



PANTERA

Pan European Technology Energy Research Approach

Work Package 5

Workshop and dedicated stakeholders meeting organisation

D5.3

Report on the outcomes of regional workshops (final)

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Abbreviations

<i>BG</i>	Bulgaria
<i>COVID-19</i>	Coronavirus disease 2019
<i>CRE</i>	Romanian Energy Center
<i>CSA</i>	Coordination and Support Action
<i>CY</i>	Cyprus
<i>DC</i>	Direct Current
<i>DERlab</i>	European Distributed Energy Resources Laboratories (DERlab) e. V.
<i>DG ENER</i>	Directorate-General for Energy
<i>DSO</i>	Distribution System Operator
<i>EC</i>	European Commission
<i>EERA JP</i>	European Energy Research Alliance Joint Programmes
<i>EIRIE platform</i>	European Interconnection for Research Innovation & Entrepreneurship Platform
<i>ERA-NET</i>	European Research Area Net
<i>ESB</i>	Electricity Supply Board
<i>ESO</i>	Electricity System Operator
<i>ETIP SNET</i>	European Technology & Innovation Platforms Smart Networks for Energy Transition
<i>EU</i>	European Union
<i>EUSEW</i>	EU Sustainable Energy Week
<i>FOSS</i>	Research Centre for Sustainable Energy, University of Cyprus
<i>GR/EL</i>	Greece
<i>HVDC</i>	High-Voltage, Direct Current
<i>ICCS/NTUA</i>	Institute of Communication and Computer Systems/National Technical University of Athens
<i>IE</i>	Ireland
<i>IPE</i>	Institute of Physical Energetics
<i>ISGAN</i>	International Smart Grid Action Network
<i>JRC</i>	Joint Research Centre
<i>LV</i>	Low Voltage
<i>MedPower</i>	Mediterranean Conference on Power Generation, Transmission, Distribution and Energy Conversion
<i>MW</i>	Megawatts
<i>NECP</i>	National energy and climate plans
<i>NECP</i>	National energy and climate plans
<i>NOR</i>	Norway
<i>NUID</i>	University College Cork
<i>OEB</i>	Cyprus Employers & Industrialists Federation
<i>PANTERA</i>	Pan European Technology Energy Research Approach
<i>R&I</i>	Research & Innovation
<i>RIF</i>	Research and Innovation Foundation
<i>RPF</i>	Research Promotion Foundation
<i>RSE</i>	Ricerca sul Sistema Energetico
<i>S3 platform</i>	Smart Specialisation Platform
<i>SET-Plan</i>	European Strategic Energy Technology Plan

<i>SG</i>	Smart Grids
<i>SNSP</i>	System non-synchronous penetration
<i>SWOT</i>	Strengths, Weaknesses, Opportunities and Threats
<i>TSO</i>	Transmission System Operator
<i>TU Sofia/TUS</i>	Technical University of Sofia
<i>UCD</i>	University College Dublin
<i>WP</i>	Work Package

Executive Summary

The PANTERA consortium dedicated a specific work package (WP5: Workshop and dedicated stakeholders meeting organisation) within its project to organise Pan-European and regional workshops. This previous deliverable (D5.2: Report on the outcomes of regional workshops (intermediary)) summarises the main outcomes from the regional workshops that took place during 2019 and 2020. This deliverable (D5.3: Report on the outcomes of regional workshops (final)), the work done within T5.3 is presented, with details from the main outcomes of the regional workshops and / or nano workshops. It follows where the previous deliverable finished and summarises the main outcomes from the regional workshops / nano workshops that took place during the period between 2021-2023.

In this period, the PANTERA project organised 15 physical regional workshops/ nano-workshop (physical/ hybrid/ webinar format), detailed in Table 2. During the course of the project, the COVID-19 pandemic affected the planned execution of PANTERA workshops. To tackle the post COVID-19 challenges, the objective of the PANTERA project were re-evaluated and plans were put in place to act intelligently reach the as many stakeholders of the EU countries within the remaining project duration. For this reason, the PANTERA consortium joined its forces with EERA to organise maximum workshops in the EU region and split forces to promote nano workshops as parallel sessions of conferences. This multi targeted strategy, was delivered valuable possibilities offering access to more stakeholders than initially planned within the shorter period available in the post COVID period until the end of the project. The consortium, also pursued an extension of the project duration, to allow more time to access stakeholders and this has paid the dividend with the high number of workshops with more populated events with stakeholders.

As presented in the paragraphs that follow 15 events, were pursued giving diverse opportunities to meet with stakeholders and build collaboration opportunities. In short, these successful events have achieved the following over the period of 2021 to 2023:

1. The first event was held online due to the ongoing Covid-19 restrictions in **Dublin, Ireland**. The selected theme was entitled “Smart Grid Research Data - how to share research data, ensure GDPR compliance, reduce the risk of divulging potential innovation insights, and related issues”. The webinar focused on how different stakeholders such as governments, industry and local energy communities can share and organise their data respecting the privacy of users and citizens.
2. In **Riga, Latvia**, PANTERA and SUPEERA projects jointly organised a workshop to discuss and raise attention on gaps and barriers that limit the R&I activities in the energy sector in the Baltic countries. Moreover, to facilitate knowledge exchange and showcase best practices of how international networking and cooperation between national stakeholders and key international associations and organisations can be beneficial for establishing long-lasting interactions and fostering joint R&I activities.
3. A Nano Workshop entitled “Regional Research and Innovation activities for Smart Grids, Energy Storage and Local Energy Systems” was organized in **Varna, Bulgaria**. The main topics presented and discussed were: The EIRIE platform, ERIGRID 2.0 free access to leading Smart Grids and Energy Systems Laboratories and services; Building a critical Research Infrastructure in countries with low R&I activities.
4. the SUPEERA and PANTERA Projects jointly organised a second workshop in Sofia, with the aim of sharing best practices in the field of the Clean Energy Transition and fostering the engagement of non-EERA stakeholders towards EERA activities and the SET-Plan. It gathered experts mainly from the research sector and local organisations active in R&I activities.
5. The SUPEERA team with PANTERA Project, organised a workshop, in **Nicosia, Cyprus**, aimed at sharing best practices in the field of green energy and at fostering the engagement of external stakeholders in EERA activities and towards the implementation of the SET-Plan.

6. The PANTERA and the Joint Programme on Smart Grids of the European Energy Research Alliance (EERA JP SG) jointly organized a workshop at the MELECON 20221 conference, in **Palermo, Italy**, aimed to present the EIRIE multifunctional platform and to discuss with local stakeholders about the topics of storage and electromobility.
7. The PANTERA nano workshop entitled Capacity Building on R&I in Smart Grids, Storage and Local Energy Systems was held within the program of the 22nd International Scientific Conference on Electric Power Engineering (EPE) in **Kouty nad Desnou, Czech Republic**.
8. The hybrid regional nano-workshop of the PANTERA Horizon 2020 project organised by FOSS of the University of Cyprus who is the coordinator of the project, in **Crete, Greece**. The main objective of this event was to present for the first time the [EIRIE](#) platform and highlight its role in supporting the much-needed R&I unified approach across Europe to intensify the investments' rate on smart grids and help countries with low activity to find the incentives and support to grow and bridge the gap that currently exists.
9. Hosted in **Split, Croatia**, PANTERA and SUPEERA EU projects jointly organized a workshop at the SpliTech conference aiming to discuss and raise attention on gaps and barriers that limit the R&I activities in the energy sector and especially hinder a true integration of Croatian R&I stakeholders at EU level.
10. PANTERA was present at the IEEE Smart Cities Conference 2022, hosted in **Paphos, Cyprus**, bringing the stakeholders together to enlighten the conference on the activities pursued in strengthening the energy transition process. The workshop was more focussed on the R&I activities in the field that are weak calling for more national and European support to raise opportunities, bring closer to the wealth of EU knowledge and offer the means to address local needs with the support of the industry and broader communities.
11. In **Budapest, Hungary**, SUPEERA and PANTERA projects jointly organized a 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 organizations can be beneficial for establishing long-lasting interactions in R&I activities.
12. The PANTERA workshop organized in **Valletta, Malta**, concentrated on issues in achieving carbon neutrality and bring together stakeholders in the field of smart grids, storage, and local energy systems. It also tried to pave the way forward for helping Malta to move faster towards the much-wanted energy transition to the low carbon economy.
13. The PANTERA project participated in the CANDO EPE IEEE conference that has been held in **Budapest, Hungary**. The organisers have given to PANTERA the possibility of delivering a keynote speech in the plenary session thus giving the capability of being listened by all the participants at the conference. Additionally, the consortium secured the possibility of a parallel session with the active participation of important local stakeholders. The event was promoted under the wider title of "strengthen the regional activity in R&I that is facilitated by the European EIRIE platform".
14. SUPEERA and PANTERA joined forces in organizing a common workshop in Bucharest of Romania. This was organised with the objective to enhance collaboration of R&I activities in **Romania**. The workshop offered a detailed overview of the European policies, strategies, EU funding programmes and collaboration opportunities at the disposal to the research community of Romania with the aim to bringing them closer to the R&I activities of Europe and get active within the SET Plan process.
15. On April 27th, 2023, the final regional workshop was organised in **Vilnius, Lithuania**. This was again jointly organised by SUPEERA and PANTERA to achieve higher impact in a country that is showing high interest to strengthen the R&I activities. The event brought together experts from academia, industry, and government sectors in a hybrid format. The participants shared valuable insights and experiences, contributing to a fruitful exchange of knowledge. The workshop was focused to discuss about the issues that prevail when low R&I activity is pursued by countries. Emphasis was given to the need for using effectively the EIRIE platform and be more active in the European initiatives like the SET Plan, EERA Joint Programs, etc.

1 Introduction

One of the main objectives of the PANTERA project is organising several interactive workshops and webinars with stakeholders and working groups members to reach a wider range of stakeholders and initiatives to identify, discuss and contribute to smart grid related priorities with a specific focus on the countries which are less active in the research and innovation in the field of smart grid, storage and local energy systems.

1.1 Scope of the Document

This document is the successor to the initial deliverable 5.2, “This report will give an intermediary overview on the outcomes of the regional workshops”, which covered the regional workshops during the period of 2019-2020. The main objective of this document “**Report on the outcomes of regional workshops (final)**” is to describe the work carried out within the task 5.3 “Regional Workshops” (WP5 - Workshop and dedicated stakeholders meeting organisation) and to present the main outcomes of the regional and nano-workshops that took place during the period of 2021-2023

1.2 Structure of the Document

This document consists of four sections and it is structured as follows:

- Section 1 “Introduction” – this section introduces D5.3 “Report on the outcomes of regional workshops”.
- Section 2 “PANTERA Regional Workshop Format” – this section gives a high-level overview of the regional workshop format.
- Section 3 “PANTERA regional workshops outcomes” – this section presents the main outcomes of the regional and nano-workshops.
- Section 4 “Conclusions” – this section presents the conclusions reached from the extensive work done through the regional and nano-workshops and webinars.

2 PANTERA Regional workshop format

2.1 Introduction

The PANTERA consortium organised several regional workshops to approach the local stakeholders and boost the research and the innovation in the low spending countries. The initial plans were for the organisation of eight regional workshops within the course of the project. However, due to the COVID limitations for physically organizing the workshops, a well thought decision was taken to enrich the regional activities with additional nano-workshops with duration of roughly two hours but run in parallel with sessions of conferences or other planned events in the targeted countries. This approach will bring the activities of PANTERA consortium nearer to the stakeholders of the low activity countries, facilitating valuable organizational work to bring stakeholders nearer to the objectives of the project.

The PANTERA consortium divided the low spending countries into six regions desks, in which each partner is responsible for a specific region. Table 1 shows the PANTERA regional desks, its countries and the responsible PANTERA partner for each desk.

Table 1: Regional desks and the responsible partners

Regional Desk No.	Countries	Responsible partner
Regional desk 1	Latvia – Lithuania - Estonia	Institute of Physical Energetics (IPE)
Regional desk 2	Bulgaria – Romania – Greece	Technical University of Sofia (TU Sofia)
Regional desk 3	Cyprus – Malta	Research Centre for Sustainable Energy, University of Cyprus (FOSS)
Regional desk 4	Poland – Slovakia - Czech Republic	European Distributed Energy Resources Laboratories (DERlab)
Regional desk 5	Italy – Hungary – Croatia	Ricerca sul Sistema Energetico (RSE)
Regional desk 6	Ireland – Portugal	University College Dublin (UCD) & University College Cork (NUID)

The workshop and / or nano workshop agenda is organised for each event based on the regional challenges, needs and gaps, so that the workshop tackles those topics and try to present best practice from the region or other regions that addresses the same challenges (e.g., the workshop organised in Greece focused on Green Islands and its challenges).

Within the period of two years, 2021-2023, the PANTERA consortium managed to organise 14 physical workshops/ nano workshop and one virtual workshop. These PANTERA workshops are presented in Table 2.

Table 2: The PANTERA regional workshops/ nano workshops that took place during 2021-2023

	Title	Location	Date
1.	PANTERA Nano-workshop, Ireland: Smart Grid Research Data - how to share research data, ensure GDPR compliance, reduce the risk of divulging potential innovation insights, and related issues	Dublin (IE)	22 February 2021
2.	PANTERA regional nano-workshop, Cretan Energy Conferences, Greece: “The key role of the R&I unified	Crete (GR)	9 July 2021

	approach across EU for boosting smart grids investments, Greece: The EIRIE platform”		
3.	Nano Workshop, Bulgaria: Regional Research and Innovation activities for Smart Grids, Energy Storage and Local Energy Systems	Varna (BG)	3 August 2021
4.	SUPEERA & PANTERA joint Croatia workshop: “Boosting the R&I activity on Smart Grid Technologies”	Split (HR)	10 September 2021
5.	PANTERA & SUPEERA joint Riga workshop: International research collaboration opportunities fostering EU Clean Energy transition in Baltic States	Riga (LV)	27 April 2022
6.	SUPEERA & PANTERA joint Bulgaria workshop: International research collaboration opportunities fostering EU Clean Energy transition in Bulgaria	Sofia (BG)	25 May 2022
7.	SUPEERA & PANTERA joint Cyprus workshop: “International research collaboration opportunities fostering EU Clean Energy transition in Cyprus”	Nicosia (CY)	1 June 2022
8.	IEEE MELECON 2022 conference, Italy: “The EIRIE platform enabling R&I activities and investment in smart grids”	Palermo (IT)	14 June 2022
9.	SUPEERA & PANTERA joint Czech Republic workshop: “Capacity building on R&I in Smart Grids, Storage and Local Energy Systems”	Kouty nad Desnou (CZ)	8 June 2022
10.	PANTERA Cyprus Workshop: “Boosting the R&I activity on Smart Grid Technologies Empowering Energy Citizens and Communities towards the Decarbonisation of “Energy Island””	Paphos (CY)	27 September 2022
11.	SUPEERA & PANTERA Budapest joint workshop: “International research collaboration opportunities: fostering EU Clean Energy transition in Hungary”	Budapest (HU)	26 October 2022
12.	MEDPOWER 2022, Malta: “Boosting the R&I of Smart Grids, Storage and Energy communities”	Valletta (MT)	8 November 2022
13.	CANDO EPE IEEE conference, Hungary: “Boosting the R&I activity on Smart Grid Technologies”	Budapest (HU)	21 November 2022
14.	SUPEERA & PANTERA joint Romania workshop: “International research collaboration opportunities fostering EU Clean Energy transition in Romania”	Bucharest (RO)	23 March 2023
15.	SUPEERA & PANTERA joint Lithuania workshop: “International research collaboration Opportunities - fostering EU Clean Energy transition in Lithuania”	Vilnius (LT)	27 April 2023

2.2 Post COVID-19 strategy: Converging Synergies of SUPEERA & PANTERA for joint regional workshops

Post COVID, the PANTERA consortium has taken a conscious decision to exploit events happening in countries of international or national character that brings together relevant stakeholders and organise parallel sessions of short duration: 2 to 3 hours to maximise the limited time to bring the work of PANTERA nearer to the stakeholders. The idea of nano-workshops was further elaborated to give value to the targeted events and maximise benefits to all involved.

In parallel, again consciously we came nearer to the SUPEERA project that was addressing the same stakeholders in the 13 widening countries for raising their activities in the SET Plan process in support of the energy transition. For this reason and under a collaborative effort, the SUPEERA and PANTERA projects jointly organised a series of 10 workshop as part of a series of events dedicated

to the EU-13¹ countries, as shown in Figure 1. The aim of the workshops was to promote the exchange of knowledge and best practices with the goal of increasing the involvement of regional entities in Research and Innovation (R&I) activities. Additionally, it also helped SUPEERA Project to fulfil its objective at raising awareness about the SET-Plan and Clean Energy Transition among research organisations and funding bodies from the EU-13 countries while encouraging their mobilization towards their implementation Working Groups of the SET Plan and the related initiatives.

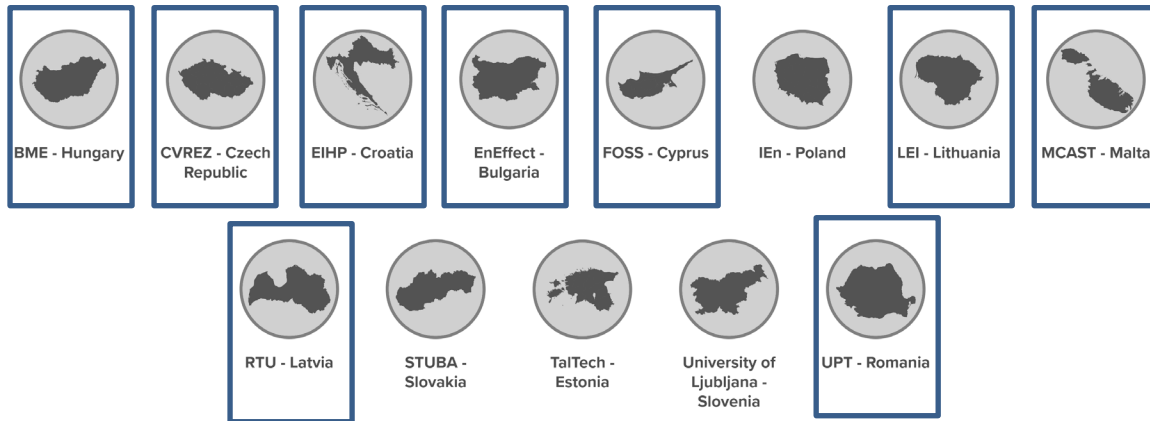


Figure 1(from EERA website): E13 countries, highlighting (in rectangle) the PANTERA workshops hosted countries

¹ <https://www.supeera.eu/meet-the-eu-13.html>

3 PANTERA regional workshops: Outcomes

3.1 Ireland Nano-Workshop (IE)

3.1.1 Introduction

UCD Energy Institute held a workshop on 22nd February 2021 on the theme of Smart Grid Research Data - how to share research data, ensure GDPR (general data protection regulation) compliance, reduce the risk of divulging potential innovation insights, and related issues. The webinar focused on how different stakeholders such as governments, industry and local energy communities can share and organise their data respecting the privacy of users and citizens. This nano workshop was held online due to the ongoing Covid-19 restrictions.

3.1.2 Outcomes from the workshop

Participants at the PANTERA Dublin workshop identified a gap in the availability of appropriate data to build and test smart grid product prototypes in such a context, we are aiming to organise an open forum for smart grid stakeholders such as citizens, government, industry, and academia to facilitate data sharing and data processing techniques. This series of PANTERA nano-workshops will directly focus on how different stakeholders such as governments, industry, and local energy communities can share and organise their data respecting the privacy of users and citizens. The workshops will also provide a forum to explore opportunities among stakeholders to develop new data-driven solutions for sustainable smart cities and communities. Four different areas have been identified as pivotal for the smart grid open data community: (i) community data, (ii) energy-efficient and smart-ready buildings data, (iii) local production from RES, (iv) infrastructure, finance, and enabling policy-related data.

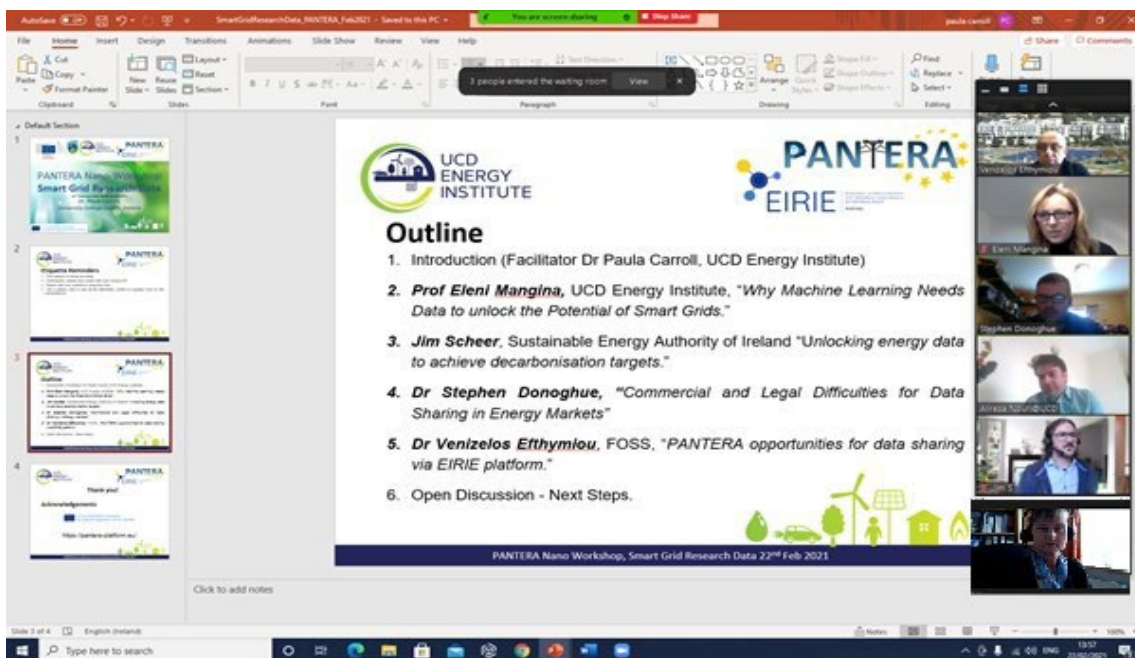


Figure 2: Getting ready to admit the participants to the Nano Workshop. Top to bottom: Dr Venizelos Ethymiou, Prof Eleni Mangina, Dr Stephen Donoghue, Dr Ali Nouri, Mr Jim Scheer and Dr Paula Carroll

Speaker Bios

Prof Eleni Mangina is a professor in the School of Computer Science, University College Dublin, Ireland. Eleni carried out her PhD work at the University of Strathclyde (UK), Department of Electronic and Electrical Engineering, working on Agent-based applications for intelligent data interpretation. Her lab operates at the intersection between applied Artificial Intelligence (VR/AR; Data Analytics; UAVs; Information Systems) and a portfolio development within interdisciplinary applications (i.e., Engineering (Energy Sector) and Educational Systems).



Jim Scheer has over 18 years' experience working in the field of policy analysis and development related to environmental issues. He joined SEAI in 2007 and is currently Head of Department (Data and Insights) responsible for energy statistics, modelling, behavioural economics, and finance at SEAI. He holds a Professional Diploma in Advanced Management Performance (Smurfit Business School), MSc. Economic Policy Studies (Trinity College Dublin), BSc. Environmental Science (Flinders University, South Australia). Jim is passionate about getting people connected to the need for climate action now.

Dr Stephen Donoghue is the UCD Research and Innovation Case Manager. Stephen is responsible for managing the identification, protection and commercialisation of University College Dublin research outputs within the environment area. He has a background in biotechnology, software and law and has significant experience in managing and transacting data.

Dr Venizelos Efthymiou worked for Electricity Authority through various posts including Executive Manager Networks / Distribution System Operator of Cyprus from 1979 to 2013. He is serving the Steering Committee of ETIP SNET, ETIP PV, SET Plan and Horizon 2020 Programme Committee. He is the Chairman of FOSS Research Centre for sustainable energy and PANTERA consortium lead of the University of Cyprus and CIGRE Cyprus



According to the talks and discussions among the speakers, experts and participants around the webinar theme, there should be a rigorous methodology for research for the implications of data protection in Smart Grid. The standardisation of research data sharing (Eleni's talk), data ownership and privacy rights (Stephen's talk) are among the challenges that should be overcome to be able to exploit the customers' data, ranging from electricity demand to e-mobility and car routing (James's talk) and boost the research and innovation on the development of smart grids and promote the energy transition (Venizelos's talk).

Webinar Summary

Dr Mangina noted that Big Data is driving down the cost of power generation and enabling sharing and recycling of energy. Smart Meter data exhibit the Big Data five V's of Volume, velocity, variety, veracity and value. She remarked that access to suitable data is a stumbling block to allow demand response and flexibility in the power system. She queried if power companies can make anonymised data available to unlock the value of flexibility. Open issues include the lack of interoperability and data sharing standards. She gave several examples where data had been used to create data driven control strategies.

Mr Scheer describe a project that accessed and assessed electricity and gas billing data to evaluate a home retrofit scheme. He noted that the data was acquired prior to the current GDPR regime, but that it was used to extract insights and create an evidence base for further policy design.

Dr Donoghue spoke about the principles of copyrighting and noted that the processing of data adds structural value, as it can be copyrighted and licensed. Similarly, computer code is considered

copyrightable. He discussed the different types of data analysis and whether a dataset could be reverse engineered to identify a natural person. He outlined the CC license types as standardised ways to grant copyright to data or other creative works.

Dr Efthymiou described the objectives of the PANTERA project and its progress to date. He highlighted that the EIRIE platform is expected to be available in Spring 2021. There was strong interest in each of the presentations, with participants submitting questions via the chat and raising their hand to speak.

There were 85 registrations for the webinar. Figure 2 depicts the countries of the participants' institutions, whereas figure 3 shows the primary interest of the registrants.

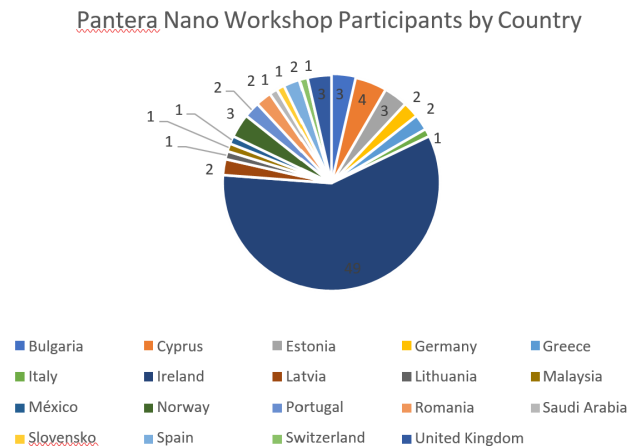


Figure 3: Participant Registration by Country

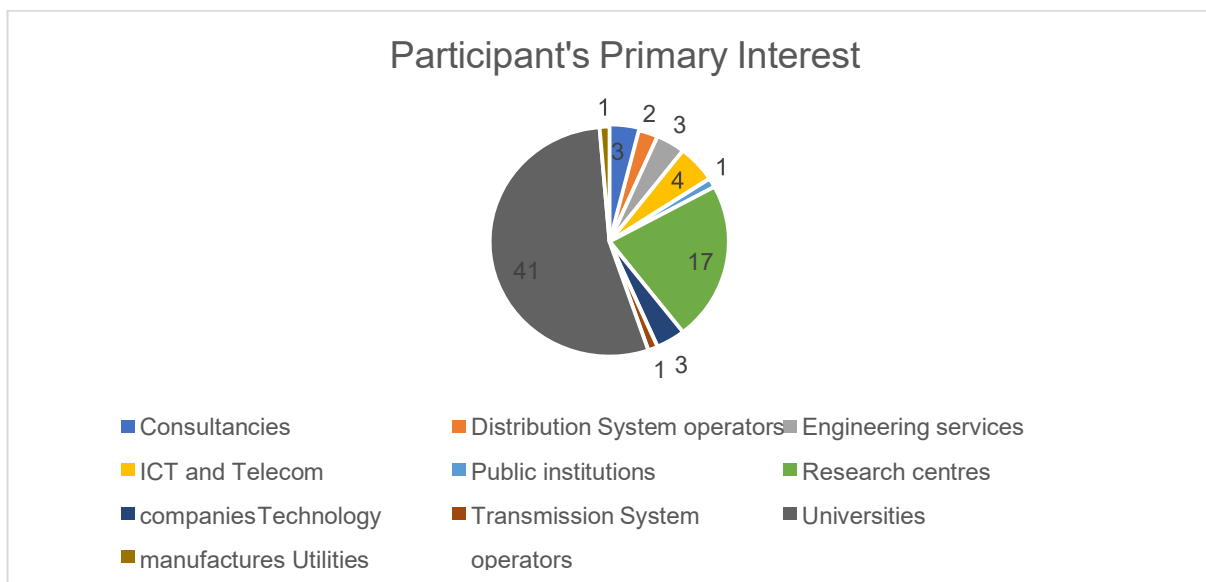


Figure 4: Participant's Primary Interest

Summary of Queries and Answers

During the presentations, some questions were raised by the participants. The respective speaker answered these questions (orally after the presentations or within a text chat that was available to all participants). The summary of some questions and answers is provided here, as well as

abbreviations, which are explained for more clarity.

Questions for Eleni Mangina:

Q1: I was just wondering; we have all these big successful deep learning models that are blowing everything else out of the water. But then you hear stories about some large models requiring as much energy to train as a town or small city. At what point are our models too big?

Another participant also followed up on this question: good question! For instance, micro grids - with a decentralised control, or blockchain with multiple layers.

A1: (Eleni Mangina). Eleni discussed this point and also answered in the chat: The efficiency of the algorithms is a very important factor.

Q2: Hi Eleni, is there any emerging standard for data gathering and inspections, schemas for data storage/cloud?

A2: (Eleni Mangina). There is current work on standards for Smart Grid and you can follow information updates at EU level at the following link: [Link](#). I strongly believe that more emphasis should be given to the data standards. Data sharing goes hand in hand with data standards.

Questions for Jim Scheer:

Q1: The consultation paper from the Dept of the Environment, climate and Comms for a Micro-generation Support Scheme - MSS, closed last week. In it, a micro-generator must have first met minimum energy efficiency. Will this be what your measurements be use as the standard please?

A1: (Jim Scheer). The researchers are providing insight to the government. The government is now asking experts and consumers, which way should we set the level of efficiency standards before we are going to support you on renewable technologies. That is important from different aspects. We only support the policymakers in the Department of Energy, but we are encouraging them not to avoid supporting people who are willing to take some actions.

Questions for Stephen Donoghue:

Q1: In a decentralised data structure, DLT (Distributed Ledger Technology)² for example, there is no such thing as ownership of data? But Agreement for data sharing. Right?

Weather data for example, is available from weather data API service provider and chargeable. We use such service from Germany in our development works. Will the Irish authorities going to license these types of services here?

A1: (Stephen Donoghue). There are public and private players in the provision of weather data. The open gov has access to free data under the cc (Creative Commons (standard) licences) by 4 licences³.

Commercial providers will have commercial agreements and sometimes non-commercial agreements for university researchers.

Comment1: (Another participant). The issue smart Grid in NI (Northern Ireland) is facing, in recent years, is all about data ownership. Grid operator (energy supplier) installs the smart meter which produces the data for electricity use, or able to sell as prosumer. Consumer should have the claim of the ownership of the data is they are the energy producer and able to sell at "fair price" as the Irish government is consulting the public.

Q2: (Eleni Mangina). There should be at high-level decision on sharing data - it is consumers' data. Shouldn't these belong to the consumers? Shouldn't I be in a position to decide whether my data will be used?

A2: (Stephen Donoghue). In principle, I agree. If a person/consumer generates data they should be in a position to decide whether it should be shared, especially as it has personal data and privacy

² See https://en.wikipedia.org/wiki/Distributed_ledger for more information on DLTs

³ See <https://creativecommons.org/about/cclicenses/> for more information on the six CC licenses

aspects associated with it. What makes the farmer's data movement in the US complex is that the farmers wish to get paid for the provision of technical data from machines they buy and use. Who "owns" that data?

Q3-1: It's hard to believe that car routing data can be really anonymised in a realistic manner... it's crazy that the data can be claimed like that.

A3-1: (Stephen Donoghue) Privacy rights vary enormously from jurisdiction to jurisdiction.

Q3-2: Surely that couldn't fly under any sort of scrutiny in the EU?

A3-2: (Stephen Donoghue). Probably not, but by purchasing the car you might be giving rights to the company to use some sort of anonymized version of the data.

Questions for Venizelos Efthymiou:

Q1: Great work Venizelos. Indeed, such platform would bring together and enhance the management and sharing of Smart Grid Networks around EU. Would this platform be open for private companies to contribute or only to research institutes?

A1: (Venizelos Efthymiou). Indeed, we know that data can come from anywhere, and that is why we're putting in place a process through which we will operate data managers, thus any one will have the possibility of uploading on the platform, but what will be uploaded is not going to be published unless it goes through an approval process, because as we said earlier, we want to generate the data that is dependable and usable by all. So yes, it is open to everybody and we have a process in place through which you will identify the source of the received data. We will modify if required the content and upload in the system, once it passes our internal policies and quality control.

Webinar Outcomes

According to the talks and discussions among the speakers, experts and participants around the webinar theme, there should be a rigorous methodology for research for the implications of data protection in Smart Grid. The standardisation of research data sharing (Eleni's talk), data ownership and privacy rights (Stephen's talk) are among the challenges that should be overcome to be able to exploit the customers' data, ranging from electricity demand to e-mobility and car routing (James's talk) and boost the research and innovation on the development of smart grids and promote the energy transition (Venizelos's talk).

The main conclusions of the workshop can be summarised under the following strengths and weaknesses in relation to Smart Grid Research Data as follows.

Strengths include:

1. The move toward open data means some open-source data is available that can be used to prototype models, and the SEAI is actively working to facilitate data availability from projects funded by its Research and Development Programme.
2. Synthetic data can also be created using statistical models.
3. Building archetypes can be used to support research.

Weaknesses include:

1. Lack of standardised data formats and interfaces.
2. Challenges to access to end-users' data even with end-user's permission.
3. Lack of a high-level decision-making committee on research sharing data.
4. Lack of legal and commercial knowledge with respect to data among the smart grid R&I community.

3.2 PANTERA Regional Nano-workshop, Crete (GR)

3.2.1 Introduction

The hybrid regional nano-workshop of the PANTERA Horizon 2020 project on the 9th of July 2021 was organised by FOSS of the University of Cyprus who is the coordinator of the project. The main objective of this event was to present for the first time the EIRIE platform and highlight its role in supporting the much-needed R&I unified approach across Europe to intensify the investments' rate on smart grids and help countries with low activity to find the incentives and support to grow and bridge the gap that currently exists. At the same time, it was an excellent opportunity to engage regional stakeholders from both Regional Desk 1 and Desk 3 i.e., Greece, Bulgaria, Malta and Cyprus as the event had intensely the Mediterranean and Balkan direction in terms of policy, industrial and researchers' representation.

The Conference was scheduled for 8-10 July 2021, in Hersonissos Crete. The CEC event as a whole was a three-day full program under the auspices of various ministries of Greece: The Ministry of Environment and Energy, the Ministry of Maritime Affairs & Insular Policy, the Ministry of Infrastructure and Transport and the Region of Crete. An audience of about 200 persons, made up of energy experts, academics, industrial players and SMEs were actively contributing to the goal that was to build awareness and a well-established network around the technical and industrial solutions/innovations for sustainable energy.

On this premise, it was agreed with the organisers of the Cretan Energy Conference, to host the planned nano workshop during a parallel session of the conference and have full access to the exhibition room with a booth for wider dissemination of the activities of the project. Through this hosted booth of the PANTERA consortium well suited in the exhibition room, was active throughout the duration of the conference, attracting stakeholders from all participating countries Greece, Cyprus, Malta, Bulgaria, Latvia, Italy, Norway, Germany, France, Egypt and Israel gaining valuable visibility. This agreement has given a lot of visibility to the planned workshop through the publicity raised by the organisers of the conference attracting more than

150 relevant stakeholders visiting physically the event. (For more details visit the web page of the [conference](#)).

The choice of joining the CEC conference and exhibition for the nano-workshop of PANTERA was a decision with positive overall impact. The conference and exhibition ended on the 10th of July and exceeded expectations of both physical and virtual attendance (considering the Covid-19 pandemic Health and safety Restrictions).

The nano workshop as already mentioned was centred around the EIRIE platform and at the same time aimed to stimulate regional policy stakeholders to embrace the platform and highlight the way that the platform could be beneficial in supporting them, covering areas highly beneficial to them in meeting their Energy Targets as efficiently as possible in response to the EU strategy. Along with our efforts as PANTERA consortium we had the immense support coming from JRC representatives actively participating through the key note speech and their experts' contribution within the roundtable's discussion. It is really important that experts from the collaborative platforms were there too underlining the importance of merging through the EIRIE platform with the active cooperation of all involved stakeholders.

The EIRIE platform has been presented through User Stories to capture the solutions that the platform can give to the R&I community. Each of the stories tried to capture the offered solutions to the pertaining challenges in resources, gaps in networking, collaboration opportunities and the data & info resources. These raised issues through the stories were analysed and discussed in a fully interactive way through the roundtables that were convened.

3.2.2 Outcomes from the workshop

Dr Venizelos Efthymiou (chairman, FOSS/UCY) opened the workshop and set the scene as to where the project PANTERA currently is and introduced the progress made in developing the EIRIE

platform and the PANTERA process called RICAP (R&I status and Continuous gap analysis) through which it is aimed to build appropriate tools that will facilitate the evaluation of projects for feeding in valuable information for identifying R&I needs through the time was given to understand the EIRIE platform vision and how this was transformed into a reality through the design that is already up and running, accessible by all.

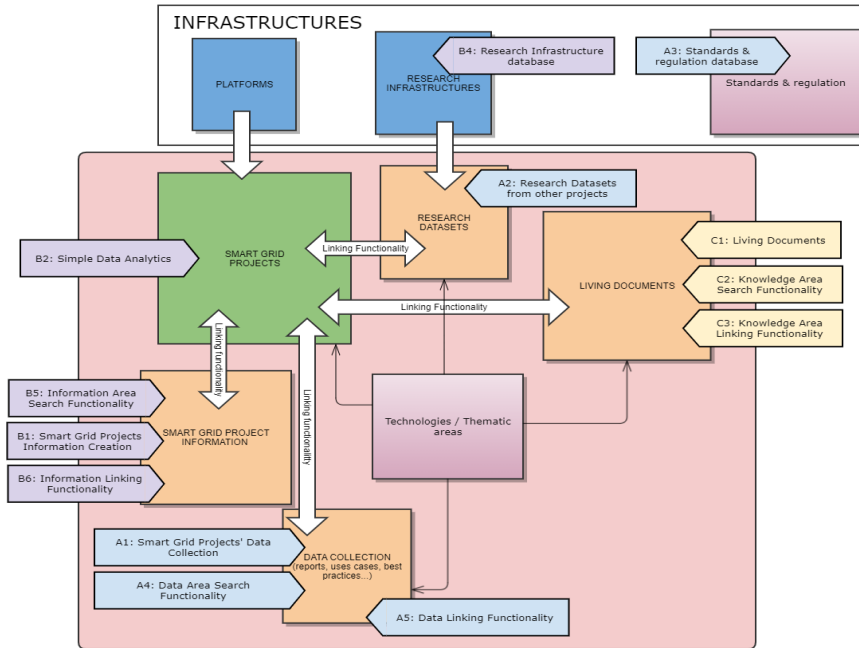


Figure 5: The architecture of EIRIE

Special attention was given to the developed Restful Web Service API that is offering an adaptive open approach in connecting with other platforms and sharing valuable information and knowledge.

The following details were clarified:

- For the access to the Drupal data from other systems, we are implementing a Restful Web Service API.
- This Technology permits access from practically every language and services. It becomes a bridge between different platforms and applications
- Drupal 9 has a way to expose endpoints to manage the drupal content types.

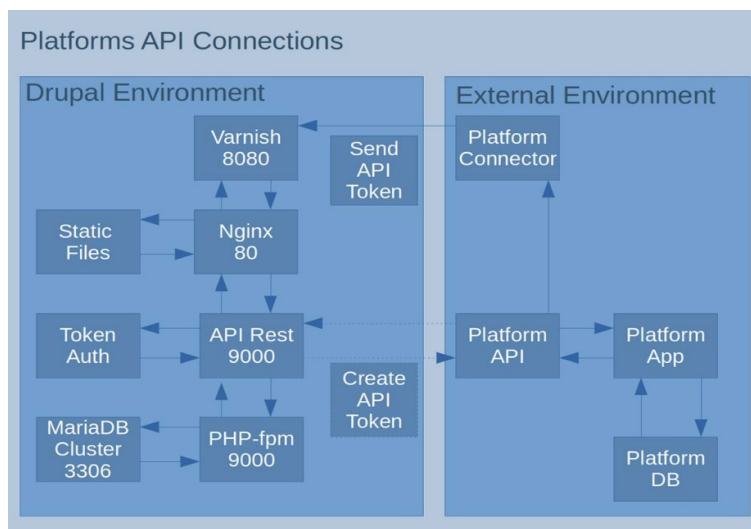


Figure 6: An adaptable API allowing safe connection with other platforms

- Dr Gianluca Fulli of JRC was the invited key note speaker representing the Commission addressing the theme “The EU’s digital and energy ambitions and challenges”. He spoke on: Top technology trends, Industrial applicability, and technical maturity.

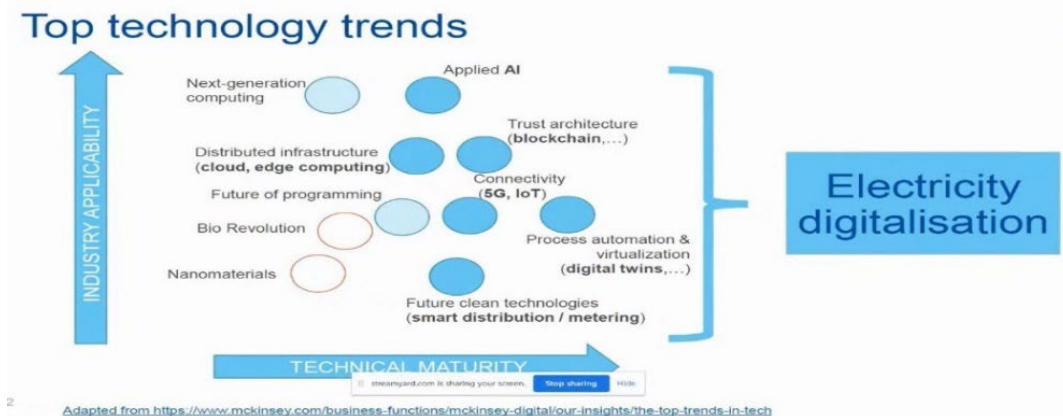


Figure 7: Dr. Gianluca presentation: Top technology trends

What does electricity digitalisation cover?

- New functions, technologies and infrastructures
- Free flows of power and data

These in two major directions that build the targeted impact:

- Electricity system value chain
- Connectivity within and beyond the power system (involving customers and coupling sectors).

What can we note as global digital electricity investments?

- Global investment in digital electricity infrastructure & software: USD 47 billion in 2016 (20% yearly growth pre-covid)
- Venture Capital backed energy start-ups decreasing but the share of digital start-ups in the energy sector increasing.

Based on these trends what are the EU’s twin green and digital ambitions?

- European Energy market: fully integrated, interconnected and digitalised.
- Digital technologies enabler for sustainability but also big energy consumers
- Accessible and interoperable data are at the heart of innovation.

Dr. Gianluca Fulli has underlined the fact that EU is paving the way for energy system integration. The European Green Deal is including at its heart the digitalisation issues knowing that they can play a decisive role in shaping Europe’s energy future.

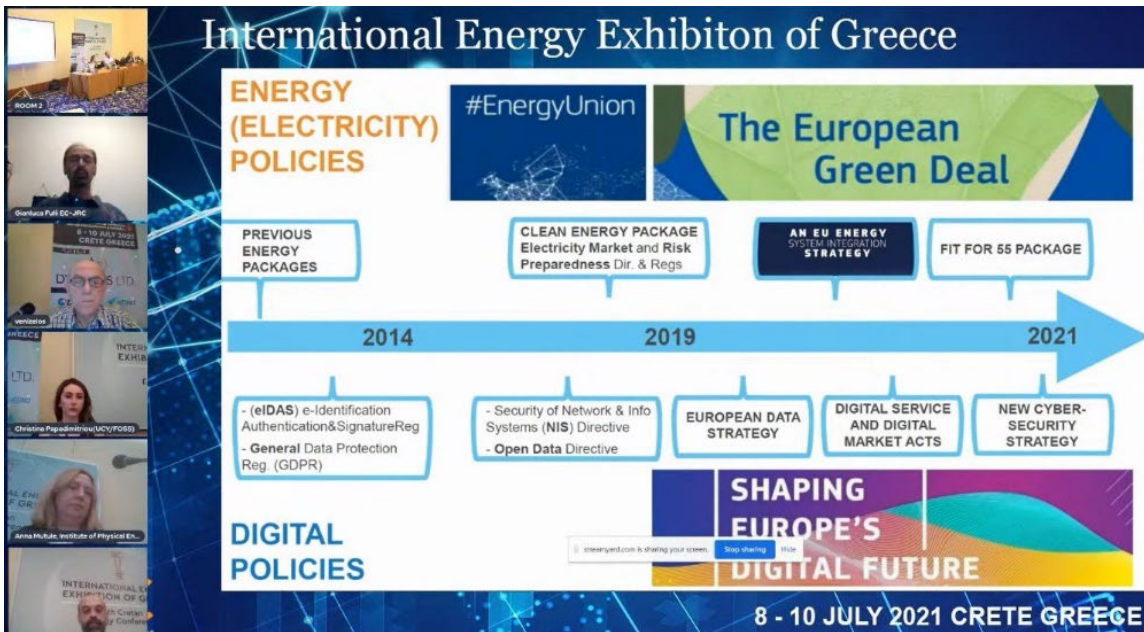


Figure 8 Green Deal Policies

Tasos Tsitsanis and Mohamed Shalaby: The EIRIE platform: The value creation including a live demo of getting what you want from the EIRIE platform

On this item of the agenda Tasos and Mohamed took the responsibility of walking through the participants through real case studies of using effectively the capabilities of the EIRIE platform covering the following two important areas:

- The search tool
- Training and education material

Tasos Tsitsanis opened the session with key characteristics covering important functionalities and services of the EIRIE platform. The object targeted is the “The key role of the R&I unified approach across EU for boosting smart grids investments: The ERIE platform”. Tasos reminded the audience of the mission statement of the PANTERA project that is forming the basis of the work of the consortium:

Mission Statement

A reference platform and one-stop shop for information sharing, collaboration and knowledge creation aiming at evidently supporting the advancement of R&I activities in Smart Grids at national, regional and pan-European level and subsequently, facilitating the Energy Transition. Tasos went on to explain the important functionalities and services that form the basis of the EIRIE platform and how a versatile architecture has been put in place to offer them.

Then he went on to describe in detail the EIRIE value propositions which can be summarised as follows:

Researchers:

- Access to a pan-European database with analytical and exploitable information on smart grid projects.
- Information about best practices in R&D sector
- First-hand insights into interesting smart grid projects, results, ideas and initiatives.
- Exchange of know-how with other R&I actors
- Access to Training Material and Education Programmes.

R&I Organizations

- Cross promotion opportunities, encouraging synergies with projects and initiatives through information sharing and promotion opportunities through highlighting key achievements as best practices.
- Making feasible for the low spending in R&I countries to be engaged in a more active manner in EU R&I activities.

Policy Makers

- Define inefficiencies of R&I activities at national, regional and EU level and prioritization of policy actions towards advancing R&I in low -performing thematic.
- Pooling together different available instruments into one platform in such a way that it will effectively contribute to the increase of knowledge, coordination of R&I activities and networking.

Following this introductory statement on the ambitions and services of the EIRIE platform Tasos went on through an online demo of the EIRIE platform, picking the Search Tool functionality as a useful example for the participants to have a real touch-on experience.

Round Table 1: The EIRIE platform echo and the breakthrough in low activity countries

Dr. Christina Papadimitriou opened this session as its coordinator by reiterating that the main objective of this session is to build on the use cases presented in the previous intervention revealing the strengths of EIRIE and highlight the importance of such a platform for the R&I community and especially for the countries that are left behind as far as R&I activities in the field of smart grids, storage and local energy systems. She stressed that we have managed to be connected and hosting experts and representatives from other collaborating platforms and institutions to share with us through EIRIE their insights on the R&I community potential.

She has indicated that during this session recorded responses of three well known experts in the field are to be presented and discussion will follow picking up on the issues addressed by the three experts. The experts are:

1. Dr. Diana Strauss Mincu – DERlab
2. Dr. Thomas Strasser – AIT
3. Mr Ludwig Karg – BAUM and EXPERA

Introducing the first expert Dr. Diana Strauss-Mincu, Christina has indicated that Diana brings the expertise of DERlab and Fraunhofer that are of paramount importance to the work that we are doing within PAN ERA. She went on and pose the following question to Diana:

“Currently, what are the main difficulties for a researcher to find much needed information, data and valuable knowledge in support of specific R&I topics? In the event that the EIRIE platform offers accessibility to the above, how you consider the R&I community mode of working will change?”

Dr. Diana Strauss-Mincu in her response has reiterated the importance of access to reliable information, data and knowledge for R&I to flourish. The state of the art of technology evolution is so fragmented throughout Europe that makes it difficult to R&I experts to identify solid steps forward without losing valuable time and resources. Thus, access to reliable information, data and knowledge is fundamental for accelerating the energy transition process.

Dr. Diana Strauss-Mincu has indicated what she considers as the innovative contributions of the EIRIE platform that will prove to be of vital importance to the R&I community in Europe. In short, she noted the following:

- A single point of access to reliable data, information and knowledge in the field of smart grids, storage and local energy systems.

- Interlinking all important platforms currently active in Europe for sharing and contributing.
- Build collaboration premises between the stakeholders around Europe through friendly to use tools.

Dr. Christina Papadimitriou thanked **Dr. Diana Strauss-Mincu** for her valuable contribution indicating that the important points raised will be taken on board during the discussion that will follow.

She then continued to introduce the second expert Dr. Thomas Strasser posing to him the following question:

“ERIGRID1&2 Projects support-among other things- the mobilisation of researchers to have lab access to the elite research infrastructure of Europe. What are the main insights of such a practice in terms of building networks and research opportunities? What is the expected impact of this capability, gaining more sustainable status through EIRIE promotion and connectivity supported by financial instruments provided by the Commission?”

Dr. Thomas Strasser opened his intervention with some words about the ERIGrid 1.0 and 2.0 projects of Horizon 2020, offering free access to research infrastructure in EU to R&I consortia that need and apply through a formal process. Following that, he stressed the importance of having a platform like EIRIE that offers EU wide visibility and accessibility in a sustainable mode since it is linked to the support of the Commission and JRC. He indicated that the proposed architecture of the EIRIE platform and the openness to sound resources around Europe is a recipe for success and he very much looks forward to link and collaborate.

Dr. Christina Papadimitriou thanked **Dr. Thomas Strasser** for the eagerness to link and cooperate noting that she very much looks forward for building this promised cooperation.

Finally, **Dr. Christina Papadimitriou** introduced the last expert for the session **Ludwig Karg** asking him the following question:

“How important is the networking and matchmaking of stakeholders to address R&I needs, coming from different backgrounds to put collaboration forward and develop innovative technologies and systems? What are the main shortcomings in the matchmaking instruments, if any, at present? What are the most important aspects of this matchmaking exercise that EIRIE should take care of?”

Ludwig Karg responding to the question has underlined the importance of knowledge to the R&I world: knowledge is the basis of innovation. He posed the question of how can we change results of projects into usable knowledge?

In ERANET Smart Energy Systems extensive work has been pursued over the years learning to walk on two legs:

- Transnational projects
- Building the knowledge community

Through this process the knowledge generation has been achieved through a rewarding process that was put together through the EXPERA platform.

This process is well described in the schematic below leading to the emergence of EXPERA that is constantly enriched with knowledge through the collective effort of all connected stakeholders.

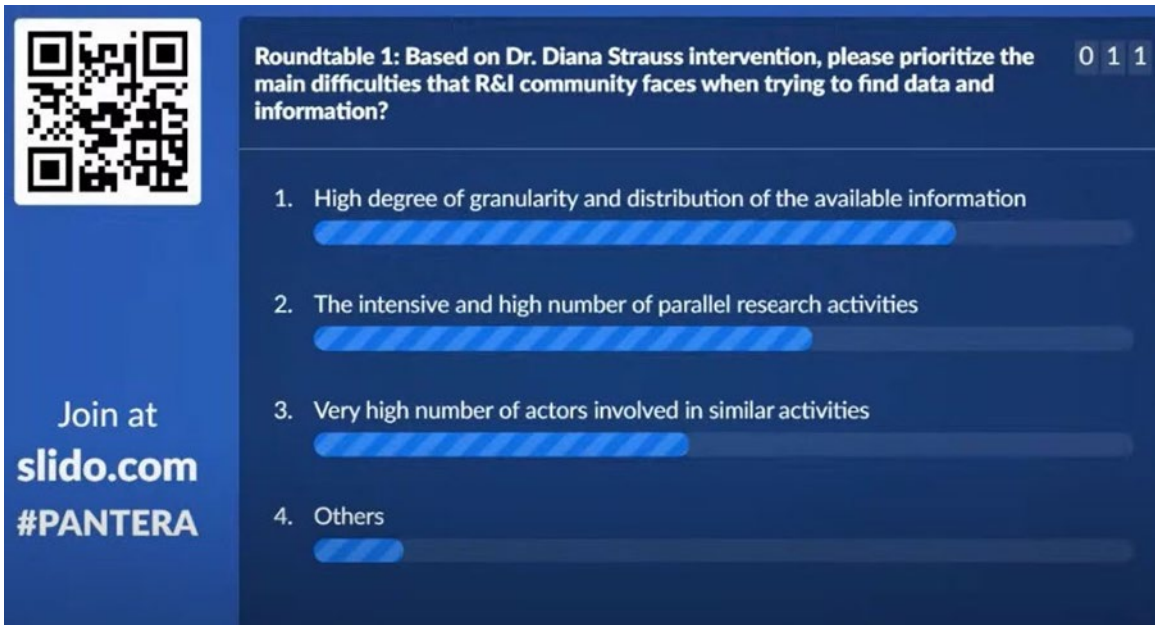
You have asked me how can we achieve matchmaking? In EXPERA we have learned this and practised it following the process of:

- Overcoming barriers form different terminology in the various domains
- Understanding differences in cultural and educational backgrounds.
- Making people understand the difference of data, information and knowledge.

That is how I understand EIRIE is going to work feeling that together we can generate a bright future through a balanced and fruitful working relationship.

Dr. Christina Papadimitriou thanked Ludwig Karg for his contribution to the workshop and the promising words as regards future working relations between the two platforms: EIRIE and EXPERA. She continued to indicate that based on what has been presented and discussed, the participants to the workshop have the opportunity to give their views and opinions through targeted questions. Hence, based on Dr. Diana Strauss intervention, she asked the participants to prioritize the main difficulties that R&I community faces when trying to find data and information?

- High degree of granularity and distribution of the available information
- The intensive and high number of parallel research activities
- Very high number of actors involved in similar activities
- Other (open text)



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Roundtable 1: Based on Dr. Diana Strauss intervention, please prioritize the main difficulties that R&I community faces when trying to find data and information? 0 1 1

1. High degree of granularity and distribution of the available information
2. The intensive and high number of parallel research activities
3. Very high number of actors involved in similar activities
4. Others

For the others, no free text was given by the one who has selected it.

Dr. Christina Papadimitriou welcomed the expert Dr. Anna Mutule for taking the floor in support of the discussion of this round table discussion and pass on the following question to help the discussion in the light of the answers received through the first question to the audience:

“Based on your experience as a stakeholder coming from a country with low R&I activity, what is the main difficulty of finding info, data and knowledge? What are your thoughts and personal experiences in response to the audience feedback on question1?”

Dr. Anna Mutule thanked for the introductory words and indicated her agreement with the responses of the audience. She has underlined her experience coming from a low activity country Latvia, that needed the support of European initiatives like EERA JP for SG and ETIP SNET to help them to come closer to EU stakeholders and build working relations for active participation in Horizon 2020 and other financial instruments. She has underlined the importance of having a platform like EIRIE for promoting this connectivity giving the possibility to the R&I community from all corners of Europe and leaving no one behind.

“Dr. Christina Papadimitriou thanked Dr. Anna Mutule for her substantiated contribution to the discussion, and continued to the second question of the day, based on Dr. Thomas Strasser

intervention. The question was addressed to the participants to the workshop asking them to prioritize the expected good results that the R&I community will be facilitated to have access to the state-of-the-art testing facilities of the best labs in Europe?”

- Networking
- Research Collaboration
- Funding opportunities
- Other (open text)



For contributing to the discussion of the responses of the audience, Marcello Barboni of JRC joined the panel and Dr. Christina Papadimitriou introduced him to the participants. She went on, posing the following questions to Marcello Barboni for shedding some light on the important collaboration between JRC and the PANTERA consortium in developing the EIRIE platform as described earlier on in this workshop.

- What is the main advantage for JRC hosting EIRIE and what are the expectations for the future and the sustainability of this collaboration?
- What gaps is EIRIE going to cover in your opinion complementing JRC activities?
- What are your thoughts and personal experiences in response to the audience feedback on question 2?

Marcello Barboni has reacted very positively about the development of the EIRIE platform considering it as ambitious and innovative that fits in well within the Smart Energy Systems platform that currently hosts many tools of JRC. EIRIE will be part of this SESli group of services to the R&I community of Europe, bringing a host of services that compliment already existing ones. The rich data that EIRIE brings to the SESI group of tools in a friendly to use environment will act as a linking cornerstone for bridging knowledge to the whole of EU leaving no one behind.

Marcello Barboni considers the emergence of the EIRIE platform as an innovative step forward bridging a lot of gaps promising to be a success.

“Dr. Christina Papadimitriou welcomed Ludwig Karg to the panel live and ready to respond to the questions scheduled for the audience. She presented the question explaining what was expected as a reaction from the participants based on Ludwig Karg intervention. More precisely the audience was asked to prioritize the challenges that the R&I community faces when trying to find matching

collaborators in building successful consortia for R&I activities?”

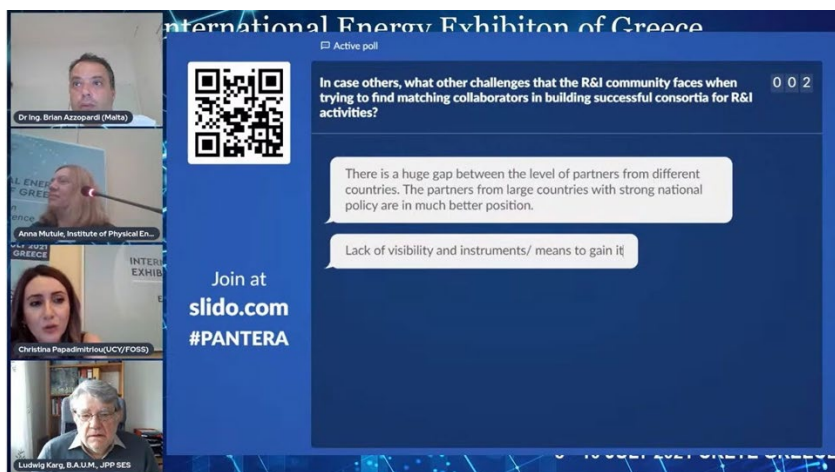
- Overcome terminology barriers and background differences
- Missing information of the exact profiles
- Missing the wider picture for integrating collaboration Granularity of matchmaking tools
- Missing wide representation of profiles coming from different backgrounds
- Other (open text)

Ludwig Karg responding to the answers given by the audience, underlined the fact that consortia building is not the only way of driving innovation forward. The process of building consortia up aiming to succeed to receive funding is a very slow process with low budget that delays the process with questionable results. Still though the question is that countries with strong economies and industry have the upper hand again for driving the process and many countries that are weak stay again behind. We need to change this and bring everybody up a gear to align and be a contributor in support of this transition. That is why EIRIE came about and we intend to strengthen the process to help countries that are left behind.



Dr. Anna Mutule taking the floor, reiterated the fact that low activity countries are lacking access and the EIRIE platform is the much-wanted vehicle. Building helping tools as are planned, is the solution forward for generating match making possibilities for all.

Marcello Barboni taking the floor for some last comments stressed the importance of human interaction and EIRIE platform is well suited to offer this capability. He is very confident that the EIRIE platform will gain a very high visibility that will act positively in bringing this human interaction forward and actively support the match making process for the R&I community in EU.



Dr. Christina Papadimitriou thanked all the participants for their contribution and has stressed the importance of the emergence of the EIRIE platform that will act as a bridge in being a strong positive catalyst for all the issues that we have discussed today.

Andrei Morch from SINTEF undertook the responsibility of summarising the morning sessions and give some feedback on the reaction of the participants to the emerging capabilities of the EIRIE platform. Andrei Morch responded to this need he introduced in his intervention under the title “The EIRIE platform and prospects for meeting expectations of stakeholders”.

2nd Round table: How policies can boost R&I on energy in our countries for meeting Paris Agreement obligations: Challenges, barriers and solutions

Dr. Luciano Martini from RSE Italy, took the floor to chair this last round table discussion. Being a partner in the PANTERA project he is well aware of all activities happening within and the importance that we are giving to the development of the EIRIE platform and what it entails. Energy transition is central in the EU strategies and Dr. Luciano Martini has indicated in his introductory slides the importance of managing correctly the evolution of the related technologies.

The EU is central in the world activity for achieving the identified policies that can lead energy transition to the set-out targets for 2050 with intermediate step the ones set out for 2030.

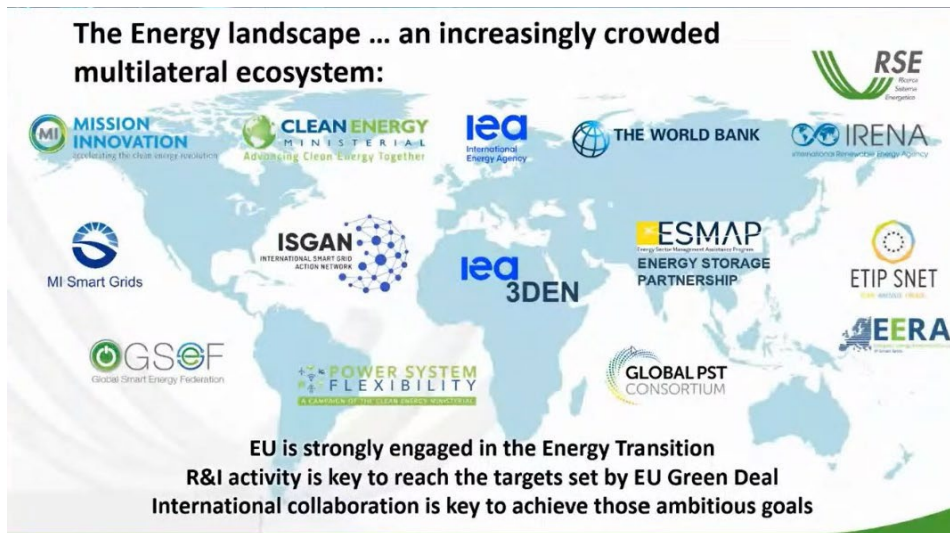
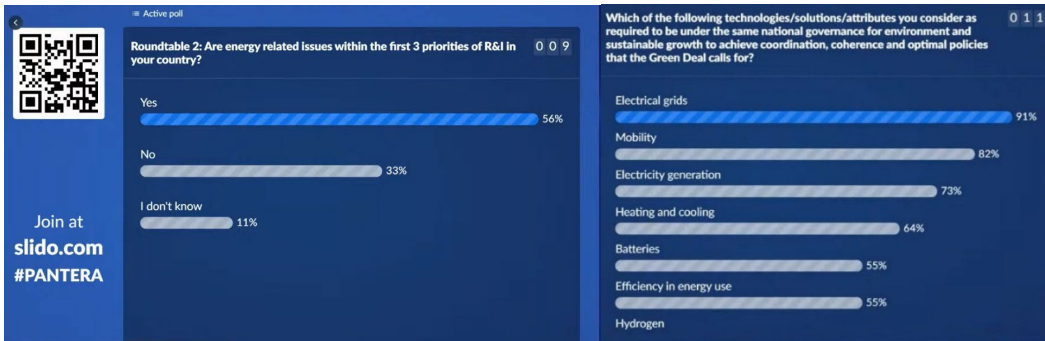


Figure 9: The international energy landscape

The Green Deal has come in strongly bringing the legislation changes under the collective name of “Fit for 55”. This R&I that is required to be achieved by 2050, is central in our objectives as well since we are aligned with the central theme of the Green Deal for leaving no one behind. That is why the PANTERA project has come alive identifying means and ways of raising the activity of low spending countries in R&I in the field of energy transition and give them the means to achieve more and come in line with the first runners. As a warm up to the round table discussion and the contribution of the invited policy makers and experts, the following questions were passed on to the audience to respond.

It is clear from the answers to the first question, that Energy related issues are high in the priority list of Member States. This is a very good position to be since energy raises expectations and countries can find the way to spend more in R&I to facilitate progress and assist their economies to move in the expected direction to achieve energy transition through optimal solutions.

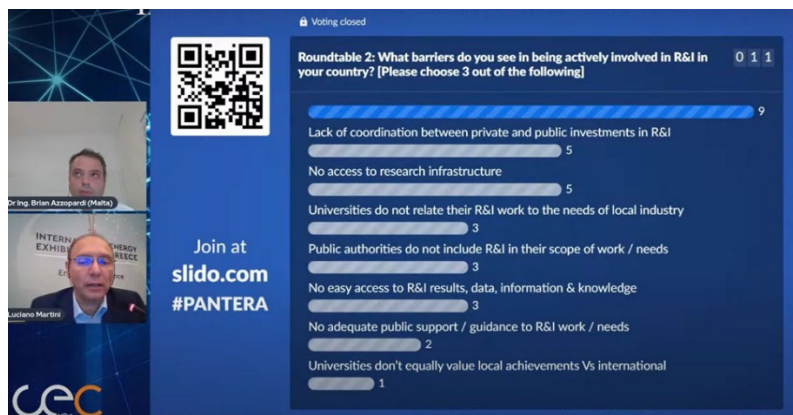


It is a drawback that some countries have split responsibilities on important contributors to the energy transition needs. The governance that exists in some countries is not helping to achieve optimal solutions for achieving targets. As it can be seen from the answers in question 2, the

opinion of the participants to the workshop considers of high importance the position that related technologies should fall under the same governance to achieve coherent policies. Under others a comment came through as regards smart grids. Dr. Luciano Martini responding to the question has indicated that smart grids are and should be at the top of the agenda. Their contribution is considered of utmost importance and thus still of prime importance to be considered for R&I in support of all related technologies.

The participants were further asked to indicate their understanding as far as the barriers that do exist in their countries for limiting their active participation in R&I in the field of energy transition. It is clear from the answers that in the list of barriers are the following:

- Low country budget in R&I
- Lack of coordination between private and public investments in R&I
- No access to research infrastructure



The agenda for roundtable 2 has two main contributors in addition to the open discussion with the participants. These are:

- **Natasa Pilides**, the minister of Energy, Commerce & Industry of Cyprus
- **Dr. Brian Azzopardi**, Malta, Committee Member of the World Energy Council

Dr. Luciano Martini introducing the Minister Mrs Natasa Pilides and has indicated that Natasa Pilides was appointed Minister of Energy, Commerce and Industry on July 10th 2020. Previously, on March 1st 2018 she had been appointed as the first Shipping Deputy Minister of the Republic of Cyprus, heading the strategic development and promotion of Cyprus as a world class, integrated, maritime cluster. From April 2016 to March 2018, Ms Pilides was Director General of the Cyprus Investment

Promotion Agency (Invest Cyprus), responsible for the design and implementation of Invest Cyprus' strategy in investment promotion, investor support and facilitation of reform.

“In her virtual intervention the minister responded to the question: Cyprus is committed to respond to the call for meeting the Paris Agreement obligations through the quantified targets of EU for 2030 and the agreed Green Deal. How can Cyprus raise R&I activities in the field of energy to meet the specific challenges of the Cypriot economy? Do you see any specific barriers that the Cyprus Government should take care of in enhancing the process and enriching the R&I in the fields that the Cyprus economy calls for?”

We are consciously here in Cyprus fully committed to the Paris Agreement ambitious objectives and to this effect we have developed our National Energy and Climate Plan embodying actions that can realistically contribute in meeting the 2030 strategic objectives of Cyprus and Europe. We know that we have to perform and that R&I plays a very important role in this process. We are ranked first in EU in absorbing Horizon 2020 funds per capita meaning that we have able researchers responding to the highly competitive requirements of the EU instruments.

Of course, we are aware of the fact that Cyprus is within the cluster of countries in Europe that are not doing enough in R&I in general and more specifically on energy related issues even though energy is ranked second as far as country priorities. However, we have taken policy decisions aiming to improve this low activity from our side.

We happily note the activities that your project PANTERA is involved in building the EIRIE platform with its multi-functional capabilities targeting the R&I community of Europe aiming to be a single point of reference for data, information and knowledge in support of the needs of researchers for conducting their research endeavours. We understand this need, and consider the synthesis of solutions offered by the EIRIE platform of fundamental importance to the attempts to help low activity countries like Cyprus to identify areas of competitive advantage and explore ways of capitalizing on them.

The functionalities and resources targeted through the development of the EIRIE platform seem to move in this supportive direction and we intend to include its services in the policies that we as Cyprus will pursue. The fact that the EIRIE platform is hosted within the Smart Electrical System web supported solutions of JRC within EUROPA and fully supported by the Commission for continuing services in the future, helps us to develop actions utilizing these

services and at the same time contributing in widening the scope and purpose of the platform in the direction of further strengthening the services to the R&I community of Europe without leaving anyone behind. Cyprus promises to be an active contributor utilizing efficiently the resources that will be made available through the EIRIE platform and build the required partnerships for stronger participation in the R&I needs of Europe for achieving the strategic objectives of energy transition.



Figure 10: The Minister of Energy of Cyprus Mrs Natasa Pilidou

We do identify as barriers in our R&I activities issues related to the following:

- R&I endeavours of government and semi- government employees in their specialised fields for addressing issues related to the needs of the service area that they are employed, are not included in the annual budget of departments. This generates a major handicap that we know that we should address.
- Lack of structured participation of universities and local research institutions in the broader economy of Cyprus and means of valuing such contribution in their academic career development. There is the prevailing impression that local involvement does not count in their academic experience, pushing academics to international activity only.
- Local Public Private Partnerships for addressing local issues are not addressed in a structured way learning from best practice approaches of the Commission and economically advance countries in Europe.

The adapted policies through “Innovation Cyprus” are an answer to the above and these are referred to below, thus giving a positive message as far as the policy decisions of the government of Cyprus in response to the above identified problems, that are responsive, realistic and promising.

What is the action that we are taking as Cyprus government? Elaborate more on the adapted policies of “Innovative Cyprus” and what is the current approach of the Ministry in supporting and contributing. It is very important to acknowledge the fact that barriers do exist and that through the adapted governance of the Cyprus Government, these are addressed and the declared will of the government is to overcome them and strengthen the contribution of Cyprus in R&I through equal public and private contributions. The smart specialization strategy of Cyprus will follow the set out priorities within which energy is ranked second and hence of prime importance in the plans of Cyprus.

Dr. Luciano Martini noted with pleasure the references of the Minister of Cyprus to the work that the PANTERA project is doing and the support that she has promised to align with the high

promises of the EIRIE platform. She has indicated that “We understand this need, and consider the synthesis of solutions offered by the EIRIE platform of fundamental importance to the attempts to help low activity countries like Cyprus to identify areas of competitive advantage and explore ways of capitalizing on them.” And further down she passed the message that “The functionalities and resources targeted through the development of the EIRIE platform seem to move in this supportive direction and we intend to include its services in the policies that we as Cyprus will pursue.” Such strong words coming from a minister are a wealth to us meaning that we are succeeding to pass through to them what is in for them in the EIRIE platform and we are very optimistic about the future.

Dr Luciano Martini went on to introduce the second guest to the round table discussion, Dr Brian Azzopardi coming from Malta and being a Committee Member of the World Energy Council. He indicated that Dr Brian Azzopardi connected to the workshop all the way and being active responding to questions and related support.



Dr. Brian Azzopardi has noted with interest that the workshop was very informative, introducing the promising EIRIE platform that is going to be very helpful to the researchers of Malta. He has indicated the small size of Malta and the difficulties that they are facing in finding what they want as R&I community of Malta and consider the promised architecture of the EIRIE platform of fundamental importance for small countries like Malta. All aspects revealed for the EIRIE platform are of high importance to Malta since problems that EU is facing are common and finding reliable data, information and knowledge is of vital importance. Moreover, the accessibility to other stakeholders is of crucial importance giving to them an opening that they will utilise to the maximum.

Dr. Brian Azzopardi further noted that he responded to all the questions raised throughout the workshop, and he confirmed his agreement to the answers given to the specific questions of Roundtable 2. Dr. Luciano Martini noted this with satisfaction indicating the importance of finding common approach on R&I issues. He further indicated the importance of mobilizing our efforts through collective areas like the one offered by the EIRIE platform since this approach will make a reality the need for leaving no one behind however small.

Dr. Brian Azzopardi has concluded his intervention by saying that he understands the importance of building on the experience of today, feeling the responsibility of promoting the activities of the EIRIE platform to the Maltese R&I community in close collaboration with Dr. Venizelos Efthymiou and Dr. Christina Papadimitriou extending the current working relations that are promising and fruitful.

Conclusions and next steps

Dr. Venizelos Efthymiou took the floor to close the workshop with some conclusions and next steps. He first thanked all the invited participants to the workshop with first and foremost Mrs Natasa Pilidou the Minister of Energy, Commerce & Industry of Cyprus who spent time to find out about the PANTERA project and EIRIE platform and stepped in to give her support thus making the workshop a success with strong messages.

Secondly, **Dr. Venizelos Efthymiou** thanked **Gianluca Fulli** who represented the Commission and took responsibility of the key note speech of the day. Being an expert of JRC closely working in the SESI environment, the messages that he conveyed to the workshop have real lasting value that we as PANTERA consortium should utilize for successfully completing the remaining months of the project.

We had the pleasure and support of the following additional experts that we sincerely thank for taking time to be with us, contributing with their vast experience for the success of the workshop and the nurturing of the promising messages springing through the proceedings of the workshop:

- Marcello Barboni of JRC
- Dr Diana Strauss of DERlab
- Dr Thomas Strasser of AIT
- Ludwig Karg of BAUM and EXPERA
- Dr Brian Azzopardi, Committee Member of the World Energy Council

The workshop in Hersonissos Crete run as a parallel session of the Cretan Energy Conferences and it can be considered a success delivering for the first time the functionalities of the EIRIE platform through an audience that has grown to 321 views through the facility of the [YouTube](#) .

The interactive multi-functional platform of the PANTERA project is now a reality. A living place hosting the R&I community of Europe promising to bring together the wealth of data, information and knowledge generated around Europe and be at the fingertips of the R&I community of EU leaving no one behind! You are invited to utilise it and enjoy it all the way. We are here to help and we are only a chat away.

3.3 PANTERA Nano-workshop, Varna (BG)

3.3.1 Introduction

A Nano Workshop with selected Regional Desk 2 members entitled “Regional Research and Innovation activities for Smart Grids, Energy Storage and Local Energy Systems” was performed on 03 August 2021, in Varna, Bulgaria. The main topics presented and discussed were:

Topics:

- The EIRIE platform supporting R&I in Smart Grids, Energy Storage and Local Energy Systems;
- ERIGRID 2.0 free access to leading Smart Grids and Energy Systems Laboratories and services;
- Building a critical Research Infrastructure in countries with low R&I activities;

3.3.2 Outcomes from the workshop

For a first time some parts from the recorded presentations from PANTERA's workshop and EIRIE live demo at the 5th Cretan Energy Conference were re-used. This approach was noted as extremely efficient and valuable.

Three working sessions are organised in the workshop.

1. Working session 1: How to build a critical Research Infrastructure in our countries which have left behind?
2. Working session 2: Horizon Europe funding opportunities, calls and proposals.
3. Working session 3: Applying for ERIGRID 2.0 free access to leading Smart Grids and Energy Systems Laboratories and services



Figure 11: Panelist at the Varna Workshop.

From the discussion with the Bulgarian stakeholders participating, it has been noted that the national funding is inefficient and the administrative burden makes it inadequate for the stakeholders. Number of examples were given from **Yulian Rangelov, Nikolay Nikolaev, Kiril Dimitrov and Dimitar Georgiev**, shown in Fig 5. Set of useful funding opportunities of Horizon Europe calls for proposals were discussed and evaluated. Several prospective calls were outlined and accepted to be collaboratively targeted. Initial agreement on forming of common project proposal was discussed. The way and the technical specificities for collaboration using EIRIE/Confluence were presented and discussed focusing on the activities of EIRIE Regional Desk RD 2. The ERIGrid 2.0 FREE physical, remote and virtual Lab Access options were presented. Two and possible collaborations and the potential hosting laboratories were discussed.

3.4 SUPEERA & PANTERA Joint Workshop, Split (HR)

3.4.1 Introduction

PANTERA and SUPEERA EU projects jointly organized a workshop at the SpliTech conference aiming to discuss and raise attention on gaps and barriers that limit the R&I activities in the energy sector and especially hinder a true integration of Croatian R&I stakeholders at EU level.

The SpliTech conference was an excellent occasion to organise a side event for the PANETRA project being an IEEE conference dealing with “Smart and sustainable technologies” thus collecting a good participation from the energy field stakeholder from the R&I field, first stakeholders of the PANTERA project.

The event was also the occasion to present the EIRIE platform highlight its role in supporting the R&I unified approach across Europe aiming to act as a single stop-shop for searching and finding information related to project on smart grids and the energy system at large.

At the workshop were invited project stakeholders from the countries neighbouring Croatia following an approach perfectly in line with the PANTERA regional approach. Moreover, the joint organisation with the SUPEERA projects, that shares with PANTERA different key objectives, allowed to foster stakeholder participation and to enhance the discussion in the panels.

3.4.2 Outcomes from the workshop

Opening of the workshop:

The PANTERA project and the regional approach

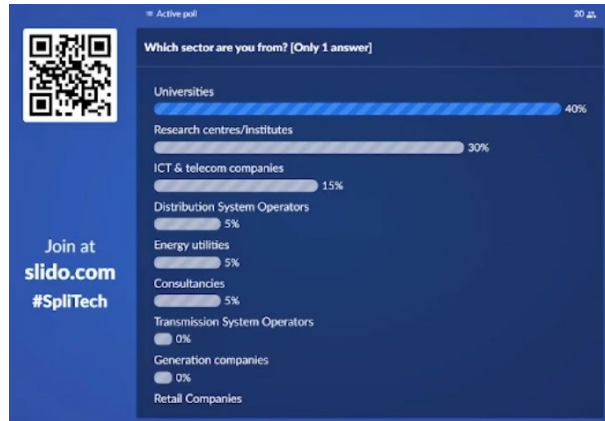


Dr Venizelos Efthymiou (PANTERA project coordinator - FOSS - Cyprus) opened the workshop welcoming all the participants. After having briefly introduced the PANTERA projects, its main objectives and the approach he presented the recently released EIRIE platform. The vision behind the platform development and how this has been transferred to reality were explained.

PANTERA aims to substantially contribute to the needs of the R&I community in Europe delivering the EIRIE platform that facilitates EU wide connectivity and access to state of the art data, information and knowledge to support on a level playing field the R&I endeavours of member states.

Before the end of his introductory speech Venizelos highlighted also how the PANTERA regional approach will support the EIRIE platform development through information collection and stakeholder engagement. Moreover, the platform itself has an area dedicated to regional collaboration fostering knowledge and information sharing.

Before starting the next session, quick questions to the audience were addressed using the Slido tool. In the following figure it is reported the participant affiliation with respect to the type of organisation.



Croatia: energy and R&I landscape

Analysis, facts and figures from the energy and R&I contexts highlighting possible collaboration opportunities

Mattia Cabiati (RSE - Italy) introduced the general Croatian background within R&I activities took place reporting high level data about decarbonization targets and renewable energy sources (RES) penetration. Both EU level and Croatian targets were mentioned and the actual RES penetration was showed. Besides good amount of hydro energy production nowadays wind power plants are being installed while photovoltaic has still to reach a wide diffusion. It was pointed out during a brief discussion that hydro power plants are indeed an important source to meet clean energy targets and through retrofitting of old plants the amount of energy produced could still increase.

In order to understand better how is the situation of the Croatian R&I activities integration at EU level in the field of smart grids and energy system at large, an analysis of H2020 projects with Croatian participants in the H2020 thematic priority “Clean and secure energy” was conducted by the PANTERA project. Besides the actual number of projects and funding received, it was shown the location of the project partners. The large majority came from Zagreb, leaving large room also for improvements with local (coming from other part of Croatia with respect to the capital city)

stakeholder involvement.

ter the first part aimed to set the background of the workshop, Mattia presented what the PANTERA project could offer to foster EU integration in R&I activities. Firstly, the results of a survey were shown considering the replies coming from Croatian representatives, reported in the figure above. The results show the main barriers that the Croatian stakeholders are actually indicating as hindering R&I activities and the main benefits that they are expecting from the PANTERA project.

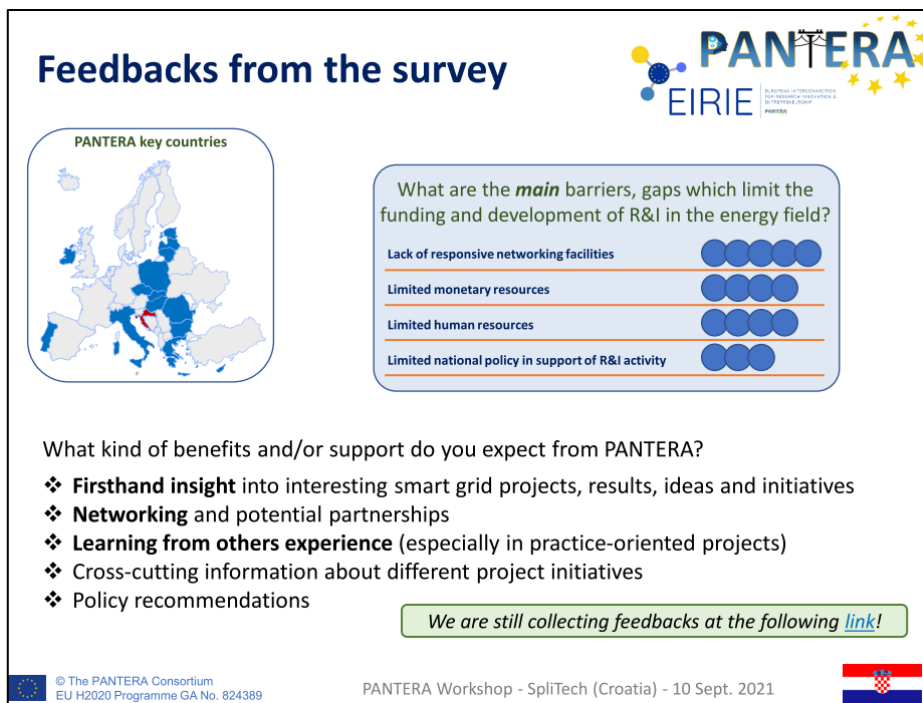
Starting from these results, the following initiatives:

- DERLab
- ISGAN
- ERIGrid 2.0 project

with which PANTERA is closely collaborating were presented since they could actually support R&I and especially the following identified barriers:

- lack of responding facilities
- limited human resources
- limited monetary resources

Finally, a recap of the main activities of the PANTERA project in support of true EU integration of R&I activities were made especially in addressing the main benefits expected from the PANTERA project.



EIRIE platform:

**How the regional arm accelerates your SG R&I activities?
Use case solutions with the participation of local stakeholders, that can match the needs and profiles of the region.**

Mr. Tasos Tsitsanis (Suite5) presented in detail the EIRIE platform functionalities starting from the EIRIE “mission statement”:

A reference platform and one-stop shop for information sharing, collaboration and knowledge creation aiming at evidently supporting the advancement of R&I activities in Smart Grids at

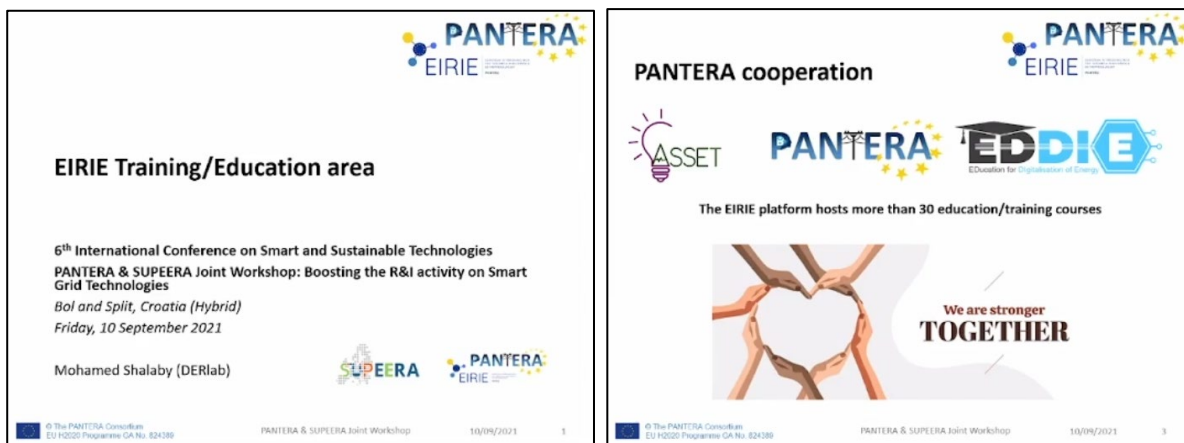
national, regional and pan-European level and, subsequently, facilitating the energy transition.

After having introduced the platform, real live demo case study using the EIRIE platform capabilities was proposed. Both the following two important areas of the platform were covered:

- The search tools
- Training and education material

The aspects relevant for the different typology of users were tackled, especially considering researchers, R&I organisations and policy makers.

To close the overall overview of the EIRIE platform Mr. Mohamed Shalaby (DERlab) presented the EIRIE platform section related to training and education. This section has been developed in close collaboration with the ASSET⁴ and EDDIE⁵ projects.



The SUPEERA project:

Linking objectives with PANTERA: Mobilization of EU-13 national public research resources in the Clean Energy Transition: challenges and opportunities.

Dr. Ivan Matejak (EERA) briefly introduced the SUPEERA (Support to the coordination of national research and innovation programmes in areas of activity of the European Energy Research Alliance) project that was co-organizing the workshop. The SUPEERA project supports the SET-Plan and the clean energy transition by facilitating the coordination of the research community, accelerating innovation and uptake by industry and providing recommendations on policy. It has been noticed that there is a research & innovation gap between EU13⁶ and EU15 member states. The EU13 countries have low participation rates in the SET-Plan, their national research organisations have limited awareness of the Clean Energy Transition (CET) priorities, funding schemes and initiatives and have received only a marginal contribution of Horizon 2020's budget. Only 5% of the total Horizon 2020 budget has been allocated to research teams from the EU13 Member States.

Dr. Matejak presented the main causes that lead to EU13 performance gaps, which are:

- National priorities not aligned with European ones;
- Weakness of the R&I systems;
- Administrative and regulatory burdens obstructing R&I;
- The socio-economic relevance of fossil fuels (especially coal) making the transition towards a low-carbon economy less appealing;

⁴ <https://energytransition.academy/>

⁵ www.eddie-erasmus.eu

⁶ Countries that have joined the EU since 2004: Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia.

- Limited involvement in the SET-Plan landscape;
- Lack of ties at European and international level;
- Absence of integration between business and academia.

Bridging the gap between EU13 and EU15 countries would allow to achieve an untapped opportunity for growth and development of EU13 national economies and the EU as a whole, ensure that underlying policies and strategies will unfold in an even way throughout the whole EU, narrowing disparities across member states and increase the likelihood of meeting 2030 and 2050 targets.

At the end of **Dr. Matejak's** presentation, he recommended the following points to reduce the gap between EU13 and EU15 countries:

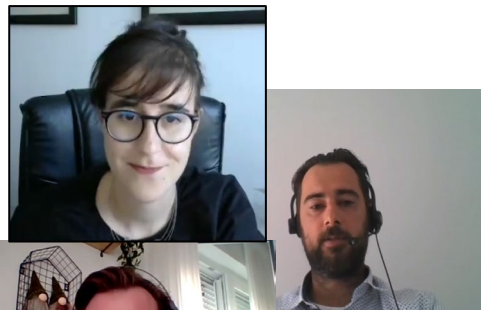
- Link national R&I priorities to European ones
- Strengthen participation in EU R&I networks
- Increase R&I funding
- Foster stronger academia-business cooperation
- Improve administrative procedures and reduce administrative barriers
- Enhance the activities of National Contact Points

Panel Discussion and Q&A session

How to accelerate the R&I activities of the region?

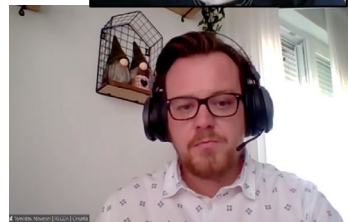
Dr. Venizelos Efthymiou and Dr. Ivan Matejak jointly coordinated the panel discussion aimed to discuss around how to accelerate the R&I activities of the region through the following main items:

- Research Collaboration
- National regulations
- Policy issues
- Financing opportunities
- Good practices



The panellists of this roundtable were:

- **Ms. Zorana Barišić**, Croatian NCP
- **Mr. Damir Pirić**, Director HEP ODS – Croatian DSO;
- **Dr. Tomislav Novosel**, REGEA



Also **Ms. Orsolya KÜttel**, Hungarian NCP contributed to the discussion by sending in advance a presentation kindly presented by **Ivan Matejak**.



At the beginning, Dr. Shafi Khadem (IERC) gave a presentation to better explain how the PANTERA project is working in supporting the enhancement of R&I activities through the PANTERA RICAP process. He also presented R&I status and priorities in Croatia based on the analysis done of 22 projects. Moreover, the National Energy and Climate Plans (NECP) for Croatia were presented. At the end of the presentation, recommendations were made to accelerate the R&I activities in the field of Smart Grid and renewable energy in Croatia.

After **Dr. Khadem** presentation, **Dr. Matejak** welcomed **Ms. Zorana Barišić** (Croatian NCP). She gave a presentation on R&I activities and the national support system. She presented some statistics about the contribution of Croatia to the Horizon 2020 program and the amount of funds received. Furthermore, some measures to support participation in Union programmes for research and innovation were presented e.g., the establishment of an inter-sectoral group for strategic support and collaboration on the national level. In addition to that, she highlighted the importance of improving the quality of the project proposals, increase the excellence and participation of partners and enabling synergy between sections.

After **Ms. Barišić** presentation, **Dr. Efthymiou** welcomed and introduced **Mr. Damir Piric** (Director of HEPODS the Croatian DSO). **Dr. Efthymiou** addressed the following question “How do DSO approach the need for change to cope with the energy transition, seamlessly integrating emerging technologies like storage, vehicle to grid?”. Mr. Piric highlighted that HEPODS is the only DSO in Croatia and it is fully state-owned. The DSO role is to deliver high-quality power to the end customer and ensure the balance between supply and demand. Therefore, they have to depend on certified technologies and solutions to guarantee their power quality to the customer and it is quite hard to depend on products and solutions that are under development/research. Nevertheless, the DSO strongly supports the R&I activities coming from academia.

After **Mr. Piric** presentation, **Dr. Efthymiou** welcomed and introduced **Dr. Tomislav Novosel** (North-West Croatia Regional Energy Agency). **Dr. Efthymiou** addressed the following question to **Dr. Novosel** “Can you please identify areas which need specific attention through the National Energy and Climate Plan (NECP) of Croatia?”. **Dr. Novosel** highlighted the importance of providing regions and cities with tools to implement the NECPs strategy, which requires a dedicated budget. Furthermore, he recommended connecting the national strategy with the implementation plan and budget for it. Moreover, he highlighted the point that there is a lack of communication between local and regional governments and start-up incubators. In addition to that he underlined the importance of the EIRIE platform and the role it plays in the R&I community, however, he recommended increasing the visibility of the platform, as it is not quite well known to the R&I community at this stage.

Before ending the roundtable, the audiences were encouraged to the following three questions on Slido:



Ms. Barišić commented on the first question that Croatia spends more than 3% of GDP on R&I. Meanwhile, **Dr. Novosel** underlined the importance of expanding R&I activities to focus more on the future challenges that will face the DSO. **Prof. Capuder** commented on “Universities don’t equally

value local achievements vs. international”, by emphasizing the point that universities are quite busy with solving the local challenges, without expanding their thoughts to long term to European projects and use European funds.

During the discussion it was also pointed out that many EU projects involving Croatia stakeholders are Coordination and Support Actions (CSA) therefore not directly dealing with R&D activities. The need to increase the involvement of Croatian stakeholder in Research and Innovation Actions (RIA) as well as in Innovation Actions (IA) has been indicated as a point to improve.

A barrier related to the education side has also been indicated as a possible factor hindering the R&I activities in smart grids. This is the fact that current university courses are especially dealing with high voltage related topics while an important number of R&D activities are actually happening at distribution / medium voltage level. After the round table discussion Dr. Venizelos Efthymiou and Dr. Ivan Matejak thanked the audience and closed the workshop.

3.5 SUPEERA & PANTERA Joint workshop, Riga (LV)

3.5.1 Introduction

PANTERA and SUPEERA projects jointly organised a workshop to discuss and raise attention on gaps and barriers that limit the R&I activities in the energy sector in the Baltic countries, facilitate knowledge exchange and showcase best practices of how international networking and cooperation between national stakeholders and key international associations and organisations can be beneficial for establishing long-lasting interactions and fostering joint R&I activities.

3.5.2 Outcomes from the workshop

Opening the workshop

Aleksandra Kronberga (Policy Officer at New Energy Technologies' Unit, DG Energy, European Commission) set the tone with her mission to motivate Baltic stakeholders to do even more in the area of energy transition. Her presentation “EU on the way to clean energy transition” focused on achievements of the three Baltic countries, latest EU policy and legislative developments, overview of funding possibilities and concluded with open questions encouraging dialogue about means of how EC could support

to facilitate R&I in Baltic States. One of the possible options, mentioned during her presentation, could be using the European Regional Development Fund (ERDF) more for innovation purposes, as the ERDF is relatively easy to access thanks to national allocation and quite big resources involved. Finally, Aleksandra highlighted the importance of collaboration and dialogue between national decision makers and the Commission.

R&I activities supporting energy transition in Latvia

Next section included interventions of representatives of Latvian state institutions: **Jānis Ancāns** (Head of National Contact Point (NCP) for Horizon Europe, Latvian Council of Science) and **Einārs Cilinskis** (Senior Expert, Department of Sustainable Energy Policy, Ministry of Economics).

Jānis Ancāns shared information on Latvian participation and funding rate in Horizon 2020 (H2020). Eastern European countries' performance is often considered as insufficient. However, data presented shows that Latvian performance in EU framework programmes has considerably improved. Secure, Clean and Efficient Energy thematic had the biggest share in H2020 in terms of number of participations. However, according to PANTERA estimations, most of funding in Secure, Clean and Efficient Energy thematic for Latvian organisations was granted to Coordination and Support Actions (CSA). This trend could mean that more efforts are needed to involve industry and increase the capacity of research institutes and universities. This supports the common idea that

success in framework programmes usually goes hand in hand with the amount of national financing. Thus, in Latvian situation NCPs have a lot of work to do to facilitate participation in Horizon Europe. One option that was expressed as a question during the workshop is establishing an R&I liaison office in Brussels. Jānis informed that Investment and Development Agency of Latvia (LIAA) has made first steps towards this by having a contact person working in Brussels.

Einārs Cilinskis talked about Latvian National Energy and Climate Plan (NECP) and the way how it is planned to revise the NECP based on the results of several scientific projects, confirming that Ministry of Economy is interested in cooperation with scientific community regarding energy transition. As for specific interest areas for future research, these could be positive energy districts, urban and rural energy communities, e-mobility, district heating, new types of solar cells, second generation biofuels. Answering to the question from the audience Einārs highlighted the absolute necessity of cooperation between Baltic and Nordic countries and gave example of Latvian-Estonian ELWIND project on offshore wind.

Sharing experience in international R&I collaborative projects and best practice

Next section included interventions of experts coming from Latvia, Lithuania, Estonia and Norway sharing their experience in international projects' implementation, best practices and lessons learned.

Dr Antons Kutjuns (Head of Development and Research Division, Augstsprieguma Tīkls) Latvia shared experience from industrial perspective and talked about Projects of Common Interest (PCIs) where Latvia is doing very well in terms of attracting European funding. Ongoing Baltic States synchronisation project with continental Europe has been granted 75% co-financing from the Connecting Europe Facility (CEF). Example of innovative solutions used for synchronisation project are synchronous condensers for providing system inertia. Antons highlighted, that implementation of such huge projects wouldn't be possible without political support (for example, allocating status of National Interest Object). Pre-studies, getting construction permits and complicated procurement procedures lasted for about 5-6 years. The most important challenge AST is facing today is dramatically increased costs due to geopolitical situation.

Dr Žaneta Stasiškienė (Director of Institute of Environmental Engineering, Kaunas University of Technology, Lithuania) looked at energy from environmental point of view, especially on level of the city, and promoting an interdisciplinary approach. Žaneta has a broad experience in collaborative projects, which started from cooperation with Scandinavian countries, then Eastern and Central Europe, then Africa and Central America and finally established with Lithuanian industrial stakeholders and municipalities. Her research focuses more on non-technical issues such as behavioural change and supportive legislation on municipality level and circular economy enabling solutions at company level. A promising direction for future research activities could be using Artificial Intelligence for climate change mitigation. In situation of insufficient national financing as it is in Lithuania, the main source of funding for research activities is European funding programmes, which are very competitive. Therefore, KTU choice is not restricted only to Horizon 2020 and Horizon Europe. For example, one of KTU's successful projects – Baltic Dialogue Platform on Smart Cities for Climate - was funded by European Climate Initiative by German Federal ministry for the Environment, Nature, Conservation and Nuclear. Some other examples are – EV energy and LOCARBO projects which were funded by Interreg. According to PANTERA observations, Horizon Europe tend to include more and more calls for Innovation Actions calling for industrial involvement and delivering practical solutions where the participation of industry and technology providers is a must. Engaging industrial partners seems to be an important challenge in low activity countries. Žaneta's experience confirms that this requires hard systematic work of explaining companies the benefits of participating in the R&I projects.

Karl Kull (researcher in Tallinn University of Technology, Department of Electrical Power Engineering and Mechatronics, Estonia) shared a success story of SMAGRINET project aiming at

providing services to European universities, municipalities and industries to enhance their capacity in energy research and innovation to tackle the smart grid energy transition. The project developed in two main directions: launching challenge and case-based university programs to train students and organising short-term blending programs for the workforce to provide them insights into R&I and change outdated understanding and beliefs.

During project implementation multiple challenges appeared due to pandemic: educational programmes were delayed, mobility programmes were not possible to implement, the overall workflow had to be rearranged. On the other hand, COVID facilitated fast digitalisation of educational programs – what was good. Karl highlighted that having a good core idea helped to overcome all difficulties. Other success factors were attracting strong partners and public cooperation.

Dr Irina Oleinikova (Head of Power System Operation and Analysis group, Norwegian University of Science and Technology) introduced the NTNU's special initiative - Energy for a Better Society – usually referred as NTNU Energy. NTNU Energy is driving interdisciplinary research by fostering cooperation between faculties through developing common strategies and activities. One important dimension of this work is active participation (taking part in discussions, creating reports and different position papers, visiting brokerage events) in different international initiatives, like EERA, ISGAN, CIGRE, ETIP SNET, etc. Furthermore, all research activities are supported by strong collaboration with industry, specifically Nordic TSOs, and cooperation with policy makers on different levels. For example, last activities included feedback to EC on Action Plan on the Digitalisation of Energy Sector, feedback to ENTSO-E on RDI Implementation Report 2021-2025 and now NTNU team is actively involved in commenting and contributing to Horizon Europe Work Programme 2023-2024. Thus, Irina has confirmed that active involvement in European initiatives is key to successful networking, increasing visibility and establishing new consortia.

Opportunities to increase participation in joint R&I activities

The main idea of the section was to encourage knowledge exchange and open discussion on the pathways to improve the performance in national and international projects towards energy transition.

Panel discussion

Dr Paula Carroll (Centre for Business Analytics | Energy Institute Management Information Systems Department, University College Dublin) moderated a round table discussion on Opportunities to increase participation in joint R&I activities in the Baltic region. Panellists were **Karl Kull**, **Dr Antons Kutjuns**, **Dr Irina Oleinikova**, and **Dr Žaneta Stasiškienė**. The panel reviewed the responses to the online questions, noting that the majority of respondents answered that Horizon is too competitive and more advanced countries have an advantage, and that the support provided by national funding agencies was just sufficient – participants rated that as “neither good nor bad”. The discussion relevant touched on several related themes.

Education: there is a need for education to upskill current workforce through continuing professional development particularly to help them understand national and EU policy. There is also a need for new programmes to attach young students into the area and build a pipeline of skilled workers to contribute to the energy transition. There is a need to educate and communicate with ordinary citizens and lay people to understand the opportunities and challenges of the energy transition, e.g., the choices of low carbon technologies, and how government energy policies support achieving national energy and climate targets.



Figure 12: Panellists Karl Kull, Dr Antons Kutjuns, Dr Irina Oleinikova, and Dr Žaneta Stasiškienė

National Funding: call designs need to connect theory to practice and consider local and national needs

- need more tailored calls are needed for local solutions. The panel noted that pilot and demonstration projects would have high visibility to address education of consumer and would connect theory to practice. Multi- and interdisciplinary calls are needed to facilitate cooperation with social science. In addition, more dialogue across national agencies and ministries is needed so that calls connect technical and social science disciplines. There is a need for support to be successful in writing Horizon submissions.
- while teams may have the technical expertise and their submission be highly ranked, there was a sense that submissions failed because of weak presentation.

Alignment of policy and strategy: The panel noted that each sector has its remit, for example TSOs are regulated and must firstly ensure transmission system technical problems are addressed. It was also noted that decisions on grid tariffs to maintain grid will be needed in parallel with the development of energy communities so that the core network is adequately funded. For long term clean energy objectives to be met, community (local) opposition to infrastructure projects will need to be addressed to realise ambitious project in short time line. The whole energy community needs to hold its nerve in the face of current war in Ukraine which has put a spotlight on energy independence.

Finally, **Dr Venizelos Efthymiou**, **Tasos Tsitsanis** (Suite5, Cyprus) and **Dr Kyriaki Psara** (FOSS Research Centre of University of Cyprus) presented the EIRIE12 platform that stands for European Interconnection for Research Innovation & Entrepreneurship. EIRIE vision is to become a reference operational point to unify European activity, incentivise further investments in smart grids and support access to exploitable results that can spark further cooperation and bridge the existing gaps.

During the afternoon session, **Mr. Matejak** presented the challenges and opportunities for the mobilization of EU13 national public research resources in the Clean Energy Transition, highlighting key information per Baltic country. He stressed the importance for Baltic countries on participating in the SET Plan, mentioning that the associated benefits could be numerous; from enhancing international ties, to sharing research infrastructure and increasing their involvement in transnational funding schemes.

Spyridon Pantelis (EERA Project Manager, Belgium) provided an outline of Horizon Europe programme and the Clean Energy Transition Partnership (CETP). In tandem with **Petter Støa** (Vice President Research at SINTEF, Norway), they informed the audience about the open calls for

applications on Cluster 5, Widening calls, EEA and Norway grants.

Daumantas Kerezis (Adviser at the Innovation Group of the Ministry of Energy of the Republic of Lithuania) presented the current and upcoming activities in energy technology policy from the side of the ministry, indicating its intention to join and invest into the Horizon Europe 's Clean Energy Transition Partnership. He also added that the ministry is part of the joint Baltic-Nordic roadmap for co-operation on clean energy technologies.

Rolandas Urbonas (Deputy Director of the Lithuanian Energy Institute) presented the experiences and benefits from the participation in the international energy networks. He underlined that, although being a part of an international association that leads to a boost in the number of projects and general activity of the institution, Baltic countries have to face several challenges in order to be prominent on a European level. He suggested that one way to overcome these obstacles is to promote further cooperation on a regional level in the Baltics.



Figure 13: Mr. Daumantas Kerezis, Mr. Rolandas Urbonas, Dr Venizelos Efthymiou, and Mr. Ivan Matejak

In the discussion that followed **Mr. Kerezis** stated that nuclear technology is not included in the ministry's strategy at the moment, although the plan is to include modular reactors in the future energy mix. On this matter, **Dr. Urbonas** added that nuclear energy is a subject of interest within his institution. Regarding the Clean Energy Transition Partnership, **Mr. Kerezis** explained how the ministry is trying to connect stakeholders from research and business through a consultation process that aims to find shared common priorities. Furthermore, the idea of establishing a research collaboration between the Baltic states was brought up, and possible challenges and strategic differences were examined.

PANTERA Coordinator and Cyprus representative on the SET Plan Steering **Committee Dr Venizelos Efthymiou** underlined the role of ETIP SNET to provide a platform for collaboration between national stakeholders and European R&I entities, underlining those actions in this direction are reinforced by a series of regional workshops across EU. Replying to a question from the audience, **Dr. Efthymiou** explained that Cyprus' success on being the most active country amongst the EU-13 countries within the SET Plan stands in its active student and research population, which is able to offer strong contributions to the ad-hoc committees that were formed specifically for the

implementation of the SET Plan. This is underpinned by increased financial support by the Cypriot government towards R&I activities.

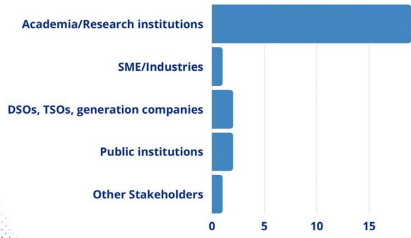


Figure 14: Workshop view

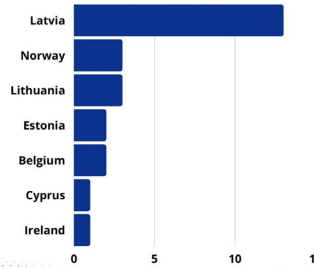
During the workshop audience actively used the on line provided system to ask questions. In total 38 questions were received. Our experts tried their best to answer those question during presentations and discussion sections. Questions reflected challenges researchers and innovators are facing in their activities like establishing close working relations with industry, regional collaboration opportunities, support in proposal preparation as well as more general issues as consumer empowerment and country specific policies in energy transition. Here are some analytics below:

The workshop was organised in a hybrid mode and gathered together 25 participants physically in Riga and 56 visitors connected remotely.

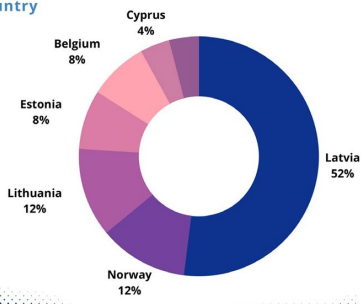
Riga PANTERA-SUPEERA workshop physical participants
By company/organisation type



Riga PANTERA-SUPEERA workshop registered participants
By company/organisation type



Riga PANTERA-SUPEERA workshop physical participants
By country



Riga PANTERA-SUPEERA workshop registered participants
By country

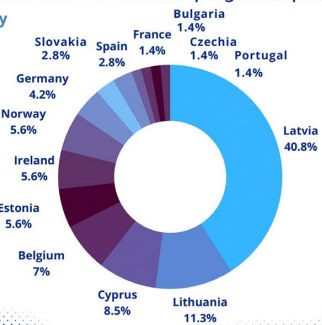


Figure 15: Some Analytics of the workshop

3.6 SUPEERA & PANTERA Joint Workshop, Sofia (BG)

3.6.1 Introduction

One month after the event in Riga, on the 25th of May, the SUPEERA and PANTERA Projects jointly organised a second workshop in Sofia, with the aim of sharing best practices in the field of the Clean Energy Transition and fostering the engagement of non-EERA stakeholders towards EERA activities and the SET-Plan.

The workshop, which took place in hybrid modality, was joined by 15 participants in presence and 23 online. It gathered experts mainly from the research sector and local organisations active in R&I activities.

3.6.2 Outcomes from the workshop

Welcome address

The Workshop was officially opened by **Valentin Kolev**, Dean of the Electrical Engineering Faculty of the Technical University of Sofia who welcomed all participants and recalled the importance of these kind of events for the university.

First session of the workshop: existing barriers

Ivan Matejak, SUPEERA Coordinator, gave an overview on Bulgaria's scarce engagement in Horizon 2020 activities based on the relatively low number of signed grants, the modest attention to the SET Plan and the degree of involvement in the Implementation Working Groups. He also highlighted the root causes and structural challenges for EU13 countries in moving forward towards the CET and underlined the opportunities that would arise by bridging such gap.

Next, **Maryia Trifonova**, from Sofia University (SU), presented the research activities implemented by the Department of Industrial Management and Economics of SU along with the numerous collaboration agreements with many different actors in Bulgaria and abroad. In addition to participating in Horizon 2020 and Horizon Europe proposals, the Department has been working with smaller research grants and collaborates closely with policy makers (i.e., the Center for the Study of Democracy) and industry.

Lilly Stammler, Senior energy expert at SOFENA (Sofia Energy Agency), opened her speech with a map displaying the energy associations currently active in Bulgaria and the interactions among the Green Energy Stakeholders at a strategic and operational level. After illustrating some examples of projects carried out by SOFENA in the public sector and in the area of education and training, Ms Stammler gave an outlook of the financial opportunities for Bulgaria in the green energy field, covering both European and national funds. She provided an overview of SOFENA's activities in collaboration with the Sofia Municipality, mainly on the topic of energy efficiency in buildings, facilitating also training, workforce upskilling activities and addressing issues relevant to energy poverty and citizens engagement.

Dimitar Georgiev, from Technical University of Varna, after giving an overview on the research team in the Dept. of Electric Power Systems at TU Varna, outlined a series of ongoing and past projects in the field of CET. He highlighted the strong collaboration of the university with industry stakeholders and especially ongoing research projects with renowned industry players (e.g. Siemens) in the field of power systems modelling.

Rad Stanev, Associate Professor at Technical University of Sofia, gave an introduction on the University's structure by presenting TU Sofia's facilities to support students' training activities in the field of power and grid management, underlining also the current R&I activities of the university in these fields and its involvement in EU funded projects.

Panel Discussion and Q&A

The first part of the event prompted a fruitful Q&A session and panel discussion, moderated by Ivan Matejak, which allowed participants to share views and better grasp the underlying reasons for Bulgaria's low involvement in H2020 and other European research programs. The first question addressing the speakers aimed at investigating their views on the challenges and obstacles for Bulgaria's participation to funding schemes.



Figure 16: Panel Discussion in Sofia

First respondent, Ass. Prof. **Maryia Trifonova** complained on the one hand the lack of a national strategy and coordination on the energy and sustainability transition and on the other the absence of information collection mechanisms on past proposals' success rate within the University. In addition to this, Ms. Trifonova also lamented lack of know-how on EU funding programmes and proposal writing, submission and reporting process which, together with the low organisation at administration level, has been the main reason for the non-engagement of the University in leading roles. Nevertheless, Ms Trifonova explained that the University of Sofia has been trying to address these kinds of issues by developing ad-hoc workshops and training activities in European Project Management for Research addressing PhD students, with the general objective of creating a "project culture" within the Institution.

Lilly Stammler underlined the lack of collaboration between the municipality and the Bulgarian higher education institutions, possibly to be traced back to the absence of structured understandings and cooperation agreements between universities, research centres and NGOs. On the other hand, on the subject of establishing long-lasting and fruitful connections, **Dimitar Georgiev** highlighted that it was quite easy for the University of Varna to set up collaboration with the industry, also with regards to the partnership with Siemens and General Electric.

Finally, **Rad Stanev** gave an overview on TU of Sofia's experience in cooperating with Bulgarian National Contact Points, by underlying the persistent difficulty to reach them and the struggle to establish communication channels with them. On the other hand, Mr Stanev underlined the good collaboration between the Ministry of Energy and the University. The second round of questions regarded how to tackle the previously mentioned challenges and obstacles and how to improve collaboration at EU level and national level.

Maryia Trifonova highlighted how in the last couple of years there has been a huge interest from the business to pursue collaborations with Universities. As regards government institutions, Ms.

Trifonova explained that although there is a dialogue with Ministries, they do not consider Higher Education Entities as partners to collaborate with in a more structured and substantial manner. Ms Trifonova added that all the previously mentioned issues have been recognized by the University of Sofia and a strategy to address them has been elaborated with the aim to create specific tools, such as assessment framework and models in order to ease the process of developing effective collaborations and applying for EU calls.

On the topic of improving networking with other stakeholders, **Lilly Stammer** stated that there is a need to overcome the obstacle of making the first contact with other organisations, being very hard to have a response from the other part, either when addressing them by email or by phone. According to SOFENA's experience in fact, unless they have a contact person within the institution of interest, it is very difficult to establish a fruitful collaboration with such organisation.

In the same regard, **Dimitar Georgiev** stated instead that TU of Varna, although being geographically distant from the capital, it has a good network of collaboration Bulgaria, in particular with TSO and DSO.

Rad Stanev wrapped up the first Q&A session by listing the challenges for the University's participation in EU research programmes starting from the disadvantage of being less experienced when compared with research organisations from other countries. At the same time Mr Stanev shed light on an often-neglected issue related to the fact that, in order to generate a qualitative proposal, the coordinator needs a significant number of resources whose securing, in Bulgarian public university environment, is not always easy to accomplish. Moreover, in comparison to western countries, Bulgaria has significantly less infrastructures (i.e. high-level labs) and a lower amount of national funding dedicated to research. When asked about what he appreciated, Mr. Stanev mentioned the TU of Sofia's involvement in European Initiative such as ETIP-SNET, by defining it as a good way to work its way into the prolific environment of other partners who generate high-quality outcomes.

Second session of the workshop: available opportunities for collaboration

The second session of the workshop opened with a presentation on existing available opportunities and collaboration platforms, and it was opened by **Spyridon Pantelis**, Project Manager at EERA, who introduced the Clean Energy Transition Partnership' structure and involved stakeholder groups. Mr Pantelis continued with an in-depth overview on Horizon Europe by displaying its structure in the three pillars with a focus on the 6 clusters within Pillar 2. After a short presentation on recent developments of HEU, Spyridon Pantelis presented a selection of upcoming calls under Cluster 5 (Climate, Energy and Mobility) and the HEU Widening calls' structure with a focus on the Hop On Facility, aiming at integrating one additional participant from the widening countries to an ongoing project under pillar 2.

In consistency with the presentation showed by Mr. Pantelis, **Berta Matas Güell**, Senior Researcher at SINTEF, gave an overview on EEA and Norway Grants for the period 2014-2021. She explained that, although in this phase (2022-2024) there are no open calls available, it is useful to know these funding mechanisms and encouraged participants to follow up for new coming opportunities in the next years. She explained that the list of beneficiary countries of these funds is consistent with the EU13 States. As regards Bulgaria, the budget amount for the last period was of 210 million euros, which can be defined as significantly high in comparison with the amount of budget received for H2020. Ms. Matas Güell showed the programme design process, the eligibility criteria and concluded with one example of ongoing project implemented in Bulgaria under the umbrella of the EEA funds on modernisation of the system of street lightning in the city of Burgas, one best practice which shows the role of these funds for solving concrete problems that municipalities and cities have today. The second session of the workshop continued with the display of two recorded presentations by Dr **Venizelos Efthymiou**, PANTERA coordinator and Chairman of FOSS Research Centre of University of Cyprus. The first presentation focused on the PANTERA Project, whose aim is to strengthen the involvement and cooperation of all EU Member States to achieve the CET through the development of R&I. The second presentation focused on the EIRIE Platform, an online

collaborative and multifunctional environment that has been generated to bring all the knowledge created in Europe on smart grids and green energy under the same umbrella and make it available and accessible to the public. Dr Efthymiou concluded its intervention by outlining the main structure and functionalities of the platform as well as the benefits of being its member. The EIRIE platform aims at fostering a bottom-up approach: through EU credentials research institutions can become active contributors of the EIRIE Platform thus collectively influencing the decision-making process on such themes at a European level.

Panel Discussion and Q&A

The second part of the workshop triggered a final meaningful discussion among participants, both in presence and online, on their willingness to engage in new collaboration and new funding opportunities.

Lilly Stammler showed appreciation towards the presentation of the calls for proposals previously outlined by the speakers and revealed SOFENA's interest in participating to such funding opportunities once possible project topics have been identified. Ms Stammler's view was shared by **Dimitar Georgiev** whom, among other things, stated that TU Varna has plenty of ideas that would like to concretize, and EU funding would be an effective means to achieve such objective.

Ms Stammler lamented however that the application process for EU funding is not straightforward and intuitive. Based on her experience, she outlined the difficulties in drafting projects in terms of time for creating a Consortium and write the proposal and shortage of experts and professional figures that have the competences to accomplish such tasks. Ms Stammler also showed interest in knowing more about where it is possible to get support in the process. In this regard, **Spyridon Pantelis** took the opportunity to give an overview on various options to be taken into account for collecting useful information and get in touch with potential future project partners: from using the funding and tender's portal, to participate in infodays organised either at a European (EC) or national level (organisations, NGOs). **Ivan Matejak** intervened in the discussion by also mentioning the crucial role of National Contact Points in providing specific information and in offering Research institutions and businesses with free of charge training on the process of proposal drafting and submission. Mr Matejak also reminded the audience of the role of EERA in creating synergies and fostering cooperation among different research institutes within the 18 Joint Programmes that are part of the Alliance.

On this note, **Berta Matas Güell** underlined the importance of activating NCPs or, in alternative, on getting in touch directly with the officers within the Commission that are behind the calls. Ms Güell also provided an important input deriving from her experience on the value of matchmaking events (that the EC is also organising as a follow up of the infodays) as occasions to meet with different stakeholders that could be interested in collaboration opportunities.

Angel Nikolaev from Black Sea Energy Research Centre expressed its concern on the lack of infrastructure and capacity for his Association to coordinate projects, while adding that authorities should develop a process aimed at helping smaller organisations prepare the proposals and get in touch with other European partners. In this respect, Mr. Nikolaev mentioned the role of the Association of the Bulgarian Energy Agencies in organising annual events which are, however, mostly addressing NGOs, and not research centres, invested in the topic of CET. In this respect, **Mr Stanev**, stated that, despite this option it is not easy to find partners willing to engage in proposal writing and that it would be helpful for the research community of EU13 countries to also have a special support coming from the European Commission. In line with this thought, **Ms Güell** underlined the importance of creating the opportunities to bring together actors coming from diverse areas given that the European Commission is putting forward cross sectorial challenges with the aim of encouraging different sectors to work together in topics of common interest.

Closing remarks

Although actively working towards achieving the low carbon economy Bulgaria, together with other less involved countries, has low participation rates in research and innovation (R&I) activities and in

the realisation of the EU's SET Plan Implementation Plans. As a consequence, and unlike more successful Member States, Bulgaria has received only a marginal contribution of EU R&I Horizon 2020's budget. By organizing these kinds of events, the SUPEERA Project aims at raising awareness about the SET-Plan and Clean Energy Transition among research organisations and funding bodies from the EU-13 countries while encouraging their mobilization towards their implementation.

3.7 SUPEERA & PANTERA Joint Workshop, Nicosia (CY)

3.7.1 Introduction

After the successful outcomes produced in Riga and in Sofia, on the 1st June 2022, the SUPEERA project team flew to Cyprus where, in collaboration with the PANTERA Project, organised a workshop aimed at sharing best practices in the field of green energy and at fostering the engagement of external stakeholders in EERA activities and towards the implementation of the SET-Plan. The workshop, which took place in hybrid modality, was joined by 18 participants on site and 22 online and it mainly gathered experts from the research sector, local organisations active in R&I activities, members of the government and representatives from the industry.

3.7.2 Outcomes from the workshop

Welcome address

The workshop was officially opened by **Ivan Matejak**, SUPEERA Project Coordinator, and **Venizelos Efthymiou**, PANTERA coordinator and Chairman of FOSS Research Centre, who welcomed the participants and presented the objectives of the workshop.



Figure 17: Panellist with audience

Mr Efthymiou proceeded with an overview of the PANTERA Project and he provided an insight into the PANTERA RICAP process, a tool providing the main methodology on how EU initiatives' come together with stakeholders and other resources to unify and align forces under the same umbrella.

Thanos Athanasiou, Press Officer at the EC Representation in Cyprus, opened with a reflection on the insufficient solar thermal panel installation rate in Cyprus, especially when associated with the number of sunny days on the island. Starting from this statement, **Mr. Athanasiou** underlined the need for Cyprus to multiply efforts and foster collaboration between authorities, research and industry in order to reach energy independence and to gain profits on the development and implementation of renewables.

Ivan Matejak presented the SUPEERA project and outlined the R&I gaps between EU13 and EU15 in terms of performance in the Horizon 2020 Programme. The displayed tables revealed that Cyprus' percentage of H2020 eligible proposals is higher than the EU13 average and almost twice as big as

the European average. Nevertheless, **Mr. Matejak** highlighted, only 6% of the net amount of funds received has gone to research; the reasons for this are to be found in the low level of national investment in R&I, the young research community, the limited capacity of Cyprus industry and the scarce access to high-quality international networks.

Nestor Fylaktos, Associate Research Scientist the Cyprus Institute (CYI), offered an interesting overview of R&I best practices for Cyprus. **Mr. Fylaktos** highlighted some of the lessons learned from the management of R&I projects, i.e.: defining proper budgeting, finding the right people, having the right management tools and holding efficient meetings. Based on these four key elements, **Mr. Fylaktos** illustrated: the INSHIP Project on solar heat for industrial processes, the CySTEM Project on solar and thermal energy, the SFERA III Project on mobility of researchers and shared use of research infrastructure and, last, the Green Deal Project providing scientific support for the implementation of the EU Green Deal in Cyprus. **Mr. Fylaktos** closed his presentation by sharing four important tips learned more specifically in the management of energy related projects: joining alliances, embracing multi-disciplinarity, working with diverse stakeholders and supporting collaborations among local, regional and international scientific institutions.

The panelists' presentations prompted an interesting discussion which was moderated by Ivan Matejak. Mr Efthymiou took the floor arguing that when we talk about Cyprus' performance in R&I in statistical terms, it is important to always keep in mind the small size of the country and its low number of inhabitants: it is only by taking these elements into account that we get a realistic (and also rather positive) picture of the situation. On his side, **Mr Athanasiou** shed light on another problem affecting CET in the EU, which is the inability for the EC to enforce decisions to Member States and called for a stronger EU able to impose itself more on the prerogatives of the EU Council. **Theodoros Zachariadis**, Associate Professor at the CYI, underlined the great role of Cyprus in the region and outlined how it teams up with countries from Central and Eastern Europe and Western Asia to design common energy and climate strategies and to bring the performance of the global energy community forward.

Panel discussion

The panel session opened with a question that addressed both panellists and audience and which represented the basis for the following discussion e.g.: what do you think will help most the energy related issues of our society? The majority of participants answered: "ease and installing renewable energy sources by all" whereas the second favourite chosen answer was "smart digital systems that will offer optimal solutions for all".

Nicos Hadjinicolaou, Industrial Extension Officer at the Ministry of Energy of Cyprus, explained that the Ministry is working towards easing the implementation of renewable energy sources across the country by acting on two fronts: by enforcing regulations to make the installation of PV compulsory for new households and by granting incentives for families and businesses that decide to install PV on existing buildings.

Venizelos Venizelou, Energy Engineer at Cyprus Energy Regulatory Agency (CERA), stated that CERA promotes schemes that are structured to promote the renewable energy by encouraging the establishment of renewable energy communities, collective self-consumption and all provisions coming out of the electricity directive.

Anna Maria Christoforou, Scientific Officer at the Research and Innovation Foundation (RIF), explained that RIF (mainly subsidized through government structural funds) has been providing funding, of minimum 1 million euros each, in specific projects that are submitted by researchers to improve efficiency and make the energy systems more innovative.

Alexandros Nicolaidis from Cyprus Transmission System Operator underlined the importance to work hand in hand with other stakeholders in order to ensure that all the resources and technologies

are coming at the right time so that supportive solutions (for energy storage for instance) catch up with the rapid deployment of new technologies.

On the same topic, **Mr. Hadjinicolaou** intervened and claimed the need to support initiatives aimed at ensuring energy efficiency for their vital role in reducing energy demand which is a first important step towards a more effective and better functioning energy system.

After the discussion, **Mr Venizelos** outlined the core activities and R&I Projects of CERA and presented a paper on “Regulatory Sandboxes in Incentive Regulation” seeking to provide clarity and a framework for the different tools that energy national regulatory authorities can use to facilitate innovation in the context of incentivizing regulation for grid operators. On the topic of technology maturity in Cyprus, **Mr Venizelos** underlined that the country is still in the process of digitalising the electricity sector and important steps have to be taken to fully adopt the flexibility of the energy market.

Throughout the following Q&A session, panelists had the opportunity to answer ad hoc questions specifically regarding their area of expertise. On the importance of the living environment for meeting energy objectives, **Mr. Hadjinicolaou** highlighted two main points. After shedding light on the great relevance of transport share in

Cyprus’ energy consumption, he claimed that a special attention should be paid to this sector since it involves a lot of stakeholders and requires lots of structural and behavioural changes from the side of the citizens as well. In addition, **Mr. Hadjinicolaou** focused on another issue that is concerning not only Cyprus but all countries in general, which is the lack of interest/motivation of the private sector to invest in R&I, an area that is almost completely funded through public resources.

Asked on Cyprus’ response to the 5th pillar of the energy union on “research, innovation and competitiveness”, **Ms Christoforou** listed some of the most important national tools that the country has adopted to comply with the green energy targets. Among the mentioned regulatory instruments there was the Smart Specialization Strategy for Cyprus, which was adopted in 2015 and aims at supporting R&I activities and investments while fostering cooperation between the academic community and the business world in established thematic areas, including energy. **Ms Christoforou** concluded her intervention by recalling that while it is important to have funding for basic science and bottom-up research, it is equally significant to have targeted thematic areas.



Figure 18: Panellists while discussion

On the issue of adopting a more holistic approach encompassing also social and economic, not just engineering criteria, **Mr Venizelos** stated that active citizenship is part of CERA’s strategy. Such commitment is reflected in activities like the development of a price comparison tool that will enable citizens to check the tariffs of the various suppliers that are registered to the market thus offering them the opportunity to easily switch their energy provider if they find it convenient. In the same vein,

Mr Hadjinicolaou confirmed that the involvement of the consumer is one of the policy pillars of the Ministry and added that the government is working towards making the CET in Cyprus as much of a democratic process as it can be by also involving diverse groups of stakeholders from both public and private sectors.

On top of the previous comments and intervention, **Mr Efthymiou** stressed the importance of cooperation with the authorities on activities addressing energy issues.

The first session was wrapped up by panellists with short conclusive remarks statement on what are the major barrier for the Cypriot research community in reaching 2030 - 2050 energy goals. Among others, speakers mentioned: alignment of interests from different stakeholders; alignment of researchers towards societal needs, the need to catch up with the rapid changes, the need to align clarity, coordination and trust.

The second part of the workshop

It was focussed on national and European funding opportunities and was opened by **Anna Maria Christoforou** who introduced 4 funding programmes aimed at accelerating the green energy transition in Cyprus: the National Funding Programme, organised through the Restart Work Programme (130 Million euros), the CO-DEVELOP Green Transition Programme aiming at bridging the gap between industry and Academia (6 million euros), the CET Partnership covering 7 transition Initiatives (3 million euros) and the Climate Neutral, Sustainable and Productive Blue Economy Partnership (2 million euros).

Evgenios Epaminondou from the Deputy Ministry of Research, Innovation and Digital Policy (Directorate for Research and Innovation) gave an overview of Cyprus R&I governance system and strategy with a focus on the energy sector. **Mr Epaminondou** showed that Cyprus ranks 1st in the absorption of H2020 funds per capita in the EU1 and gave an overview of the current research ecosystem of the country, including 10 Universities, 8 research institutes, 6 Centres of Excellence and more than 2100 researchers. After presenting the Smart Specialisation Strategy, **Mr Epaminondou** also mentioned some of the most relevant European Initiatives of which Cyprus is part: the CET partnership, ERA discussion and actions, Euromed R&I initiatives, the ESFRI Projects and the Technical Committee 5 on research innovation, competitiveness and digitalisation.

Berta Matas Güell, Senior Researcher at SINTEF, gave a presentation on EEA and Norway Grants for the period 2014-2021, directly addressing the so- called EU13 States. **Ms Matas** showed the programme's structure, the eligibility criteria and concluded with examples of new cooperation agreements signed with Cyprus on a number of new programmes in 2019, that also aimed at reducing vulnerability to climate change and improving environmental status.

Venizelos Efthymiou and **Kyriaki Psara** from FOSS concluded the second session of the workshop with a presentation of the PANTERA Project and the EIRIE Platform in support of the R&I community in Cyprus. Mr. Efthymiou described the EIRIE Platform as the meeting point of all actors active in the fields of green energy and as the tool aimed at bridging the gaps that currently exist in the energy field between EU MS, by bringing together successful national, regional or European partnerships. **Mr. Efthymiou** gave a general overview of EIRIE's vision, key functionalities, user roles, value propositions whereas **Ms Psara** took over the presentation by going more into details in the platform's open architecture and functionalities.

Mr. Efthymiou closed the workshop by remarking the importance of communication among the R&I community and by noting the relevance of these kinds of events for exchanging best practices and for fostering collaboration at different levels.

3.8 IEEE MELECON Conference, Palermo (IT)

3.8.1 Introduction

The EU project PANTERA and the Joint Programme on Smart Grids of the European Energy Research Alliance (EERA JP SG) jointly organized a workshop at the MELECON 2022 conference aimed to present the EIRIE multifunctional platform and to discuss with local stakeholders about the topics of storage and electromobility as a huge opportunity to enhance system flexibility and about the role of policies in fostering the deployment of innovative solutions with a special attention on recent development in the renewable energy communities field.

Opening of the workshop

Venizelos Efthymiou (PANTERA project coordinator – FOSS) and **Luciano Martini** (EERA JP SG coordinator - RSE) opened the workshop welcoming all the participants, both the ones present in the room and the ones attending on-line. They both highlighted the importance of organising this event in conjunction of the MELECON conference, thus fostering the possibility to discuss relevant issues with local stakeholders.



Figure 19: Luciano Martini and Venizelos Efthymiou open the workshop

The EIRIE platform

After having briefly introduced the PANTERA projects, its main objectives and approach, Venizelos Efthymiou presented the EIRIE platform developed by PANTERA (www.eirie.eu) and aimed to support knowledge sharing and to foster collaborative research efforts with a true pan-European approach within the energy field in support of the energy transition.

3.8.2 Outcomes from the workshop

Keynotes

Two keynote speeches set the scene and gave insights about the role of policies in support of the energy transition, especially fostering innovative solutions uptake and about the new European plans for the adoption of renewable energies that the European Commission has recently released.

Keynote 1: The role of policies in supporting innovation uptake. How to capitalise results of R&I

projects to foster innovation all around Europe – Marcelo Masera (JRC)

Marcelo Masera (JRC) stressed the importance of innovation, saying that the European Commission is presently working on a new research agenda that will be published within this year: electric carbon neutrality and decarbonisation of cities will be the main drivers. **Marcelo Masera** spoke also about the relevance of these challenges that will imply the rise of electricity in the energy mix from the actual 20% to the 65% in the 2050. Instead regarding the big challenge of changing cities, the selection of 100 of them that will take the commitment to reduce emissions in the next decades has been communicated last week. These cities will act as front runner, showing the way to all the remaining ones.

Marcelo Masera pointed out the importance of PANTERA and EIRIE commitment to contribute to this effort by knowledge sharing and capacity building. Then the keynote speaker gave an overview of key trends between the FP7 framework programme and EU H2020 has been shown, featuring the increasing relevance of demonstration projects addressing high TRLs.

Keynote 2: REPower EU: Analysis and implications on the Clean Energy Transition Adel El Gammal (EERA)

Adel El Gammal (EERA) underlined how the situation within the energy field changed in the last month due to the war in Ukraine, thus entering in a totally new paradigm. Moreover, Adel El Gammal highlighted that we are facing a rapid change and that the global average temperature is raising faster than expected.

In EU, security of supply has become a key driver for the future energy policies. In this view, the European Commission has released the REPower EU plan based on three pillars:

- Maintain in check energy prices
- Gas storage
- Clean energy transition as a keyway to diversify energy sources.



Figure 20: Adel El Gammal gives the second keynote

Adel El Gammal gave also an overview of the current sourced of primary energy in Europe, underlying the dependence on Russian imports. The REPower EU plan draws a pathway to reduce this not only by boosting renewable energy, but also increasing energy efficiency of buildings and industrial processes. Regarding gas supply, a key point is to enlarge the liquefied natural gas infrastructure and increasing the biomethane production. On a longer time horizon hydrogen will play a key role.

Eventually **El Gammal** explained that a number of technologies need to be scaled up to reach ambitious goals and that the electricity share in the energy consumption should rise from the actual 23%. This is a really important point and it has also been underlined during the first keynote speech.

Conclusions and Final Remarks

Venizelos Efthymiou closed the workshop thanking all speakers for having shared their views and all the attendees for their participation in the workshop replying also to the on-line polls. Finally, Venizelos highlighted that PANTERA is committed to support a stronger collaboration across the whole Europe in support of the clean energy transition and that the EIRIE platform is being finalised to serve this important objective.

Round tables

Roundtable 1: Storage and electromobility: a huge opportunity to enhance system flexibility. How to match grid and users' needs to foster renewables uptake Moderator: Luciano Martini (RSE) Panellists: Andrei Morch (SINTEF), Myriam Gil Bardaji (JP Energy Storage), Sebastian Martin (Univ. of Malaga), Graeme Burt (Univ. of Strathclyde)

Luciano Martini introduced the round table discussion by underlining that several energy storage technologies covering different time frames and at different readiness level are available, however a lot of skills are required to deploy successful innovative solutions. Four Clean Energy Ministerial workstreams are working on topics related to the energy storage and this testifies the efforts and the need of coordination to really make the difference in this important field. In fact, to accelerate the energy transition, energy storage, able to absorb the variability of renewable energies like wind and solar, is one of the key solutions to be deployed. In this relation all stakeholders should find and agree on which are the best solutions to implement, considering also the end users' behaviors and needs. Electromobility is another key aspect of the undergoing transformation that could play a relevant part in supporting renewable sources integration into the grids. In this view, the involvement of several actors such as system operators, DSOs, manufacturer, as well as electric vehicle users, together with a long-term view in planning the recharging infrastructure, is necessary.

Andrei Morch (SINTEF) started the discussion by commenting that the electrification of transports is a priority for Norway. Beyond the electrification of road vehicles, Norway is working also on electrification of ferries to cross fiords. A great effort has been spent by the government to support electric vehicle (EV) uptake by taxes on EVs reduction, allowing them to use public lanes in rush hours and offering to EV users free parking possibilities in the city centers.

Myriam Gil Bardaji (JP Energy Storage) highlighted that storage deployment is key to accelerate and maximise the renewable energies deployment. Several energy store technologies are under development and have reached different levels of maturity. Addressing different time frames, these technologies range from the traditional pumped hydro to batteries, thermal storage, power to X and newer solutions such reactive metals storage (like aluminum). Energy storage will play a very important role in upcoming clean energy systems and the solution will come from a combination of technologies able to address all the different challenges.

Sebastian Martin (Univ. of Malaga) briefly introduced the status of renewable energies in Spain highlighting the importance of increasing system flexibility and that energy storage can play a relevant role in supporting the integration of higher amount of variable generation source like wind and solar into the grid. As already pointed out by the other panelists, Sebastian Martin agreed with them that several solutions need to be deployed and that most likely large storage systems and small-scale units will complement each other in providing the needed grid flexibility.

Graeme Burt (Univ. of Strathclyde) spoke about the importance of opening the market to energy storage systems for providing services to the grid and he described the role that electric vehicle could play in supporting the grid if proper remuneration schemes are put in place. Besides that, Graeme Burt spoke about other technologies that could be exploited to enhance grid flexibility but that are still not largely deployed, such as DC microgrids, DC fast EV charging and many others. Finally, it was pointed out that although in different cases the technology is ready, there are barriers

that hinders their deployment such as proper markets and remuneration schemes to allow the investors to devise new business cases and foster innovative solution uptake.

Roundtable 2: The role of policies in fostering the deployment of innovative solutions. Recent development in citizen and renewable energy communities and how they could support local renewable sources exploitation

Moderator: Andrei Morch (SINTEF) Panellists: Stefano Raimondi (MITE), Eleonora Riva Sanseverino (Univ. of Palermo - HEU), Amedeo Buonanno (ENEA – eNeuron project)



Figure 21: Round table 1 “Storage and electromobility: a huge opportunity to enhance system flexibility. How to match grid and users’ needs to foster renewables uptake”

Andrei Morch (SINTEF) introduced the topic of Renewable Energy Communities and Citizen Energy Communities, reporting their definition and main aspects as defined in the renewable Energy Directive (RED II) and in the Internal Electricity Market Directive (IEM) respectively.

Stefano Raimondi (MITE), answering to the question “How can different programs (National, European and International) can contribute to reaching the ambitious target of the energy transition?” proposed by the round table moderator, spoke about the importance of bringing together the policy and the research & development dimensions to accelerate the impact of innovative technologies and solutions. Besides, **Stefano Raimondi** argued that we are still using a massive amount of fossil energy and that to accelerate renewables uptake stronger research as well as innovation and deployment actions need to be taken. Moreover, care should be paved to understand at best all the value chains of renewable energy sources, since we need to avoid shifting from the today dependence on fossil fuels towards the dependence on critical raw materials needed to build renewable generators and storage systems. In this view, the policy dimension has a great relevance and to define the most suitable strategies all stakeholders of the energy system value chain need to be involved in the decision process, thus ranging from public bodies to the private sector, considering academic institutes and research centres. In this respect, the Italian ministry for the ecological transition is in close relation with different organisation and working together with R&D institutes, thus taking advantage of the results of research and developed public funded activities.

Then the moderator triggered the contribution of **Eleonora Riva Sanseverino** (Univ. of Palermo - HEU) with the question “Can you share with us your experience with Energy Community projects in Sicily and what are the relevant enabling technologies?”.

Eleonora Sanseverino highlighted that Italy has a very good legislation about energy communities comprising also different incentives. However, to foster energy community’s uptake, a cultural leap

it is needed as well.

Sicily has different energy communities, one is in the historical centre of Ferla, a small town in the South-East of Sicily where rooftop PV installations are managed by an energy community providing benefits to the citizens. Another community is in the area of Ragusa where 200 kWp of PV are installed exploiting the land with an Agri voltaic approach. Another one has been deployed in the industrial area of Termini Immerse involving industrial loads, while one is located in the natural park of Madonie and involves three municipalities. Finally, it has been recalled that in the area of Messina an energy community project dealing with “social innovation” involving former prisoners and their families facing energy poverty is ongoing. **Sanseverino** spoke also about the relevance of new technologies such as blockchain in supporting the energy community’s uptake. In this respect **Sanseverino** reported that a regional project financed under the EU regional cohesion funds is investigating the use of the blockchain technology for supporting the users in providing services to the grid (e.g., demand response and EV services, etc.). Approaches like this can play a relevant role in supporting new solutions uptake since they support transparency and trust.

Amedeo Buonanno (ENEA – eNeuron project) was asked by the moderator “how the new data-driven ICT technologies, as machine learning (ML) and artificial intelligence (AI), may contribute to development of the energy communities, and what are the foreseen barriers?”

Buonanno replied that AI and ML are being used in several sectors and nowadays are gaining an increasing role also in the smart grids domain. They are used to forecast customer behaviour, renewables production, predict faults and predictive maintenance. Moreover, **Buonanno** pointed out that ML and AI need different set of data to provide value. Among them there are users’ data that need to be managed always in compliance with privacy regulations and laws to build trust among users allowing advanced solutions to be deployed. On this matter, the European Commission is developing the “Artificial intelligence act” aimed to regulate data driven approach and more in general the AI and ML sectors. It is really important that on this matter law and regulation clearly define what is possible and what not. This will affect also energy communities since AI and ML are being increasingly relevant in their management.



Figure 22: Round table 2 “The role of policies in fostering the deployment of innovative solutions. Recent development in citizen and renewable energy communities and how they could support local renewable sources exploitation”

3.9 SUPEERA & PANTERA Joint Workshop, Kouty nad Desnou (CZ)

3.9.1 Introduction

The PANTERA nano workshop entitled Capacity Building on R&I in Smart Grids, Storage and Local Energy Systems was held within the program of the 22nd International Scientific Conference on Electric Power Engineering (EPE) in Kouty nad Desnou, Czech Republic on the 8th of June, 2022

and collected more than 35 Stakeholders from the Czech Republic, Slovakia and the neighboring countries from the region.

3.9.2 Outcomes from the workshop

During the main conference opening ceremony of EPE 2022, **Irina Antoskova** gave a speech on the contribution of R&I activities to climate change mitigation and challenges in the field that might be summarized under one headline - a gap between ambitions and technology readiness. Irina briefly gave global and European perspectives and presented more details on PANTERA's vision of challenges and opportunities in the Smart Grid domain pointing and inviting the stakeholders to the PANTERA Workshop.

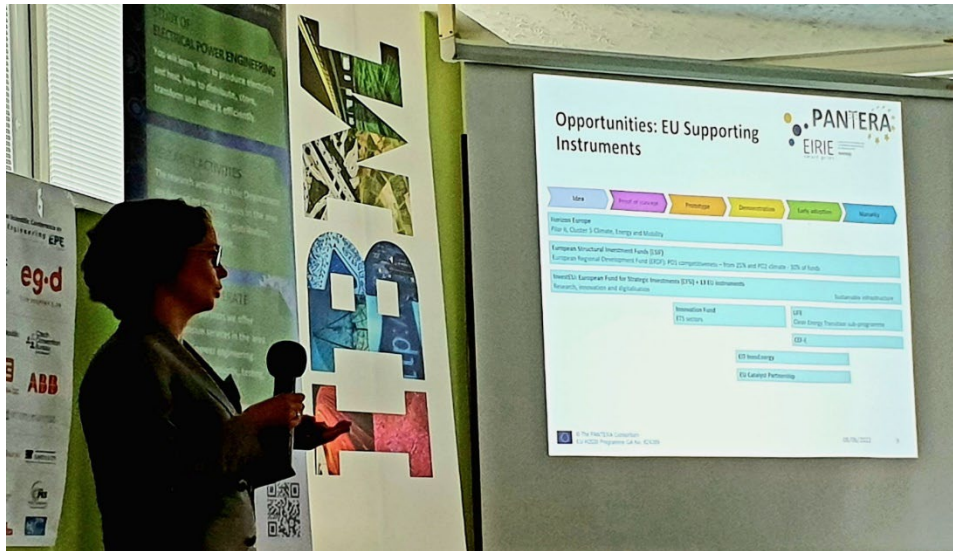


Figure 23: Irina Antoskova giving a speech on the contribution of R&I activities

According to the program during the afternoon session of EPE 2022 **Dr. Shafi Khadem** from the International Energy Research Centre (IERC), Ireland opened the PANTERA nano workshop by greeting the participants and setting the scene.



Figure 24: Dr. Shafi Khadem opened the PANTERA nano workshop by greeting the participants and setting the scene

Then Dr. Kyriaki Psara, FOSS Research Centre of the University of Cyprus presented the PANTERA mission and vision, the EIRIE platform benefits, collaboration opportunities, and how the regional arm accelerates smart grid R&I activities. Moreover, the interaction with Sli.do and the interactive questions were presented.



Figure 25: Dr. Kyriaki Psara, FOSS Research Centre of the University of Cyprus presented the PANTERA mission and vision

After that Dr. Shafi Khadem presented analysis, facts, and figures from the energy and R&I contexts highlighting possible collaboration opportunities.



Figure 26: Dr. Chrysanthos Charalambous from the FOSS Research Centre

Dr. Chrysanthos Charalambous from the FOSS Research Centre of the University of Cyprus gave a presentation on the Collaboration opportunities introducing EU initiatives supporting R&I activities EC JRC, EERA, Mission innovation ERIGrid, and ETIP-SNET.



Figure 27: Prof. Jiri Drapela from the Brno University of Technology

Prof. Jiri Drapela from the Brno University of Technology shared experience and good practices in international R&I collaborative projects. After a coffee break Assoc. Prof. Dr. Eng. Rad Stanev from the Technical University of Sofia, Bulgaria moderated a panel session with local stakeholders. The discussion started with an analysis and comments on the responses on the Sli.do questions which are shortly presented below.

The PANTERA nano workshop entitled Capacity building on R&I in Smart Grids, Storage and Local Energy Systems and the panel discussion are dedicated to accelerating Research & Innovation (R&I) of the region and target to consider the following main questions:

1. What do you think are the most important reasons for low R&I activity in your country in smart grids, storage, and local energy systems? Choose three of the following reasons that suit best your case?
2. Are there any mechanisms supporting the initiation and completion of R&I projects funded under EU or joint national programs (such as information services, workshops for partner search, etc.) organized by national institutions? How do you rate support services provided by national institutions/agencies?

The audiences have major representation from the Czech Republic and Poland. There were stakeholders also from Slovakia. 70% of stakeholders are affiliated with a university and the rest of them were affiliated with government institutions and research centers as shown in the figure below.

Participants (in %)

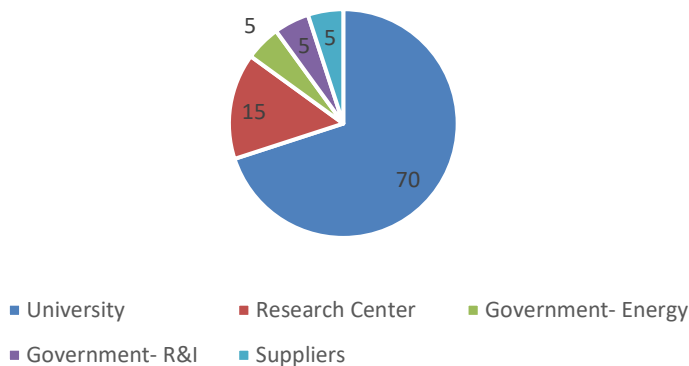


Figure 28: stakeholders' affiliation at the Nano workshop

The discussion panel contains 6 guests from universities and Industries.



Figure 29: Panelist with Moderator (Rad Stanev) at the nano workshop.

Panelist (from left to right):

1. **Ing. Libor Kozubík**, IBM Česká republika, spol. s r.o., CZ
2. **Ing. Michal Osladil**, leading energy and utilities business of PWC CZ
3. **Ing. Břetislav Stacho**, ABB European engineering center (EUOPC), senior engineer in power system engineering dealing mostly with industrial medium voltage power distribution engineering and also a leader of the Electrical network study team dealing with various calculations and simulations of industrial electrical networks.
4. **Ing. Jan Fulneček**, Academic Staff Member at the department of Electrical Power Engineering, VSB-TU Ostrava. His expertise is renewable energy sources and diagnostics.
5. **Dr Ing. Jiří Houžvička**, Project Manager, 4JTech
6. **prof. Ing. Jiří Drápela**, professor of Power Systems at Brno University of Technology, deputy head of the Electrical Power Engineering Department, and has more than 20 years of experience in R&D in the field of Power Quality
7. Moderator: from TU Sofia, Rad Satnav

The discussion was very insightful with diverse opinions on R&I activities in the nation. We divided the panellist responses into two categories according to their respective domains (university/academia, private companies) to understand the challenges and needs of each domain.

University/academia: According to the university representatives, there is a shortage of skilled personnel in the research activities. The main source of their funding is national funding programs which are easy to target but due to a lack of skilled people funding opportunities are not secured. They also mentioned that the participation of the younger generation in the STEM fields are getting very limited in the last few years. Although many national universities have programs to encourage young people toward higher science education still there is a need for widespread national initiatives to encourage young people toward the STEM field from a very early age. Also, brain drain in the western European country is also a significant reason for less participation of young talent in national research activities. The Czech Republic has a considerably good research infrastructure but researchers are allured by private companies to get high remuneration. They also underlined that several institutions are lacking the research management skills which are significant in acquiring EU-funded projects. There is also a lack of visibility of the EU calls. The most of research is driven by government and industry objectives and due to intellectual property rights issues local industries are not motivated to participate in various calls.

Private companies: As per private companies' representatives, the power and energy sector has been changing at a very high pace which requires more skilled people in the energy sector. Technical education is also depreciated in the last couple of years which also created a huge gap in meeting current industry requirements. They also emphasized that Western countries are more experienced in securing EU funding and there is very high competition, they are lacking significant skills for EU research funding. They also mentioned that any significant change in the status quo of the power system adds an additional burden on the consumer's monthly invoice. The current Ukraine-Russia crisis also limited their expansion in the smart grid activities. They also showed no confidence in the solid-state power system devices i.e., inverters. There is also a lack of acceptance of RES sources in the Czech community which represents minimal awareness of the current energy trends in the nation.

There is a lack of skilled people in the technical research field and a lack of awareness of technical education in the country also there is limited political conviction and support for technical R&I activities. There should be a nationwide program to promote technical education among young people. Government should also work on creating subsidies to cover the energy transition cost or adoption of low-carbon technologies so that the people won't bear the 100% RE adoption cost.

The majority of R&I funding is local industry-driven and dependent on national calls and also panellists found that the EU R&I funding process is very complicated. There should be continuous communication between the EU and the research community of the Czech region to converge their R&I needs so both entities can work together and find ways to simplify the EU funding process. The EU should also take extra efforts in promoting the future and the ongoing R&I calls among the Czech research community. Researchers should be educated in research management skills so that they can compete with the other EU countries in the EU funding calls.

There is a primordial regulatory framework still existing in the region which restricts the adoption of new sustainable energy resources. The Czech Republic regulators should learn from the other neighbouring countries to update their regulatory framework for RE adoption.

Conclusion based on the panel discussion:

1. Lack of skilled people in the technical research field and lack of awareness of technical education in the country.
2. Majority of R&I fundings are local industry-driven and dependent on national calls.
3. Lack of reach and awareness of EU funding programs in the research institutions.
4. Low confidence in smart devices/technologies among the research community.
5. Primordial regulatory framework restricting the adoption of new RE resources.
6. Absence of subsidies to cover the energy transition cost or adoption of low-carbon technologies.
7. Insufficient human resources in the field of technical project management.
8. Complicated and steady process of EU R&I funding.
9. Limited political conviction and support to the technical R&I activities.

3.10 PANTERA Regional Workshop, Paphos (CY)

3.10.1 Introduction

PANTERA was present at the IEEE Smart Cities Conference 2022 – 27th of September 2022 hosted in Paphos Cyprus, bringing the stakeholders together to enlighten the conference on the activities pursued in strengthening the energy transition process. Cyprus is an active member of the EU since 1st May 2004 and actively works in the success of the energy transition objectives to achieve the declared policies for achieving a low carbon economy. However, the following areas are still a concern in achieving carbon neutrality and we have addressed them during the workshop that brought together stakeholders in the field of smart grids, storage and local energy systems:

- R&I activities in the field are weak calling for more national and European support to raise opportunities, bring closer to the wealth of EU knowledge and offer the means to address local needs with the support of the industry and broader communities.
- Enabling technologies like digitalisation, storage, smart grids, e-Mobility and reliable communications are not adequately addressed to facilitate the much-wanted transition for the effective use of emerging technologies that include distributed RES, e-mobility with smart charging and V2G attributes and demand flexibility.

- End users and citizens are not adequately empowered through codes, appropriate regulation and market instruments to build and operate effective energy management systems utilizing the emerging technologies that can grow into efficient energy communities with appropriate technologies in place to facilitate optimal use of local resources for the benefit of the citizens.

The workshop has managed to bring the stakeholders of Cyprus actively participating addressing all the above issues and together we have tried to shed some light to identify the way forward. Our prime objective of helping the country to move faster toward the much-wanted energy transition to the low carbon economy was well covered and the stakeholders have noted this with satisfaction.

3.10.2 Outcomes from the workshop

Opening of the workshop: The PANTERA project and the regional approach

Dr Venizelos Efthymiou (PANTERA project coordinator -FOSS - Cyprus) opened the workshop welcoming all the participants. After having briefly introduced the PANTERA projects, its main objectives and the approach he presented the developed [EIRIE](#) platform.

PANTERA aims to substantially contribute to the needs of the R&I community in Europe delivering the EIRIE platform that facilitates EU wide connectivity and access to state of the art data, information and knowledge to support on a level playing field the R&I endeavours of member states.

Before the end of his introductory speech Venizelos highlighted the importance that PANTERA gives in tackling the climate and biodiversity crises. The green transition has to be fair and just. All Europeans need to be able to benefit from this transition as fairly and as quickly as possible. This principle of our social market economy is also guiding our fight against climate change. R&I is more pronounced if all are given a chance – the possibility and the means to contribute! PANTERA is central in this process! That is why the PANTERA process is developed through the project for enhancing the possibilities for the R&I community irrespective of the country as long as activity takes off through the built-up services of EIRIE.

Cyprus' Integrated National Energy and Climate Plan for the period 2021-2030 and beyond: Opportunities

Charalambos Rousos, Director of Energy Service of Cyprus, has taken the floor to underline the importance of aligning with the EU policy in achieving the energy transition in line with the Green Deal objectives. He stressed that the current National Energy and Climate Plan (NECP) of Cyprus for the years 2021 - 2030 elaborates on the five dimensions of the Energy Union and sets the national targets as well as policies and measures necessary for reaching the national energy and climate obligations for 2030. The country has set a target for achieving cumulative energy saving of 243,04 ktoe during 2021-2030 and a target of 23% renewables in the energy mix by 2030.

In order to achieve these, a mixture of policies and measures is being implemented. These include the promotion of:

- net metering and net billing and virtual net-metering,
- the role of prosumers and energy communities,
- the simplification of the administrative procedures for RES projects by developing a “one-stop- shop” and
- energy storage systems.

With technical assistance provided by the European Commission, the National Energy and Climate Plan is being revised, with the aim of incorporating additional measures and policies that will lead to the green transition and the achievement of new and higher national RES and EE targets by 2030 and 2050, as expected to result from the upcoming revision of the relevant European Directives. The

cost of the green transition for public finances and consumers, the need for new infrastructure and regulatory changes, the implementation of the energy efficiency first principle, technological progress, alternative fuels such as hydrogen, the national specificities for the optimal implementation of the requirements and obligations set out in the European acquis and in particular in the context of the new "fit for 55" and "REPowerEU" packages, are just some of the parameters that will be taken into account in the future.

What was highly welcomed by the participants, was the references made by **Mr Charalambos Rousos** to the steps taken for the evolution of the energy communities and how these will be promoted through the revised version of the NECP of Cyprus. The model for how we should think about our energy systems is provided by citizen and renewable energy communities. The focus is on systems and communities because, with the aid of technology, we as citizens should be able to self-produce enough electricity for our transportation and household needs, share any surplus with the community we live in, and sell the excess on the electricity market. We are aware of the necessity to digitally transform the energy backbone infrastructure in order to meet the challenge and we are working with the Regulator in collaboration with

Trinomics and Enercon, in order to identify the ICT requirements necessary to support the novel market and consumer participation clauses of the Electricity Market Directive.

R&I is critical in getting out of the energy crisis in Europe: The importance of leaving no one behind

Mrs Natalie Samovich the chairperson for Working Group 1 of ETIP SNET, dwelling on the vision of ETIP SNET has brought into the focus the need for optimal use of all sustainable sources through appropriate sector coupling, use of responding smart grids, fully digitalised with effective bi-directional flow of energy and data. ETIP SNET is working closely with industry, academia, research centres and all associations active in Europe to achieve coherence and smooth transition safeguarding security of supply and resilience of the interconnected grid. Fully supportive to activities at national level, specific emphasis is given to collaborate with national endeavours through sharing of results and together building the way forward fulfilling the high-level objective of leaving no one behind.

To this effect, ETIP SNET is working in the revision of the ten-year plan to bring in progress made, results achieved and build the way forward on sound ground. Processes are put in place to reflect on achievements and correctly identify gaps and needs to formulate the way forward with priorities quantified and clear. R&I is clustered in high level use cases to bring in more homogeneity and more clarity in targeted objectives. This is in line with the requirement of being inclusive and diverse to cater for all needs in driving change for all Europeans and leaving no one behind.

EIRIE platform at your service

Mr. Tasos Tsitsanis (Suite5) presented in detail the EIRIE platform functionalities starting from the EIRIE "mission statement":

A reference platform and one-stop shop for information sharing, collaboration and knowledge creation aiming at evidently supporting the advancement of R&I activities in Smart Grids at national, regional and pan- European level and, subsequently, facilitating the energy transition.

He then went on to identify the value propositions for having a fully functional platform accessible to all R&I community:

To researchers

- Access to a pan-European data base with analytical and exploitable information on smart grid projects
- Information about best practices in R&D sector
- First-hand insights into interesting smart grid projects, results, ideas, initiatives
- Access to SotA Training Material and Education Programmes

R&I Organizations

- Cross-promotion opportunities, encouraging synergies with projects and initiatives through information sharing and promotion opportunities through highlighting key achievements as best practices
- Making feasible for the low spending, in R&I, countries to be engaged in a more active manner in EU R&I activities

Policy makers

- Define inefficiencies of R&I activities at national, regional and EU level and prioritization of policy actions towards advancing R&I in low-performing thematic
- Pooling together different available instruments into one platform, in such a way that it will effectively contribute to the increase of knowledge, coordination of R&I activities and networking

Dr Shafi Khadem took the floor continuing from where **Tasos** left, to give insides to the designed PANTERA process indicating how the valuation of project results gives valuable inside for progress made in all corners of Europe, identifying gaps and filling in future needs.

This was further elaborated with the national strategic objectives identifying the R&I priorities through the country NECPs (2020 – 2030):

Decarbonisation
<ul style="list-style-type: none"> • Utilization of wind parks in operation • Utilization of photovoltaic parks in operation • Electric Vehicles

Energy Security
<ul style="list-style-type: none"> • Optimization and control of the distribution system • Load and generation forecasting • Supervisory Control and Data Acquisition of PV systems

Energy Efficiency
<ul style="list-style-type: none"> • Deployment of photovoltaic panels • Deployment of heat pumps for heating • Utilization of biomass boilers • Promotion and utilization of high-efficiency air conditioning units • Street lighting • Pumped hydro, Electric storage

Internal Energy Market
<ul style="list-style-type: none"> • Load profile management through demand response • Direct participation of customers in all market stages, through aggregation • Increased distribution system observability

Dr Kyriaki Psara, took over from **Shafi** and continued the EIRIE coverage with its vision to create, through the planned multi-functional collaborative platform, this reference operational point to:

- Unify European activity
- Incentivize further investments in smart grids
- Support access to exploitable results
- Spark further work and cooperation capable of bridging the existing gaps.

Building on the wide benefits that EIRIE is offering to tis users, has given further insides on the wealth that the current design of the regional corner offers, allowing all countries in Europe to create

and nurture successful collaborations that strengthen the R&I activities throughout the EU.

Particular emphasis was given to the versatility given by the CONFLUENCE platform generated for further enhancing the collaboration work on EIRIE:

- Confluence is a collaboration wiki tool used to help teams to collaborate and share knowledge efficiently.
- Confluence is a team workspace where knowledge and collaboration meet by creating, collaborating, and organising all the work done within EIRIE in one place.
- Confluence is for teams of any size and type, from those with mission-critical, high-stakes projects that need rigor behind their practices, to those that are looking for a space to build team culture and engage with one another in a more open and authentic way.

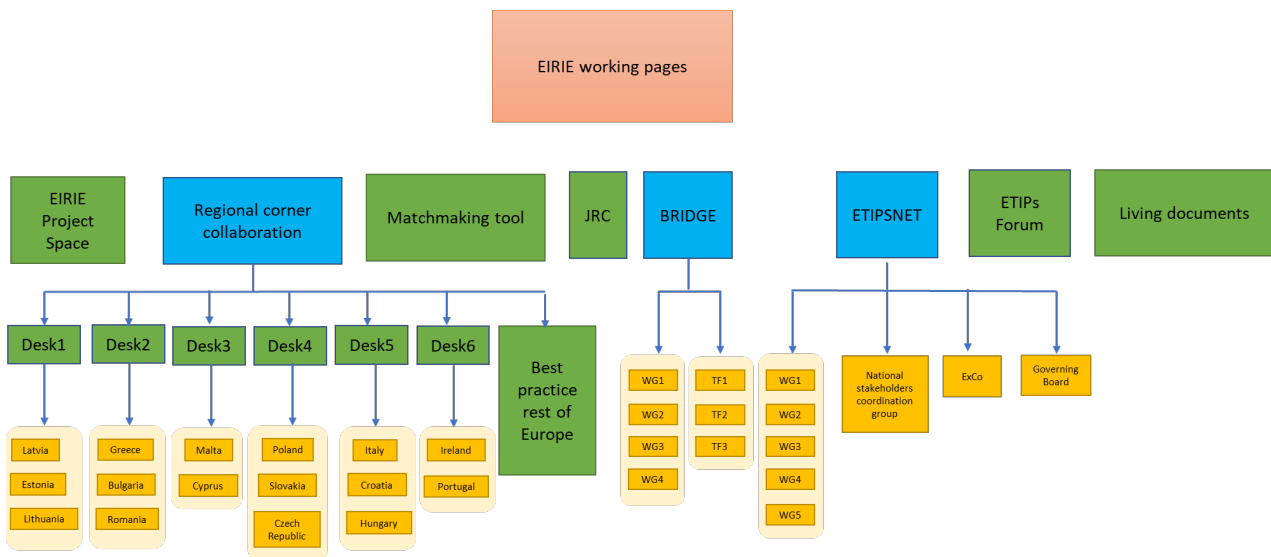


Figure 30: Regional Desk Structure on Confluence working space

Kyriaki has analysed the developed architecture on EIRIE / CONFLUENCE giving evidence that all are welcome to strengthen their widening possibilities for enriched R&I work in Europe:

The EIRIE space in CONFLUENCE has been designed and it is ready for all to use for enhanced collaboration. Building on well-designed CONFLUENCE pages this is achievable with universal benefits:

- All content lives in pages – living documents created on EIRIE Confluence site.
- Various different types of pages can be created such as project plans, meeting notes, troubleshooting guides, policies, and more.
- Confluence comes bundled with templates that can be used as a basis for almost any kind of content.
- In case none of the existing templates can be used for a specific type of content you want to create, a blank page can be used and adjusted accordingly.

Panel Discussion and Q&A session

How to accelerate the R&I activities of Cyprus in support of the energy transition?

- Research Collaboration
- National regulations
- Policy issues
- Financing opportunities
- good practice

The planned panel had very good representation coming from the following critically important stakeholders:

- **Venizelos Venizelou** representing CERA, the Cyprus Regulator
- **Alexandros Nikolaides** representing the TSO of Cyprus
- **Natalie Samovich** representing the association of EU ETIP SNET
- **Phivos Therapontos** representing the DSO of Cyprus



The panel was coordinated by **Venizelos Efthymiou** of FOSS and **Andrei Morch** from SINTEF taking care of introducing the themes to be addressed to help the participants in following and contributing.

In order to help the participation of the participants in the discussion, we have facilitated the services of the online tool SLIDO through which the response is imminent of posed questions and thus useful for the conducted discussion.

The responses generated high interest among the panellists and in general they were aligned with the participants to the workshop, meaning that they agree on the importance given to the indicated barriers of

- back of coordination between private and public entities,
- Public authorities do not consider R&I as inherent to their daily activities
- Universities do not relate their R&I work to the needs of the local industry and communities

More, specifically the representative of the TSOC Dr Alexandros Nicolaidis in addition to agreeing to the above priority list, has underlined the following important R&I needs that should be tackled with local contribution:

- tested and validated solutions are needed on the evolving technologies since we need to safeguard the security of supply
- exploitation of system flexibility
- clear division of responsibilities regarding the energy communities
- TSO role is changing
- blueprint is needed for the establishment and operation of energy communities

More specifically the representative of CERA **Dr Venizelos** was asked the following: Energy transition has inherent difficulties calling for careful consideration of choices to be made that should be based on scientific evidence. Can you elaborate on the approach that CERA adapts and to what degree R&I plays a role? He responded by saying that we are experiencing huge changes in the energy sector and prudent decisions and policies should depend on the evidence brought forward by R&I. CERA is well aware of this need and is active in various projects following closely the ones that CERA considers the most appropriate ones. Scientific evidence should guide us in our policies and for this reason tracking progress is equally important in adapting policies to actual results.

Extending the question to the representative of the DSO of Cyprus **Phivos Therapontos** was asked: Europe has taken the strategic decision that Communities, Districts and Cities could be smart in approach and to a high degree energy sufficient and sustainable. Do you have technological answers to this ambition and if not or where you do not have, how do you see R&I helping? His answer has indicated the following important guiding principles that are of crucial importance to the DSO to develop and facilitate accessibility for energy communities to build on:

- Smart meter availability together with Advance Metering Infrastructure
- Decentralised controls
- SCADA connecting evolving smart substations
- The huge interest in small rooftop PV in Cyprus, and means should be available for controlled participation in the daily energy mix,
- R&I with universities should be more targeted for daily grid and system problems,
- Grow in the understanding of being an effective facilitator to the functioning of the Energy communities

Moreover, **Phivos Therapontos** has stressed that Academia seeks for something novel while industry is leaving with real problems, and these should somehow merge. Universities in general are not focused on practical topics and we as the industry, the DSO, TSOC etc face daily problems that need targeted R&I to address our own local specificities in Cyprus.

The other panellists Alexandros, Venizelos and Natalie have stressed also the need to bridge the distance that currently exists between universities and local country problems building strong collaboration as supported by EIRIE and PANTERA using gradual baby steps to bridge the gap and deliver.

Venizelos of CERA has further stressed the importance of incentivised regulation calling for more targeted participation in projects utilizing sandboxes principles where required.

Finally, Natalie has posed the question: How the technology can help us? We are evolving fast. We need to raise awareness, develop digital skills, capitalise on edge computing (towards self-regulation) introducing more simplicity and moving away from centralisation since it is no longer an answer.

Outcomes of the workshop and concluding remarks

The responsibility of closing the workshop was on the shoulders of **Dr Rad Stanev** of TUS Bulgaria and a partner in the project PANTERA. He has underlined the importance of the current status of the EIRIE platform and how it has helped to bring the R&I closer together with tangible benefits that were identified by PANTERA colleagues during the workshop. It is inviting for all to connect and benefit from the functionalities offered and build the rewarding collaboration space for interested stakeholders.

Rad has thanked all the distinguished stakeholders that took the time to be with us in this useful workshop and share their wealth of knowledge on issues that are highly relevant in this challenging period that we are in with the energy transition process. Moreover, he has thanked all the participants to the conference and their active contribution to the proceedings that have helped tremendously.

Rad has given time, to underline the main take always from the workshop that are in the above paragraphs and encouraged all to connect to the EIRIE platform and PANTERA website for more and get the benefit of constant updates on progress made and achievements reached.

3.11 SUPEERA & PANTERA Joint Workshop, Budapest (HU)

3.11.1 Introduction

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 organizations 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.

3.11.2 Outcomes from the workshop

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. Levendovzsky** 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



Figure 31: Peter Kaderjak, Orsolya Küttel, Ákos Horváth, and Márton Pete

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 those 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 Küttel** 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. Küttel** 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 the

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.

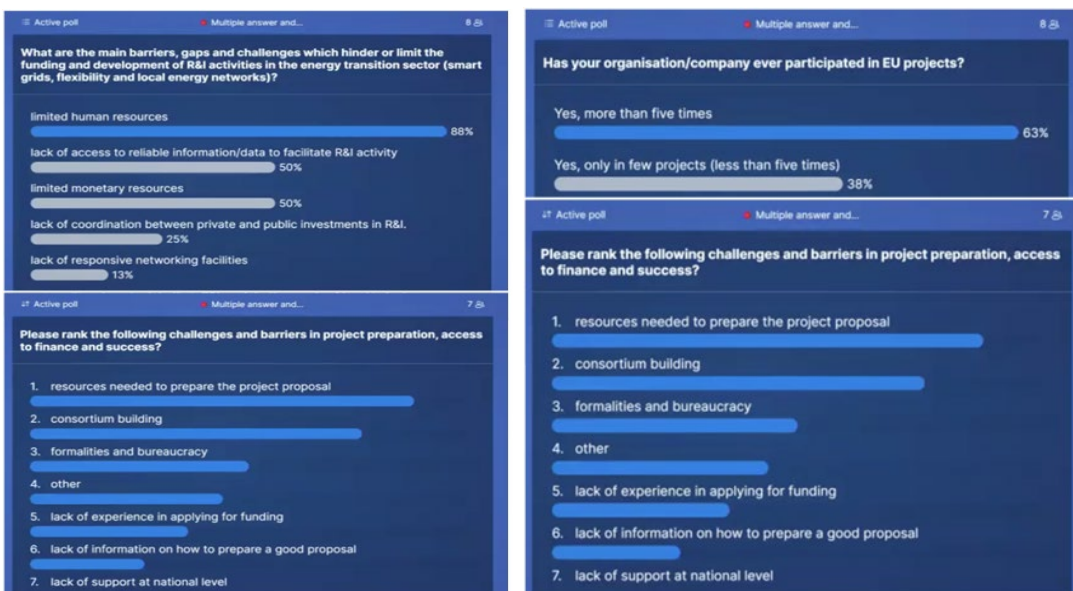
At the end of the discussion, **Mr. Horn** was asked if he has up taken any of the discussions from the twinning project and established a new research-based project. Mr. Horn clarified that they tried to apply to new calls for R&D with some of the partners, but they were unsuccessful. Finally, he observed 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 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.

3.12 MEDPOWER Conference 2022, Valletta (MT)

3.12.1 Introduction

Malta is an active member of the EU since 1st May 2004 and actively works in the success of the energy transition objectives to achieve the declared policies for achieving a low carbon economy. However, the following areas are still a concern in achieving carbon neutrality and we would like to address them in this panel that brings together stakeholders in the field of smart grids, storage and local energy systems:

1. R&I activities in the field are weak calling for more national and European support to raise opportunities, bring closer to the wealth of EU knowledge and offer the means to address local needs with the support of the industry and broader communities.
2. Enabling technologies like digitalisation, storage, smart grids, e-Mobility and reliable communications are not adequately addressed to facilitate the much-wanted transition for the effective use of emerging technologies that include distributed RES, e-mobility with smart charging and V2G attributes and demand flexibility.
3. End users and citizens are not adequately empowered through codes, appropriate regulation and market instruments to build and operate effective energy management systems utilizing the emerging technologies that can grow into efficient energy communities with appropriate technologies in place to facilitate optimal use of local resources for the benefit of the citizens.

The panel was intended to bring the stakeholders of Malta actively participating in the proceedings to address all the above issues and together try to pave the way forward for helping the country to move faster toward the much-wanted energy transition to the low carbon economy.

3.12.2 Outcomes from the workshop

Opening of the workshop:

The role of the PANTERA process in helping Malta to grow stronger in sustainable energy R&I

Dr Venizelos Efthymiou (PANTERA project coordinator -FOSS - Cyprus) opened the workshop welcoming all the participants. After having briefly introduced the PANTERA project, its main goal and mission, he presented the developed EIRIE platform. After that he presented regional desk approach with 6+1 regional desks, and described the PANTERA process. After that, Dr Efthymiou mentioned that the relation of projects with the different technologies and solutions is very important and indicates that a common taxonomy on how to relate projects to technologies, systems and solutions has been agreed. Finally, he concluded the presentation by informing the audience on the rich activities of the consortium in relation to the many workshops organised so far.

Ivan Matejak: Mobilization of EU13 national public research resources in the Clean Energy Transition: challenges and opportunities.

The second presentation of the workshop has been given by Dr Ivan Matejak, SUPEERA coordinator and Operations Director at the European Energy Research Alliance. During his presentation, Dr Matejak presented the EERA and SET Plan and gave an overview of the current energy status of EU. Furthermore, he presented the most important initiatives to be expected in 2023. He continued by presenting Malta's energy sector and an overview of Malta's involvement in the SET Plan Implementation Working Groups (IWGs), underlining its participation in only one Implementation Working Group, Batteries. Regarding Malta's performance in Horizon 2020 projects, he projected statistical data that indicates that Malta receives the lowest net contribution Among EU13. Finally, he concluded by analysing the opportunities that arise through the active participation in the SET Plan and the added benefits of being an EERA member.

Abigail Cutajar: The Vision and Opportunities amidst an Energy Crisis

The workshop continued with a presentation by Ing. Abigail Cutajar, the Advisor to the Maltese Minister for Energy, Enterprise and Sustainable Development responsible for projects in the Energy, Electrification and Sustainable Development areas. Ing. Abigail with through her presentation addressed the vision, objectives and targets of Malta with regards to the energy sector and energy transition. Among others, Ing. Abigail focused on the importance of energy efficiency in buildings and indicated that it is vital that all the countries should support schemes for energy efficiency in households and businesses. Finally, she presented the government financial commitment for 2023.

EIRIE platform at your service

Dr Venizelos Efthymiou (FOSS) presented in detail the EIRIE platform functionalities starting from the EIRIE "mission statement": A reference platform and one-stop shop for information sharing, collaboration and knowledge creation aiming at evidently supporting the advancement of R&I activities in Smart Grids at national, regional and pan-European level and, subsequently, facilitating the energy transition.

He then went on to identify the value propositions for having a fully functional platform accessible by all R&I community:

To researchers:

1. Access to a pan-European data base with analytical and exploitable information on smart grid projects
2. Information about best practices in R&D sector
3. First-hand insights into interesting smart grid projects, results, ideas, initiatives
4. Access to SotA Training Material and Education Programmes

To R&I Organizations:

1. Cross-promotion opportunities, encouraging synergies with projects and initiatives through information sharing and promotion opportunities through highlighting key achievements as best practices
2. Making feasible for the low spending, in R&I, countries to be engaged in a more active manner in EU R&I activities

To Policy makers:

- Define inefficiencies of R&I activities at national, regional and EU level and prioritization of policy actions towards advancing R&I in low-performing thematic
- Pooling together different available instruments into one platform, in such a way that it will effectively contribute to the increase of knowledge, coordination of R&I activities and networking.

Dr Anna Mutule, took the floor and continued the EIRIE coverage with the vision to create, through the planned multi-functional collaborative platform, a reference operational point to:

- Unify European activity
- Incentivize further investments in smart grids
- Support access to exploitable results
- Spark further work and cooperation capable of bridging the existing gaps.

Building on the wide benefits that EIRIE is offering to tis users, has given further insides on the wealth that the current design of the regional corner offers, allowing all countries in Europe to create and nurture successful collaborations that strengthen the R&I activities throughout the EU.

Panel Discussion and Q&A session

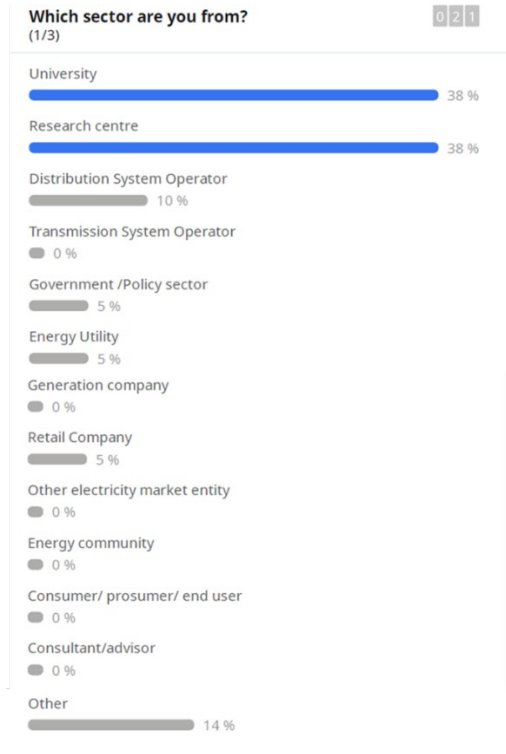
The panel was coordinated by **Dr Venizelos Efthymiou** (FOSS) taking care of introducing the themes to be addressed to help the participants in following and contributing.

In order to help the contribution of the participants in the discussion, use was made of the online tool SLIDO through which the response is imminent on posed questions and thus useful for the conducted discussion.

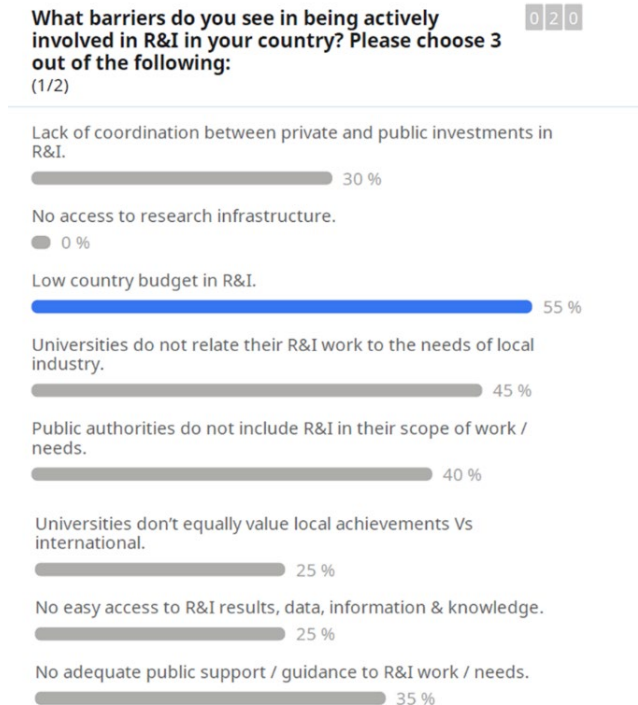
As a warmup question to the participants to learn to use the SLIDO online tool the question of “Which is your country of residence?” was asked. The interesting results are the following:

As a follow up question, the participants were asked the question: Which sector describes best your affiliation? The results were revealing, and they were as follows:





The following question triggered interest among the participants and their responses were highly relevant to the panel discussion with the panellists positioning themselves on the noted outcome:



Moderator: Dr Venizelos Efthymiou (FOSS)

Panelists:

1. **Ing. Abigail Cutajar** (Advisor to the Minister on Energy and Sustainable Development)
2. **Dr Brian Azzopardi** (Senior Lecturer II at Malta College of Arts, Science and Technology (MCAST))
3. **Prof. Natalija Lepkova** (Professor (Associate) at Vilnius Gediminas Technical University)



Figure 32: Ing. Abigail Cutajar, Dr Brian Azzopardi, Prof. Natalija Lepkova, and Dr. Venizelos

As input to the discussion, the results of the third question were noted and the panellists were asked to position themselves. The responses to the third question about the barriers to R&I activities in your countries, has given the highest score to the following:

- Low country budget in R&I
- Universities do not relate their R&I work to the needs of the local industry and communities
- Public authorities do not consider R&I as inherent to their daily activities

Discussing on the results, **Ing. Abigail** indicated that she is not surprised at all. Then she continued by mentioned that this doesn't apply only on R&I. There are a lot of R&I funding at EU level that as a country we are not stepping into. As a Country we obviously support the energy sector however we might need to give more attention to R&I. Then, **Dr Brian** took the floor to indicate that one of the ruling problems is that the funding allocated though projects is limited in time (2-3 years) and this has a negative effect in attracting the best talents. So as a country it is important to "sustain the talents" and we need to address this issue.

Prof. Natalija, said that same problems are in her native country Lithuania and maybe true in every European country. She indicated also that the results of this poll reflect the situation prevailing in many countries, adding to the identified list the common problem that many face and is related to the high bureaucratic practices in dealing R&I activities.

After that the moderator of the panel **Dr Efthymiou**, mentioned that ministries put a lot of effort on this and set the question if the panelists think that the support, they receive from Ministries in Malta is adequate, and if there is any sector that is lacking?

Responding, **Ing. Abigail** said that R&I is vast and wide, we have to segregate the issue. The water and energy agency open different calls for R&I. Normally there are two calls per year, there are certain requirements, but they are not bureaucratic as at EU level. She continued saying that Malta aims to invest heavily on R&I especially in new technologies such as offshore renewables etc.

Then, **Dr Brian** mentioned that there is a lot of potential untapped in the Maltese island. In the PV sector every surface could be covered by PVs. Offshore there might be more difficulties, and therefore before going offshore we should deplete any onshore resources.

Following to **Dr Brian's** comment, **Ing. Abigail** wanted to make clear that the vision of the government is not to fill each space with renewables, but to give better quality of life to people.

Moreover, **Dr Efthymiou** set the following question to the panelists: Do ministries rely on the

academia of Malta, using them as a source of scientific evidence that helps R&I to take effective decisions?

Ing. Abigail stressed the importance of the interrelation of the government and energy and water agency with the universities and research centers. She mentioned that it is important to act on scientific evidence, underlying the importance of close collaboration between industry and the Maltese universities. She believes that there is a lack of knowledge for blue collar jobs and concluded by saying that the government trusts universities and try to have close communication with them.

Furthermore, a representative of ENE Malta (audience), indicated that as ENE Malta, they are collaborating with the industry and they need to invest more to improve their network. There are a lot of challenges, and the involvement of the universities is crucial.

Finally, **Dr Efthymiou** indicated that the EIRIE platform is giving the possibility of strong collaboration between researchers in Europe, opening the door for collaboration possibilities with experts from all over Europe. Ending this panel session, **Dr Efthymiou** thanked all the panellists and the participants, and he underlined the importance of the EIRIE platform and how it can help R&I community to work together and collaborate transforming it into a real tool for the benefit of R&I community in Europe as a whole.

Berta Matas Güell: The EEA and Norway Grants 2014-2021

After the roundtable discussion, the workshop continued with two presentations for SUPEERA project. **Miss Berta** gave a virtual presentation on the topic of EEA and Norway Grants 2014-2021. She started her presentation by mentioning that this funding mechanism was mainly established to reduce the economic and social disparities between the regions of the EU13 countries and at the same time to strength the relations beneficiary states with donor states. After that she presented briefly the funding programme and presented the funding of beneficiary countries from 2014 to 2021 from EEA grants and Norway grants. Then she presented in detail the programme design process and how it works and gave an overview of EEA/Norway grants 2014-2021 in Malta.

New cooperation agreements with Malta on a number of new programs on February 2017

Areas of support:

1. Alleviating poverty and supporting local and regional development Facilitating bi-communal cooperation.
2. Supporting vulnerable children and youth at risk of social exclusion and poverty
3. Strengthening civil society and empowering vulnerable groups, including refugees and migrants
4. Support for cultural tourism and public access to culture

Programmes:

1. Active Citizens Fund
2. Local development and Poverty Reduction
3. Social Dialogue –Decent Work
4. Bilateral Fund

Spyridon Pantelis: Clean Energy Transition and main funding opportunities

The final presentation of this workshop was given by Spyridon Pantelis (EERA) presenting the Clean Energy Transition and main funding opportunities. He started his presentation with a general overview of the Horizon Europe.

EU's most ambitious R&I framework programme ever and largest transnational programme of its kind worldwide Budget of EUR 95.5 billion to be distributed between 2021 and 2027. Provides new instruments such as the European Innovation Council, Research Missions and Partnerships to boost the EU R&I landscape.

After that, **Spyridon** presented the Clean Energy Transition Partnership (CETP) and the CETP transition initiatives on a joint programming platform with the involving stakeholder groups:

1. ERA-NETs
2. SET Plan IWGs
3. EERA
4. ETIPs
5. Representatives of MS/AC

Then he presented the procedure and the current deadlines for proposal submissions and the main project requirements. After that he proceed with a presentation on R&I opportunities for collaboration and funding Horizon Europe (Cluster 5), and finished his presentation by presenting the Widening calls. More specifically he presented the 3 destinations of Horizon Europe:

DESTINATION 1: IMPROVED ACCESS TO EXCELLENCE

Aims at underpinning geographical diversity, building the necessary capacity to allow successful participation in the R&I process and promoting networking and access to excellence

DESTINATION 2: ATTRACTING AND MOBILISING THE BEST TALENTS

Aims at reverting the brain drain from widening countries, emphasis on intersectoral mobility, better exploitation of existing research infrastructures

DESTINATION 3: REFORMING AND ENHANCING THE EU RESEARCH AND INNOVATION SYSTEM

Four objectives: Prioritise investments and reforms, improve access to excellence, translate R&I results into the economy and deepen the EERA

Outcomes of the workshop and concluding remarks

Dr Shafi Khadem (IERC) concluded the workshop by summarizing the most important points and conclusions of the workshop and underlined the importance and the benefits of connecting to the EIRIE platform. Then **Dr Shafi** thanked all the participants to the workshop and especially the panelists for their time to be with us in this useful workshop and for sharing their thoughts and knowledge about this topic

3.13 CANDO EPE IEEE Conference, Budapest (HU)

3.13.1 Introduction


The PANTERA project participated in the CANDO EPE IEEE conference that has been held in Budapest (Hungary) on Monday 21st and Tuesday 22nd November by giving a keynote speech in the plenary session and through the organisation of a parallel session.

3.13.2 Outcomes from the workshop

Keynote

Venizelos Efthymiou (PANTERA project coordinator) gave a keynote speech in the plenary session of the conference presenting both the PANTERA approach in supporting the strengthening of R&I activities, especially in the countries less involved into R&I activities in the Smart Grids domain at EU level (among which Hungary), and the EIRIE platform². More in details he highlighted the EIRIE's vision to become a reference operational point to unify European activity, incentivise further

investments in smart grids and support access to exploitable results that can spark further cooperation and bridge existing gaps.

<p>2022. 11.21. MONDAY</p> <p>Location: Tavaszmező u. 17. I. 122.</p> <p>Registration: 8:00 – 9:00</p> <p>Opening: 9:00 – 9:20 Prof. László Gulácsi, vice rector György Molnár, dean, general chair Zsolt Temesvári, general coochair</p>	
<p>Plenary Session:</p> <p>9.20 – 9.40 Péter Baranyi: TP model transformation in control design</p> <p>9.40 – 10.00 Venizelos Efthymiou, Mattia Cabiati and Andrei Morch: Boosting the R&I activity on Smart Grid Technologies. The needs springing from the Green Deal in achieving Energy Transition</p> <p>10.00 – 10.20 Chris Ashe: Improved Energy Planning through the Integration of Smart Grid Concepts in the Danube Region</p> <p>10.20 – 10.40 Zoltán Balogh: Using commonly available IoT devices to support and facilitate the learning process</p>	

PANTERA afternoon session

During the dedicated PANTERA session organised in the afternoon of Monday 21st the project (Mattia Cabiati, RSE) presented more in details to local stakeholders the EIRIE platform and discussed with them relevant R&I topics.

The presentation was followed by a Roundtable session moderated by **Dr Venizelos Efthymiou** (FOSS) and **Andrei Morch** (SINTEF) with two representatives from Hungary:

1. **Dr. Norbert Boross**, Honorary associate professor, former Director Regulatory Issues and Corporate Communication at ELMŰ-ÉMÁSZ
2. **András Herczeg**, Lead Strategy Expert at MVM Émász



Figure 33: Discussion between experts

More in details, the session gave the possibility to discuss with local stakeholders about the main

barriers limiting a higher deployment of renewable energy sources and the following key messages aimed to foster the Hungarian clean energy transition have been pointed out by workshop participants to be put forward at European level.

Several concerns of a technical nature were raised by **Dr. György Morva**. It has been highlighted that widening the current deviation limit for the full activation of primary reserves from 200 mHz (as it is today) to 1 Hz would facilitate the management of PV plants thus fostering their deployment. Moreover, PV installation should also be facilitated by relaxing the time period for imbalance settlement period from the required 15 min to 1 hour. Besides it has also been discussed that the most relevant decisions and decisions about energy strategy should be taken at European level considering and harmonizing all the needs of all the member countries.

Afterwards it has also been discussed the role of energy communities in supporting the energy transition. Presently different energy communities have been implemented in Hungary as pilot projects. These should find and suggest how to update the regulatory framework to really allow the massive uptake of energy communities and the installation of local renewable energy sources.

Finally, the round table highlighted the importance of the regulatory framework in supporting clean energy innovation and the deployment of innovative solutions. In addition, it has been highlighted that to change the regulation the regulatory authority needs evidence that new approaches are effective and increase the overall welfare. To this effect projects and regulatory sandboxes are valuable instruments.



Figure 34: During roundtable

The PAN ERA project will be in contact with Hungarian stakeholder in order foster the energy transition acceleration and support them in enhancing their involvement in EU level projects and related initiatives.

3.14 SUPEERA & PAN ERA Joint Workshop, Bucharest (RO)

3.14.1 Introduction

Romania is actively working towards the success of the energy transition objectives and implementation of declared policies for achieving the low carbon economy. Yet, together with other less involved countries it shows low participation rates in research and innovation (R&I) activities and the realisation of the European Union's Strategic Energy Technology (SET) Plan Implementation Plans. As a consequence, and compared to more successful Member States it has received only a marginal contribution of EU R&I Horizon 2020's budget.

In this context, SUPEERA and PAN ERA are joining forces with the objective to enhance collaboration in R&I activities in Romania, facilitate knowledge exchange and showcase best

practices of how international networking and cooperation between national stakeholders and key international associations and organisations can be beneficial for establishing long-lasting interactions and fostering joint R&I activities.

Therefore, this workshop will offer a detailed overview of the European policies, strategies, EU funding programmes and collaboration opportunities at the disposal to the research community of Romania with the aim to bringing them closer to the R&I activities of Europe and get active with the SET Plan process. Meanwhile, the invited experts and stakeholders will share their experience in the project implementation.

3.14.2 Outcomes from the workshop

First Panel Discussion

Ivan Matejak, SUPEERA coordinator from EERA, presented the European Energy Research Alliance, the SET Plan and the benefits of being actively involved in it, and the SUPEERA project. He highlighted the importance of aligning research and innovation (R&I) as a pillar of the SET Plan, and the disparities in engagement among different countries in the SET Plan and stated the importance that Romania's National Energy and Climate Plan addresses how to SET Plan objective policies are being translated to a national context. He also discussed Romania's energy sector, its energy mix and dependencies, as well as its participation in the SET Plan and the Clean Energy Transition (CET). He presented data showing the low engagement of Romanian entities in H2020 projects, along with the underlying reasons for this performance gap compared with EU15 countries. He rounded up listing the benefits of becoming an EERA member and the opportunities that Romanian entities can seize by increasing their participation to the SET Plan.

Mattia Cabiati from RSE presented the PANTERA project's findings and activities, highlighting the regional desk approach set up to address the EU countries less involved in EU level activities. During the presentation, he also emphasised the importance of local stakeholder engagement, and that the lack of networking, R&I facilities, and national policy in supporting R&I are limiting a deep integration of research activities at EU level. It has been pointed out that, to tackle these issues, the PANTERA project is performing several activities and has developed the EIRE platform¹. Mr. Cabiati then gave an overview of the EIRIE functionalities and explained the potentialities for researchers, R&I organizations, and policy makers. In fact, the platform is an open tool for collaboration among all the stakeholder of the energy system innovation value chain. Moreover, collecting data directly from the database of the European commission, EIRIE can really support in finding key updated information about EU level outcomes, best practices and policies thus incentivizing further investments in smart grids and clean energy technologies.

Rad Stanev, PANTERA project (TU Sofia), concluded the presentation by emphasising the platform's collaboration opportunities and inviting participants to explore ongoing collaborations and research funding opportunities.

Mihai Paun, President of the Energy Security and Investments Commission and Member of the Supervisory Board of TRANSELECTRICA S.A. presented the strategies and priorities of the Romanian TSO (Transmission and System Operator). During his presentation, he emphasised the priority of integrating renewable energy, highlighting the key infrastructure, mid-term (10 years) development plan, and financing structure. He also mentioned the strategic priorities of Transelectrica, including the integration of renewables, energy system transformation and cooperation with other



transmission and distribution system operators. Mr. Paun provided an overview of the Romanian energy production mix, indicating that the country is well balanced in terms of technologies contributing to the mix, and the Romanian Transmission Grid Map. He concluded with some examples of European projects on renewable energy integration led by Transelectrica.

EIRIE, developed by PANTERA, aims to provide a comprehensive overview of renewable energy projects and policies across Europe. The platform facilitates information sharing and networking among stakeholders in the renewable energy sector and supports the development of effective strategies for the transition to a cleaner, more sustainable energy system in Europe.

Daniela Diaconu, Scientific Deputy Director, Institute for Nuclear Research (RATEN ICN) started her presentation with RATEN's mission and values on nuclear research and underlined that her institute is very active in international cooperation on energy research. After giving an overview of the ambition plans for the next years, she discussed RATEN's participation in EU Platforms such as SNETP, EURAD, ENSII, and the SET Plan (Implementation Working Group – Nuclear), especially in the security and nuclear safety components. She also emphasised the importance of being a member of EERA to promote national priorities in European projects and drive forward the clean energy transition in Romania and throughout Europe.



Mihaela Albu, Professor, Polytechnic University of Bucharest, started her intervention by pinpointing the need to organise more workshops/project meetings as the one she was part of to keep on mobilising EU-13 countries towards the EU Clean Energy Transition, SET Plan and Horizon Europe. In her presentation, she underlined the correlation of national, European and International R&D efforts in the evolution of power systems. She also introduced the MicroDERLab and shared some successful results of research and innovation projects in Romania's emerging power system, also highlighting the gap between R&D efforts in Romania and in other countries. One major challenge she emphasised was the management of the power control system, especially in handling the large-scale data involved. She spoke about multi-scale data analytics for power profiles and advocated for funding schemes at all levels, from local to European. A second major challenge Professor Albu noted was the lack of collaboration among several disciplines. While acknowledging the launch of the National Research Development and Innovation Plan 2022-2027, she reminded the need for more funding in Romania.



Panel discussion and Q&A

During the panel discussion, **Ms Diaconu** from RATEN expressed her satisfaction with the SET Plan Steering Group, as a very useful and powerful collaboration network to show, promote and finance some of their projects / activities, and highlighted the importance of being member of EERA. **Mr. Matejak** asked Professor Albu about the balance of funding sources and the lack of collaboration between industry and research, which she attributed to the low national investment in R&I, missing collaboration among national entities and hence lack of strategy at national level. **Ms. Albu** suggested strengthening collaboration between entities and disciplines and identifying missing points to improve national level work. Further, **Ms. Albu** mentioned that at the national level, MicroDERLab is only running one national project; all other projects are international. This indicates a clear unbalance in resources and different sources of funding. She stressed that the national efforts

to finance R&I in the past have been extremely low, and they have had to rely on international financing sources to promote research. **Ms. Albu** attributed this poor national R&I engagement to volatile collaboration, unfair competition, and lack of collaboration among national entities and local stakeholders, particularly, but not exclusively with the Ministry of Energy. According to her this is because limited resources led to a lack of time and understanding, and interests often clash, highlighting a structural problem. In her opinion it would be of added value to receive feedback from this Ministry on the current national energy challenges Romania faces in their view.



Figure 35: Panel Discussion, stakeholder(right->left): Mihaela Albu (Polytechnic Bucharest), Mihai Paun (Energy Security and Investments Commission and Member of the Supervisory Board of TRANSELECTRICA S.A.), Daniela Diaconu (Institute for Nuclear Research), Ivan Matejak (SUPEERA coordinator from EERA)

When asked about what could be done to increase the activity of Romanian players in the EU, **Mr. Paun** emphasised the need to enhance collaboration between universities and industries and to have a more understanding of the evaluation process for EU-funded projects. The lack of cooperation at national and international level was also attributed to limited resources and structural problems. **Mr. Paun** was also asked for the challenge Romania has and will continue having in accommodating all the new renewable energy, especially in the three regions with most renewable energy production capacity. He was certain that hydrogen will play a pivotal role in the future energy mix in Romania and will be truly part of the solution.

Second Panel Discussion

Spyridon Pantelis, Project Manager at EERA led the second session of discussions. He provided an overview of some of the available funding opportunities under Horizon Europe, elaborating on open calls under Cluster 5 of Pillar 2 and those on Widening. He underlined that this information together with application tips are available online.

Francesco Matteucci, Programme Manager from the European Innovation Council presented an overview of the funding available for Clean Tech, and the work of the European Innovation Council (EIC), including the EIC strategic approach and the Innovation fundings, such as the EIC fund and VC (venture capital) fund, which bridge the equity funding gap at an early stage and aims at crowding in other investors. He also introduced the main EIC Support Schemes for clean tech projects and invited the audience to watch the latest Info Day organised by the EIC on the topic.

Berta Matas Güell, Senior Research Scientist at SINTEF introduced the EEA and Norway Grants, which work through funding tools periods, and showed the beneficiaries countries. The eligibility criteria for funding were also discussed, and two examples of projects in Romania funded through these funding mechanisms were presented. She focused on successful proposals, the importance of collaboration in European projects, and the quality of research work. Overall, she highlighted the various funding opportunities available for research and innovation in Europe, with a focus on clean technologies and the energy transition.

Marius Ienculescu-Popovici, President of GreenInitiative provided an overview of the Association which promotes sustainable living and green buildings. The association hosts workshops, events, and discussions related to climate change adaptation and renewable energy production. He presented two of their projects (i.e., Green Mogo and I-GReta), underlining that NGOs are natural drivers of innovation and they have an important role in R&I projects.

Chrysanthos Charalambous, Special Scientist at FOSS Research Centre for Sustainable Energy gave a presentation about the main research areas of the Centre, underlining the benefits of participating in EU-funded projects. Apart from the financial benefits, he also highlighted the opportunities for R&D projects and for identifying new business opportunities. Participation in EU-funded projects also provides participants access to international markets, and the chance to collaborate with experts to solve industry competitiveness problems.

Andrei Daniel Groșeanu, Management Consultant at Măgurele Science Park Association provided an overview of the association work in promoting innovation and entrepreneurship in science and technology. He discussed the association's approach to engaging SMEs in the green transition and the EU-funded project SME4Green. Finally, he emphasised that participating in EU-funded projects like SME4Green can provide a range of benefits for organisations, including access to funding, networking and collaboration opportunities, and the chance to contribute to important initiatives in areas such as sustainability and innovation.

Monica Florea, Head of Unit of European Projects at SIMAVI introduced the company and its activities, underlining its long-lasting experience with EU funded projects, having participated in more than 60 Horizon Europe and Horizon 2020 projects. She stressed that to secure EU funding opportunities, the company focuses on identifying relevant calls and developing strong project proposals that can eventually yield to strong partnerships. She rounded up by stressing the importance of effective project management that is key to successful outcomes of a project.

Panel discussion and Q&A



Figure 36: 2nd Panel Discussion, stakeholders (left->right): Marius Ienculescu-Popovici (President of GreenInitiative), Monica Florea (Head of Unit of European Projects at SIMAVI), Chrysanthos Charalambous (FOSS Research Centre for Sustainable Energy), Andrei Daniel Groșeanu (Management Consultant at Măgurele Science Park)

During the panel discussion, the participants highlighted the importance of collaboration for research and innovation.

Mr. Ienculescu-Popovic emphasised the challenges faced by NGOs engaged in research activities when it comes to forming partnerships. Initially, GreenInitiative focused on education and dissemination aspects within the projects rather than actively engaged in project research. As time went on, they were able to build collaborations with experts and stakeholders in the field, which increased their credibility and demonstrated their expertise. These collaborations provided also more

opportunities for networking and active participation in project research. **Mr. Groșeanu** discussed how they provide training to SMEs to access funding and improve innovation management. He also mentioned that the bureaucratic processes in the country can be sometimes challenging for SMEs, which may hinder their participation in national funding projects. **Ms. Florea** added that collaboration is key to success in EU-funded projects, and that the most difficult element is to keep the collaboration active throughout the project implementation phase. Finally, **Mr. Charalambous** underlined the importance of collaboration among research centres, ministries, and local stakeholders in driving research and innovation forward, underlining that such collaborations in Cyprus have been proven crucial to their success; adding that this could be replicated in Romania. He concluded, stating that by working together, organisations can access resources, share knowledge, identify local needs, build networks, and address complex challenges, leading to more impactful research outcomes and a more innovative society.

Conclusion

In conclusion, the SUPEERA and PANTERA projects organised a workshop aimed at promoting knowledge exchange and best practices among Romanian entities active in Research and Innovation (R&I) activities. The workshop sought to increase Romanian stakeholders' participation in the Implementation Working Groups of the SET Plan and attract them to participate in EU funded R&I activities. During the workshop the EIRE platform, developed by the PANTERA project, was also presented. The platform has been developed to support a deeper involvement at EU level of all the EU countries and functions as a reference point for R&I activities in the energy system. Speakers from various organisations discussed Romania's energy sector, its energy mix and dependencies, as well as its participation in the SET Plan and the Clean Energy Transition (CET), along with Romania's engagement in H2020. The panel discussion touched on the lack of collaboration between national entities, low national investment in R&I, and limited resources and a structural problem. The session on R&I opportunities for collaboration and funding highlighted the funding available for Clean Tech through the European Innovation Council (EIC) and their EIC strategic approach and the Innovation funding. The EEA and Norway Grants were also introduced, focusing on successful proposals, the importance of collaboration in European projects, and the quality of research work. Overall, the workshop was a step towards enhancing collaboration and promoting research and innovation in Romania.

3.15 SUPEERA & PANTERA Joint Workshop, Vilnius (LT)

3.15.1 Introduction

Latvia is actively working towards the success of the energy transition objectives and implementation of declared policies for achieving the low carbon economy. Yet, together with other less involved countries it shows low participation rates in research and innovation (R&I) activities and the realisation of the European Union's Strategic Energy Technology (SET) Plan Implementation Plans. As a consequence, and compared to more successful Member States it has received only a marginal contribution of EU R&I Horizon 2020's budget.

On April 27th, the final workshop of the 10-series was held in Vilnius, jointly organised by SUPEERA and PANTERA EU funded projects. The event brought together experts from academia, industry, and government sectors in a hybrid format, with 26 participants onsite at the Lithuania Academy of Sciences and 19 participants joining online. The participants shared valuable insights and experiences, contributing to a fruitful exchange of knowledge.

3.15.2 Outcomes from the workshop

Welcome address



Figure 37: (left->right) Venizelos Efthymiou, Ivan Matejak, Gintautas Dzemyda, During the welcome address

Gintautas Dzemyda, Head of the Division of Technical Sciences at the Lithuanian Academy of Sciences, extended a warm welcome to the workshop participants.

Ivan Matejak, the coordinator of the SUPEERA project, expressed his satisfaction in successfully concluding the workshops' series in the Baltic countries and highlighted their significance for facilitating valuable networking opportunities.

Venizelos Efthymiou, coordinator of the PANTERA project from the FOSS Research Centre of the University of Cyprus, emphasised the advantages of research and innovation collaboration for countries with lower research and innovation capacities, known as "Widening countries". He further stressed the importance of being in Vilnius close to the stakeholders of the country aiming to build the will to connect with the EIRIE platform and work closely with us for stronger presence of the local stakeholders in Brussels through the services that EIRIE offers. For these we will hear a lot more during the day.

The SUPEERA project. Mobilization of EU-13 national public research resources in the Clean Energy Transition: challenges and opportunities

Ivan Matejak presented the SUPEERA project, with a focus on bringing the research communities of the EU-13 countries⁷ closer together and fostering collaboration among them. He addressed a range of challenges and opportunities, including specific challenges faced by Lithuanian actors. The limited participation in the SET Plan Implementation Working Groups was also highlighted. Consequently, he discussed the lack of coherence between national and European priorities as a major concern and emphasised the importance of aligning Lithuania's National Energy and Climate Plan with the respective European policies. Furthermore, he underscored the benefits of enhanced collaboration between industry and research sectors and encouraged the active participation of Lithuanian actors in the SET Plan and the European Energy Research Alliance.

Brigita Serafinavičiūtė, the research Attaché, Permanent Representation of Lithuania delivered a presentation on "Research and Innovation for Clean Energy Transition: Political Context in the EU". As representative of the European Council she provided an overview of the legislative landscape emphasising the energy topic as a central one in the Green Deal. She highlighted the Fit for 55 package and she drew attention to the Net Zero Industry Act, EURATOM and Small Modular Reactors as significant elements within the strategy for a clean energy transition. She underlined the importance of the Partnership for Clean Hydrogen as well as EU Chips Act, explaining that Net Zero Industry Act has pervasive energy- related components. Finally, she presented a Report⁸ from the

⁷ Cyprus, Czechia, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovenia and Slovakia, Bulgaria and Romania, Croatia.

⁸ Source: European Commission (2023), *Synopsis Report - Looking into the R&I future priorities 2025-2027*, Directorate-General for Research and Innovation, Publications Office of the European Union, 2023.

European Commission underscoring the existence of energy public support as well as the importance of public opinion in the energy sector.

Daumantas Kerežis representing the Lithuanian Ministry of Energy, delivered a presentation on the Strategy of Lithuania on Energy Technology. He highlighted Europe's heavy reliance on imports for the deployment of net-zero energy technologies, particularly from China. Daumantas emphasised the significance of the SET Plan as the technological cornerstone of the EU's energy and climate policy that aims to align national priorities on research and innovation projects by incorporating call themes and projects. He concluded by encouraging both industrial and academic stakeholders to get involved in the SET Plan.



Tadas Tumėnas, representing the LINO office, explored the importance for Lithuania to collaborate with other EU stakeholders, emphasising the need for unity and collective action rather than individual efforts. He therefore introduced some networking platforms and organisations actively engaged in this collaborative endeavour. Providing an overview of LINO, as an informal association of research and innovation (R&I) and member of IGLO (Informal Group of RTD Liaison Offices) he emphasised the immense value of the network.



PANEL DISCUSSION and Q&A



Figure 38: Panel discussion

During the panel discussion, **Tadas Tumėnas** highlighted the value of informal networking like IGLO. Through the IGLO network, Lino Office and the other stakeholders established Working Groups (WGs) which play a pivotal role in achieving objectives like information sharing and event organisation. Additionally, Tumėnas suggested that it would be useful to conduct an analysis of Lithuania's EU project performances before and after LINO office involvement in IGLO. This analysis would reveal the tangible benefits of being part of an informal network.

Brigita Serafinavičiūtė also acknowledged that programs like Horizon Europe can be extremely complicated. This can make it hard for individuals to participate. That's why being part of larger networks is helpful. Given that, Brigita concluded by stating that it's also important to connect with neighbouring countries for the benefit of the country and the region.

Venizelos Efthymiou and **Daumantas Kerežis** engaged in the discussion acknowledging the benefits of the EIRE platform to strengthen collaboration. He suggested that countries with less involvement should concentrate their efforts in areas where they have a competitive advantage. **Daumantas Kerežis** shared his perspective on Lithuania's strong points. The conversation also delved into the revision of the NECP and the role of community involvement in refining NECP objectives and discussing the suitability of bottom-up approaches.

Tadas Tumenas underlined the benefits of physical meetings for making impactful changes, noting that his position in Brussels enables a better connection between national actors. **Brigita Serafinavičiūtė** acknowledged the perception of the Baltic countries as a strong and homogeneous region but reminded the existence of different national priorities in the energy sector. She stressed the need for increased collaboration among the Baltic countries; a slow process that nevertheless they have managed to coordinate and progress. **Tadas Tumėnas** remarked that addressing issues solely at LINO office in Brussels differs from addressing them collectively with other countries, highlighting also the unique perspective brought by Nordic collaboration at the EU level.

R&I opportunities for collaboration and funding

The second part of the discussion started with **Francesco Matteucci** who presented the European Innovation Council (EIC), emphasising its equity approach. The EIC Fund was established to bridge the funding gap, attracts private capital and co-invests alongside private investors. **Matteucci** discussed the EIC Cleantech Thematic portfolios, the EIC challenges (Pathfinder, Transition, Accelerator) and the content-wise approach in different funding schemes. He concluded by inviting the audience to watch the webinar of EIC 2023 info day.

Petter Støa, Vice President Research at SINTEF, started his presentation by discussing the EEA and Norway Grants program and its contribution to the Green Deal. To illustrate the impact of the grants, he provides examples of specific projects and initiatives funded by the EEA and Norway Grants in Lithuania. These examples showcase how the grants have been utilised to support various initiatives related to environmental sustainability, climate action, and green innovation.



Aiste Vilkanauskytė, Adviser at Technology and Innovation Unit, Ministry of Science, Education and Sports, delivered her presentation on “Lithuanian incentive package to facilitate participation in Horizon Europe” to showcase the role of the Ministry in supporting Lithuanian research and industry to participate in Horizon Europe calls. She outlined that Lithuania's Ministry of Energy and the Ministry of Education, Science, and Sport have representatives serving in the SET Plan Steering Group. She presented how the Ministry provides incentives for participating in Horizon Europe. Aiste's presentation touched on similar themes and concepts discussed previously

with **Francesco Matteucci** and **Tadas Tumenas**, highlighting the interconnectedness of the topics being addressed during the event and showing the funding opportunities for Lithuania.

Aurelija Povilaikė, Head of NCP Unit and Coordinator, WIDERA NCP, discussed the challenges

and opportunities for widening countries' participation in the Horizon Europe program. She mentioned the program's focus on achieving scientific and technological impact through policy actions. She also emphasised the importance of the program and its horizontal pillar with funding opportunities to support EU 13 countries. This pillar addresses research and innovation disparities resulting from lower capacities, limited funding access, and brain drain. She noted that Horizon Europe presents Lithuania with a significant opportunity to enhance its scientific and technological landscape and drive innovation in Europe.

Tomas Garuolis, Department Director at Business, Environment and Economy, Lithuanian Confederation of Industrialists (LPK), provided a presentation on LPK Participation in European Partnerships. He discussed the partnership between the European Commission and other associations within the INTERINO project, which focuses on providing business advice for joining international value chains and finding R&D&I partners (Interreg). Tomas Garuolis also mentioned the Process4Planet partnership and provided an overview of its strategic research and innovation agenda. He concluded by underlining the benefits of being part of European Partnerships mentioning their involvement in EFFRA, CCAM, and ASPIRE.

PANEL DISCUSSION and Q&A

During the panel discussion, **Tomas Garuolis** emphasised the crucial role of LPK in representing Lithuania's industry and creating opportunities for research centres to apply for funding. He highlighted the importance of involving Lithuanian research organisations early in consortia formation for specific funding calls, ensuring effective collaboration and integration into European initiatives. Aiste

Vilkanauskytė explained the distinction between co-funded EU projects and 100% EU funded projects. Co-funded EU projects involve contributions from various entities or EU funding programs, while 100% EU funded projects rely solely on financial support from the EU. Funding for EU projects is typically awarded through competitive grant programs to facilitate research, innovation, and development activities. **Aurelija Povilaikė** explained the importance of increasing Lithuania's participation in Horizon Europe. She also highlights the importance of WIDERA, which offers expert guidance, program rule navigation, partner search support, and proposal quality enhancement. Aiste **Vilkanauskytė** provided additional insights regarding the significance of a package approach in the Horizon program and how to build capacity for successful participation. By adopting a package approach, researchers and organisations can effectively align their goals, resources, and activities to maximise the impact and outcomes of their Horizon projects. **Tomas Garuolis** and **Spyridon Pantelis** also highlighted the ETIPs (European Technology and Innovation Platforms) as an example where working groups enable the collaboration of experts from various organisations, both industry and academia.

The PANTERA project

Mattia Cabiati from Ricerca sul Sistema Energetico (RSE-Italy) provided an overview of the PANTERA project, which aims to create a European forum for stakeholders in smart grids, storage, and local energy systems. The project facilitates interactions between stakeholders from different countries through regional desks, the so-called

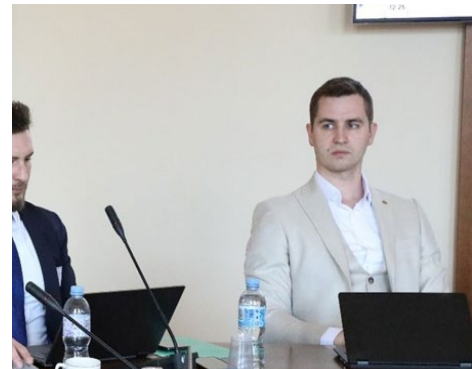
“PANTERA 6+1 approach” which aims to organise and synchronise efforts of different actors to strengthen national participation rate in smart grid R&I activities and investment. Mattia also emphasised the importance of connecting to international initiatives active at global level like MISSION INNOVATION and ISGAN as well as to European ones like the EERA JP Smart Grids. Being involved in such activities allows to get updated information about the most relevant topics in the R&I domain as well as it allows to bring at higher levels specific country's needs. Moreover DERLab, an association of EU research laboratories active in the energy field could support R&I actors in their needs of finding and collaborating with research infrastructures, often indicated as a key point in being successful in getting R&I Eu funding.

Venizelos Efthymiou PANTERA coordinator, FOSS Research Centre of University of Cyprus, presented the EIRIE platform in support of the R&I European ecosystem, which serves as a multi-functional collaborative platform for knowledge and data related to R&I activities in Europe. It brings together various entities such as JRC/SETIS, DERLab, DG Research, IEC Standards, and ETIP SNET. Venizelos discussed the pyramid structure and design principles of the platform and invited participants to join and access its resources. He underlined that the EIRIE platform is at the beginning of its journey, open to welcoming everyone and eager to foster collaboration and innovation. The presentation conveyed a sense of enthusiasm for the project's progress while expressing anticipation for future development and growth.

Anna Mutule, the Head of the Smart Grid Research Centre at the Institute of Physical Energetics in Latvia, shared examples of the Best Practice Desk results. She mentioned also Confluence, a team workspace tool that fosters knowledge sharing and collaboration by providing a central location for creating, collaborating, and organising information. Anna Mutule encouraged participants to visit the relevant pages and access the links provided. She finally invited participants to participate in the survey and engage in Q&A sessions through the slido.com platform.

According to the Slido results, the primary reasons for low R&I activity in smart grids, storage, and local energy systems are inadequate funding and low policy priority. Regarding Horizon Europe, 60% believed it to be too competitive and favouring more advanced countries, while the lack of access to matchmaking platforms was not seen as a significant factor. Finally, it is widely agreed among the audience those national institutions and agencies should address shortcomings in the existing support services, as highlighted by the score of 3.4.

Mečislovas Kaulakis, Innovation Project Manager, Litgrid started the presentation with an introduction to Litgrid, the Lithuanian electricity transmission system operator, highlighting its activities in RES integration, synchronisation to CEN, and R&D. He also emphasised the importance of collaboration, noting that it benefits all parties involved by facilitating knowledge exchange, sharing risks, reducing administrative expenses, and creating new business opportunities for growth. As an example of collaboration, it was mentioned that Litgrid actively participates in the ENTSO-E task force "Demonstration & Innovation Coordination" (TF DIC), which aims to foster collaboration among transmission system operators.



Andrei Morch, Research Scientist from SINTEF Energy Research presented the outcomes of the PANTERA project, highlighting the technical priorities for addressing future challenges. He emphasised the importance of Smart Grid Technologies, including Advanced Metering Infrastructure, observability and controllability functions for DSOs, and flexibility and Big Data technologies. He also mentioned concerns about standardisation, potential lack of technical expertise, and the need for technology-neutral markets. The role of National Contact Points and the mission of the EIRE platform were briefly discussed.

Panel discussion: opportunities to increase participation in joint R&I activities.

The second part of the panel discussion brought together **Mečislovas Kaulakis**; **Rolandas Urbonas**, Senior Research Associate at the Lithuanian Energy Institute; **Vytenis Barkauskas**, the Head of Energy Security and Innovations at the Lithuanian Energy Agency. By sharing their perspectives, they delved into the opportunities for international research collaboration that can contribute to advancing the clean energy transition in Lithuania. The session was moderated by Andrei Morch, Research Scientist at SINTEF Energy Research Energy.

Mečislovas Kaulakis emphasised the benefits of a strong Baltic region and the importance of agreement on energy security issues for collective strength. **Rolandas Urbonas** stressed the need for more extensive discussions to enhance understanding and accelerate goal achievement at a lower cost. Vytenis Barkauskas, Head of Energy Security and Innovations at Lithuanian Energy, acknowledged that the energy transformation is underway but emphasised that its full magnitude has not been fully grasped yet. He anticipated numerous innovations and exciting developments leading up to 2030.

Mečislovas Kaulakis shares about the lack of collaboration between neighbouring countries and reiterates the importance of regional, national, and international cooperation to achieve common goals. Andrei Morch also highlighted the value of regional coordination and proximity in developing technical aspects, emphasising the significance of replicability, and drawing inspiration from neighbouring countries.

Closing remarks

In conclusion, Ivan Matejak thanked the participants and reflected on the need for a major push from the European Commission to provide more structure and foster collaborative regions, as the benefits of EU membership have not been fully realised by all countries.

4 Conclusion

In conclusion, the PANTERA consortium, in the period of 201-2023, organised 15 physical regional workshops/ nano-workshop (physical/ hybrid/ webinar format), depicted in Figure below. To raise the impact of the targeted work and meet the objectives of the PANTERA deliverables, PANTERA consortium joined its forces with EERA to organise maximum workshops in the EU region. The regional workshops focused on identifying the main challenges and gaps that faces the region and try to present solutions and best practices to tackle those gaps. Furthermore, the consortium targeted to identify and establish communication links with local R&I stakeholders active in the fields of smart grids, storage and local energy systems to boost the research and innovation in the smart grid energy field with a specific focus on the countries which are less active in R&I. Additionally, joining forces with the SUPEERA Project the objective at raising awareness about the SET-Plan and Clean Energy Transition among research organisations and funding bodies from the EU-13 countries was more in the focus, giving to the PANTERA consortium another dimension to work on and raise awareness and scope to the connected stakeholders.

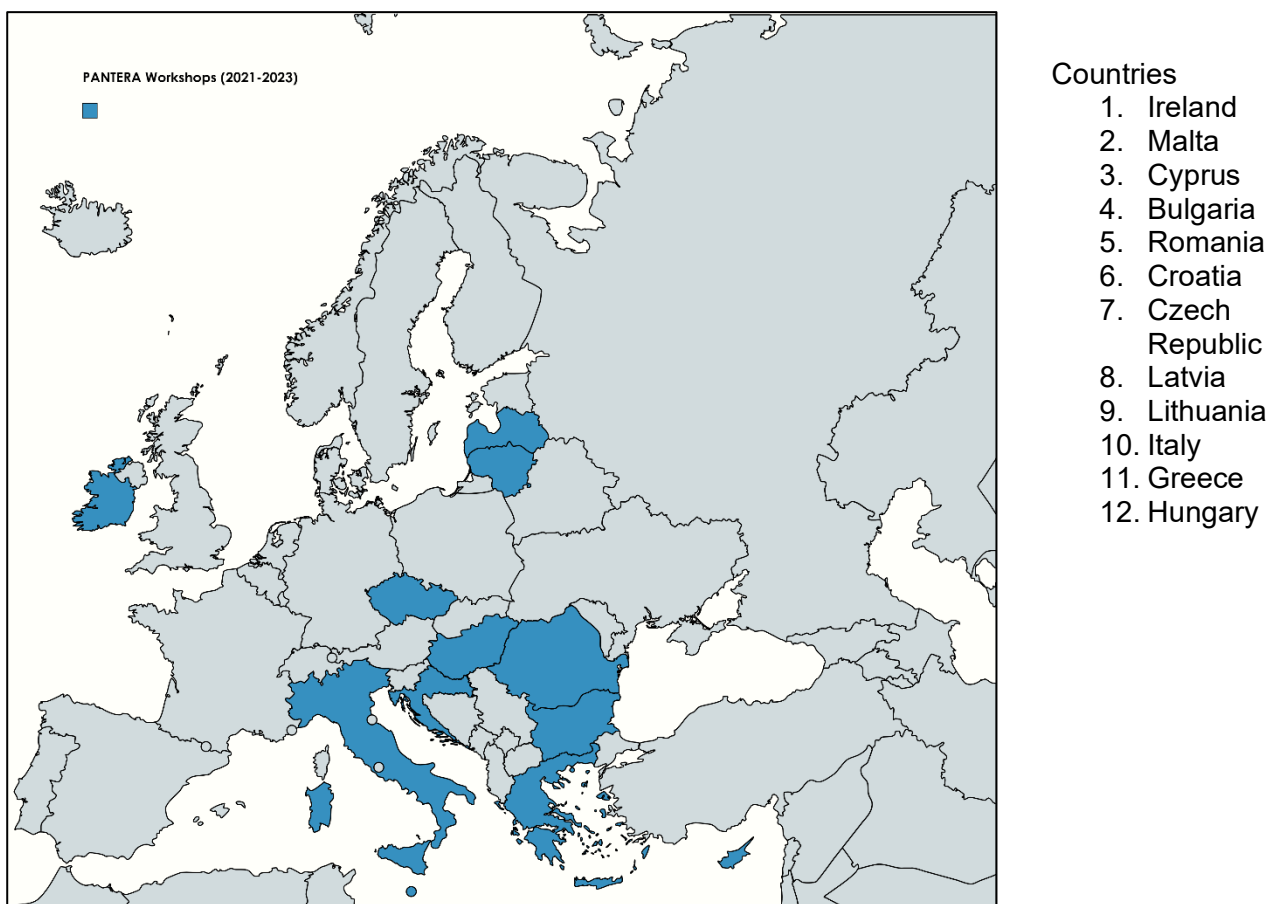


Figure 39: PANTERA workshops hosted countries in the period of 2021-2023

Created on <https://www.mapchart.net/europe.html>.

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