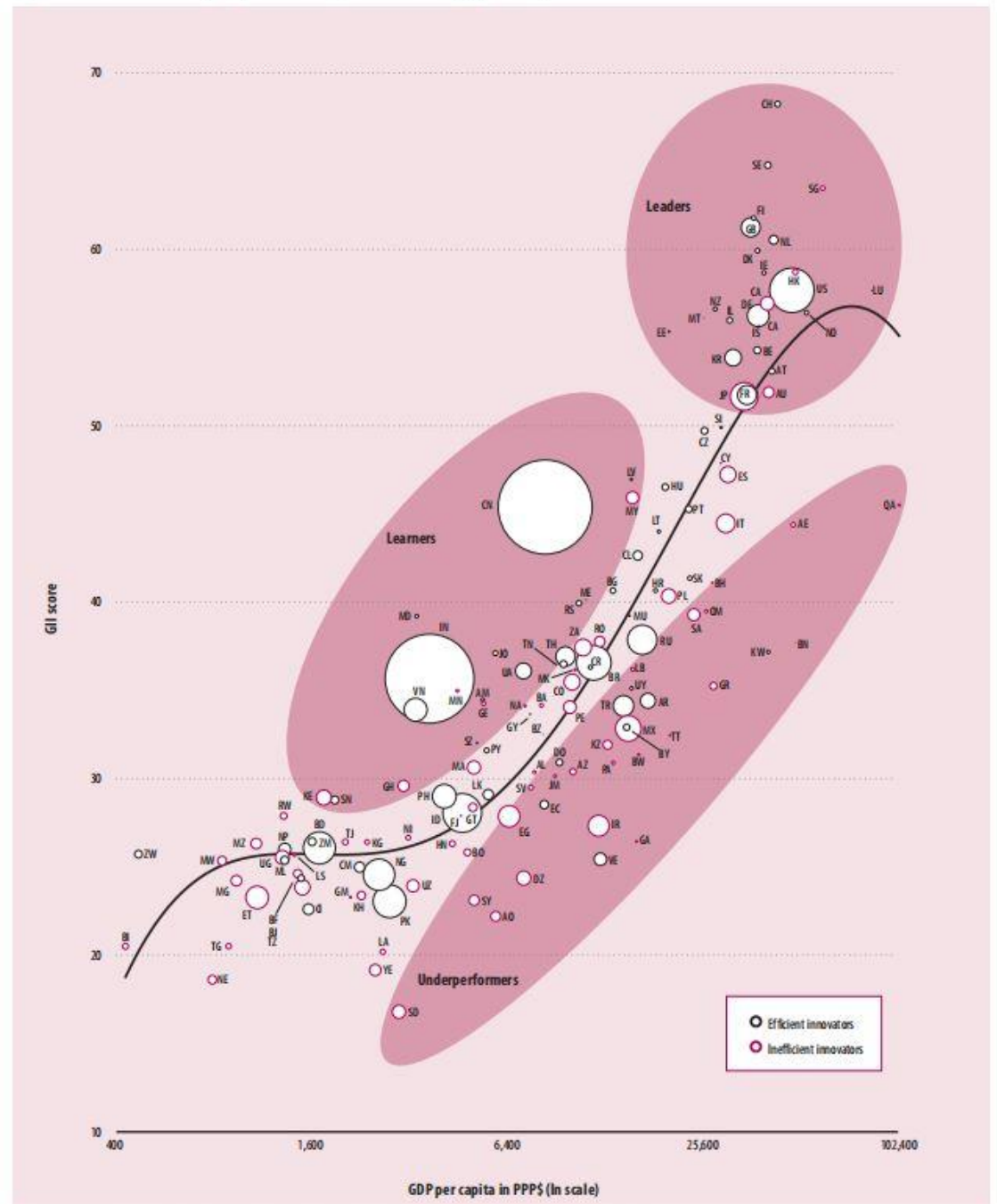
Both Romanian-speaking countries need technological progress





Romania's position relative to the efficiency of innovation towards other countries around the world.

Figure 4: GII scores v. GDP per capita in PPP\$ (bubbles sized by population)



Note: "Efficient innovators" are countries/economies with Innovation Efficiency ratios ≥ 0.74 ; "Inefficient innovators" have ratios < 0.74 ; the trend line is a polynomial of degree four.



What do Romania need:

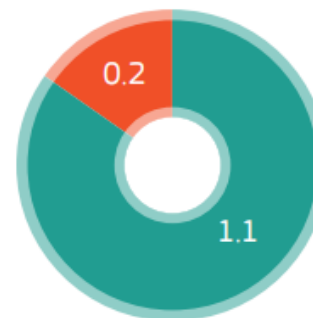
Why is Romania concerned about sustainable development?
Because current generations must be able to cover their needs without compromising the ability of future generations to cover their own needs. The concept of sustainable development encompasses economic, social and environmental considerations that can evolve in interdependence, supporting each other.

Romania is a Modest Innovator

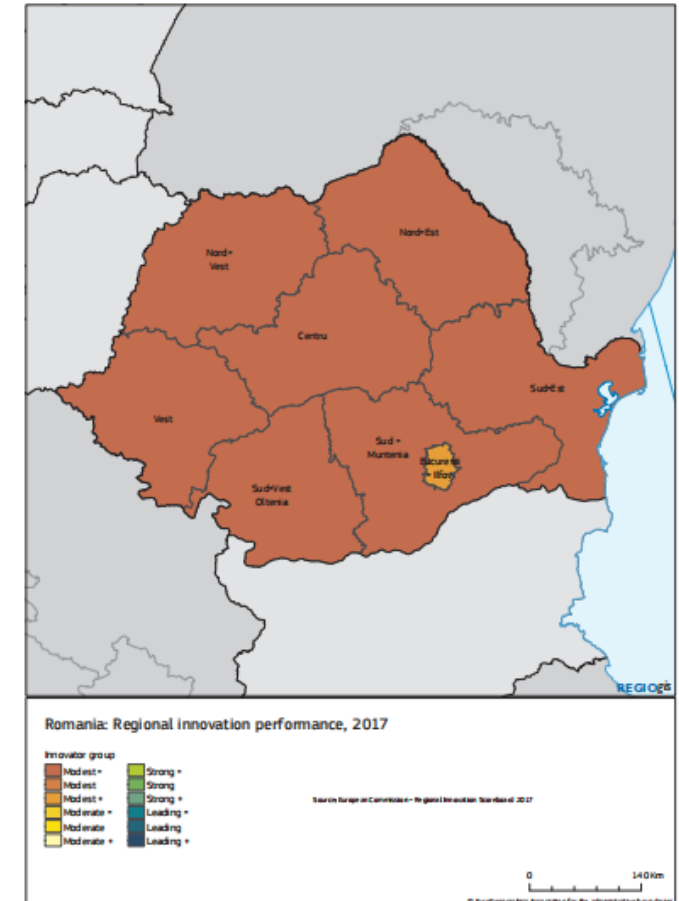
► Smart specialisation priority areas:

1. Manufacturing & industry
2. Information & communication technologies (ICT)
3. Services
4. Sustainable innovation
5. Key Enabling Technologies

ESI Funds total budget for Research and Innovation: Romania - EUR 1.3 Billion



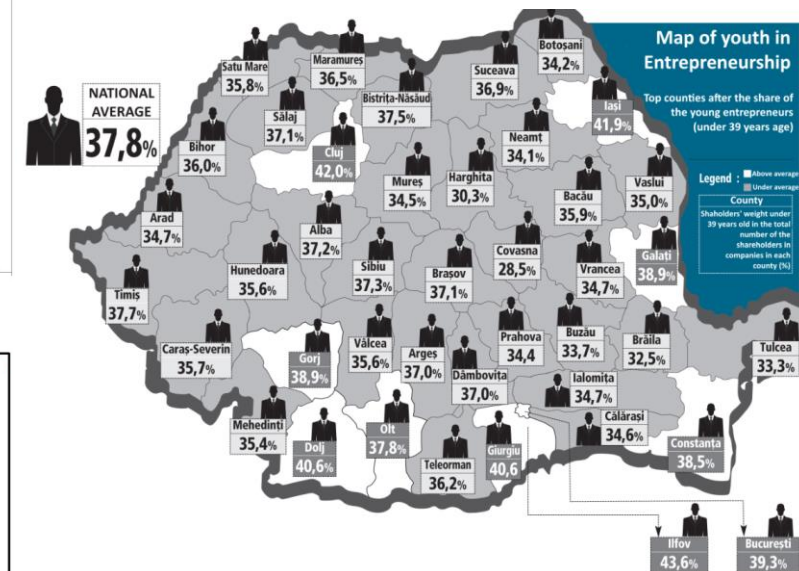
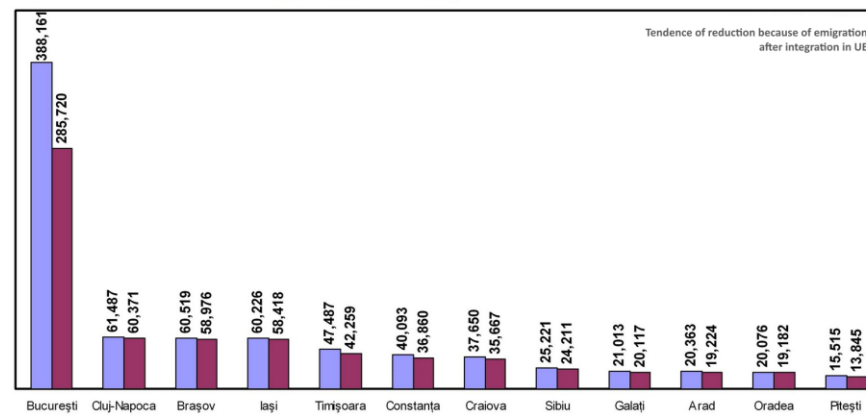
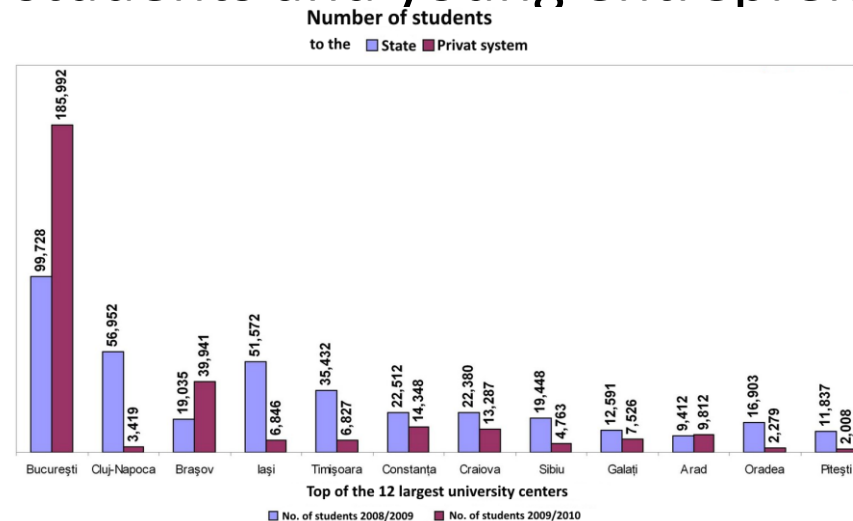
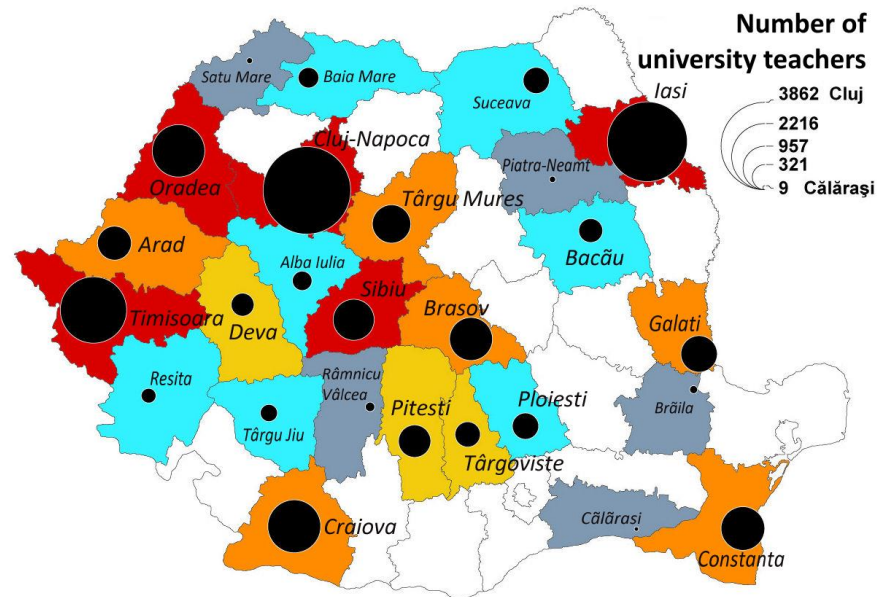
■ EU (EUR bn) ■ National (EUR bn)



Romania supports and rely on the younger generation. Universities are vital.
There is no other way.



The country's actual status of study, innovation and future orientation reflected in the number of university centers widespread throughout the country, the number of students and young entrepreneurs.



One university teacher for the correspondent number of inhabitants:

- One for 150 - 200 inhabitants
- One for 501 - 1000 inhabitants
- One for 1001 - 2000 inhabitants
- One for 2001 - 3000 inhabitants
- One for more than 10 000 inhabitants
- Counties where universities does not work

The Capital Bucharest is not included in statistic



Romania is part of the European Union

The Objectives of EU

The European Union aims at:

- promote peace, European values and the well-being of its citizens
- to offer freedom, security and justice without internal borders
- Ensure sustainable development based on balanced economic growth and price stability, maintain a particularly competitive market economy that foster full employment and social progress and protect the environment
- to combat social exclusion and discrimination
- encourage technical and scientific progress
- strengthen economic, social and territorial cohesion and solidarity between Member States
- respect the cultural and linguistic diversity of its peoples
- to create an economic and monetary union whose currency is Euro (€).

[DIGITALEUROPE's Declaration to ensure the EU is a world leader in Digital Manufacturing](#)
[20 February 2019](#)



The "brain" of the European Union is distributed over its entire surface in Smarts Specialization Strategy Platforms that are linked to each other through Sinapses. Academic infrastructure is the base.





What is Smart Specialisation?

Conceived within the reformed Cohesion policy of the European Commission, Smart Specialisation is a place-based approach characterised by the identification of strategic areas for intervention based both on the analysis of the strengths and potential of the economy and on an Entrepreneurial Discovery Process (EDP) with wide stakeholder involvement. It is outward-looking and embraces a broad view of innovation including but certainly not limited to technology-driven approaches, supported by effective monitoring mechanisms.

Romania follow the EU objectives

Smart specialisation is an innovative approach that aims to boost growth and jobs in Europe, by enabling each region to identify and develop its own competitive advantages.

Through its partnership and bottom-up approach, smart specialisation brings together local authorities, academia, business spheres and the civil society, working for the implementation of long-term growth strategies supported by EU funds.



► SMART

Identify the region's own strengths and comparative assets



► SPECIALISED

Prioritise research and innovation investment in competitive area



► STRATEGIC

Define a shared vision for regional innovation

KEY FIGURES

- Over 120 smart specialisation strategies have been developed
- Over EUR 67 billion available to support these strategies, under the European Structural and Investment Funds and national / regional funding.
- Expected achievements by 2020: to bring 15.000 new products to market, create 140.000 new start-ups and 350.000 new jobs.



► *Strengthening Innovation in Europe's Regions*

Romania is at the beginning of this process.

TURNING IDEAS INTO ECONOMIC SUCCESS (WEST, ROMANIA)

In the West region, the smart specialisation strategy highlights the role of incubators and other business support structures in enhancing entrepreneurship and the creation of innovative companies in the digital sector – where the region retains a competitive advantage. The European Regional Development Fund has supported the reconversion of a decaying industrial area into a centre encouraging digital development and creativity. A start-up incubator was created in Timișoara, dedicated to young graduates who wish to start a business in digital technologies. Young entrepreneurs receive logistical support, as well as services such as consultancy and accounting. This project is integrated into the growing IT industry in the West region of Romania.



New smart specialisation strategy platforms (S3P) are appearing throughout the country



Key elements of Smart Specialisation Strategies

A strategy for smart specialization should be designed around the following key principles:



- Smart specialisation is a place-based approach, meaning that it builds on the assets and resources available to regions and Member States and on their specific socio-economic challenges in order to identify unique opportunities for development and growth;

- To have a strategy means to make choices for investment. Member States and regions ought to support only a limited number of well-identified priorities for knowledge-based investments and/or clusters. Specialisation means focusing on competitive strengths and realistic growth potentials supported by a critical mass of activity and entrepreneurial resources;

- Setting priorities should not be a top-down, picking-the-winner process. It should be an inclusive process of stakeholders' involvement centred on "entrepreneurial discovery" that is an interactive process in which market forces and the private sector are discovering and producing information about new activities, and the government assesses the outcomes and empowers those actors most capable of realizing this potential;

- The strategy should embrace a broad view of innovation, supporting technological as well as practice-based and social innovation. This would allow each region and Member State to shape policy choices according to their unique socio-economic conditions;

- Finally, a good strategy must include a sound monitoring and evaluation system as well as a revision mechanism for updating the strategic choices.

These elements should be clearly reflected in the S3 documents and exhaustively explained.

Strategy developers should also bear in mind that the reason why S3 became an ex-ante conditionality for the ERDF investments in research and innovation was to ensure that the ERDF funds:

- Fit into the overall research and innovation policy (as outlined in the Innovation Union flagship's "Features of well performing national and regional research and innovation systems");
- Complement the existing national or regional funding and governance and legal measures that form part of their policy mix;
- Support effective and efficient measures that provide incentives to private Research & Innovation investments.



A S3 should prioritise domains, areas and economic activities where regions or countries have a competitive advantage or have the potential to generate knowledge-driven growth and to bring about the economic transformation needed to tackle the major and most urgent challenges for the society and the natural and built environment. The number and nature of these priorities will vary from region to region. Note however, that although a first set of priorities should be identified when the S3 is designed, they can be changed or modified when new information/developments make it advisable.

Priorities could be framed in terms of knowledge fields or activities (not only science-based, but also social, cultural and creative ones), sub-systems within a sector or cutting across sectors and corresponding to specific market niches, clusters, technologies, or ranges of application of technologies to specific societal and environmental challenges or health and security of citizens (e.g. ICT for active ageing, mobility solutions to reduce traffic congestion, innovative material solutions for eco-construction, etc.). While some regions or countries may prioritize one or more Key Enabling Technologies (KETs), others will focus on applications of such technologies to specific purposes or defined fields.

Social, organisational, market and service innovation, or practice-based innovation, play as important a role in S3 as technological innovation based on scientific research. This is especially relevant for regions with comparatively weaker technological and science basis. S3 involves not only radical innovation but also exploiting niches by innovating in traditional fields, through developing and applying new business or organizational models, and adapting/exploiting innovations deriving from tacit knowledge and experience in these areas.

Most often, prioritised choices of domains, areas or specific economic activities will be complemented by horizontal measures. These aim at realizing adequate framework conditions for entrepreneurship, supporting the operation of all types of firms both in domestic and international markets, and for developing inter-firm, inter-cluster, and cross-border collaborations.

Defining priorities in a S3



The expressions niche and domain in the context of smart specialisation are closely linked. To put it in a nutshell, a promising niche in a business environment is the counterpart of a promising domain in the pursuit of knowledge and innovative ideas. This relationship is so close that the two expressions are often used as synonyms.

In other words, the word niche refers to market, while domain refers to human knowledge (scientific, technological, practice-based, etc.). A market niche is a portion of user or consumer market that can be addressed by specific products or services. It is usually defined in terms of the profile of potential customers and their needs; meeting these needs is the goal of the firm identifying/occupying the corresponding niche.

The word niche carries implicitly the connotation of a small, haven-like part of the market, whereby the firm serving specific customers' needs through targeted, differentiated products, can be less exposed to low-cost, global competition. Of course, as all markets, also such niches are subject to change and require sustained innovation and business efforts by firms operating in them.

A specialisation domain is an R&D or innovation area characterized by distinctive knowledge. It can be defined either in terms of capabilities or technology or product functionality. The existence of a specialisation domain is often a precondition for having the capacity to develop innovative products or services for specific market niches.

A smart specialisation field/area is about being able to effectively match knowledge domains with market potentials, possibly in view of a niche market. Knowledge alone does not necessarily generate per se economic value of the sort reflected in GDP or total welfare estimates. On the other hand, products with little knowledge content, usually cannot defend their niches for long, if at all, and fall back to the diminishing returns competition typical of undifferentiated, so-called 'homogeneous' goods. Smart specialisation fields are therefore often at the cross-section of different sectors, technologies or knowledge domains.

Understanding 'niche' and 'domain' of specialisation



Priorities should be identified based on two fundamental processes:

- An EDP utilizing entrepreneurial knowledge existing in a region or country and taking an entrepreneurial approach in the sense of focusing on market opportunities, differentiating from others, taking (and managing) risks and seeking alliances to optimise the access to and use of resources (physical, financial, intellectual, market knowledge, etc.). This means that policy-makers should involve all types of innovation actors (e.g. businesses, technology and competence centres, universities and public agencies, science and business parks, business angels and venture capitalists, civil society, etc.) in an entrepreneurial process for the design of S3, and assess their proposals for future development and investment. Simple surveys among these actors are not sufficient. The essence of the EDP lies in its interactive nature that brings the different actors together in a participatory leadership process to carve out jointly the smart specialisation fields and develop a suitable policy mix to implement them;
- An objective analysis of the region/country current situation in terms of research, innovation (incl. existing infrastructures), industrial structures (incl. clusters, position in value chains), skills and human capital (academic and other), demand (incl. public and societal demand), public and private budgets for research and innovation, framework conditions, functioning of the innovation eco-systems (see annex 1 of the Innovation Union flagship initiative). The analysis should take into account the economic context with a place-based focus complemented by an outward-looking dimension. It should also examine the gaps, barriers and potentials for future economic development in a knowledge-intensive perspective, including potentials that will require cooperation with innovation actors in other countries and regions. This means the use of evidence to show what type of activities have the highest chances of success in a particular region or country, based on local assets and an examination of comparative advantages and complementarities with other European and global competitors.

Above all, priority setting cannot be regarded as a straightforward process whose outcome can be decided once and for all. Priority setting requires a certain degree of experimentation with new policy tools, ideally through pilot projects during the process of elaboration and modification of the S3. This in turn requires a strong governance system with sufficient political backing, in order to take risks and allow for failures from which lessons can be learned.

A key feature of S3 is its reliance on collaborative leadership. This means that no single institution (not even the World Bank and certainly not consultants) alone is able to write such a strategy: S3 is about partnership and should be developed with the active involvement of many different types of actors, including firms, science and business parks, universities and other research institutions, civil society organisations as well as national, regional and local authorities. The exact nature of this partnership will vary according to the national and regional institutional structures.

The involvement of entrepreneurs, broadly defined, is especially important to developing S3, and to the, aptly called, Entrepreneurial Discovery Process, because they are best placed to know what is likely to work in a particular place and with whom abroad cooperation can be helpful. This type of institutional capacity-building cannot happen overnight and should be reinforced as the strategy is developed and implemented. Likewise, the EDP can also be described as a 'journey' with no start or end. This is why the governance aspects of S3 should be constantly monitored and evaluated, and modified if necessary.

Conceiving and structuring S3



The risk of failure is inherent to innovation and this is fully accepted by the European Commission — but how risk is managed can influence the success of S3. Before defining what is meant by success or failure, it is useful to distinguish between innovation activities of firms, and innovative measures of support providers, including public bodies. Business innovation has by definition a higher risk than non-innovative activities, but when successful is likely to render higher returns for investment, jobs and growth. This is why innovation is a core issue for the Europe2020 strategy. The use of innovative support measures also entails a certain level of risk, but likewise has the potential for achieving better results.

Both types of innovation should be accompanied by appropriate risk mitigation or management. For example, with regard to the possible failure of business innovation projects, the Commission recommends coherent policy-mixes, such as the combination of advisory services with networking and clustering, as well as direct financial support. The Commission also promotes the increased use of financial instruments that enhance risk-sharing. As for mitigating the risk of failure of public support mechanisms, the Commission encourages experimentation. This can include pilot interventions that can subsequently be abandoned or modified; this approach applies not only to the innovative actions for sustainable urban development, but to all innovation-related investments.

To determine whether there is success or failure at the level of operations, it is of utmost importance to set meaningful indicators, for instance those that include a realistic time-perspective. In this example, employment growth due to business innovation may not materialise within the programming period, and to use this as an indicator may be counterproductive.

On the other hand, the development and testing of a prototype, new forms of co-operation along the value chain or increased collaboration with research institutes may materialise in time, and hence may be aptly used as indicators. The setting and quantification of indicators should also take into account the level of risk and innovativeness of the measures to be supported by the proposed investment.

Risk, success and failure in the context of S3



This will be even necessary in most cases. For instance, the regulatory and administrative environment, including the financing of universities, fiscal incentives and R&I support structures, not to mention the overall governance arrangements, may be crucial to the success of S3.

However, these complementary measures and governance structures will depend on the particular policy and institutional context of each Member State.

Including actions or policies not linked to EU funds in a S3



The answer to this question depends on each Member State's institutional and territorial architecture, as well as on the administrative level responsible for the competences on R&D and innovation.

It is up to the Member States to decide what suits them best, in light of their governance structures.

As far as national S3 are concerned, it is worth recalling that if a country plans to have a national S3, this is supposed to be the national research and innovation strategy and not a separate/parallel plan in addition to the national R&I strategy.

If a country opts for a national S3 in addition to regional strategies, national and regional S3 have to be coherent and complementary. This will call for a consolidation of strategies and there will certainly be a need for governance structures for monitoring the implementation at both levels.

The Commission's remit here corresponds specifically to exploring issues related to the quality and effectiveness of the parts implemented by the OPs. It is strongly recommended that authorities at the most relevant territorial level (NUTS I, II or III) with respect to the decision-making process of both drafting innovation strategies and managing EU Structural Funds register as members of the S3 Platform.

Appropriate administrative/geographical level for national or regional S3



The RIS3 Guide highlights the important role to be played by all innovation actors in the S3 process. Science, technology and business parks are essential stakeholders to be included in the S3 governance framework, and their input for the prioritisation stage should be considered a key element in the process.

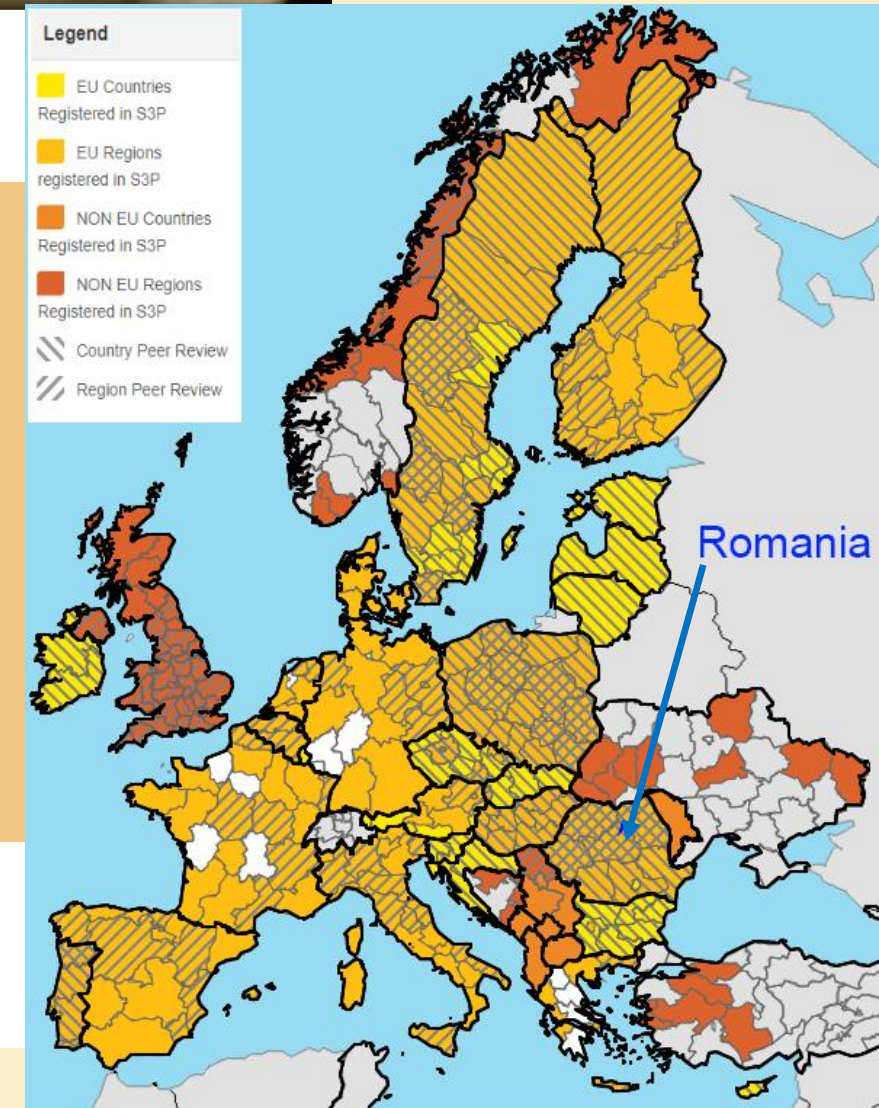
In addition, these parks contribute to other dimensions of the smart specialization paradigm: their management bodies have experience in stimulating and managing flows of knowledge and information between companies, universities, entrepreneurs and technicians, and provide an environment that enhances a culture of innovation, creativity and quality. They facilitate the creation of new businesses via incubation and spin-off mechanisms and accelerate the growth of small and medium size companies, and work in a global network that gathers many thousands of innovative companies and research institutions throughout the world, facilitating the internationalization of their resident companies.

In addition, companies located in parks are specialized in very specific activities of several different sectors. This is why so many times, when these companies collaborate with others, appear new products, services or technologies produced through the combination of different activities and different sectors. This process of cross-fertilization of activities and sectors (related diversity) is also one of the activities on the daily agenda of the managing bodies of the parks and they can provide many examples of how they develop.

The role of science and business parks in S3



A S3 needs to outline the policy mix (EU funded and other) that will be used for its implementation; mere political visions and objectives are not enough. The outlined measures should in particular be fit to stimulate private research and innovation investment, i.e. it is recommended to involve entrepreneurs in the design of individual support tools and in the concept of the overall innovation support system (which should contain not only direct financial support to specific R&I projects, but also cooperation platforms, support services, infrastructures, etc.).



Registered countries and regions in the S3 Platform

Implementing S3: the need for information on the policy mix



Who are the members of the Romanian team participants at the CISIP 2021

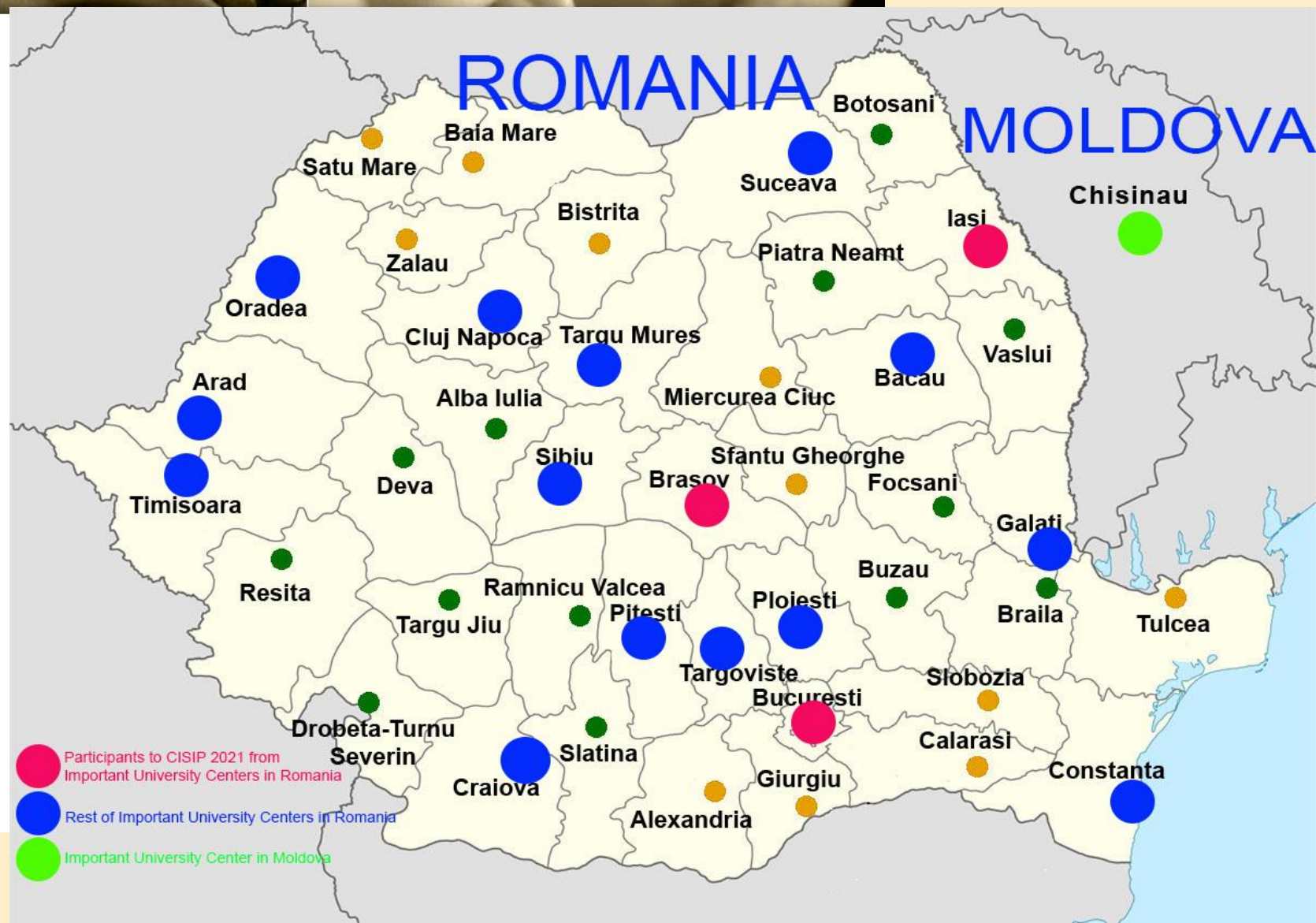
Dan Gabriel Ghita	Romania (Bucharest)	<u>IFIN-HH/ELI-NP</u>	R&D Engineer
Stelian Tarulescu	Romania (Braşov)	<u>Transilvania University of Brasov</u>	Head of High Tech Products for Automotives Research Center
Dorin Radu	Romania (Braşov)		Lecturer
Laurentiu Aurel Mihail	Romania (Braşov)		Associate Professor and Director of the Technological and Business Incubator of Transilvania
Dionisie Lefter	Romania (Iaşi)	<u>ETTA AUTO S.R.L.</u>	Expert, Administrator, Owner



Locations of participants from Romania to CISIP 2021

Participants come from the research, university and economic environment and independently participate in CISIP 2021

The participants from Romania at CISIP 2021 were in a group ad-hoc to present their country and designated as speaker on [Dionisie Lefter](#)





Context of interest for CISIP 2021 of Romanian team



Benefits of participation in CISIP 2021

About China's scientific and technological parks, It has been understood:

The concept

The
organization

The evolution

The financing

The economic
effects

The
collaboration
opportunities

Training /
Educational
Opportunities

Other benefits

All this in accordance with specific legislation in China



Compatibility assessments

- China and the European Union have similar targets and principles of application.
- Both are based on co-operation between administration, academia, professional associations and stakeholders in the economy in promoting scientific technical progress for the development of the economy.
- Both use the principle of subsidiarity and presents differences, on a case-by-case basis, between their regions and scientific and technological parks established locally.
- Both meet and accept collaborations and foreign investment outside their economic bloc
- There are exclusive strategic areas in scientific research, but there are multiple areas where scientific collaboration in order to raise the level of mutual economic performance is desirable on both sides.
- Romania is a much smaller country than China. In particular, Romania is interested in collaborating with Chinese scientific and economic entities, respectively, Chinese scientific and technological parks
- Frequency and calendar Romanian-Chinese collaborations must grow. The involvement of Chinese scientific and technological parks must grow in Romania. It is an opportunity and Romania needs to be included in the Chinese "Belt and Road" program.
- The involvement of Chinese scientific and technological parks in Romania can be done both physically and virtually. The entities capable of the two countries can work together for different projects.
- Next, we present the areas of independent, particular scientific interest of Romanian participants at CISIP 2021.



Particular scientific interest of Romanian participants at CISIP 2021



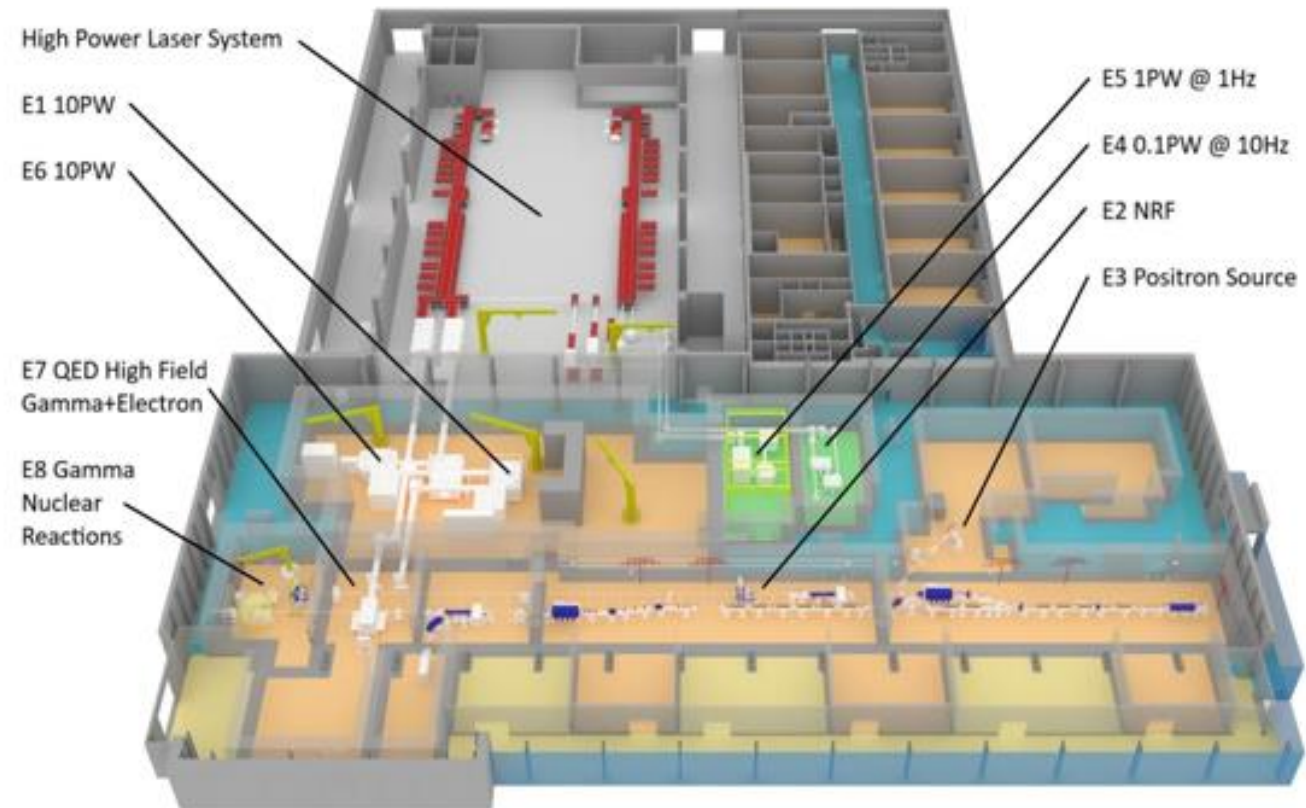
Extreme Light Infrastructure – Nuclear Physics



1. Basic science in nuclear physics with high power lasers;
2. Basics science with intense gamma beams;
3. Laser acceleration of electrons, protons and heavy ions;
4. Industrial imaging;
5. Materials in extreme conditions;
6. Photonuclear reactions;
7. Nuclear astrophysics;
8. Quantum electrodynamics;

More than 20 experimental stations;

User research facility starting with 2021.



Area: 10 ha; Area of the buildings: 33000 m²



- Atomic and nuclear physics
- Research and production of radioisotopes
- Accelerator Mass Spectrometry
- Ion Beam Analysis
- Radiation detectors development
- Sterilization with ionizing radiation
- Nuclear reactors decommissioning
- Environmental physics studies

- Laser and plasma physics
- Optoelectronics
- Material science
- Theoretical physics
- Computational physics
- High energy physics
- Geophysics





Universitatea
Transilvania
din Braşov



Institutul de
Cercetare-Dezvoltare
AL UNIVERSITĂȚII
TRANSILVANIA
DIN BRAȘOV

icdt.unitbv.ro/en



The Research and Development Institute of Transilvania University of Braşov emerged from a project of structural funds meant primarily to facilitate the increase of the university's competitiveness in national and international research. Establishing the R&D Institute as a space for research, experimentation and testing outside the university buildings and university campus was a strategic decision of the university to stimulate performance in fundamental and applied research, based on several considerations: creating an optimal study, research, testing and experimentation environment; the possibility of concentrating a large amount of technological equipment close to study spaces; ensuring a generous and dedicated research space designed to encourage collaborative research-development-innovation partnerships with local and global companies. The 11 Institute buildings, which currently host **30 research centers**, have high energy autonomy and benefit from a modern and complex research infrastructure consisting of integrated high-tech lines for advanced research into sustainable development.

Research centers



Renewable Energy Systems and Recycling



Sustainable Forestry and Wildlife Management



Advanced Manufacturing Technologies and Systems



Advanced Electrical Systems



Virtual Industrial Informatics and Robotics



Embedded Electronic Systems and Advanced Communications



Centre for Economic Research



Cultural Innovation and Creativity



Design of Mechanical Elements and Systems



The Emil Poenaru Centre for Legal Research



High Tech Products for Automotives



Forest Engineering, Forest Management and Terrestrial Measurements



Economic Engineering and Production Systems



Advanced Metal, Ceramic and MMC Composite Materials and Technologies



Systems for Process Control



Innovative Technologies and Advanced Wood Products



Fundamental Research and Prevention Strategies in Medicine



Theoretical and Applied Linguistics



Communication and Social Innovation



Music Science - Excellence in Musical Performance



Numerical Simulation, Testing and Mechanics of Composite Materials



Advanced Mechatronic Systems



Eco-Biotechnologies and Equipment in Food and Agriculture



Furniture Eco-design, Restoration and Certification in the Wood Industry



Advanced Welding Eco-technologies



Mathematical Modeling and Software Products



Centre for Applied Medicine and Intervention Strategies in Medical Practice



Life Quality and Human Performance



Personal, Professional, Institutional Development and Education for a Sustainable Community



R&D Institute's Design Center



High Tech Products for Automotives – Research Center

The infrastructure of the research center enables the products and services with innovative potential in the following areas:

- Advanced solutions for propulsion and transmission systems
- Unconventional propulsion systems
- Road traffic management and sustainable urban mobility
- Design, modeling and research of vehicle systems and components
- Advanced solutions for propulsion and transmission systems

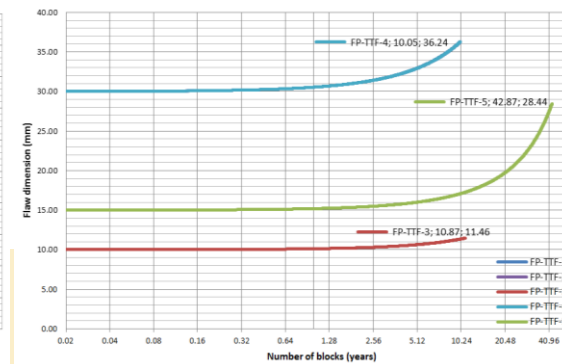
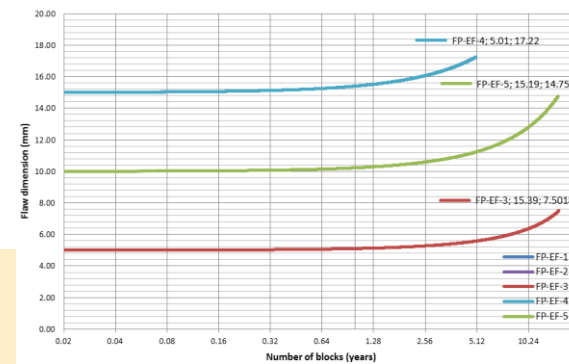
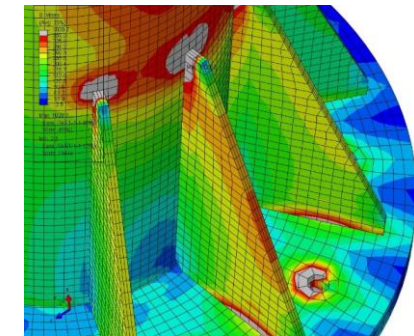
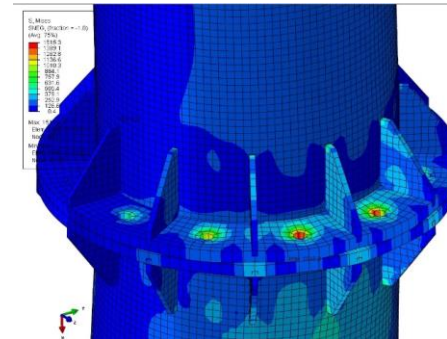
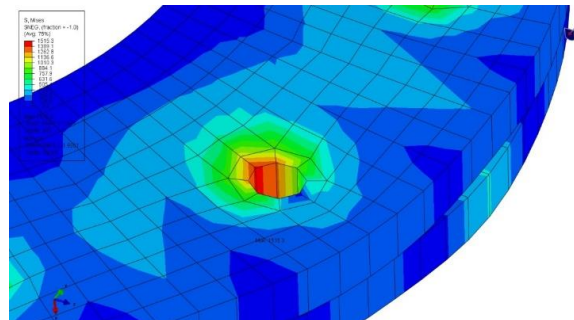
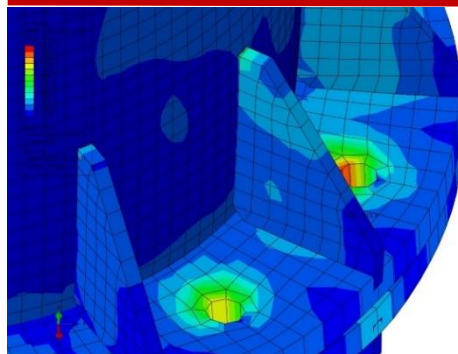




Braşov
R&D Institute's Design Center

Research directions

- Structural integrity assessment of steel structures
- Optimization of design solutions in civil engineering and building services
- Sustainable development in civil engineering
- Natural and environmental risk assessment
- Geotechnical solutions for landslides
- Installation systems for sustainable development



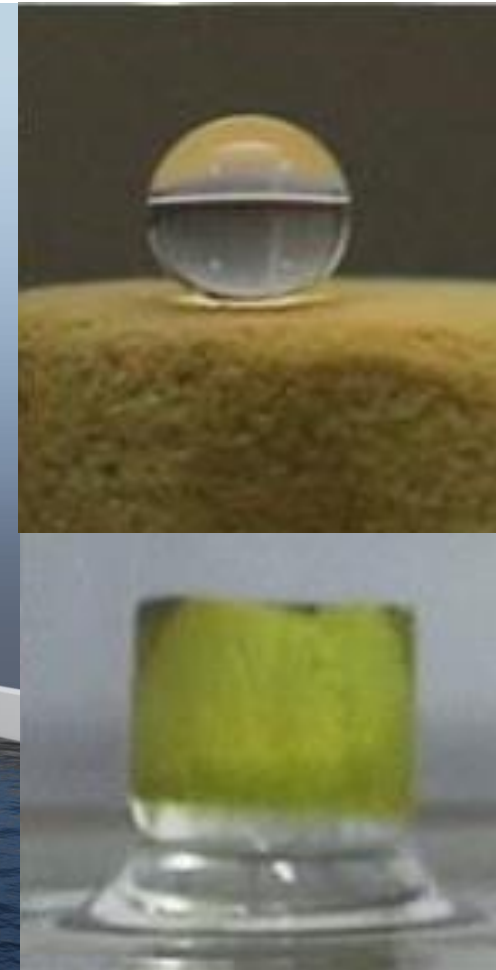
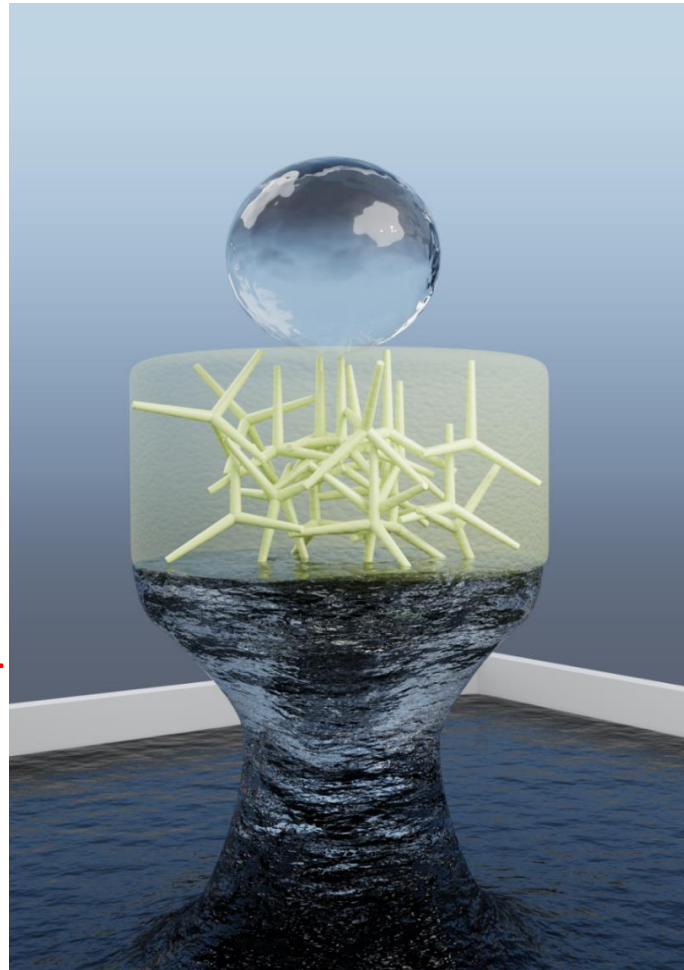


Physics World

<https://physicsworld.com/a/hydrophobic-or-hydrophilic-aero-gallium-nitride-is-both/>

Aerogalnite

the first artificial material with dual hydrophilic-hydrophobic behaviour



Hydrophobic
wetting

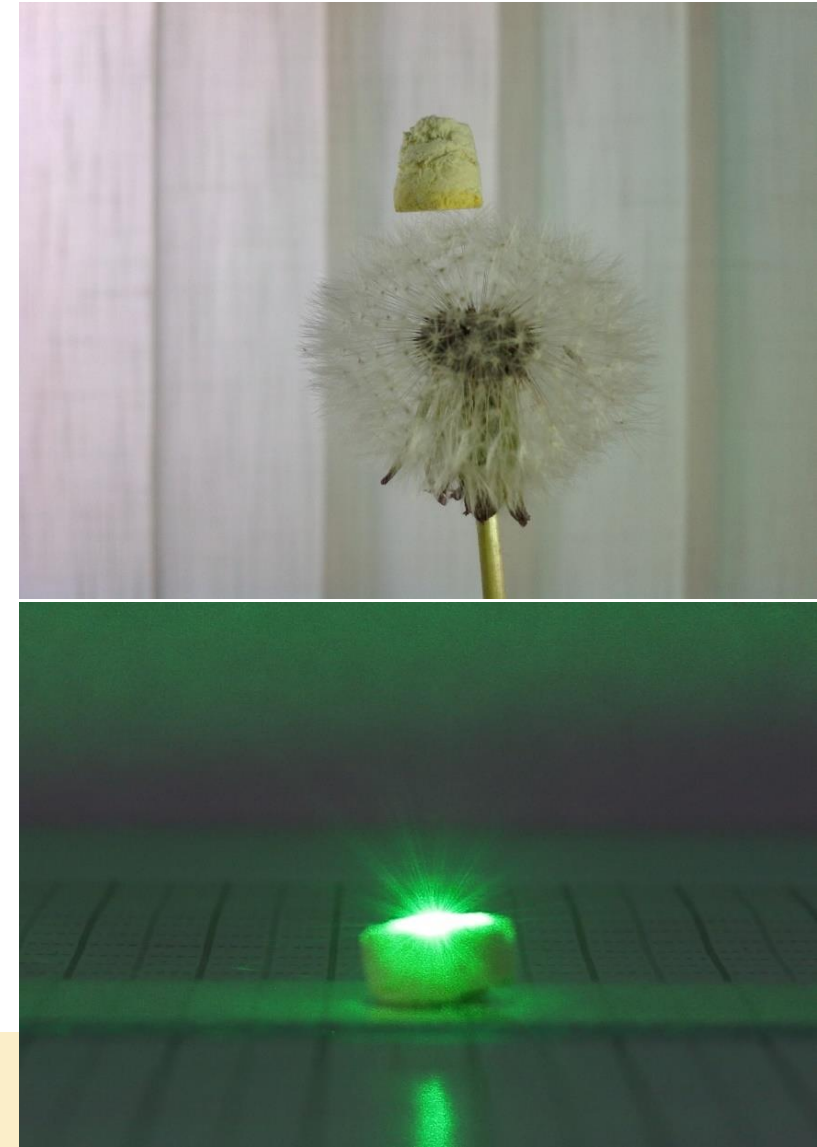
Hydrophilic
dewetting



Possible applications of Aerogalnite

Ultra-porous, ultra-lightweight, radiation-hard, chemically and temperature stable multifunctional nanomaterial

Aerogalnite - a novel nature-inspired 3D nanoarchitecture of GaN, which represents the first artificial material exhibiting dual hydrophobic-hydrophilic behaviour and has similar properties to a biological cell membrane. The 3D nanoarchitecture is based on GaN micro-tubular structures with nanoscopic thin walls, the inner surface being covered by an ultrathin film of ZnO. The micro-tubular structures are shown to self-organize when interacting with water, forming self-healing waterproof rafts with impressive cargo capabilities. The novel material is shown to exhibit shielding capabilities against electromagnetic radiation in both the X-band (8-12 GHz) and Terahertz regions as well as characteristics promising for use in pressure sensors and biomedicine. The shielding effectiveness in the frequency range from 0.25 to 1.37 THz exceeds 40 dB, thus placing Aerogalnite among the best Terahertz shields known today.

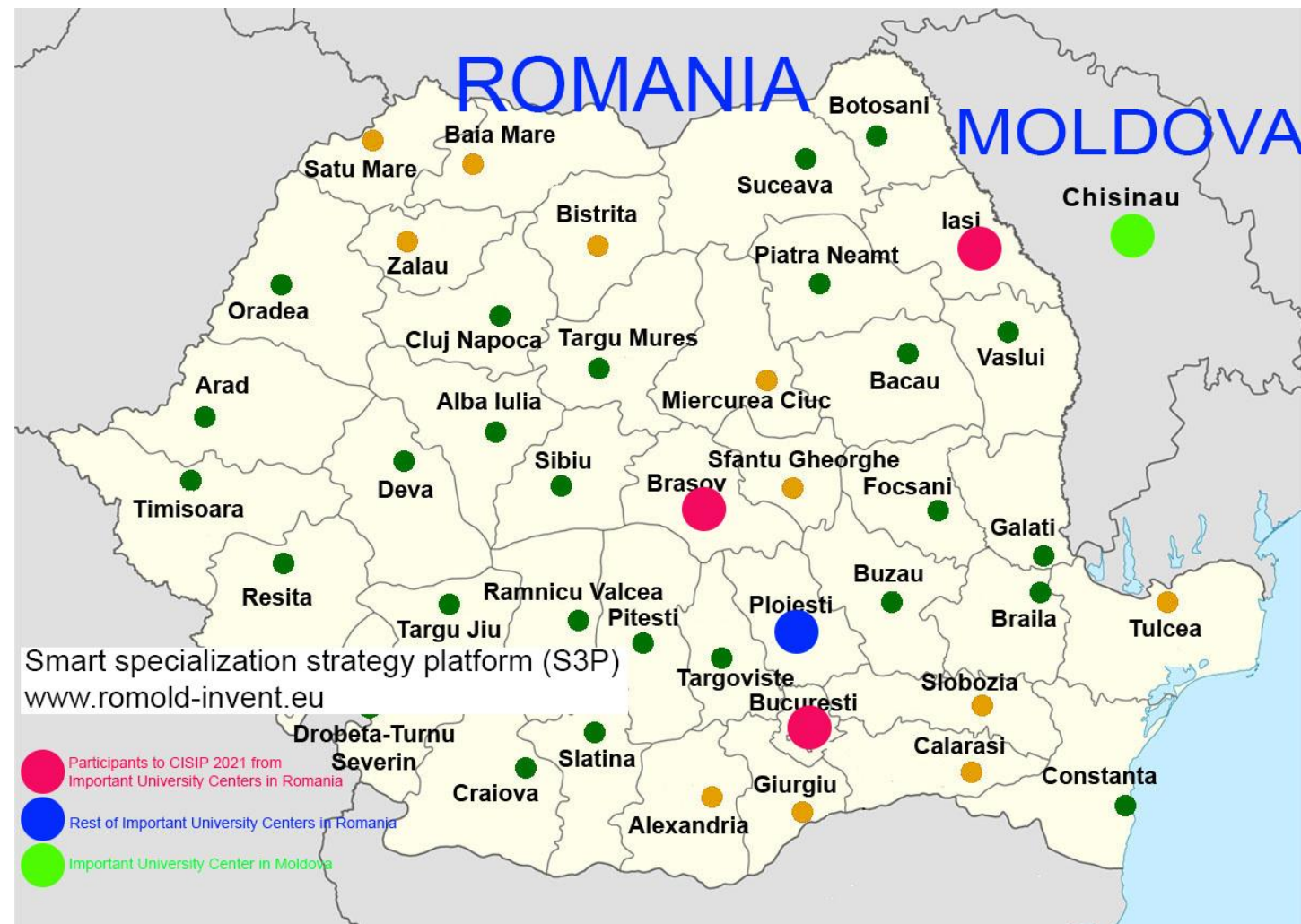




Initiative, proposals, necessary
conditions, concrete involvement



- For the CISIP 2021 event, the Romanian team proposes that the links between Romania and China in the field of scientific and technological parks to multiply and grow in intensity. The first step is to connect virtually, online, so scientists and technicians from the two countries will be better known and will stimulate their creative spirit to do projects and business together.
- Specifically, the Romanian team has developed and activated an online platform where stakeholders can also enroll and present their areas of interest, capabilities and proposals for international collaboration.
- The platform is: www.romold-invent.eu
- On this platform you can see the partners who have already signed up and collaborate with each other.
- The platform will be dynamic, its configuration and the degree of direct involvement of platform members will evolve rapidly. We are convinced that Chinese entities will quickly pop this platform and will bring a huge contribution to collaboration and technological progress, and the capabilities of this community so that the most important scientific, economic and social objectives will be easy resolved for any region in the world.
- The platform will develop according to the standards and rules of the European Union and will allow the compatibility of funding systems in the European Union and China.





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INTEGRATOR/SECRETARIAT CLR HYDRAULICS Iași, România

RoMold INVENT

PARTENERIAT ȘTIINȚIFIC
PLATFORMĂ DE SPECIALIZARE INTELIGENTĂ STRATEGICĂ
București, Iași, Chișinău, Brașov, Ploiești





STATUTUL PLATFORMEI SPECIALIZATE INTELIGENTE

RoMold INVENT



MISIUNE

Platforma Științifică RoMold INVENT are ca obiectiv punerea în valoare a competențelor și inovativității Instituțiilor de Cercetare-Dezvoltare și întreprinderilor economice care se implică în activitatea de inovare cu aplicații în zona centrelor universitare din România (Iași, București).

PRINCIPII INTELIGENTE



CAPABILITĂȚI - SERVICII



Servicii de
cercetare, dezvoltare și
proiectare de soluții



Servicii de proiectare tehnologică



Servicii de consultanță



Servicii de evaluare și
certificare de calitate



Dezvoltare tehnologică
(în colaborare)



Dezvoltare de soluții
inovative



Dezvoltare pentru caracteristici
specifice (de exemplu, pentru
medicină, energie și
industria)



Dezvoltare pentru teste de
laborator



Teste și analize experimentale de
medie



Monitorizare și mentenanță a
sistemelor



Investigarea proceselor fizice
chimice și biologice și dezvoltarea
tehnologiilor inovative de
dezvoltare a produselor



Formare





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**PARTENERI ACADEMICI RENUMIȚI
ÎMPREUNĂ
DEZVOLTĂM PROIECTE DEOSEBITE!**

[PLATFORMA ȘTIINȚIFICĂ »](#)



UNIVERSITATEA ALEXANDRU IOAN CUZA
DIN IASI - Centru integrat de studii în
știința medicilor pentru Regiunea de
dezvoltare Nord-Est (DERNESEM)



UNIVERSITATEA TEHNICĂ GHEORGHE
ASACHI DIN IASI - Facultate de Știința și
Ingineria Materialelor - Centrul de
Cercetare în Ingineria Materialelor
(CESIM)



FUNDAȚIA ȘTIINȚIFICĂ ȘI A
CULTURII INTERNAȚIONALE PENTRU
PERFORMANȚĂ - Institutul Român
de Inventivitate IRIS



UNIVERSITATEA DE MEDICINĂ ȘI
FARMACIE GRIGORIE T. POPA DIN IASI



UNIVERSITATEA NAȚIONALĂ DE ARTE
GEORGE ENESCU DIN IASI



ACADEMIA DE ȘTIINȚE A
REPUBLICII MOLDOVA



UNIVERSITATEA PETROL-GAZE DIN PLOIEȘTI
FACULTATEA DE INGINERIE MECANICĂ ȘI ELECTRICĂ



UNIVERSITATEA TRANSILVANIA
BRAȘOV



INSTITUTUL NAȚIONAL DE
FIZICĂ ȘI INGINERIE NUCLEARĂ
HORIA HULUBEI - BUCUREȘTI -
MĂDURELE





Summary / Conclusion

- During the CISIP 2021, Romanian team of participants became aware of the multitude of Chinese scientific and technological parks, their history, organization, funding, the applied policies and the objectives pursued and the results obtained through them for the entire Chinese society. We find that there is an intense orientation towards creativity and innovation. We have found compatibilities that can increase our collaboration with Chinese science and technological parks. We have found the desire of Chinese entities for collaboration and international involvement and we have hoped that they will contact us later to build projects together.
- Thank you for the invitation to attend the CISIP 2021 event!
- You are welcome to Romania!

Romanian Team of participants at CISIP 2021