

The European Commission's science and knowledge service

Joint Research Centre



Smart Specialisation as a catalyst for the development of early-stage regional innovation systems

The experience of Romania

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Seville, 25 July 2019**

Outline

1. **Why Romania? Key features of the national and regional R&I system**
2. **JRC's project "Targeted Support to RIS3 in Romania"**
3. **RIS3 as a catalyst for early-stage regional innovation systems**

JRC project "Targeted Support to RIS3 Implementation"

Four closely complementary JRC activities

STRIVE - Support to Transitions in Regional Innovation Eco-systems

RIS3 Support
to Lagging
Regions

European
Parliament
DG REGIO

2016 - 2020

RIS3 Support
to Romania

European
Parliament
DG REGIO

2016 - 2019

Higher Education
+VET in Smart
Specialisation

DG EAC
DG EMPL

HESS3: 2018-20

Stairway to
Excellence

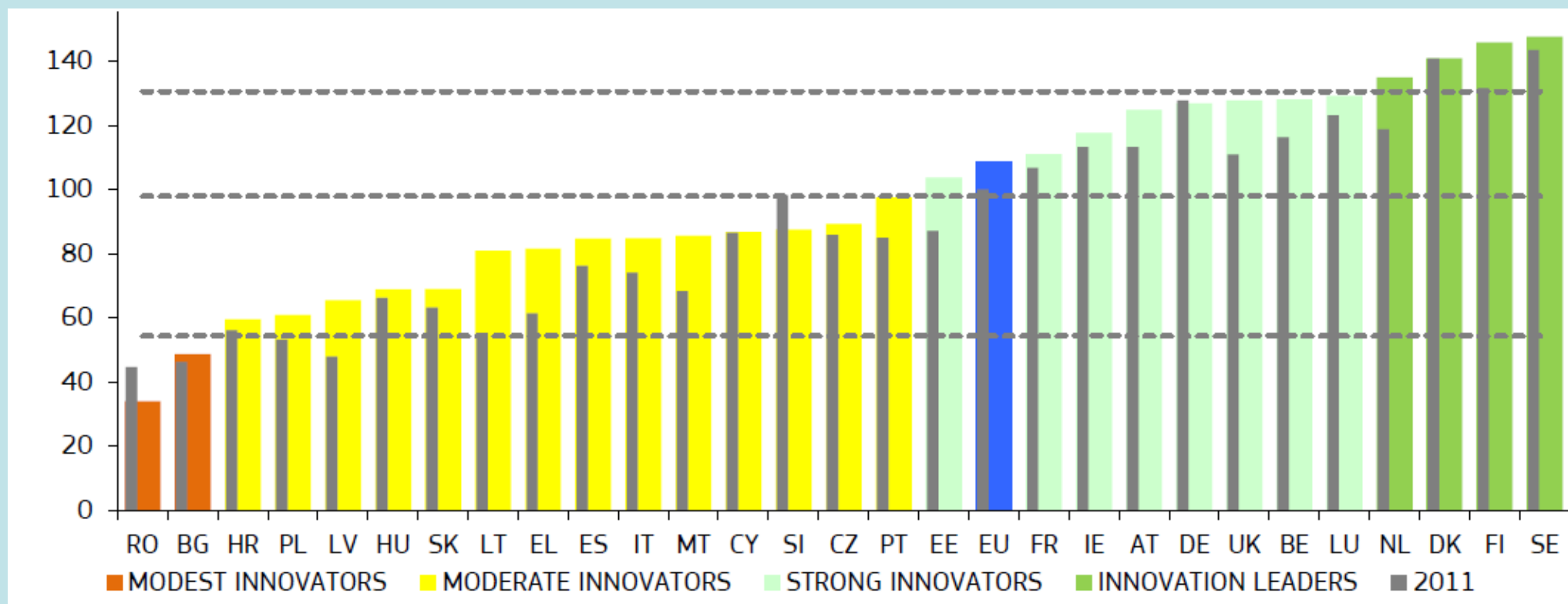
European
Parliament
DG REGIO

S2E-4: 2018-20



1. Why Romania? Key features of the national and regional R&I system

Performance of EU Member States' innovation systems



Measurement framework of the European Innovation Scoreboard

Summary Innovation Index (SII) – 27 indicators

FRAMEWORK CONDITIONS

Human resources

- 1.1.1 New doctorate graduates
- 1.1.2 Population aged 25-34 with tertiary education
- 1.1.3 Lifelong learning

Attractive research systems

- 1.2.1 International scientific co-publications
- 1.2.2 Top 10% most cited publications
- 1.2.3 Foreign doctorate students

Innovation-friendly environment

- 1.3.1 Broadband penetration
- 1.3.2 Opportunity-driven entrepreneurship

INVESTMENTS

Finance and support

- 2.1.1 R&D expenditure in the public sector
- 2.1.2 Venture capital expenditures

Firm investments

- 2.2.1 R&D expenditure in the business sector
- 2.2.2 Non-R&D innovation expenditures
- 2.2.3 Enterprises providing training to develop or upgrade ICT skills of their personnel

INNOVATION ACTIVITIES

Innovators

- 3.1.1 SMEs with product or process innovations
- 3.1.2 SMEs with marketing or organisational innovations
- 3.1.3 SMEs innovating in-house

Linkages

- 3.2.1 Innovative SMEs collaborating with others
- 3.2.2 Public-private co-publications
- 3.2.3 Private co-funding of public R&D expenditures

Intellectual assets

- 3.3.1 PCT patent applications
- 3.3.2 Trademark applications
- 3.3.3 Design applications

IMPACTS

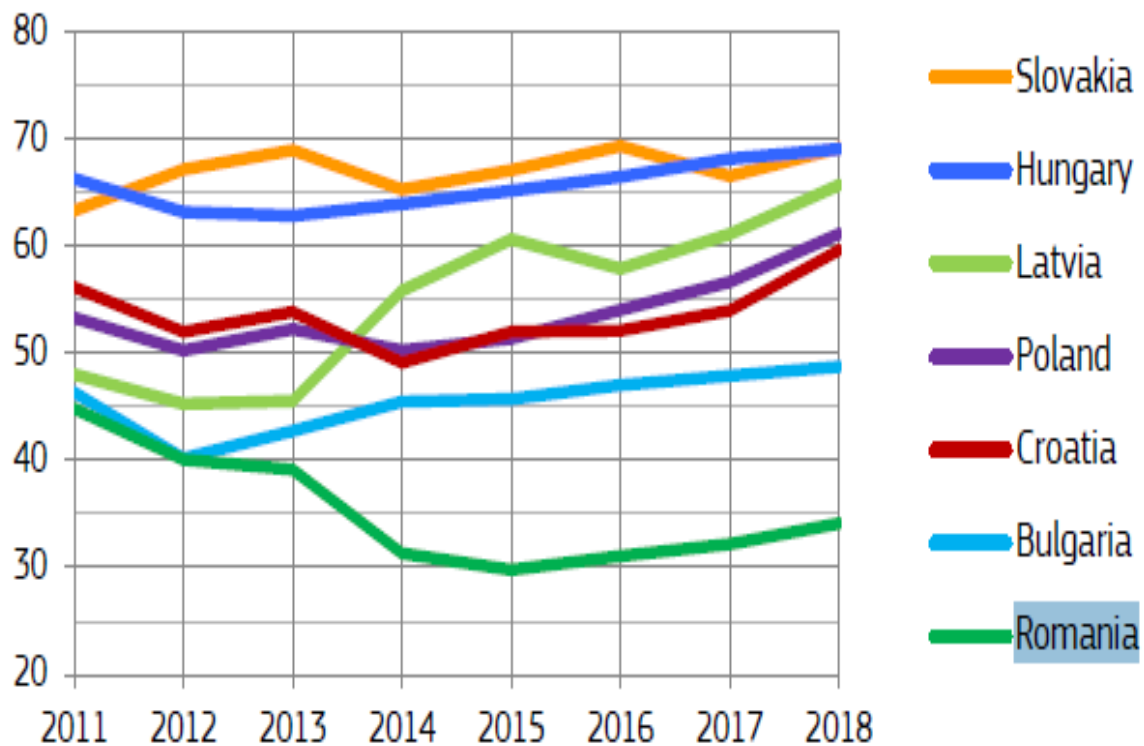
Employment impacts

- 4.1.1 Employment in knowledge-intensive activities
- 4.1.2 Employment fast-growing enterprises of innovative sectors

Sales impacts

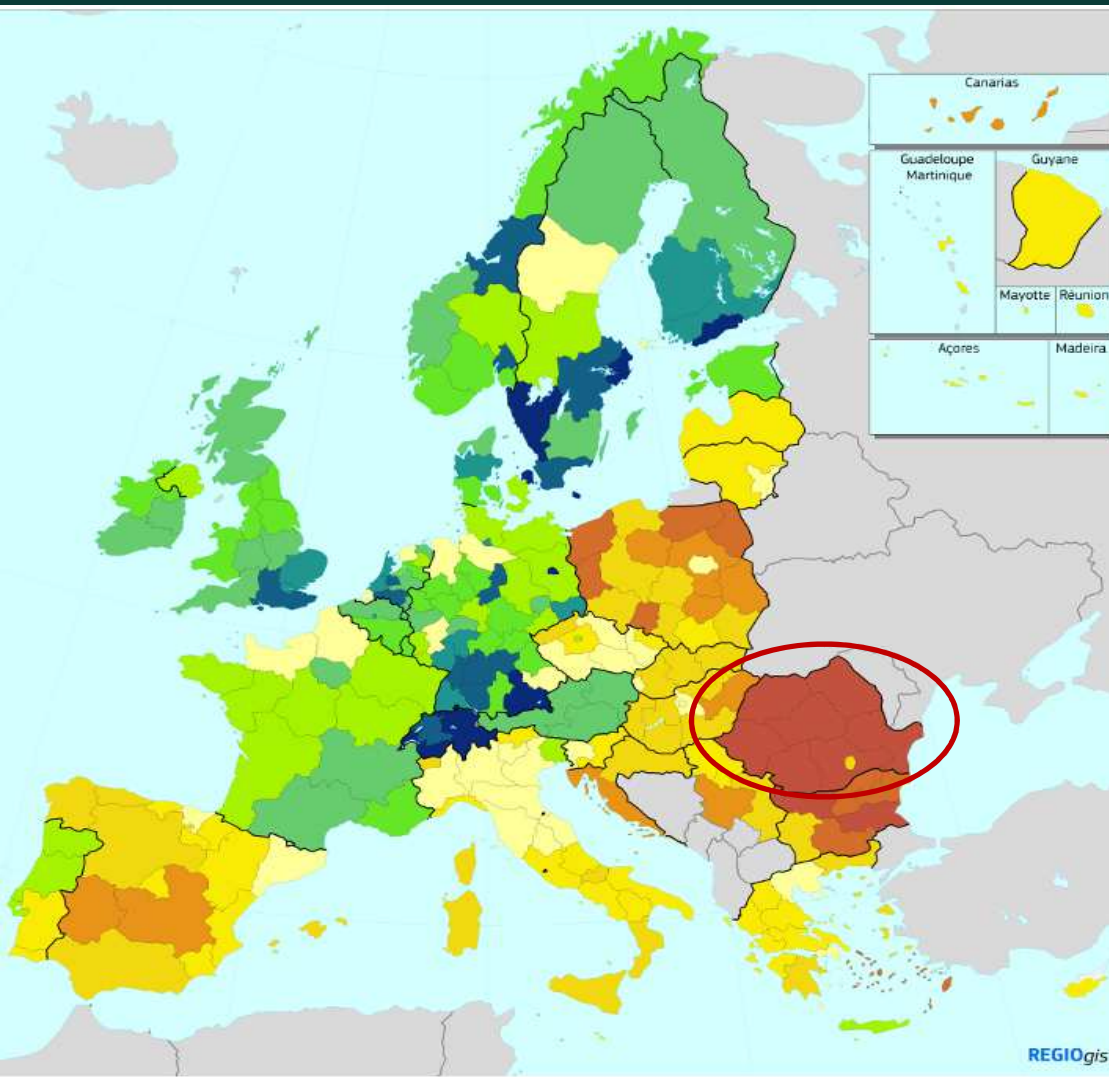
- 4.2.1 Medium and high-tech product exports
- 4.2.2 Knowledge-intensive services exports
- 4.2.3 Sales of new-to-market and new-to-firm product innovations

Innovation Performance of Moderate and Modest Innovators



Romania's innovation performance has declined strongly by 10.7% since 2011, but increased again in 2015, 2016 and 2017.

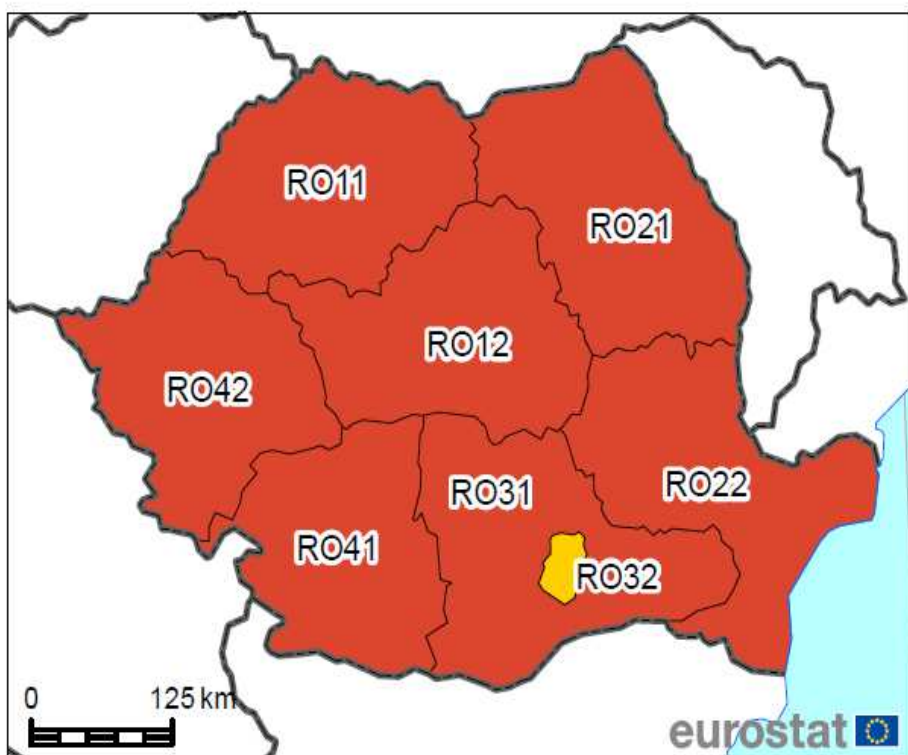
Regional Innovation Performance in Romania



- 238 regions of 23 EU Member States, Norway, Serbia, and Switzerland
- Four regional innovation performance groups in the EU based on the Regional Innovation Index (17 indicators):
 - Innovation Leaders (38 regions)
 - Strong Innovators (73 regions)
 - Moderate Innovators (97 regions),
 - Modest Innovators (30 regions)
- Romania's 8 regions perform differently:
 - Capital region Bucharest – Ilfov: Moderate Innovator
 - 7 regions: Modest Innovators



ROMANIA



Strongly declining innovation performance in all regions

NUTS	Region	RII	Rank	Group	Change
R011	Nord-Vest	29.7	232	Modest -	-9.8
R012	Centru	27.3	233	Modest -	-10.8
R021	Nord-Est	21.5	236	Modest -	-19.0
R022	Sud-Est	22.1	235	Modest -	-19.5
R031	Sud - Muntenia	18.4	237	Modest -	-16.8
R032	Bucuresti - Ilfov	51.6	200	Moderate -	-7.9
R041	Sud-Vest Oltenia	14.3	238	Modest -	-16.4
R042	Vest	32.8	230	Modest -	-5.7

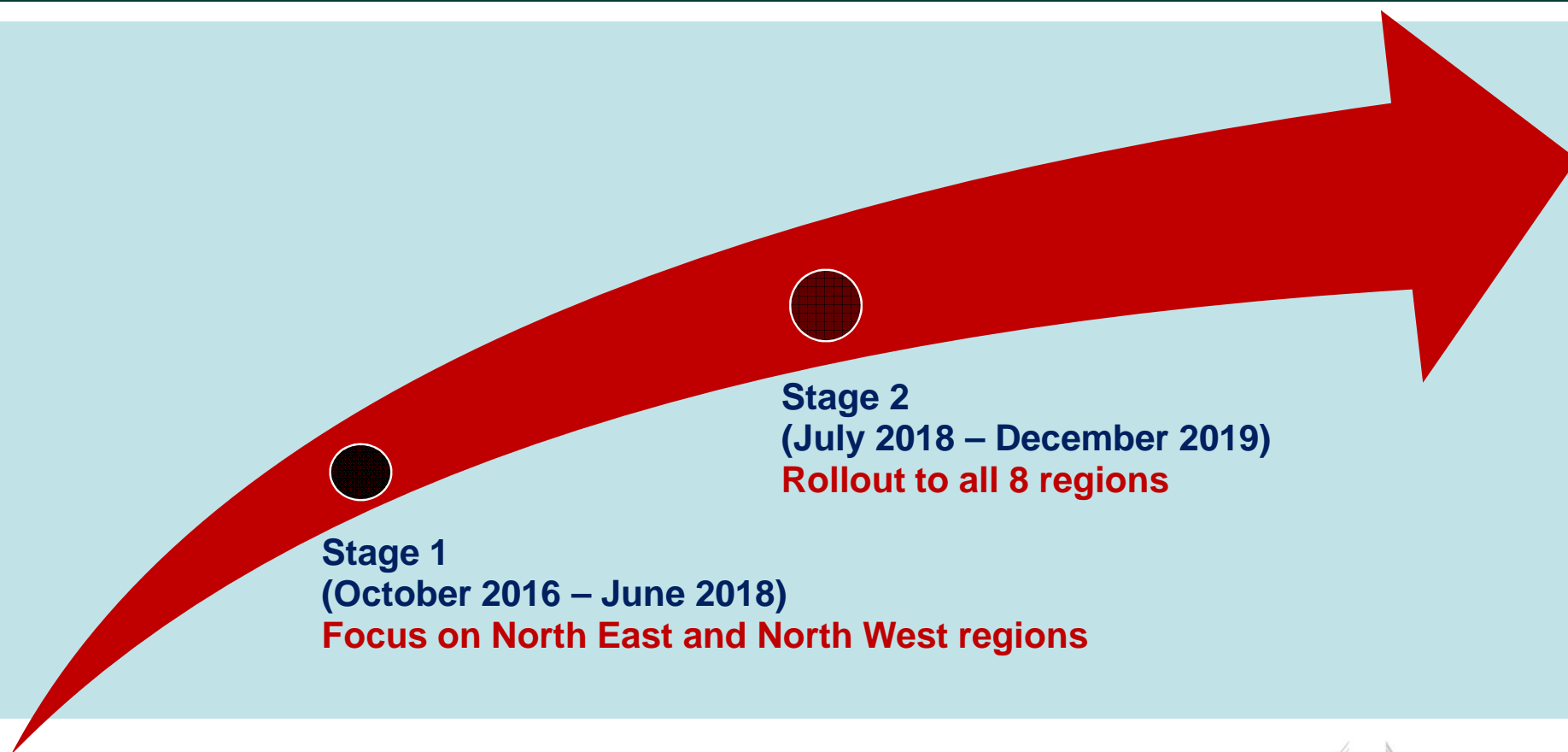
Regional Innovation Scoreboard 2019, p. 29

National R&I system

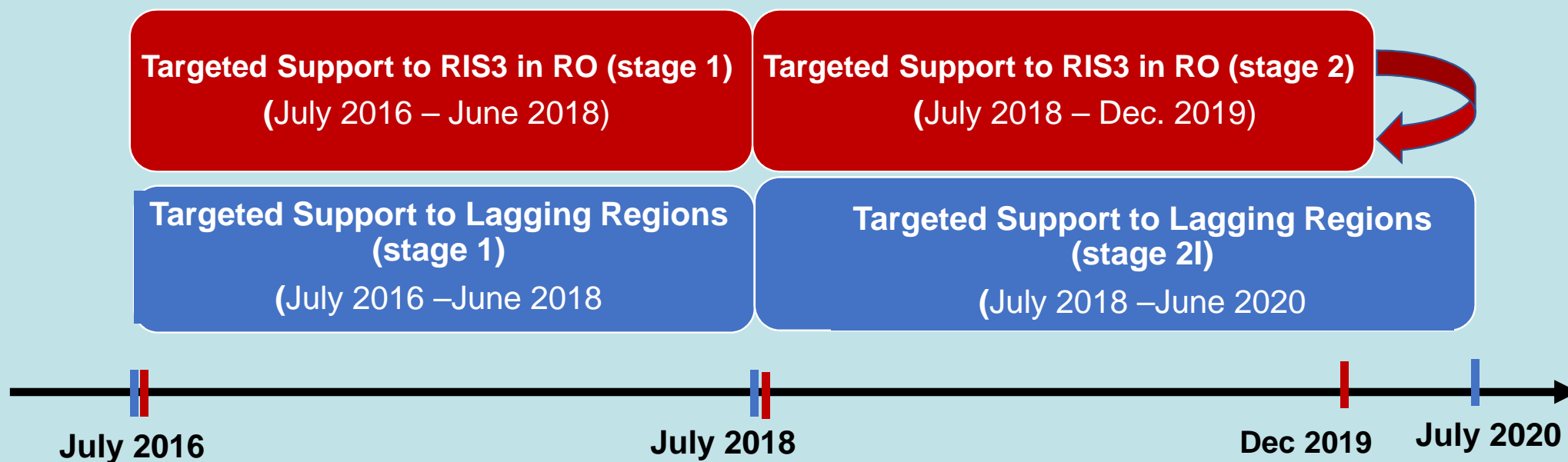
- Centralised national R&I system, early-stage regional R&I systems
- Fragmented R&I system - weak links between R&I actors (U-I), authorities
- R&I policy mix designed at national level, no regional R&I focus
- Broadly defined national R&I objectives, weak reflection of specific regional needs
- Under-financing of R&I sector (R&D intensity 0.5% of GDP in 2017)
- Significant brain drain, migration, poor incentives for diaspora or int'l talent
- Low innovative capacity in enterprises, low BERD, very few R&D-intensive firms

2. JRC's project "Targeted Support to RIS3 in Romania"

Staging "Targeted support to RIS3 implementation in Romania"



Staging relative to the "Lagging regions" project



Dual approach to RIS3 in Romania: national & regional

Different paths of RIS3 implementation: approach, methodology, managing authorities, funding



At national level: *National R&I Strategy 2014-2020*, with four RIS3 priorities:

1. Bio-economy
2. ICT, space and security
3. Energy, environment, climate change;
4. Eco-nano-technologies and advanced materials

Intermediary Body: Ministry of Research and Innovation

Funding: Competitiveness OP - PA1, National RDI Plan



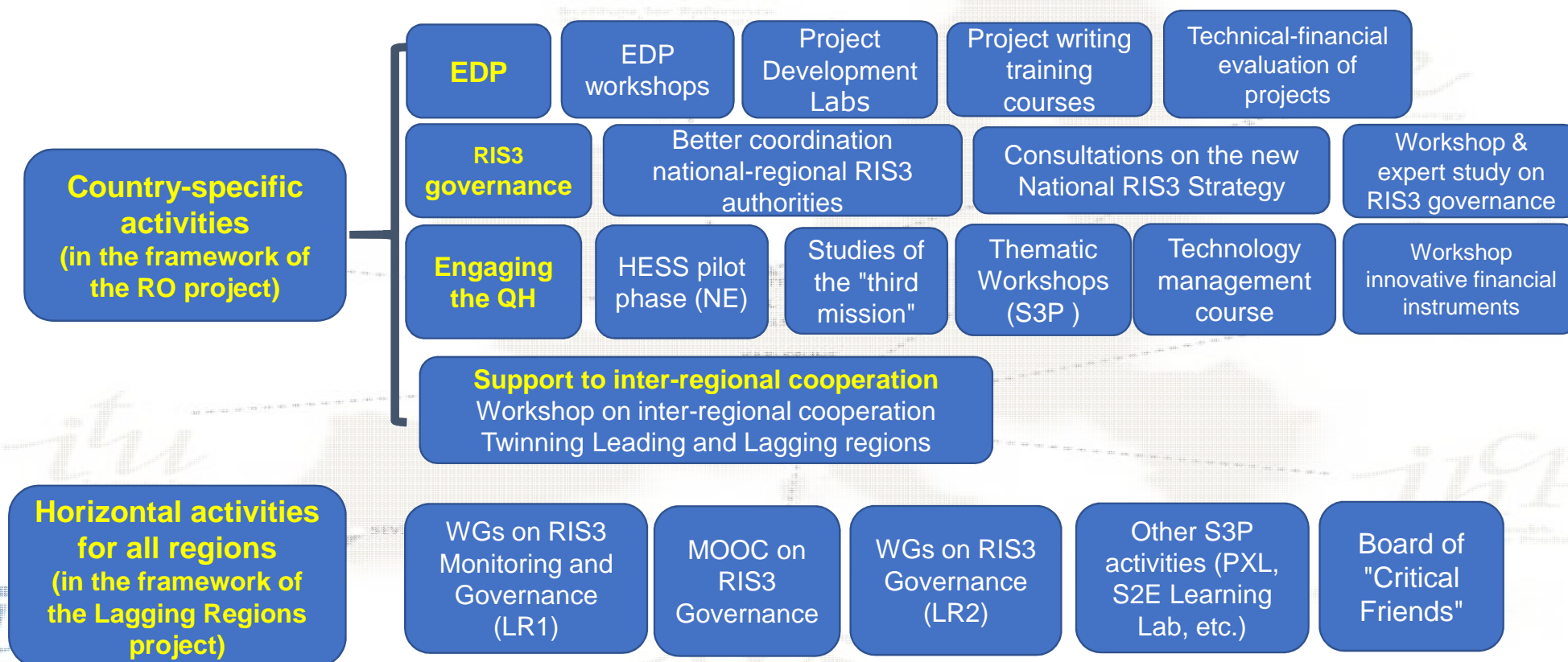
At regional level:

- 7 regions out of 8 have a RIS3 Strategy
- Bucharest-Ilfov (capital) region currently prepares its RIS3 strategy with JRC support

Managing Authority: Ministry of Regional Development and Public Administration

Funding: Regional OP - PA1

Targeted Support to RIS3 in Romania: Project toolbox



3. RIS3 as a catalyst to early-stage regional innovation systems

Targeted interventions in the R&I system:

RIS3 implementation as a mechanism to reform the R&I system



1. The EDP process

- EDP workshops stimulated interactions in the Quadruple Helix (esp. U-I links)
- Bottom-up identification of priorities at regional level
- Stronger focus on tech transfer and commercialisation, IP, business development, GVCs
- RIS3 project pipeline in all regions (generation/refinement/funding/implementation)

2. RIS3 governance:

- New R&I governance structures: Regional Innovation Consortia (all regions)
- RDAs as "regional innovation organizers"
- Increasing institutional capacity of national and regional authorities (project management, priority-setting, policy analysis, monitoring and evaluation, peer learning, etc.)
- Improved communication and policy coordination between national and regional authorities
- Stimulate inter-regional learning, international contacts
- Better coordination among several fields converging in RIS3:
 - ☐ Research and innovation policy
 - ☐ Industrial policy
 - ☐ Regional development policy

Development of regional innovation systems – transition to R&I ecosystem

Further development of regional innovation systems (2021-2027)

Policy Objective 1: A smarter Europe by promoting innovative and smart economic transformation
Enabling condition: Good governance of national or regional RIS3 strategy

Fulfilment criteria for the enabling condition: RIS3 strategy(ies) shall be supported by:

1. Up-to-date analysis of bottlenecks for innovation diffusion, including digitalisation
2. Existence of competent regional / national institution or body, responsible for the management of the smart specialisation strategy
3. Monitoring and evaluation tools to measure performance towards the objectives of the strategy
4. Effective functioning of entrepreneurial discovery process
5. Actions necessary to improve national or regional research and innovation systems
6. Actions to manage industrial transition
7. Measures for international collaboration

Thank you!

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