



## ***Enhanced Policy Dialogue on the R&I system in Slovenia***

***Ljubljana, Slovenia, 16<sup>th</sup> – 17<sup>th</sup> March 2023***

### EXECUTIVE REPORT

#### **1. Background**

On March 16<sup>th</sup> and 17<sup>th</sup> 2023, the Ministry of Higher Education, Science and Innovation of the Republic of Slovenia organized in close cooperation with the European Commission the first Enhanced Policy Dialogue on the R&I system (EPD) in Slovenia. The EPD between the Commission and the Member States had been envisioned with the Pact for Research and Innovation, adopted in 2021. The purpose of such EPD is to enhance direct communication and exchange of views between the Commission and the Member State on topics, that have been identified as significant for the implementation of the ERA Policy Agenda (2022 – 2024) and the advancement of national R&I priorities in general.



*EPD Slovenia participants day 2; Source: photo by Andrej Perdih, National Institute of Chemistry*

Slovenia had decided to focus the topics of the EPD on different aspects of its innovation ecosystem, based on its performance within the European Innovation Scoreboard (EIS), since one of the overarching national priorities on R&I is for Slovenia to become an Innovation Leader by 2030 (see Resolution on the Slovenian scientific research and innovation strategy 2030). Other topics that are high on the joint policy agenda of the EU had also been discussed.

#### **2. The agenda**

The first day of the EPD, which took place at the premises of the Ministry of Education, was dedicated to discussions on the strengths and weaknesses or challenges of the Slovenian R&I ecosystem in view of increasing its potential. The second day, hosted by the National Institute of Chemistry, was dedicated to discussions with key stakeholders on the innovation system and its capacities in the field of green hydrogen and other green innovations, followed by an exchange of views on raising attractiveness of the Slovenian research environment. The EPD



closed with a discussion among the participants on the needs and priorities in view of the future R&I challenges, where some initial thoughts on the upcoming 10<sup>th</sup> Framework programme had also been exchanged.

### 3. Key messages

#### **Day 1 “The R&I systems strengths and challenges to increase the potential Slovenia’s innovation ecosystem”**

The following subtopics had been identified in advance:

- **Reforms on R&I system and governance**
- **Finance and support for innovation**
- **IP management and knowledge valorisation**

#### **Guiding questions for discussion**

##### **For Slovenian participants:**

*What are the main factors that already contribute to a meaningful innovation ecosystem policy? What is working well in the innovation ecosystem Slovenia?*

*What are the most critical changes that we must make to face the future effectively, also taking into account the new changes in the research and innovation policy/structure (new division of responsibilities within the government, new research and innovation agency)?*

##### **For the European Commission:**

*What instruments do you already have in place that can help overcome our challenges?*

The discussion primarily focused on the key strengths and weaknesses of the innovation ecosystem. Both the Slovenian participants and the representatives of the Commission identified similar key characteristics and processes within the innovation ecosystem and pointed out to challenges that should be addressed in the future.

#### **Key processes:**

- Slovenia currently in the concluding phases of reforming its governance system in R&I (ambition to become an Innovation Leader within EIS by 2030);
- Reform focuses on the whole of government approach to R&I policy (e.g. the Development Council and the Programme Committee have been set-up, a new agency, which would cover both research and innovation is planned), and implementing the recently adopted R&I legislation that provides stable financing for RPOs,



EPD Slovenia day 1; source: screen capture



increases overall funding for research, secures additional autonomy and responsibilities of RPOs, enables more attractive remuneration for researchers and foresees a set of new KPIs to monitor and evaluate progress and development;



- National evaluation of the innovation system has been carried out in Slovenia;
- Reforms, if implemented successfully, are seen as a key element in improving the R&I ecosystem in Slovenia.

### Key characteristics:

- relatively high proportion of population with tertiary education;
- improved connections between industry and research as strong points (considered a weakness in 2018 – strong improvement since then);
- support system for start-ups, attracting and retaining international talent and green innovation remain a challenge;
- the EIC plug-in scheme remains an unexplored and underused option;
- access to funding, business investment, sales impact and intellectual property as factors that warrant additional focus and improvement;
- ecosystem is further characterised by a small open economy, strong embeddedness in global value chains, a dynamic start-up ecosystem, stable networks, a high share of EU funding for innovation, a lack of venture capital, no monitoring and evaluation of innovation support instruments, a lack of know-how in knowledge transfer to the market and for entrepreneurial growth, and a good starting position in the field of scientific and creative talent;
- limited possibilities for absorption of knowledge in the domestic economy, the lack of skilled intermediaries between innovation at universities and research institutes and investors, the risk of treating research and innovation as two separate ecosystems and, above all, the lack of synchronisation of initiatives by different ministries;
- potential of regulatory sandboxes for net-zero technologies, underlining that the SI scores very well in the Horizon Europe integration as well as in the EIS ranking;
- good track record and added value in transferring the solutions of the European Innovation Ecosystem to the SI level and the potential in strengthening public policy measures on the demand side (e.g. standardisation, support based on consumer behaviour, etc.);
- good use by Slovenia of the policy tools offered by the EC (PSF 2018, Seal of Excellence, TSI and MLE).



In conclusion of the discussions some **key short-term challenges** that could be addressed in cooperation between Slovenia and the European Commission had been identified:

***Establishing inter-ministerial coordination (in the field of hydrogen and green innovation).***

***Participation of Commission representatives in meetings of the Knowledge Platform (i.e. stakeholder engagement platform).***

***Helping to build and create an attractive remuneration system for researchers.***

***Successful implementation of the State Aid Framework.***

***Room for action and support. Specific recommendations could be developed.***

## **Day 2 “Hydrogen innovation ecosystem and Green innovation in Slovenia”**

The following subtopics had been identified in advance:

- **European Partnerships**
- **ERA Plan on Green hydrogen and Clean Hydrogen JU**
- **Hydrogen valleys and Renewable Energy Valleys**
- **Industrial Roadmaps, Energy for industry**
- **RePowerEU**

### **Guiding questions for discussion**

#### **For Slovenian participants:**

*Green Hydrogen and other green innovation initiatives have been high on the policy, research and development agenda in Slovenia as of late, with many events, discussions and concrete proposals taking place and shaping up. What do you identify as the main challenges in your area of work in reaching the objectives and enabling Slovenia to fully take part in the joint EU initiatives, projects and partnerships? Where could Slovenia be in terms of development and deployment of such technologies by 2030?*

#### **For the European Commission:**

*The European Commission has just recently (March 1<sup>st</sup>) signed the joint declaration with European stakeholders to boost the EU hydrogen economy, thus signalling its full commitment to this crucial area of development in terms of achieving the objectives of the Green Deal/Transformation or more particularly the green energy transition. In your experience, what are some of the most persistent challenges the MS face in terms of preparing themselves for the shift to green technologies. Can you provide examples of good practice and effective solutions that have proven to be successful in other MS. Along with providing significant funding, how does the EC intend to support the MSs in their ambitions to transition to green, clean and sustainable energy supply?*

The topic was introduced by presentation from the National Institute of Chemistry on their projects and capacities in the field of green innovation, followed by presentations from the Commission on Hydrogen and Green innovation initiatives and RePowerEU programme. An overview of the Slovenian state-of-play in the field was provided by the representative of the Ministry of Cohesion and Regional Development. Researchers working on green innovation projects took active part in the discussion

providing direct input on the needs and opportunities provided by R&I in Slovenia. One of the key messages from the research perspective is that instruments, national or EU need to be sustained over a very long period of time (measured in decades) in order to have real and lasting impact.

### Key potentials:

- Use industrial roadmaps, e.g. on energy-intensive industries, which the EC has developed in cooperation with MS (Slovenia as well) and stakeholders (provides a list of key low-carbon technologies needed for decarbonisation and also describes the necessary elements of the regulatory environment).
- A catalogue of demonstration projects across the EU in the field of climate-neutral industries is being developed by the EC; discussions took place with MS on the possibility to include support for these projects in the context of the upcoming RRF amendment for the RePowerEU.



*EPD Slovenia participants day 2; Source: photo by Andrej Perdih, National Institute of Chemistry*

- 3 EU-supported demonstration projects in SI: BEAR (Innovation Fund €2.2m, TRL 9 until 2025, electrification in the glass sector, Hrastnik), ETEKINA (€4.6m O2020, TRL 7, Ravne na Koroškem, use of energy from excess heat in the steel sector) and INEVITABLE (€5.3m 2020, TRL 7, digitisation in the steel sector).
- Increased use of the Innovation fund should be fostered for demonstrators, but there is also a need to effectively connect demonstration projects with the national priorities.
- There is a need for funds for knowledge transfer and follow-up, for which SI could make use of the RRF. Slovenia is doing well in transferring knowledge, but additional support is needed to facilitate the valorisation of knowledge (SI is taking part in the MLE on knowledge valorisation).
- New infrastructure is also necessary and there is a necessity to develop space that will foster entrepreneurship in this field.
- Slovenia is also heavily relying on EU funds in this field at all TRL levels, national and other resources need to be identified and allocated to support development.



- The I3 instrument is ideal for the needs of Slovenian partners in this area and Slovenia would encourage the Commission to further develop and deploy such instruments.
- SI should examine the potential and usefulness of joining transnational Important Projects in Common European Interest (IPCEI) in these areas and strengthening its presence in operations of the Clean Hydrogen JU.
- Confidence of the private sector needs to be boosted in order to ensure they take full part in possible initiatives. Most of the economy is composed of SMEs, which can see the green transition as a burden, rather than an opportunity. Responsible ministries need to develop targeted support measures. Increased coordination between responsible authorities is necessary with focus on a smaller number of priorities.
- N-Adriatic Hydrogen Valley in which the SI participates. EC invited SI to also join the Clean Hydrogen Mission in the framework of the Innovation Mission.

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## **Day 2 “Raising attractiveness of SI research environment”**

The following subtopics had been identified in advance:

- **Attracting talent**
- **Research careers**

### **Guiding questions for discussion**

#### **For the Slovenian participants and the European Commission:**

*In a very competitive environment of attracting the best talents not only for existing but for upcoming research and innovation solutions, and if one excludes financial remuneration from the formula, what in your view are the most significant pull factors for raising the attractiveness of national research environments?*

The topic was introduced by a presentation from the Commission on research careers, which was followed by a presentation of the Slovenian landscape in this area and by a presentation of an industry and research case.

### **Key challenges:**

- There is intense global competition for attracting and retaining talents.
- Remuneration and framework conditions are key (EC is preparing a Council recommendation on this topic). Providing household services is also one of the key national challenges. A career development and support system needs to be set-up and deployed.
- Researchers are not recognized as a profession. Pension rights need to be addressed. RESAVER is working on a common pension fund.



- Ample opportunities for partnerships for early career researchers (e.g. ERA talent platform, political partnerships, Euraxess platform). Additional targeted projects would be welcome, similar with Seal of Excellence MSCA
- Language in higher education remains an issue and will be addressed in the upcoming reform. Work needs to be done on soft elements that are also a factor in attracting foreign talent.

The screenshot shows a presentation slide on the left and a video conference window on the right. The slide is titled "Deepening the ERA: Action 4 – Strengthen research careers" and is part of a document titled "DEEPENING A TRULY FUNCTIONING INTERNAL MARKET FOR KNOWLEDGE". It outlines "3 levels of activity":

1. Development of a comprehensive **European Framework for Research Careers**
2. **Exchange of best practices** on skills and mutual learning to support inter-sectoral mobility and more balanced talent circulation (e.g. ResearchComp, ERA4You)
3. **Support measures** to improve attractiveness of research careers within and beyond academia (e.g. HRS4R, Research Careers Observatory, ERA Talent Platform)

The video conference window shows a meeting with participants. One participant is identified as "Dario Capezzuto RTD".

EPD Slovenia day 2; source: screen capture

- Low attractiveness of the start-up environment. Make use of EIC opportunities (plug-in scheme).
- Increased flexibility between academia and industry in necessary to enable circulation. There is a need to provide knowledge flows across Europe (and globally) instead of addressing pull or push factors.
- Unit costs should be introduced in the upcoming Framework programme but the possibility is not being discussed.

## Day 2 “R&I with focus on the needs and priorities in view of the future R&I challenges “

The following topics had been presented:

- **Preparatory process for the upcoming EU framework programme on R&I (FP10)**

A presentation of the ongoing activities in the preparation of the upcoming EU Framework programme for R&I was delivered by the Commission. Slovenia presented some initial views and informed the Commission on the planned national stakeholder consultation, where it would foresee a role for the Commission representatives.