

International research collaboration opportunities: fostering EU Clean Energy transition in Hungary

SUPEERA and PANTERA joint workshop

26 October 2022 - 09:00 to 17:30 CEST
Budapest, Hungary

Workshop report

[SUPEERA](#) and [PANTERA](#) projects jointly organized this workshop aiming to enhance collaboration in R&I activities in Hungary, facilitate knowledge exchange, and showcase best practices of how international networking and cooperation between national stakeholders and key international organisations can be beneficial for establishing long-lasting interactions in R&I activities. The event, that took place in Budapest on the 26th of October 2022, was attended by 20 participants and gathered stakeholders, including representatives from RTOs, industry, and government.

Opening the workshop: welcome address by the Vice-rector

The workshop was officially opened by János Levendovszky, Vice-Rector for Science and Innovation at the Budapest University of Technology and Economics. After his welcoming speech he stressed that projects such as SUPEERA and PANTERA are crucial catalysers for bringing together key EU stakeholders in the energy sector. He also highlighted the importance of developing new approaches to R&I to reach strategic autonomy considering the unfolding energy crisis. Finally, Dr. Levendovszky pointed out that since Hungary has set ambitious goals towards a low-carbon economy (e.g., smart metering) there is a high need for cooperation among all the key stakeholders to transfer knowledge and participate in European calls.



Ivan Matejak: the SUPEERA project and the benefits of participating in the SET Plan

The first part of the workshop was introduced by **Ivan Matejak**, SUPEERA coordinator and Operations Director at the European Energy Research Alliance, who highlighted the importance of such events to align national and European priorities. In his presentation about EERA and the SET Plan, he emphasized the need for stepping up the energy transition in the current complex geopolitical context. He continued with an overview of Hungary's involvement in the SET Plan Implementation Working Groups (IWGs), underlining its high dependency on Russian fossil fuels. Regarding Hungary's performance in Horizon 2020 projects, he projected statistical data that indicates a rather low participation rate. He concluded by pointing out the main root causes of their low participation in Horizon 2020 projects, such as the lack of alignment between Hungarian and European priorities, limitations of the R&I systems, etc.



1st Panel discussion: R&I activities in Hungary



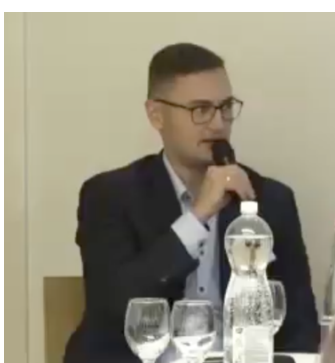
Peter Kaderjak, Director of [Zero Carbon Hub \(ZKK\)](#) at the Budapest University of Technology and Economics, presented the Hungarian mid-term and long-term climate targets for 2050. He pointed out that the green transition is a fundamental component of the Hungarian carbon neutrality target for 2050 and that 2030 objectives are under revision considering the Fit-for-55 package. He highlighted that additional 2.4 billion euros every year are needed to reach these targets and that Hungary would largely benefit from these investments in terms of its energy import bill. After a brief introduction of ZKK, he remarked that currently in the country there is an increasing commercial activity and interest in green technologies (e.g., batteries).





Orsolya Küttel, National Contact Point for the National Research and Innovation Office, presented Hungary's Horizon Europe performance in the field of energy (in particular, destinations 3 and 4 of Cluster 5). She highlighted that many project proposals in Hungary do not reach the funding stage, mentioning that only 12% of them with Hungarian partners have been granted, that is below the EU average of 18%. Finally, she outlined the National Contact Point's (NCP) strategy to support Hungarian stakeholders on increasing their engagement in Horizon Europe programme and their target as NCP to improve country's overall success rates in the coming years.

Ákos Horváth, Director General of the [Centre for Energy Research](#) in Hungary gave an overview of the role of the Hungarian nuclear energy R&D programme to achieve SET Plan objectives. He started his speech by underlining that nuclear energy is not often seen as a long-term solution for the future energy system by the EU policies. However, he also stressed the importance of existing EU schemes, such as the Sustainable Nuclear Energy Technology Platform (SNETP), established as R&D&I to support technological development for enhancing safe and competitive nuclear fission. The SNETP is made of three pillars: NUGENIA (Nuclear Generation Alliance), NC21 (Nuclear Cogeneration Industrial Initiative), and ESNII (European Sustainable Nuclear Industrial Initiative). In addition, he briefly discussed the state of the art in the field nuclear technologies, explaining that the existing generation of nuclear reactors is still acceptable for the next 100 years, but that more investment in research is needed to improve them. Finally, he presented some of the activities of the Energy Research Centre and stressed the importance of sustainability issues for nuclear energy.



Márton Pete, Senior Knowledge Management Expert at [MVM](#), presented his company and its key role as a state-owned power company responsible for the production, distribution, and sale of electricity in Hungary. He highlighted that MVM is participating in 13 RDI projects; three of them under Horizon 2020/Europe and 10 at national level, and all of them focusing on low carbon technologies and infrastructures. He stressed that MVM is actively collaborating with the Budapest University of Technology and Economics in research projects, mainly testing new control and power generation innovations. Finally,

their strong support to the innovation uptake of new technologies is materialised through the first energy-related start-up incubator in the country.

Joint discussion and Q&A

During the panel discussion that was moderated by **Ivan Matejak** and **Andrei Morch**. **Peter Kaderjak** highlighted that in Hungary is paramount to reduce natural gas dependency, where **district heating** (replacing natural gas with geothermal, biomass, solar), **system integration** (especially via energy storage), and **energy efficiency** will play a crucial role in this direction. He also stressed that R&I is

essential to repurpose natural gas **infrastructure** to the current and future energy and storage needs.

Orsolya Küttel pointed out that **international cooperation** and **knowledge sharing** play a crucial role on changing and updating energy policies, and that Hungarian stakeholders should be keener to work together with partners from other countries in Europe.

Ákos Horvath mentioned that in the short term it is important to invest in **energy savings** and that small **modular nuclear reactors**, which now are more affordable, could be utilised to co-produce heat and electricity. However, he remarked that nuclear energy has a long-term outlook, while hydrogen might constitute a shorter-term solution.

Marton Pete highlighted that from the point of view of innovation MVM group wants to move towards new markets and **beyond the meter services**.

As far as the low performance of Hungarian stakeholders in Horizon 2020/Europe projects, Ms Kuttel and Mr Kaderjak agreed that this is partly happening due to an abundance of domestic and cohesion funds available in the country, which are easier to access and less competitive compared to the European ones. Yet, Ms. Kuttel indicated that Horizon Europe calls are becoming more attractive to Hungarian stakeholders in periods when national funding is limited.

R&I opportunities for collaboration and funding (HE, CETP, and Widening)

Spyridon Pantelis, Project Manager at EERA, outlined the Horizon Europe programme and the Clean Energy Transition Partnership (CETP), highlighting Pillar II and in particular Cluster 5 on Climate, Energy and Mobility, and the section on Widening Participation and Strengthening the European Research Area as the two most important funding pathways for EU-13 participants. He provided a list of selected upcoming calls within the two funding pathways, encouraging all participants to consider these calls for proposal submission.



After his presentation, **Orsolya Küttel** pointed out some difficulties in joining widening activities. For example, she noted that one critical barrier to increasing the participation of EU-13 countries lies in the lack of communication between the commission and the coordinators of the projects, as many widening calls are published without prenotification.

2nd panel: International research collaboration opportunities in Hungary

Daniel Horn, director of the Institute of Economics - Centre for Economic and Regional Studies (KRTK), presented the [Education Economics Network H2020 funded project](#). The objective of the project was to stimulate and enhance the cooperation in education economics in three top ranked research in EU-15 countries and a promising new group in a widening country, Hungary. He pointed out that the project was successful as it managed to create a strong network (35-40 people), with some collaborations lasting up to today. He also noted that a critical factor for the success of the project was the **availability of good data** by the Institute of Economics that all the others EU partners could use.



Borbala Schenk, Chief European research funding advisor in the Center for University-Industry Cooperation at the Budapest University of Technology and Economics (BME), illustrated how this university supports their researchers' participation in Horizon Europe calls. She stressed that it is fundamental to redefine how success is measured in Horizon Europe (HE). In her point of view, it is important to realize that HE is not only about funding but also about participating in interesting R&I discussions. Furthermore, she emphasized the importance to be a credible partner to be invited in other cooperation projects. Finally, she presented the [BME competence map](#) of the BME university. She highlighted that although setting up and maintaining such a platform needs a huge effort it is a useful tool for boosting networking possibilities.

Dr. Schenk later clarified that although the competence map currently provides information only about BME researchers, it is intended to also inform researchers from other universities.

Chavdar Ivanov, presented his consultancy company [GriDigit](#) (based in Budapest but their contracts are mostly around Europe) and their experience with R&D. He briefly talked about his positive experience in European schemes (for example, the EEGI, the European Electricity Grid Initiative) and encouraged other SMEs to participate in similar projects as it comes with multiple benefits for them. At the end of his presentation, he provided some recommendations and observations regarding European R&D projects. For example, he pointed out that large administrative efforts and long procedures are considerable obstacles for a small company such as GriDigit to engage in EU funded projects.



Joint discussion and Q&A

The Q&A session that followed revolved mainly around the importance of enhancing **competences**, creating **networks**, and lessons learnt from rejected proposals.

Mr. Horn first stressed that a fundamental outcome of the twinning project is the creation of personal connections. In addition to that, **Ms. Schenk** and **Mr. Horn** agreed that also unsuccessful projects can bring new collaborations, which is a fundamental objective of CSA projects. In particular, answering **Mr. Pantelis'** request to give more information about the competence map, **Ms. Schenk** pointed out that although the BME Competence map is new, they have already received positive feedback from innovative companies in Hungary who are using it as a tool to strengthen ties with the researchers. Also, she explained that a side effect of the map is to help the researchers know who is dealing with similar topics within the university. Finally, she confirmed that the model can be replicated in other countries if someone is willing to invest hard work in it and added that this year or the next one, they would like to extend the showcase of the competences to other participants as well.

Dr. Ivanov clarified what are the most beneficial activities (not only in terms of money, but also networking and experience) for their company. For example, by participating in different projects they are able to build valuable knowledge that they can transfer to their partners. In fact, they help stakeholders take into consideration cross-cutting issues, which are crucial for the utilities that want to succeed in the energy transition. Mr. Ivanov also added that, as a consultant, he sees the added value to put tricky questions (that may not be seen from people working in the industry or research) on the table.

At the end of the discussion, **Mr. Horn** was asked if he has uptaken any of the discussions from the twinning project and established a new research-based project. Mr. Horn clarified that they tried to apply to new calls for R&D with some of the partners, but they were unsuccessful. Finally, he observed that the most active people are the Ph.D students because the project opened the scenery for them.

PANTERA and the EIRIE platform



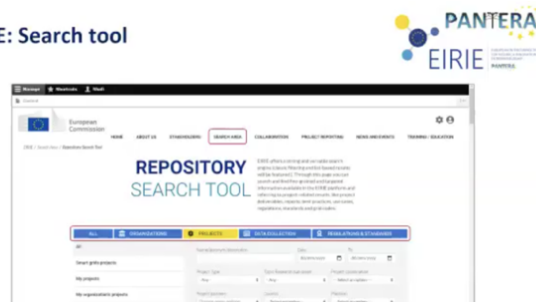
Mattia Cabiati, from RSE, presented in detail the PANTERA project and its main outcome - the [EIRIE platform](#). He explained that the main objectives of [PANTERA](#) is to support R&I activities and bridge the gap in the energy and innovation field that exists between EU countries. Dr. Cabiati also presented the results of a survey carried out to assess the main barriers that limit the funding and development of R&I in the energy field. It was reported that according to the replies received the lack of responsive networking facilities, limited monetary & human resources, and limited national policy in support of R&I activity are the most relevant ones.

Then he explained how the PANTERA project is trying to address all these barriers, either by direct activities such

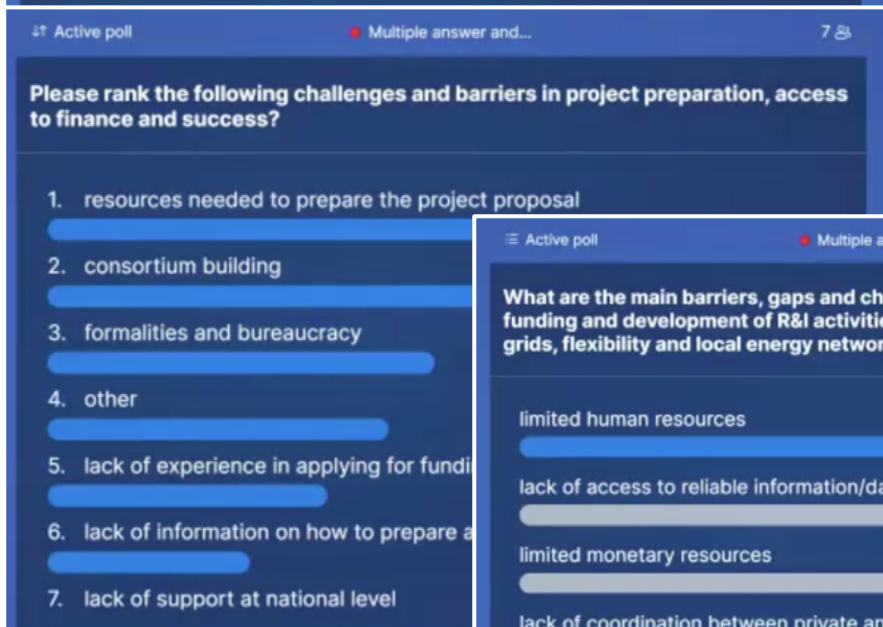
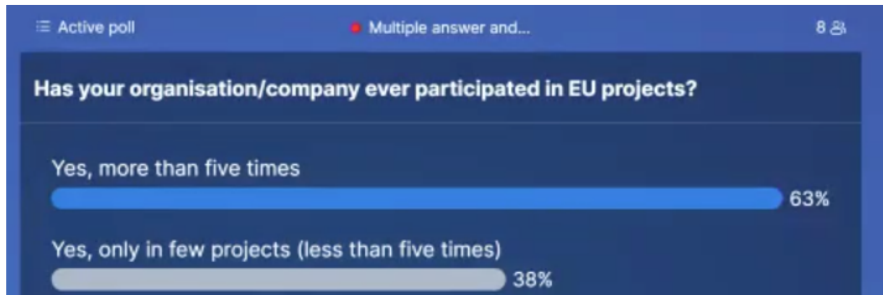
as the organisation of workshops with the participation of local stakeholders, or through the EIRIE platform. Moreover, it was also remarked that

thanks to the deep involvement of PANTERA partners in international initiatives, good collaboration

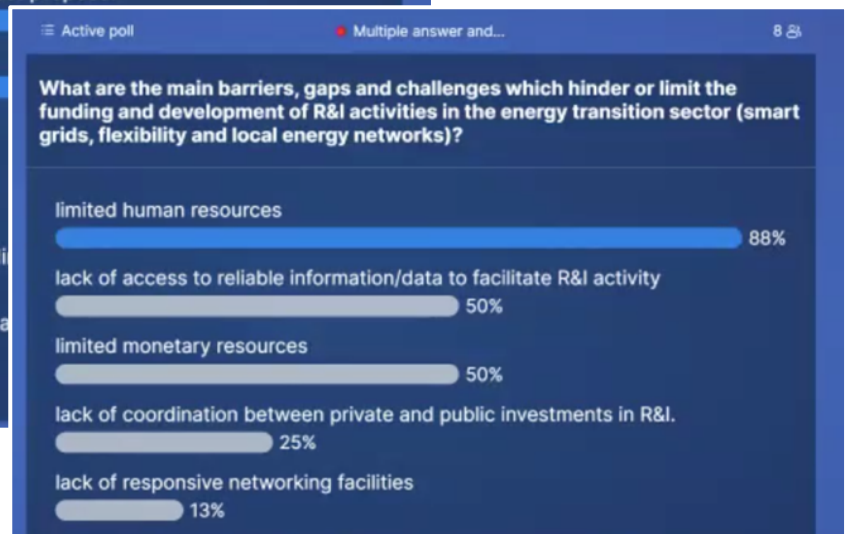
EIRIE: Search tool



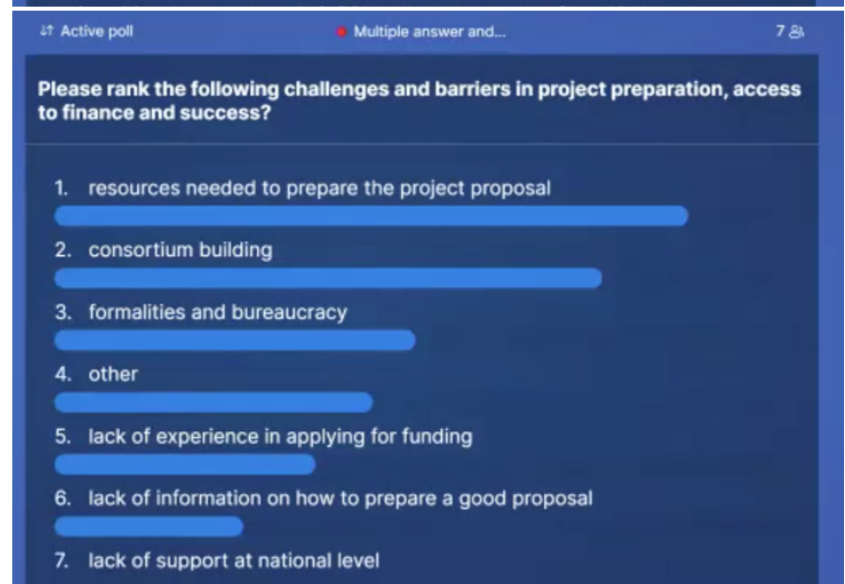
has been established with international consortia ([ISGAN](#), [Mission Innovation](#), [EERA](#)) and explained how this could support networking activities of PANTERA stakeholders. Mr. Cabiati then presented the [EIRIE platform](#), explaining its functionalities and importance for researchers, R&I organizations, and policy makers. The platform is an open tool for collaboration between researchers, R&I organizations, and policy makers, and a research database which aims to incentivize further investments in **Smart Grids**.



Before ending the session, Mattia Cabiati launched an interactive session where participants could express their opinion about regarding participation in EU projects and the challenges related to this process. The results of the consultation are reported in the following images.



Finally, some remarks were made by some of the participants. For example, **Borbala Schenk** pointed out that, given the complexity of Horizon Europe calls, there is a need for a mindset change to participate in consortia. This requires a step ahead from the researchers to lean not only on their traditional academic networks and put themselves in the marketplace and look for potential partners. **Pete Marton** highlighted there is a mismatch of objectives between industry and academia as companies want to



make profits and universities aim to produce publications. However, he reported that in recent years this gap is closing.

The last presentation of the workshop was done by **Andrei Morch** from SINTEF, who presented the outcomes of PANTERA interactions with the stakeholders regarding the challenges and barriers for R&I activities in the domain of smart grids domain. During his presentation Andrei Morch emphasized how the implementation of Smart Grid technologies is not an ultimate goal in itself, but rather a tool to resolve certain challenges. Mr. Morch then presented the result of the interviews and surveys they carried out with the stakeholders, aiming to establish a dialogue and identify their needs. The outcome of this activity was later used as input for further studies in PANTERA. They found different challenges related to the implementation of smart grid technologies (e.g., high variability in the production electricity from renewables). In addition, the result of the interviews showed that stakeholders face many non-technical problems to implement smart grids such as lack of incentives for R&I activities, obsolete market design, and high level of bureaucracy. Finally, Andrei Morch indicated some best practices to overcome these barriers, notably regional cooperation, and resource pooling.



Closing remarks

Ivan Matejak wrapped up the session by thanking all the participants for their contribution. He also invited the audience to participate in future SUPEERA/PANTERA workshops in EU-13 countries. Although Hungary has set high targets towards decarbonization, its participation in Horizon 2020/Europe calls and SET Plan IWGs remains rather low. By organizing such events, the aim is at raising awareness about the SET Plan and CET among research organisations and funding bodies from EU13 countries, while encouraging their mobilization towards their implementation. All materials related to this event can be found on the SUPEERA website.