PANTERA

Pan European Technology Energy Research Approach

Work Package 2
Pan-European R&I community

Deliverable 2.4
Final Report on interactions with European platforms and organizations

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EXECUTIVE SUMMARY

This deliverable D2.4 reports the updated results of the activities performed within the PANTERA project task T2.3 "Interactions with European platforms and organizations" that have been achieved during the third reporting period between 1st January 2022 to 30th of June 2023. . In brief, the aim of this task is to:

- Establish good collaboration links with European and International organizations in order to promote the activities of the PANTERA project.

- Engage stakeholders and gather valuable and updated information from the global smart grids research and innovation field;

- Develop collaboration between other platforms and the EIRIE platform to secure content that ensures engagement and interaction with stakeholders at pan-European level.

- Gather valuable as well as updated information from the global smart grids research and innovation field

It was a prime objective of Task 2.3 to interact with European level initiatives such as ETIP SNET, BRIDGE and EERA as well as international ones like Mission Innovation, EPRI and ISGAN. The objective is to establish links and information flow between the mentioned initiatives and the PANTERA project in order to enhance awareness within the smart grid and more broadly in the energy research and innovation field.

In this view, the collaboration with ETIP SNET and the participation to its Regional Workshops and Working Groups, especially considering WG5 - Innovation implementation in the business environment, have been instrumental in achieving the objectives of the PANTERA project and the content given to the EIRIE platform.

Interactions and collaboration work with associations, organizations and initiatives in Europe have been high in the agenda of the PANTERA project. As presented in this report all targeted work has been completed successfully giving evidence that the EIRIE platform can play the linking role that we have planned for it. Evidence, is given in this report that activities throughout the project period, were rich in the directions identified in the concept, with results that justify the set-out objectives.

As can be seen in this report, collaboration with European and international entities is high, building useful output for the R&I community of Europe. This rich collaboration activity is centred around the following activities:

- Active participation in the Working Groups of ETIP SNET with emphasis in the activities of WG5 who has a horizontal view of all the activities of ETIP SNET, hence nearer to the strategic objectives of PANTERA and the role that EIRIE is required to play to bring closer together the R&I community of Europe. Leading the work of the Working Teams of WG5 facilitates the promotion of the needs and requirements of EIRIE to be developed and deployed to enrich the capabilities of the platform for the benefit of all stakeholders linked to EIRIE and PANTERA.

- Active participation and collaboration with BRIDGE and the projects that are active in the structured working groups of the initiative. Working closely with the experts of BRIDGE to develop the required applications in EIRIE gives direct collaboration opportunities for the stakeholders of EIRIE with the active contributors to EU projects hosted in BRIDGE.

- Working closely with the experts of ETIP SNET in promoting the scope and objectives of regional workshops brings the stakeholders of PANTERA and EIRIE closer to the policy issues of EU for influencing position papers and policy recommendations that are

seriously taken on board by the stakeholders of ETIP SNET and the Commission. Moreover, the outcomes and results of projects are scrutinized identifying the lessons learned and future gaps and needs, giving valuable feedback to stakeholders for planning their work forward.

- Bringing together knowledge, information and data on EIRIE acting as a real single point of reference, is shown in practice that it is possible and already functioning with good results. This together with the work done for building common taxonomies for the active platforms in Europe and internationally improves traceability and quality of provided knowledge, information and data giving the possibility for a complete and reliable resource.

- PANTERA and EIRIE built strong working relations with EERA AISBL and EERA JP for Smart Grids giving the possibility for common events hence raising impact in bringing the stakeholders together sharing experience and lessons learned. Building collaboration options with these associations closely supporting adds value and content to the planned activities with wider audience throughout Europe, hence raising impact for wider influence and support.

- The example of a successful deliverable to the commission through the work of the working groups of ETIP SNET, chaired by a representative coming from PANTERA addressing the current issue of regulatory sandboxes gives real evidence of the importance of such collaborations and mode of working. Building this possibility through EIRIE is already a possibility giving evidence that wider countries can play a role if they utilize effectively the means provided through EIRIE.

- It is evident from the outcomes reported, that PANTERA and EIRIE have gone a long way forward in the correct direction but more needs to be done in a coordinated way through the support of the service contract managed by DG ENER, the working groups of ETIP SNET and the experts of BRIDGE. In this scope of work the role of the stakeholders is hugely important and that is why collaboration through EIRIE should be high in the agenda along the lines that have already given positive results.

It is clear that stakeholders coming from the low activity countries can benefit immensely if they,

- Are active within the framework of EIRIE, the regional corner and other collaborative entities that spring from the development work within EIRIE.

- Are active in the working groups of ETIP SNET and BRIDGE actively contributing to the tasks that spring from the planned work within these initiatives.

- Are active in the regional workshops and other events that ETIP SNET is organising throughout the year, since through these planned activities results, lessons learned and identified gaps and needs are exhaustively discussed and shared giving valuable input to their aspirations.

- Are active in the Joint Programmes of EERA since through these activities the collective effort of the experts in the field in Europe identify the areas that are most important for giving emphasis. Additionally, through this joint work, lessons learned and progress made are dwelt on, bringing the involved stakeholders closer to the state of the art, and ready more knowledgeable next steps.

Finally, this report gives real evidence, that EIRIE is the home of projects financed by the Commission and thus the R&I community of the low activity countries should build stronger links with the stakeholders active in EIRIE to raise their accessibility to knowledge and their visibility to the experts in the field. At the same time, EIRIE will be the source for state-of-

the-art knowledge, information and data and thus ease their work to achieve more and with higher quality.

1 Introduction (scope and objectives)

This deliverable reports the updated results of the activities performed within the PANTERA project task T2.3 "Interactions with European platforms and organizations" that have been achieved during the third reporting period between 1st January 2022 to 30th of June 2023. . In brief, the aim of this task is to:

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- Gather valuable as well as updated information from the global smart grids research and innovation field

It was a prime objective of Task 2.3 to interact with European level initiatives such as ETIP SNET, BRIDGE and EERA as well as international ones like Mission Innovation, EPRI and ISGAN. The objective is to establish links and information flow between the mentioned initiatives and the PANTERA project in order to enhance awareness within the smart grid and more broadly in the energy research and innovation field.

In this view, the collaboration with ETIP SNET and the participation to its Regional Workshops and Working Groups, especially considering WG5 - Innovation implementation in the business environment, have been instrumental in achieving the objectives of the PANTERA project and the content given to the EIRIE platform.

2 Approach

2.1 Interaction between PANTERA Working Teams with ETIP SNET WG5 and other WGs

As indicated in detail in D2.3 [1], the PANTERA consortium are actively involved in WG5 of ETIP SNET

Working Group 1	Working Group 2	Working Group 3
Reliable, economic and efficient energy system	Storage technologies and system flexibilities	Flexible generation
Working Group 4	**Working Group 5**	**NSCG**
Digitalisation of the electricity system and customer participation	Innovation implementation in the business environment	National Stakeholders Coordination Group

Figure 1: The active working groups of ETIP SNET""

WG5 "Innovation implementation in the business environment" has a horizontal agenda, and closing cooperating with the rest of the WGs of ETIP SNET, hence bringing the activities related with PANTERA in touch with the hundreds of experts that are active and contributing to the activities of ETIP SNET.
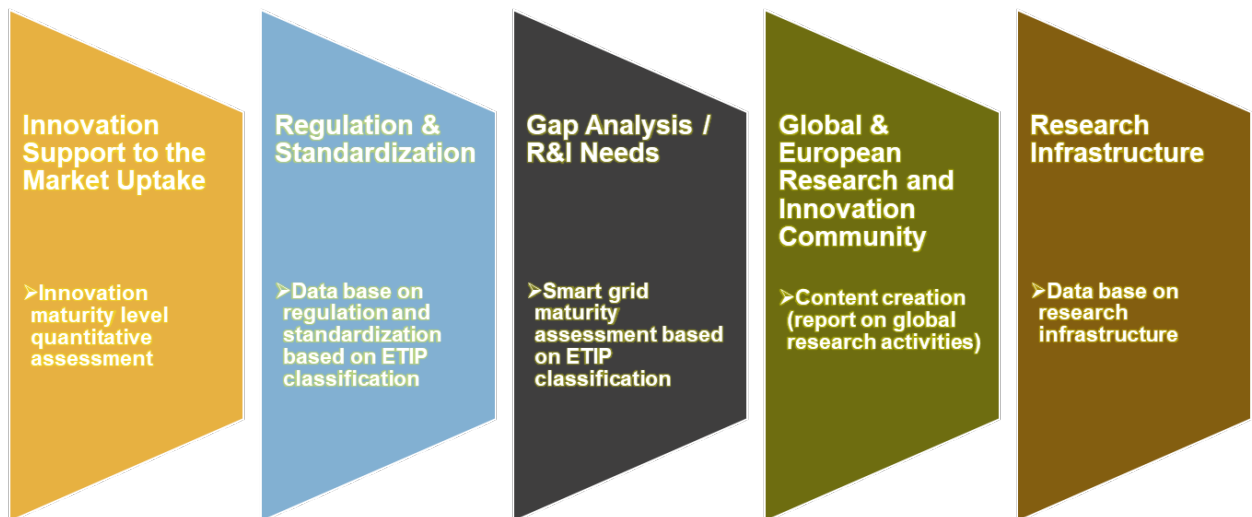
Figure 2: The five active Working Teams of WG5 of ETIP SNET

The bulk of the work however, with the experts of WG5, is centred around the activities of the 5 working teams (see Figure 2 for more details) that are operational, delivering valuable outcomes for the benefit of the R&I community of Europe. Additionally, the outcome of the work of the Working Teams is channelled through the functionalities of the EIRIE platform giving visibility and accessibility options to the R&I community of Europe.

During the period that we are reporting the WTs have worked on the following items / deliverables:

2.1.1 WT1: Research Infrastructure Repository

ETIP SNET WG5 - WT1 "Research Infrastructure repository" team was built around the involved partners of DERlab, JRC, ERIGrid and PANTERA for a common repository on EIRIE. To achieve this, effort was concentrated in evaluating the work done till today by the involved entities, to understand commonalities and agree on common approach that will serve all in the most appropriate way.

Work has gone smoothly between the involved partners agreeing on a common taxonomy in detail. This was enhanced by a common architecture of the repository capable of hosting all the relevant information that is required by the experts of the involved entities.

Having agreed the structure and taxonomy, the effort concentrated on developing a process that will transfer current content on the servers of the separate entities to EIRIE without losing any valuable content. This face was completed also successfully, with the developed repository populated with all the valuable information about the testing centres throughout Europe available on EIRIE and visible through all connected users on EIRIE.

Following the successful transfer of the description and details of the research infrastructure available in research centres and universities throughout Europe, the WT concentrated in finding the way of constant update of the available infrastructure to accurately represent the current status. To this effect the EIRIE management has indicated to the interested entities that the platform is ready to give Content Management authorization to all the owners of infrastructure so that they can edit content and update their status on a rolling basis. This approach was well received by JRC and DERlab and they have reserved their response after consulting their Board of Management to take an appropriate decision. In between both entities will take responsibility to do the updates through their usual procedures that involves direct consultation with the owners of the infrastructure facilities.
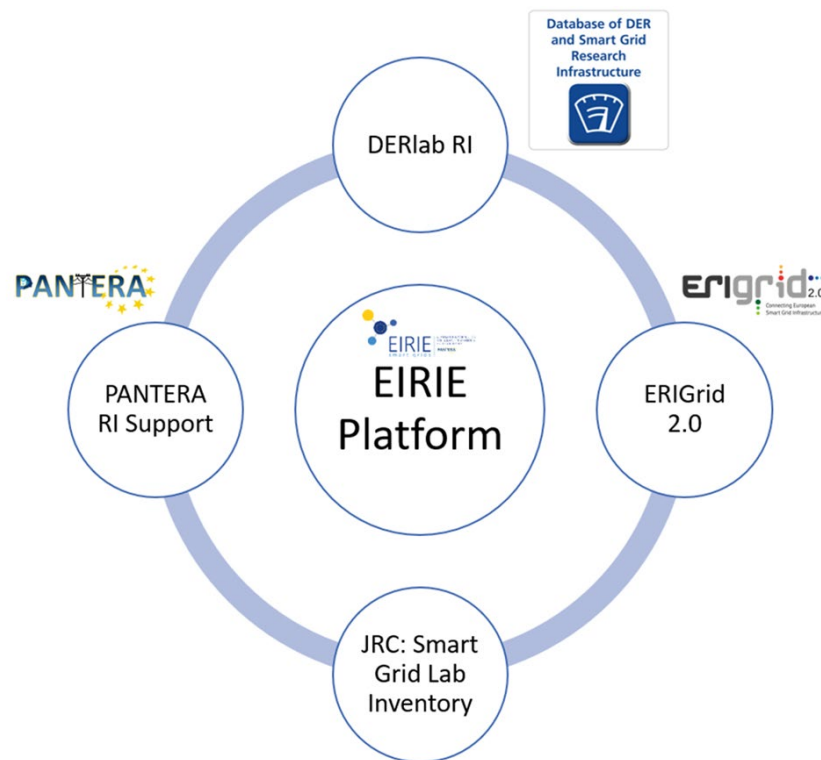
Figure 3:The Research Infrastructure Repository process

2.1.2 WT2: Regulations and Standards

As will be described in the next paragraph, WT3 has developed in agreement with ETIP SNET and BRIDGE a complete taxonomy of technologies that constitute the integrated grid supporting the energy transition. This complete list of technologies reflects the physical world of the integrated grid and standards in operation cover the current operational and functional capabilities of the identified technologies. For this reason, WT2 was formed to work in linking the standards in operation to the technologies as currently embody the integrated grid of today. This work has been identified as of crucial importance to the R&I community and for this reason time was allocated to fulfil this requirement and make it publicly available through EIRIE.

Work has progressed within the period that we are reporting, completing the required cross referencing of standards to technologies through the work of experts of the PANTERA consortium acting through WT2 of WG5 of ETIP SNET. The completed work has been transferred to EIRIE and it is currently being available for wider use by the R&I Community.

During the process of finalising the cross referencing of standards to technologies, there was the need to revise the taxonomy within EIRIE offering search capabilities that are suitable for the purpose, serving the R&I community.

Following the successful completion of cross-referencing standards to technologies, the WT has moved on to link the currently approved European Codes to the respective technologies, adding another valuable service to the hands of the R&I community. This work has been completed as well and currently EIRIE offers this service as well to all connected users.

All happening within the EIRIE platform

Figure 4: Relating currently available standards to the technologies

2.1.3 WT3: R&I needs mapping and evaluation

During this period of reporting, WT3 continued its valuable work on developing the tools required to enable the quantification of R&I needs based on progress achieved through projects. Noting that the main objective of the WT3 is to identify R&I needs within the smart grids domain at a European level and quantify where we are standing with the maturity of the technologies and systems and thus identify the gaps. This is aimed to lead to a quantitative identification of needs with the minimum effort from the R&I community and the reported EU project results Emphasis was given to continue the planned work to develop the maturity index tool that will play an important role in the process.

Fundamental to this process, is the agreement reached for an approved taxonomy of technologies and sub-technologies constituting the integrated grid in a universal way. This approved list of technologies is presented in Figure 5 giving the right platform to develop the tool further.

Group of Technologies	№	Technology/Systems
Integrated grid	IG1	Flexible ac transmission systems (FACTS)
	IG2	Models, Tools, Systems for the operation analysis, control and the development of the integrated grid including cost elements
	IG3	HVDC
	IG4	Forecasting (RES)
	IG5	Asset management
	IG6	Outage management, fault finding and associated equipment (including protection)
	IG7	Equipment and apparatus of the integrated grid
	IG8	Equipment, sensing, monitoring, measuring for analysis and solutions and control
	IG9	Advance distributed control
	IG10	Feeder auto-restoration / self-healing
	IG11	Smart metering infrastructure
Generation	Ge24	Flexible generation
	Ge25	Solar including PV & Concentrated Solar Power
	Ge26	Wind
	Ge27	Hydropower
	Ge28	Hydrogen & sustainable gases
	Ge29	Other generation

Group of Technologies	№	Technology/Systems
Customers and market	CM12	Distributed flexibility, load, forecasting, management & control and demand response including end devices, communication infrastructure and systems
	CM13	Smart appliances
	CM14	Building control, automation and energy management systems
	CM15	Electric vehicles
	CM16	Energy communities
	CM17	Lighting
	CM18	Electricity market
Storage	St19	Electric Storage
	St20	Thermal Storage
	St21	Power to X
	St22	Pumped storage
	St23	Other Storage
Digitalisation, Communication and Data	DCD30	Communication networks including devices and systems for signals and data connectivity and solutions
	DCD31	Digital Twins
	DCD32	Artificial intelligence
	DCD33	Data and cyber security including repositories

Figure 5: The approved list of technologies that constitute the integrated grid

The maturity index tool was the missing link to develop a process capable of quantifying progress achieved through the work of projects on the above listed technologies and their related sub-technologies. For this reason, we have put a lot of effort through the work within WT3 to develop the tool always remembering the overarching process indicated in Figure 6. The complete process captures the work programme of ETIP SNET as visually interpreted in the figure, and it includes the following critical steps:

- The development of the vision through the internal processes of ETIP SNET, every 15 to 20 years.

- Development of a rolling ten-year plan based on the identified (by the services of ETIP SNET through the developed vision) High Level Use Cases and the 33 technologies that are linked to.

- The Implementation plan that is generated every two years to fall in line with the Horizon Europe work Programme that includes all the required tasks and topics for including in calls for projects etc

- The maturity index tool that has as an input the TRL achieved for the sub-technologies of technologies that are progressed through the implementation of projects and as an output the achieved maturity of technologies, of High-Level Use Cases and of the system.

- As a consequence of evaluating the maturity indices, the process quantifies the gaps and needs to be taken into consideration for the next phase of the implementation plan populating the next phase of the Work Programme that will lead to a new family of projects.

- The cycle of quantifying gaps and needs is continuous influencing the drafting of the implementation plans and the rolling ten-year plan. When required, the vision will be updated as well.

As can be appreciated, the maturity index tool is what was missing for quantifying gaps and needs in technologies that constitute the High-Level Use Cases and the system. For this reason, work was pushed to deliver it and it is now available online but still not fully validated and operational as indicated above. With the maturity index available, the indicated RICAP process, needs to be completed and this will be done by WT3 of WG5 over the coming months with the contribution of stakeholders coming from the consortium of PANTERA that is now finished.
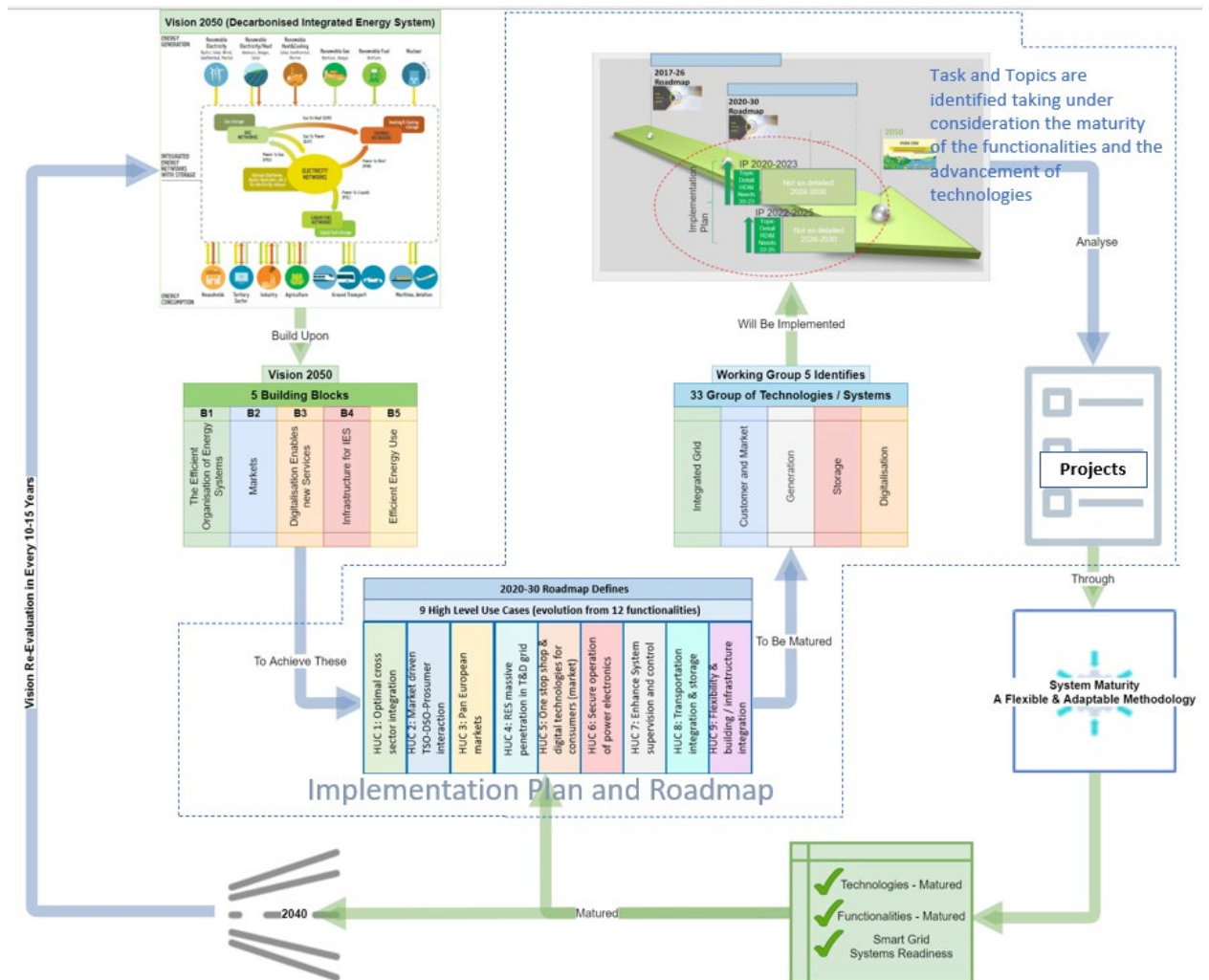
Figure 6: PANTERA RICAP process for capturing the evolution of the System

As has been declared, the intention of DG ENER is to ask all the project consortia to report their results through EIRIE. We as WT3 will use this intention of DG ENER to extend it so that project consortia have the obligation to fill in their TRLs on project completion as well, to keep the process going. Hence, all in all, we still need to validate the process on EIRIE and work through the service contract of DG ENER and ETIP SNET to complete the process since now the PANTERA project has finished. The PANTERA partners are committed to do this as indicated in our deliverables through active contribution to the Working Group 5 of ETIP SNET.

The maturity index tool has followed a full development phase based on well documented processes identified in literature but elaborated and developed to meet the requirements of EIRIE and the project. Technology Readiness Levels (TRL) are a type of measurement system used to assess the maturity level of emerging technologies under development. One shortcoming of the current TRL scale is that it is unable to offer a comprehensive illustration of the difficulty of integration of a specific technology or subsystem into a complex system. A complete representation of the difficulty of integration of the subject technology or subsystems into an operational system has been captured in published papers and this has been taken into consideration. Based on this, the Systems Readiness Level (SRL) methodology has been developed, that unites the TRL for each technology with Integration Readiness Levels (IRL) that express the contribution of each of these technologies to build a well-functioning integrated system of technologies serving the high level use cases leading to the envisioned integrated smart grid.

The decision on where to draw the boundaries for complex integrated systems is important for the SRL effectiveness. Specifically, advanced technology systems that include multiple

technologies may be treated as a subsystem with these components evaluated as a single measure of TRL. For our purpose a nesting process is proposed that treats a subset of component technologies in a system or subsystem as a single entity in the SRL calculation and thus determines the level at which component technologies are defined

As far as the SRL computational methods are concerned, several approaches have been presented before. The adopted method is depicted in Figure 7.
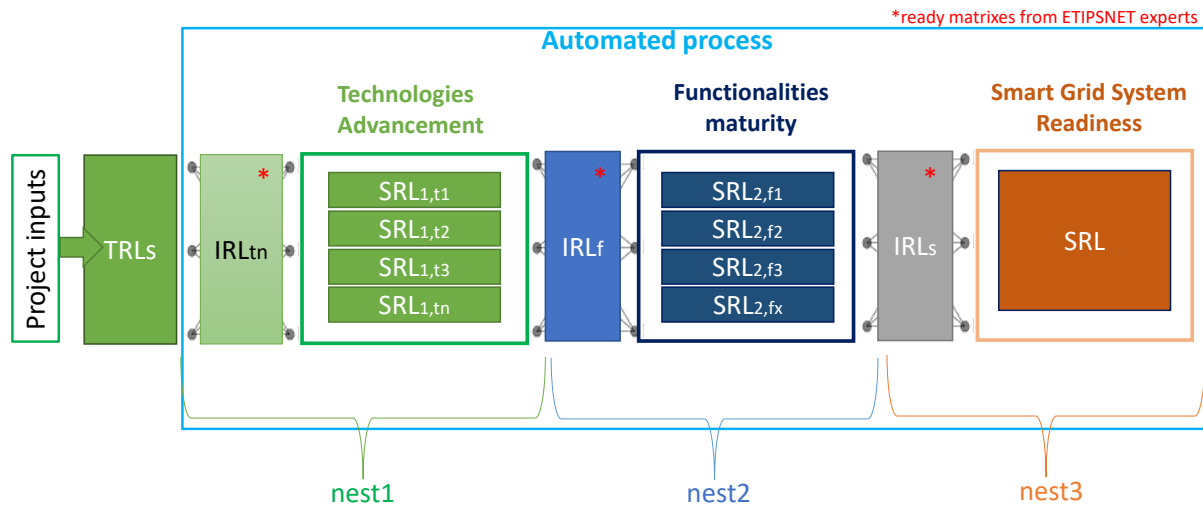
Figure 7: The maturity index process depicted forming the basis of the designed tool

Following the development of the maturity index tool the complete valuation process for identifying gaps and needs in R&I based on current status of development is to be addressed in the coming months through the work of WT3.
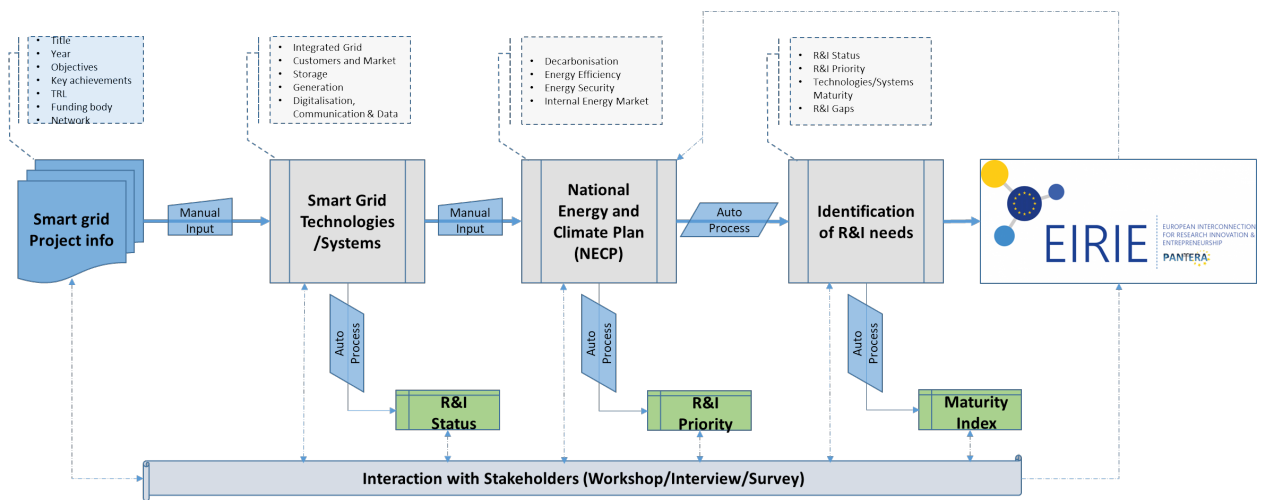
Figure 8: Gap analysis using the results of the maturity index tool

The methodology to be adapted is the one indicated in Figure 8 and it will be a collective effort within ETIP SNET and the experts involved in this evaluation that is currently done without the described tools. The process, will reside on EIRIE and will be available for the working teams involved and the related stakeholders for feeding in the required data coming from projects and managing the process to deliver results.

2.1.4 WT4: Market Maturity & Commercialization Self-Assessment Toolbox

The main objective of WT4 is to **bring together innovative solutions owners and investors/ incubators for facilitating the "go-to-market route"**
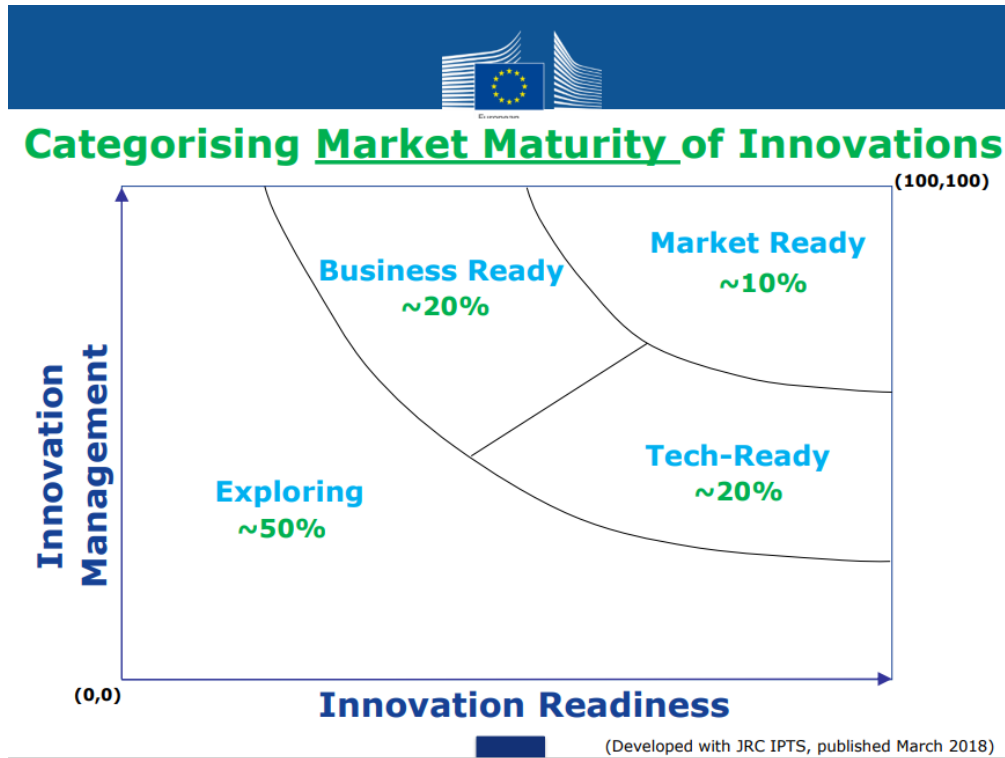
Figure 9: Innovation Radar Tool
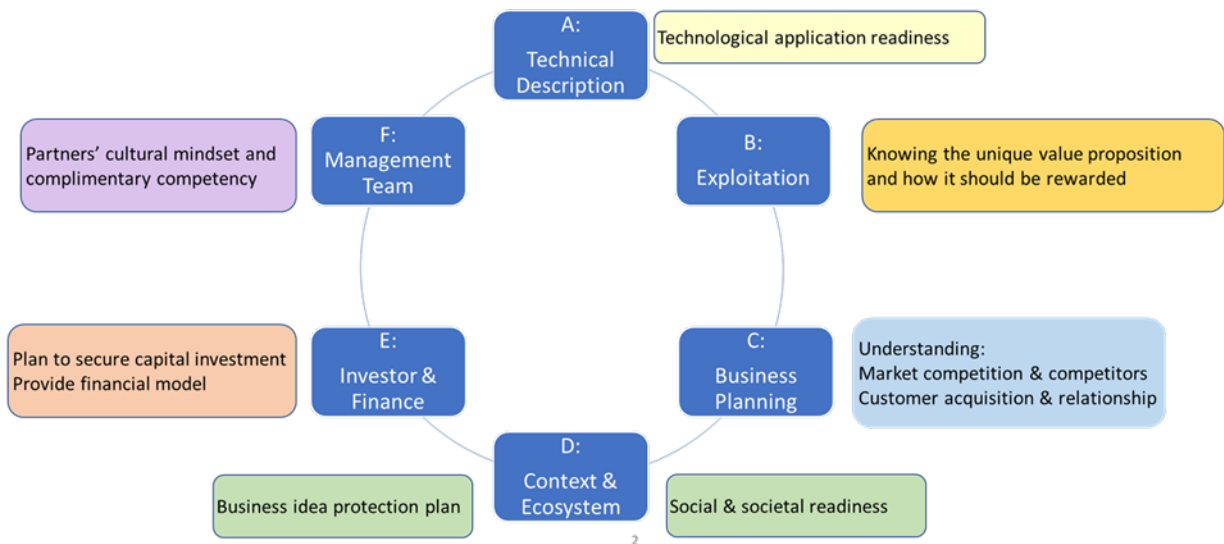
Figure 10: Description of WT4 Self-Assessment Tool

From the initial assessment of the innovation maturity index based on the Innovation Radar of the Commission indicated as an example in Figure 9, we have moved on as WT4 to the Self Assessment Tool, developed in house. All this facilitation is done for guiding the R&I community on their road to the market.
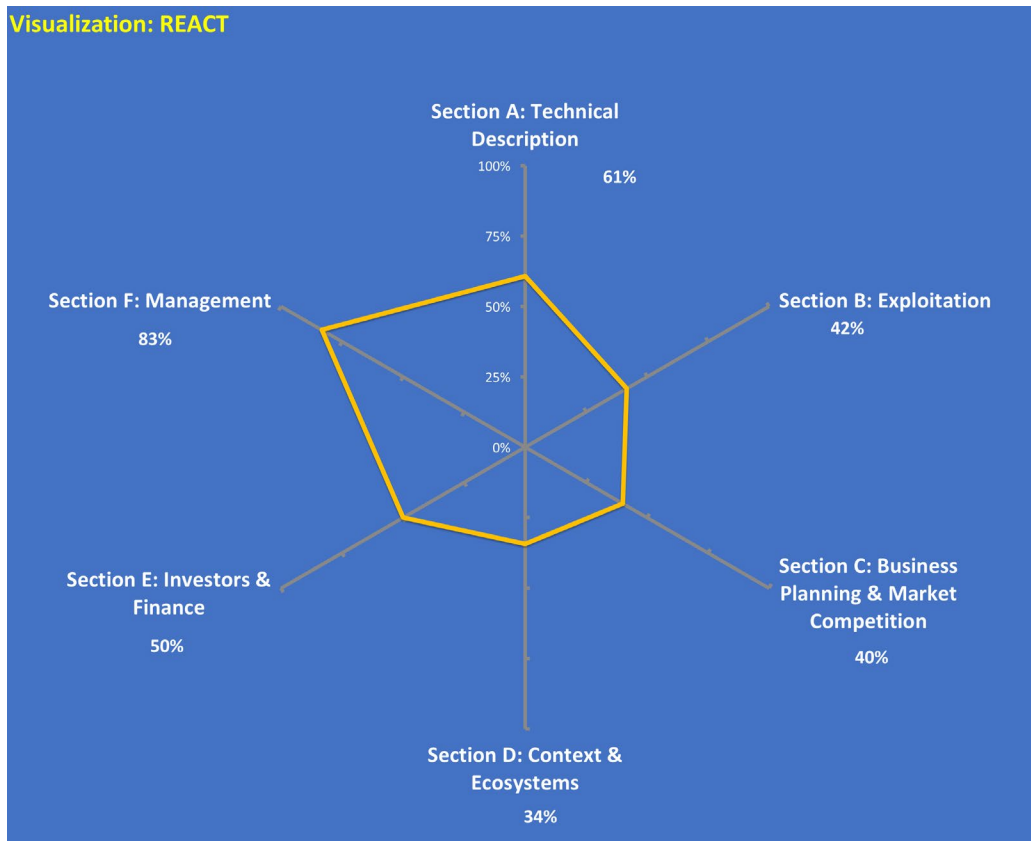
Figure 11: Visualization of WT4 Self-Assessment Tool

The plan of WT4 is to host all these processes on EIRIE and automate the processes to the highest degree possible. Discussions within the WT4 are ongoing with the target of completing the processes by the end of 2024.

PANTERA is not available anymore, but WT4 with the support of members of the PANTERA consortium will continue working with the support of other experts of ETIP SNET and WG5 to deliver the planned tools.

2.1.5 WT5: Global & European Research and Innovation Community

WT5 was formed to build good collaborative working relations with the international community for sharing and delivering knowledge, lessons learned, solutions achieved, policies initiated etc. Using the outcome of this work, the intention of the WT is to build a constantly growing repository with information and actions of EU with international associations / initiatives / groups contribution to the energy transition and smart grids for enriching knowledge in the field and building a best practice library of useful use cases in the field in support of the R&I community of the EU.

To achieve this, WT4 has acted as follows:

- Utilize the good connections of members of ETIP SNET / WG5 to Mission Innovation, ISGAN, EPRI etc for constant infeed of dissemination activities that emerge from these reputable international associations / organisations.

- Offer support to generate monthly notes of activities in progress in a format that can be disseminated through the EIRIE platform (these are in the form of presentable leaflets/ dissemination pamphlets that can be circulated, slides that can form the update of WT5 and tweets covering the noted progress for broader dissemination)

- WT5 and the Governing Board of ETIP SNET are constantly be updated of progress made.

- The EIRIE platform has developed a dedicated area for this international activity, achieving bilateral connections with their respective knowledge areas for continuous update that is open to all members of ETIP SNET to contribute thus enriching our activities

in the field. Connection is already achieved with Mission Innovation and that with the EPRI knowledge platform is progressing.

2.2 Collaboration between PANTERA consortium and EERA JP SG

PANTERA project closely collaborated with the EERA JP on Smart Grids. Several PANTERA project partners are members of the JP (namely FOSS, RSE, SINTEF, DERLab, UCD). This facilitated the collaboration and made easier a fluent information exchange process. The outcomes of PANTERA have been presented in all the JP SG steering committee meetings that usually involves around 20 R&I organisations from all around Europe. JP SG members not involved in PANTERA were interested in the results shared by the project and the discussion that followed the presentation of PANTERA activities made possible to get key insight to steer the projects' actions in a more effective way.

More in details the outcomes of PANTERA have been presented during the following EERA JP SG Steering Committee (SC) meetings:

- ❖ 31st SC - 9th-10th May 2019, Larnaca, Cyprus
- ❖ 32nd SC - 22nd-23rd October 2019, Porto, Portugal
- ❖ 33rd SC - 23rd April 2020, Web meeting
- ❖ 34th SC - 6th November 2020, Web meeting
- ❖ 35th SC - 25th March 2022, Web meeting
- ❖ 36th SC - 10 May 2022, Web meeting
- ❖ 37th SC - 14 June 2022, Palermo, Italy

In the following Figure 12 are reported the extracts of some of the agenda of the mentioned SC meetings with highlighted the agenda point related to the PANTERA project.

Figure 12 extracts of some of the agenda of the EERA JP SC meetings with highlighted the point related to the PANTERA project

Alongside the SC meeting organised in Palermo, PANTERA and the JP on SG jointly organised the workshop "The EIRIE platform enabling R&I activities and investment in smart grids", more details are reported in the following.

2.2.1 JP SG presented during in PANTERA workshops

The relation between PANTERA and the JP on SG have been bidirectional, in fact the JP activities have been presented several times during the workshops organised by PANTERA. This has been an important action since the EERA JP on Smart Grids with its European scope is a relevant association to foster a deeper integration of the R&I field at EU level.

In the following Figure 13 are reported, as an example, some slides used to present JP SG during PANTERA workshops.
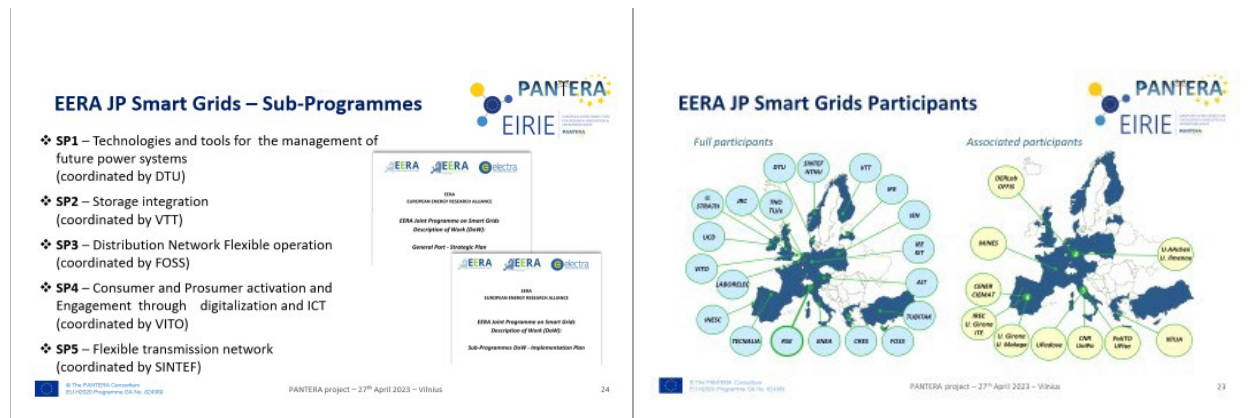
Figure 13 example of slides used to present the EERA JP on Smart Grids during PANTERA workshops.

2.2.2 Joint EERA JP SG – PANTERA workshop in Palermo

The workshop "The EIRIE platform enabling R&I activities and investment in smart grids" have been organised by PANTERA and the EERA JP SG within the IEEE MELECON 2022 conference that was held at the University of Palermo in June 2022.

The workshop gave the possibility to PANTERA members to interact with Italian stakeholders active in the smart grid and energy system research and innovation field. More in details, the topics discussed during the workshop, through two keynote speeches and two round tables, were related to the role of storage, e-mobility and policies to support the clean energy transition.

The first keynote by Marcelo Masera (JRC) stressed the importance of R&I activities and acknowledge the relevance of projects like PANTERA in fostering knowledge sharing and capacity building. The second keynote, by Adel El Gammal (EERA secretary general) pointed out the relevance of the REPower EU plan as a pathway to reduce the Europe dependence on fossil fuel imports (especially from Russia) not only by boosting renewable energy, but also increasing energy efficiency of buildings and industrial processes.

Moreover, the two Round Tables (RT):

❖ RT 1: Storage and electromobility: a huge opportunity to enhance system flexibility. How to match grid and users' needs to foster renewables uptake

❖ RT 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

gave the possibility to discuss with local stakeholders about key topics for research and innovation actions.

In the following Figure 14 are reported some pictures and slides from the workshop.

Figure 14 Pictures and slides from the workshop jointly organised by PANTERA and EERA JP SG

2.2.3 Dedicated EIRIE webinar

The PANTERA project and the JP SG jointly organized a webinar dedicated the EIRIE platform (June 28, 2023), Figure 15 reports the agenda and the concept note. The aim of the event was to present the EIRIE multifunctional platform and to discuss with JP SG members about its main functionalities and the synergies that could be created with the JP activities and objectives.

Andrei Morch (SINTEF) opened the webinar welcoming all the connected participants, presenting the agenda and the speakers of the day. He also mentioned the main activities the EERA JP on Smart Grids is involved in, namely the organization of thematic workshops and webinar for the JP members, writing of common papers and articles, participation in pan-European public consultations and interactions, organization of Horizon Europe Brokerage Events and follow up of the relevant calls.

Marcello Barboni (JRC) presented the Smart Electricity System and Interoperability (SESI) platform, saying that EIRIE is a natural fit with the activities of SESI and for this reason a specific section of the SESI website is dedicated to EIRIE.

Ivan Matejak (EERA) presented the SUPEERA project and its main results. SUPEERA is active in 3 main working areas:

1. Facilitation of the execution of the SET-Plan.
2. Accelerating innovation and uptake by industry.
3. Impact assessment pursuant to the Clean Energy Transition policy framework.

Matejak then focused on illustrating the close collaboration established over the years between the SUPEERA and the PANTERA projects. Several physical and online workshops have been organized together in the EU-13 countries in order to have a better understanding of the low participation in the SET Plan and EU funded programmes and to facilitate their engagement and participation in these frameworks and funding schemes. Around 330 people participated to the workshops (18% industry - 65% academia - 15% government).

*Luciano Martini (*EERA JP on Smart Grids coordinator - RSE) introduced the EERA JP on Smart Grids highlighting its strong link with the PANTERA project. The JP SG currently has 36 members covering 18 countries in Europe and it is structured in 5 sub-programmes (SP):

1. SP1 - Technologies and tools for the management of future power systems *(coordinated by DTU)*
2. SP2 – Storage integration *(coordinated by VTT)*
3. SP3 – Distribution Network Flexible operation *(coordinated by FOSS)*
4. SP4 – Consumer and Prosumer activation and Engagement through digitalization and ICT *(coordinated by VITO)*
5. SP5 – Flexible transmission *(coordinated by SINTEF)*

Martini also presented how EIRIE can support the JP SG activities. As a matter of fact, EIRIE, as an interactive multi-functional platform, represents a meeting point for all actors active in the field of energy research and innovation from all around Europe. In particular, EIRIE offers the following functionalities and information relevant for the JP:

- Projects results and outcomes
- Stakeholders' community building
- Research infrastructures
- Standards and Regulation
- Matchmaking and R&I funding opportunities
- News & Events

EIRIE can also be used by the JP to share and disseminate its activities (news, events, etc.) as well as to reinforce its community, attracting new members (especially from EU-13 countries).

In this last respect, Martini pointed out that EU-13 countries are not well represented in EERA and particularly in JP on Smart Grids. Indeed, only 3 out of 36 members of the JP are coming from EU-13 countries. Therefore, one of the JP objectives is to improve EU-13 countries representation, through effective use of the functionalities of EIRIE.

Venizelos Efthymiou (PANTERA project coordinator – FOSS) pointed out that EIRIE is becoming a reference platform and one-stop shop for information sharing, collaboration and knowledge creation aiming at supporting the advancement of R&I activities in Smart Grids at national, regional and pan-European level. The aim of EIRIE is not to replace already well-functioning platforms in Europe but to allow to have access to all of them. Therefore, through EIRIE, R&I practitioners can have:

- 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;
- Access to state-of-the-art training material and education programmes.

Moreover, EIRIE allows R&I organization to:

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

EIRIE represents a useful tool also for policy makers, supporting them in:

- Defining inefficiencies of R&I activities at national, regional and EU level thus allowing to prioritise policy action towards advancing R&I in low-performing topics;
- 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.

Efthymiou then specified that EIRIE is hosted in JRC's Smart Energy System Environment (responsible also for its maintenance), under the europa.eu domain. Therefore, the use of EU login credentials is needed for centralized authorization and verification. The integration with the most prominent and widely used platforms around EU and beyond is in EIRIE scope (connection is already put in place with many platforms). On completion of the PANTERA project, the EIRIE management and content administration will take place under DG ENER service contracts and in collaboration with ETIP-SNET, BRIDGE and PANTERA experts.

Finally, Efthymiou stressed that stakeholders are central in developing EIRIE, whose aim in this respect is to:

- Bring stakeholders closer to decision making, information and collaboration possibilities in order to serve their interests in broader terms;

- Provide project reporting in response of the needs of consortia building knowledge forward for broader visibility and use;

- Offer analytics and tools orientated to support the endeavours of all stakeholders for achieving the strategic objectives of energy transition.

Andrei Morch (SINTEF) presented the PANTERA project Regional Desks specifying that, as the different regions in Europe play a significant role in the achievement of the project objectives, PANTERA came up with the concept of Regional Desks.

Morch then informed the participants that, according to a survey elaborated, stakeholders expect that the PANTERA project provides them with the following benefits/support tools:

- Firsthand insight into interesting smart grid projects, results, ideas and initiatives;

- Networking and potential partnerships;

- Learning from other experience (especially in practice-oriented projects);

- Cross-cutting information about different project initiatives;

- Policy recommendations.

In addition, according to stakeholders, the main barriers and gaps which limit the funding and development of R&I in the energy field are:

- Lack of responsive networking facilities;

- Limited monetary resources;

- Limited human resources;

- Limited national policy in support of R&I activities.

Morch then mentioned again the main attributes of EIRIE, specifying that it is a sustainable and interactive multi-dimensional pan-European platform based on a knowledge sharing mechanism that will help identify, discuss and structure key R&I challenges. In addition, regional desks and ad hoc working groups have been settled to respond to R&I needs and tackle key topics identified by the PANTERA project.

A practical overview was also provided about the functioning of the EIRIE search tool, and the "Confluence" tool was presented. The latter is a collaboration wiki tool integrated within EIRIE consisting of a team workspace where knowledge and collaboration meet by creating, collaborating and organizing all the work done within EIRIE in one place.

To conclude, it was recognised by the webinar participants that the EIRIE platform is dedicated to knowledge sharing, creating, and keeping connected an extremely broad energy community. Thousands of projects are funded by the EU Commission, but it is well known that after their end the great risk is that all knowledge they produced is lost. EIRIE is precisely trying to solve this issue, collecting in one place all the information produced by EU Commission funded projects.

Therefore, EIRIE can really represent the space where people can continue meeting and sharing knowledge after the end of projects.

The PANTERA EU project and EERA JP on Smart Grids jointly organise the webinar:

EIRIE a knowledge collaborative platform in support of R&I

During the webinar the EIRIE multifunctional platform, developed by the PANTERA EU project, will be presented and its main functionalities will be described in detail. EIRIE aims at **connecting the R&I community of EU** to enhance collaboration, strengthen the participation of all Member States **in support of the Energy Transition** and improve the participation of low-spending countries in R&I activities in Smart Energy Systems.

To this end, it offers a bundle of services and functionalities towards ensuring that EIRIE is established as a central reference point of knowledge, aiming to take on board the existing entities and activities in Europe, expanding on them to capitalise on synergies and bring in the interests of low spending R&I countries.

EIRIE also suits the objectives of the **EERA JP on Smart Grids**, which aims to act as collector and a contact point for the Smart Grids research in Europe, facilitating the exchange of information, teamwork and alignment of research priorities towards the key SET-Plan objectives and targets of rearrangement the European energy system, in order to foster the reduction of the electricity costs and the increasing of the quality and reliability of supply.

The **SUPEERA project** will also be presented, showing its results in strengthening the European cooperation in R&I to realise the objectives of the SET-Plan in the broader perspective of the clean energy transition.

Agenda

Time (CEST)	Topics	Description	Presenter
14:00 14:05	Opening remarks by Andrei Morch *(SINTEF)*		
14:05 14:15	JRC supporting knowledge creation and sharing	The Smart Energy Systems environment of JRC and hosting services for the R&I community of Europe.	Marcello Barboni (JRC)
14:15 14:25	EERA and the SUPEERA project	Strengthen European cooperation in R&I in order to realize the objectives of the SET-Plan in the broader perspective of the clean energy transition – results from the SUPEERA project	Ivan Matejak (EERA)
14:25 14:35	EERA JP SG	JP Smart Grids & EIRIE: towards an integrated pan-EU R&I framework in the energy field	Luciano Martini (JPC - RSE)
14:35 14:45	The importance of delivering EIRIE	EIRIE a landmark for the R&I community of EU & steps taken to continue serving their needs	Venizelos Efthymiou (FOSS)
14:45 15:30	EIRIE: Home of knowledge, information, and data	Discussing the emergence of EIRIE, status and the role it can play in sharing the wealth that projects generate for the benefit of the R&I community and related stakeholders including policy makers	Coordinator: Andrei Morch All contributing

www.eirie.eu

Figure 15 Agenda and concept note of the EERA JP SG - PANTERA webinar on the EIRIE platform

2.3 Support to ETIP SNET regional workshops

During this current reporting period, PANTERA continued to support through WG5 of ETIP SNET the plans for regional workshops but through a modified structure and content. This was in response to the changing environment surrounding the previously established regional workshops. It is understood that this structure was a pilot in the first instance in May – June of 2022, and that amendments to this structure was promoted in the workshops that followed, but the idea of further involving the respective regional/national R&I programme managers and representatives is the conceptual cornerstone of this new structure.
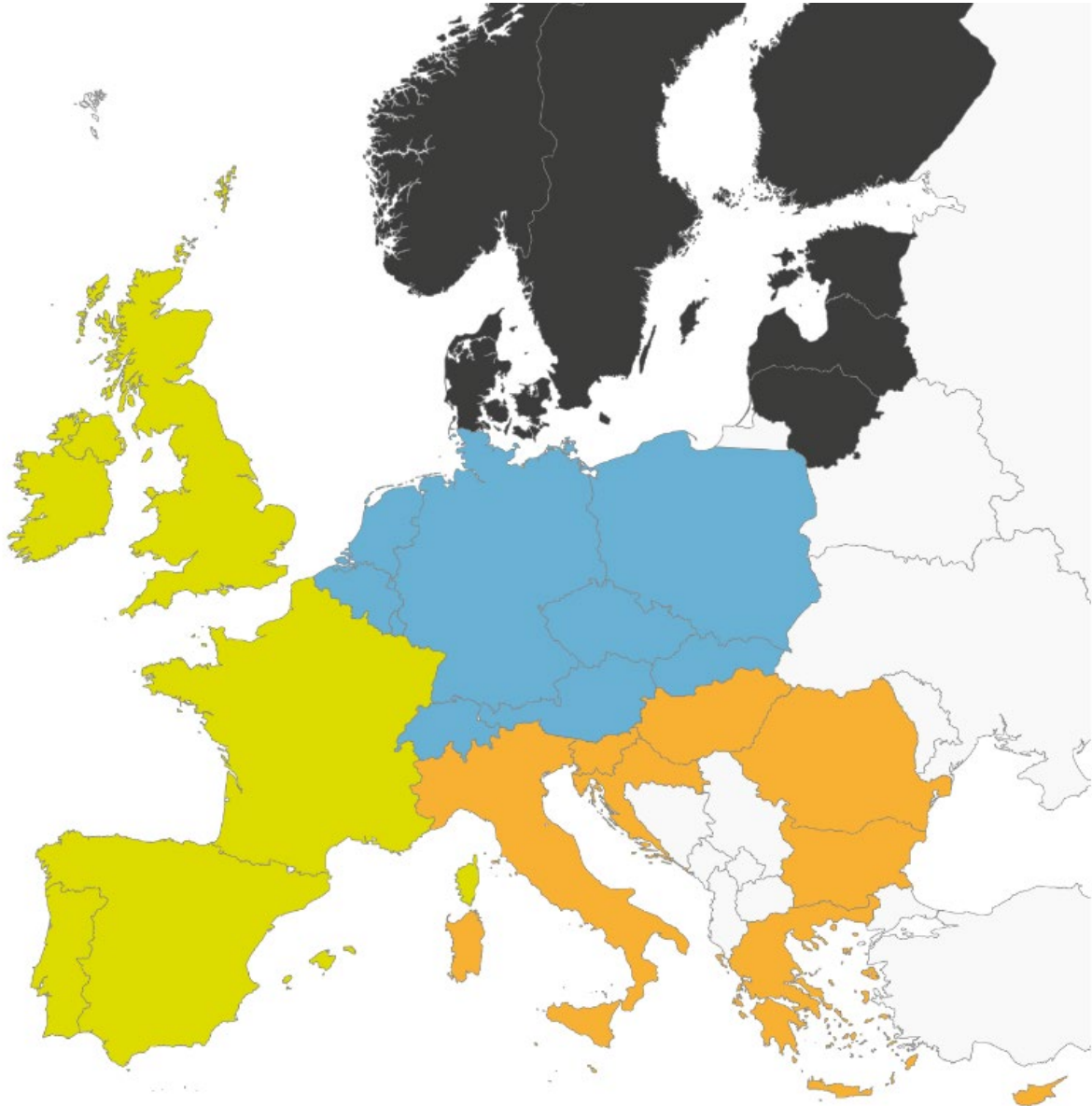

Figure 16: The Regional Workshops[1] are organised with the support of PANTERA experts

2.3.1 14th Regional workshop

Wednesday, 01st June 2022

11:30 - 16:00 (CET)

Location: European Commission (hybrid)

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[1] Details of the Regional Workshops organised by ETIP SNET can be found here: Regional Workshops

The new structure meant the following for the 14th regional workshop:

- On the first day (31st May), invited representatives exchanged views on R&I topics and priorities in a closed meeting during an afternoon session; the Expert Roundtable (15:00-18:30).

- On the second day, the Workshop (1st June), they shared their opinions in a session open to the registered participants in a morning session (10:00-13:00). In the afternoon session (14:00-17:40) important EU, national and regional R&I projects was discussed in panel sessions relating to various elements of energy transition.

Outcome of Day 1: Representative Roundtable (active members of the PANTERA consortium were among the panellists)

This session aimed to bring together owners and managers of national and regional funding and development programs with the European Commission and ETIP SNET representatives from research and industry. This exchange fostered direct exchanges between the EU and the regional/national representatives for a common understanding of national and EC programs proposed in the ETIP SNET Implementation Plan (IP) and Roadmap (RM). The moderated discussion was based on the High-Level Use Cases (HLUC) and Project Priority Concepts (PPCs) defined within ETIP SNET IP. In this roundtable, many topics of our future energy system in Europe were covered. Representatives of national and regional funding and support programmes met in order that European Commission and representatives of European Associations in (ETIP SNET) learn from each other, streamline their approaches and create synergies. At the end of this session, key conclusions were prepared to be presented during Day 2. Through the minutes and the first session of Day 2, the representatives of funding and development programmes were able to prepare joint approaches, messages and activities to be communicated to and discussed with the wider stakeholders in the European energy system.

Day 2: HLUC Discussion & Projects Focus

The second day was held on 1st of June (10:00-18:00) and consisted of a workshop with 2 sessions open to registered participants. The morning session provided the opportunity in presenting views and priorities to the wider European energy system stakeholders. In the first part of the meeting, the ETIP SNET Rapporteur presented highlights of the Expert Roundtable in Day 1. Following this, a series of panels between the experts was held to discuss approaches towards investigating the identified High Level Use Case (HLUCs).

In the afternoon session of Day 2 the broader R&I energy community were invited to participate in subsequent panel and open Q&A sessions. Projects from all levels (European/national/regional) were invited to contribute to this session with their outcomes, challenges and lessons learnt.

2.3.2 15th Regional workshop

Thursday, 01st December 2022
09:30 - 11:30 (CET)
Location: ENLIT Europe, Frankfurt, Germany

The 15th Regional Workshop invited owners/managers of national or regional funding programs in the South-Eastern Region to present and discuss their national energy and innovation programs.

The Workshop's goal was to shed light to actual challenges and key topics of sustainable energy system in Europe.

Among other stakeholders, active members of PANTERA attended actively the workshop collaborating with the involved stakeholders and promoting the usability of EIRIE ant the functionalities therein.

The Workshop was organised on 1st December, over one session (09:30-11:30), as part of the Enlit Europe conference in Frankfurt, allowing for the participation and attendance of a wider range of stakeholders and actors in the energy field. This session aimed to bring together owners and managers of national and regional funding and development programs with the European Commission and ETIP SNET representatives from research and industry.

This exchange fostered direct exchanges between the EU and the regional/national representatives for a common understanding of national and EC programs proposed in the ETIP SNET Implementation Plan (IP) and Roadmap (RM). The moderated discussion was based on the High-Level Use Cases (HLUC) and Project Priority Concepts (PPCs) defined within ETIP SNET IP. Many topics of our future energy system in Europe were covered. Representatives of national and regional funding and support programmes met in order that European Commission and representatives of European Associations in (ETIP SNET) learn from each other, streamline their approaches and create synergies.

The following structure was designed to bring a more coordinated exchange between member state level and EU level state level with respects to the research areas of the ETIP SNET Working Groups and the BRIDGE initiative, as well as with a view to contributing to the ETIP SNET Implementation Plans and Road Map. The workshop also focused on Research Development and Innovation (RDI) programmes in South and South-East Europe (SE-EU), namely the SEU and SE-EU projects of Joint Programming Platform ERA-Net Smart Energy System.

The first part of the workshop included an introduction to the overall structure of ETIP SNET and Bridge and an overview of the ETIP SNET Implementation Plan for 2022-2025. The platform's vision for 2050 and the two main concepts – High-level Use Cases (HLUC) and Priority Project Cases (PPC) were shared with the attendees. After a more in-depth analysis of HLUC, from HLUC 1 to HLUC8, national/regional representatives were invited to elaborate on funding priorities for national/regional projects in South-East Europe.

Panel Session 1 of the workshop saw the discussion around S-EU and SE-EU projects of Joint Programming Platform ERA-Net Smart Energy System, particularly ANM4L, EVA, ZEHTC and FINSESCO. Speakers elaborated on the project details, main concept, achievements and progress, as well as barriers and perceived challenges. Additionally, the projects' contributions to the different HLUC were highlighted.

Panel Session 2 consisted of presentations from invited speakers regarding projects with respect to HLUC. The speakers were asked to provide a 3-minute pitch about their respective project, which was then followed by feedback and discussions from the audience. The session involved presentations of projects TRINITY, E-LAND, and

DISTRHEAT, which was proceeded by the analysis of energy and climate security risks, their contributing factors and how to overcome them.

Finally, the session was closed out by the presentation of Joint Research Development and Innovation activities and the CRESYM Initiative (Collaborative Research for Energy SYstem Modeling (CRESYM) is a non-profit association).

2.3.3 16th Regional workshop

Tuesday, 28th February 2023
09:00 - 17:30 (CET)
Location: Iberdrola Global Smart Grids Innovation Hub, Bilbao, Spain

The 16th Regional Workshop invited owners/mangers of national or regional funding programs in the Western Region to present and discuss their national energy and innovation programs. The Workshop's goal was to shed light to actual challenges and key topics of sustainable energy system in Europe. The Workshop was organised on 28th of February, on Iberdrola premises in Bilbao allowing for the participation and attendance of a wider range of stakeholders and actors in the energy field.

The workshop followed the same structure as the previous workshop and we contributed to the developed discussions following the presentations of the selected projects.

The first part of the workshop included an introduction to the overall structure of ETIP SNET and Bridge and an overview of the ETIP SNET Implementation Plan for 2022-2025. The platform's vision for 2050 and the two main concepts – High-level Use Cases (HLUC) and Priority Project Cases (PPC) were shared with the attendees. After a more in-depth analysis of HLUC, from HLUC 1 to HLUC8, national/regional representatives (including SEAI, ADEME) were invited to elaborate on funding priorities for national/regional projects in Western Region.

Figure 17: Key Ideas from Funding Programmes by Marina Sopeña CDTI(ES)[2]

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[2] Details of the Regional Workshops organised by ETIP SNET can be found here: Regional Workshops

Panel Session 1 of the workshop saw the discussion around Western funding program representatives particularly Ireland's SEAI, France's ADEME, Portugal's DGEG and Spain's representative of the national ministry from the ecological transition. Speakers elaborated on the project details, main concept, achievements and progress, as well as barriers and perceived challenges. Additionally, funding programme scopes in comparison to the different HLUC were highlighted.

Figure 18: Dr Lucy Corcoran –Programme Manager Research Development &Demonstration, SEAI[3]

Figure 19: Nadine Berthomieu, Anne Varet ADEME (FR)

Projects Panel Session 1 consisted of presentations from invited speakers regarding national projects with respect to HLUC 1,3,8. The speakers were asked to provide a 3-minute pitch about their respective project, which was then followed by feedback and discussions from the moderator. The session involved presentations of projects GreenH2Atlantique; Regions and ENERisla.

Projects Panel Session 2 consisted of presentations from invited speakers regarding national projects with respect to HLUC 2,4,6. The speakers were asked to provide a 3-minute pitch about their respective project, which was then followed by feedback and discussions from the moderator. The session involved presentations of projects FST, RESET, EPC4SES, PREDIS and PROT4HiRes.

Projects Panel Session 3 consisted of presentations from invited speakers regarding national projects with respect to HLUC 5,7,9. The speakers were asked to provide a 3-minute pitch about their respective project, which was then followed by feedback and discussions from the moderator. The session involved presentations of projects EDDIE, FLEXENER, GoiENER, BEYOND and R2D2.

2.3.4   17th Regional workshop

Tuesday, 21 March 2023

09:00 – 16:15 (GMT+2),

Location: Vaasa EnergyWeek, Vaasa, Finland (hybrid format)

The 17th Regional Workshop invited owners/mangers of national or regional funding programs in the Western Region to present and discuss their national energy and innovation programs. The Workshop's goal was to shed light to actual challenges and key topics of sustainable energy system in Europe. The Workshop was organised on 22th of March, in the Vaasa Energy Week in Vaasa, Finland allowing for the participation and attendance of a wider range of stakeholders and actors in the energy field.

Similarly, as with the previous series of workshops, this session aimed to bring together owners and managers of national and regional funding and development programs with the European Commission and ETIP SNET representatives from research and industry. This exchange fostered direct exchanges between the EU and the regional/national representatives for a common understanding of national and EC programs proposed in the ETIP SNET Implementation Plan (IP) and Roadmap (RM).

The structure followed, moved along the same themes, aiming to bring a more coordinated exchange between member state level and EU level state level with respects to the research areas of the ETIP SNET Working Groups and the BRIDGE initiative, as well as with a view to contributing to the ETIP SNET Implementation Plans and Road Map.

After a more in-depth analysis of HLUC, from HLUC 1 to HLUC8, national/regional representatives (including Business Finland, Swedish Energy Agency) were invited to elaborate on funding priorities for national/regional projects in Northern Region.

Panel Session: National/Regional representatives of the workshop saw the discussion around Western funding program representatives particularly Business Finland, City of Vaasa for a municipal perspective, Tartu Regional Energy Agency and Sweden's Energy Agency. Speakers elaborated on the project details, main concept, achievements and progress, as well as barriers and perceived challenges. Additionally, funding programme scopes in comparison to the different HLUC were highlighted.

Highlights[4]:

50 shades of EU – from participant to influencer, Reijo Munther, Business Finland

The priority on European sovereignty in strategic technologies and value chains has been highlighted, with a goal of reforming EU markets.

Regarding EU funding, it has been noted that the main benefits of EU projects are:

- Co-creation with top European talents & potential customers, building go-to-market channels already in the RDI phase, accessing European value chains
- Implementing ambitious and high-risk projects, pilots and demos with European partners
- Working with the best in Europe

Maria Backman, City of Vaasa, Strategy

Maria Backman presented information on the IRIS smart city project. Solutions have been applied in a number of 'lighthouse' cities with the aim to be replicated in other cities. In this respect the city of Vaasa chose a number of solutions (out of the 16 solutions developed within the project) in order to replicate them. Solutions have been replicated in a broader perspective, taking into account, the relevant political situation, the adaptations needed, etc. The importance of the partnerships developed within the project has also been highlighted, while indicating the importance of being in a group in a larger perspective.

The tight connection between the universities, companies, and city government in Finland has been highlighted, while indicating the engagement and cooperation with citizens as well as all stakeholders. It has also been noted that sustainable development goals have been linked to the city strategy.

Ulo Kask: Tartu Regional Energy Agency

Ulo Kask presented the trends and goals of the Estonian energy sector. The preparation of the Energy Economy Development Plan (ENMAK) up to the year 2035 is planned for the end of this year, while next year it will go to the

Parliament. Studies conducted for the preparation of the Estonian energy economy development plan comprise scenarios and action plans for climate-neutral electricity production, for a carbon-neutral heating and cooling economy and for the decarbonization of the gas network. Moreover, the hydrogen roadmap is taken into account for preparing the ENMAK.

The ENMAK comprises three main areas: 1) ensure that Estonia's energy supply security is guaranteed, 2) The share of renewable energy in the final energy consumption will be 65% by 2030 and at least 70% by 2035, 3) Objectives in the field of energy efficiency, setting goals for the primary energy consumption by 2035. In order to achieve the relevant energy efficiency goals, a program for renewing and conservation of building stock and building sector is set, while during the next year 80 million euros will be assigned to renovation of apartments and private houses.

Regarding research and Innovation, it has been noted that hydrogen is taken into account in the industry and transport, while offshore wind parks should also be considered, in addition to the evaluation of plans related to biomass. Horizon provides a number of opportunities for European collaboration in these fields, so it could be worth considering this collaboration in the future.

Fredrik Lundström – Swedish Energy Agency

Fredrik Lundström presented an overview of the policy targets in Sweden, and relevant work on research and innovation. In particular, four pillars are highlighted: 1) fossil free electricity by 2040, 2) efficiency target of a 50% more efficient use of energy in 2030 compared to 2005, 3) Target of no net emissions of green house gases by 2045, 4) 70% less emissions in the transportation sector by 2030 compared to 2010.

Regarding the electricity production in 2022, about 40% was from hydropower and about 30% from nuclear. 20% of electricity production was from wind power, while a small portion was related to PV production, which however is considerably increasing each year. A lot of the electricity was exported, however, considering the transition in the industrial sector, more electricity production will be required by 2030.

Most of the electricity production occurs in the northern part of Sweden, including hydropower, land-based wind power, and connections to Finland and Norway. The nuclear production from Finland helps to maintain a steady supply of electricity at comparably low prices. However, in the southern part of Sweden, a lack of electricity supply is noted (also related to retired nuclear plants). Identifying new sources of supply and strengthening the grid to create a balanced system, are considered as priorities for energy research, innovation, and policy work.

The following challenges are identified: 1) electrification, considering the doubling of the electricity demand in 20 years, 2) expand renewable and nuclear production to meet this demand and 3) energy security and resilience not only in the energy supply but also in all the value chains, considering an industrial perspective. The importance of industrial decarbonization has been highlighted putting a lot of emphasis on green hydrogen production. Regarding research and Innovation funding, it has been noted that it mainly occurs in a local basis. However, collaboration in an international level is important and is achieved with partnerships, like the clean energy transition partnership.

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[4] Details of the Regional Workshops organised by ETIP SNET can be found here: Regional Workshops

Projects Panel Session 1 consisted of presentations from invited speakers regarding BRIDGE projects with respect to all HLUC. The speakers were asked to provide a 3-minute pitch about their respective project, which was then followed by feedback and discussions from the moderator. The session involved presentations of projects OneNet and Re-Empowered.

Finnish Research with Impact Session consisted of presentations from invited speakers from Finnish representatives of Finnish companies. The speakers were asked to provide a 3-minute pitch about their respective company and what role they play in the innovation pipeline, which was then followed by feedback and discussions from the panel. The session involved panellists from ABB, Wartsila, Clic Innovation and Enerim.

National and Transational RDI for Nordic and Baltic regions consisted of presentation from Lise Nielsen regarding the Nordic Council of Ministers and how this entity synergises with national funding programs and cooperates internationally.

Projects Panel Session 2 consisted of presentations from invited speakers regarding national and transnational projects with respect to all HLUC. The speakers were asked to provide a 3-minute pitch about their respective project, which was then followed by feedback and discussions from the moderator. The session involved presentations of projects FlexSUS, NewSETS, DEVISE, Hellesylt Hydrogen HUB, E-REGIO.

2.4 Connection to other platforms

The PANTERA project has pursued through

 EIRIE the possibility of connecting to other platforms for bi-directional flow of knowledge, information, and data.
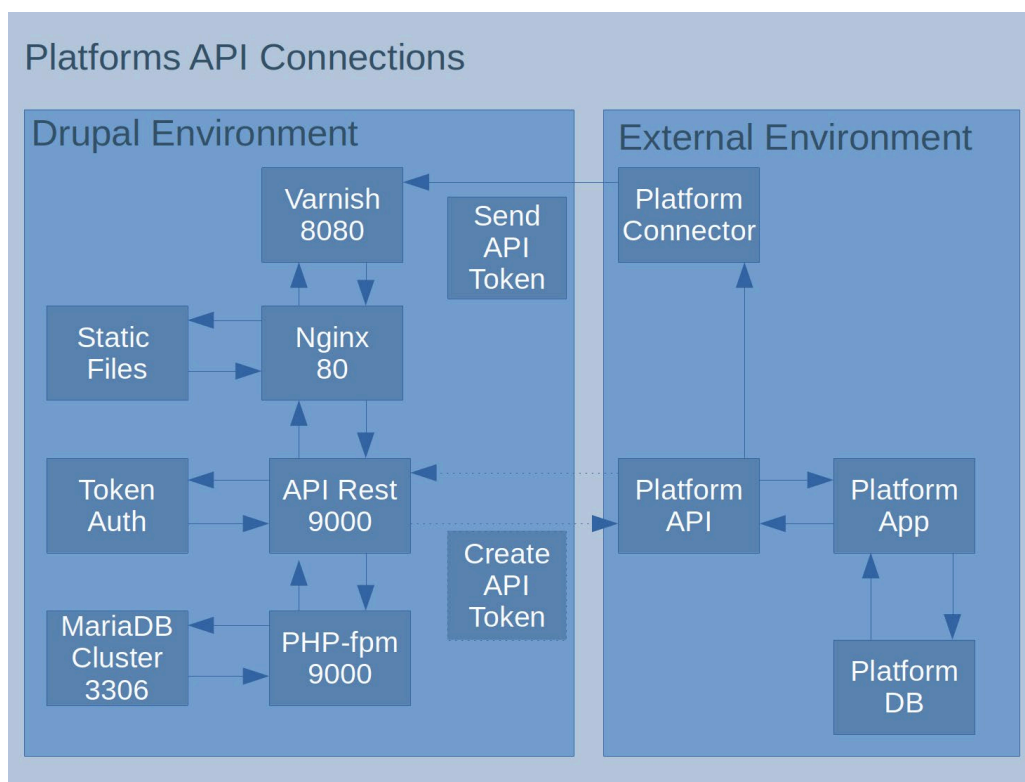
Figure 20: Embedded API in EIRIE for connecting platforms

To this effect a versatile API has been developed for facilitating this connectivity between platforms and allow the freely movement of knowledge, information and data between the connected platforms.

In parallel, the architecture of EIRIE of data handling, has taken this into consideration so as to facilitate the various functionalities for storing, retrieving and managing the on-board data. This versatile architecture is shown in Figure 21, giving evidence that EIRIE can grow indefinitely and host relevant knowledge, information and data freely.
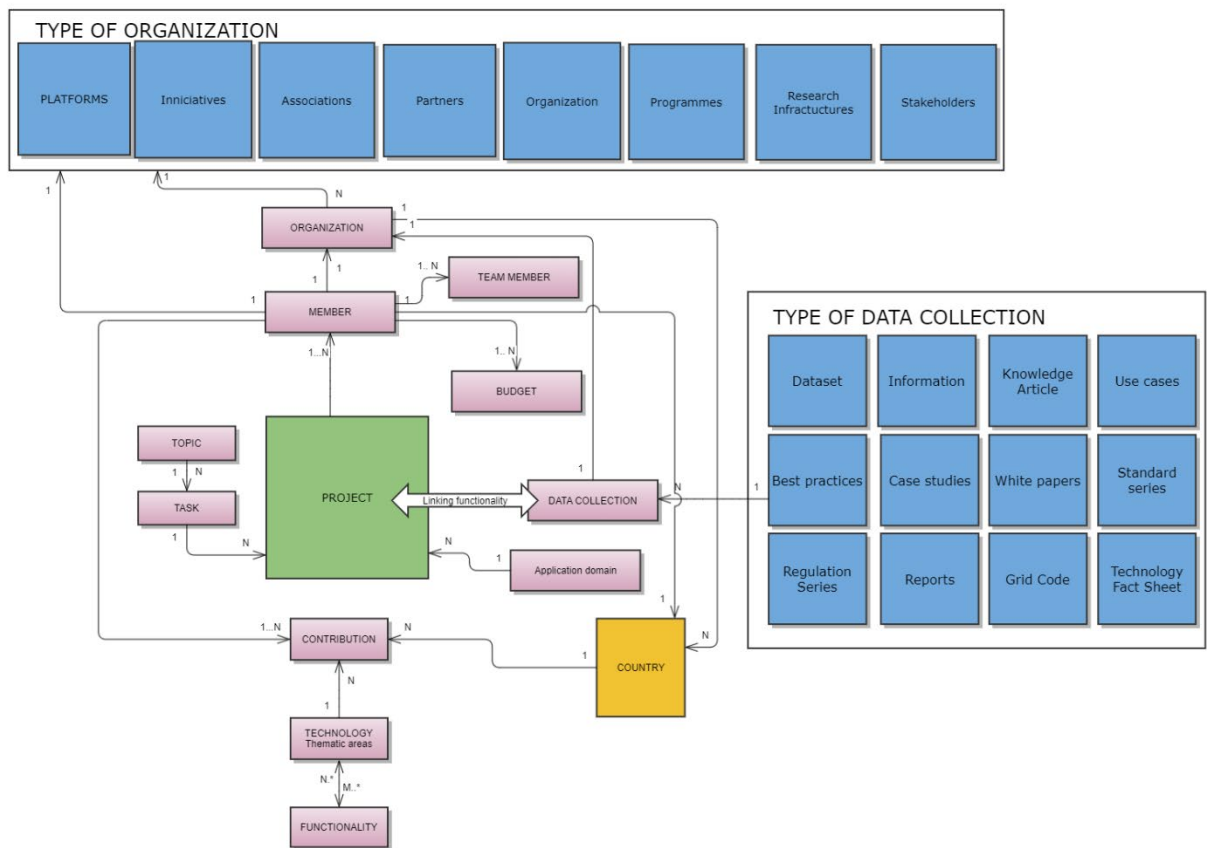
Figure 21: Architecture of data handling within EIRIE with standardised taxonomies

Using this approach, EIRIE is currently connected to DERlab, Mission Innovation, EXPERA, ASSET and work in progress to connect with EPRI.

It is fundamental in this process to have an agreed taxonomy of the imported data so that related data is under the same taxonomy fields, hence, assist in retrieving valuable knowledge, information, and data sets.

To meet this requirement, DERlab has worked closely with JRC and the ERIGRID project to agree in detail the taxonomy to be used for the repository of research infrastructure to facilitate the merging of the already available data on their separate platforms. This followed a long process to define terms and fields that reflect the understanding of infrastructure owners. Once these definitions were agreed, the fields within EIRIE were adapted accordingly to facilitate freely communication between the independently operated platforms of DERlab and JRC. Once this is finalised, use is made of the functionality offered in EIRIE depicted in Figure 22 below for importing the merged content.

A similar arrangement was done with the remaining platforms that are currently connected on EIRIE that currently includes ASSET (indicated below in Figure 23), Mission Innovation and EXPERA.

Laboratories Importer

Instructions:

Please select the CSV file to import the labs. Remember the following rules:

- Column separator character: | (pipe)
- Separator character for multiple values: ## (double hashtag)
- The first row is for the definition of the columns. It is mandatory
- One row per record
- Do not use line breaks ( ) or pipes (|) in content

When you are ready to run the import, click on the "Save and Import" button

File

TEST IMPORT LAB_11.csv   REMOVE

Select a file from your local system.

SAVE AND IMPORT ▾

Figure 22: Merging the research infrastructure repositories of DERlab and JRC

Training material / sources

View Edit Delete Manage display Layout Revisions

We are in the midst of the energy transition, meaning **technological solutions are changing fast**. This, together with the need to offer **lifelong education** and **vocational training** to practitioners at all levels, in order to keep the quality of offered services to the highest degree possible, explain the necessity to build the appropriate educational and training material and make it accessible to all.

To this effect the EIRIE platform is collaborating with two projects offering worthwhile educational and training material to make it accessible to all users of the EIRIE platform:

1. ASSET project
2. EDDIE project

More will be added as they are made available and accessible.

Figure 23: Merging the platforms of educational material provided on the ASSET platform

3 The PANTERA / EIRIE platform: interaction with EU entities

3.1 DG ENER and supporting service contracts

EIRIE has been fully developed through the PANTERA project, that had a specific completion date of 30th of June 2023. For this reason, we acted early to safeguard a sustainable future for the EIRIE platform by transferring responsibilities as follows:

- EIRIE to be hosted on the JRC servers within EUROPA and take responsibility for the required server hardware availability, daily back up availability and upgrading of the system software as and when these are provided by the developers. Since this responsibility has been taken over, JRC has been responsive and EIRIE is operational with all the necessary support as indicated above.
- The contract of the PANTERA project with BILBOMATICA was up until 31st December 2022. For this reason, it has been agreed with DG ENER that the service contract currently under the responsibility of ZABALA called SPRING that takes care of the secretarial needs of ETIP SNET and BRIDGE, to take over the responsibility of supporting the daily operations of EIRIE using the services of INYCOM who a partner within the contract SPRING is.

Based on the above agreements, the PANTERA consortium has built working relations with both JRC and SPRING to facilitate the seamless operation of the EIRIE platform. More specifically, since May 2022 common meetings have been arranged with INYCOM, BILBOMATICA and PANTERA to truck progress made, issues pending, operational needs of EIRIE and gradual handing over of the EIRIE platform to INYCOM.

As can be seen in Figure 24, the time allocated to INYCOM through the SPRING contract has been carefully evaluated and attributed to the pending works to maximise the contribution of INYCOM to the most urgent work needed by the users of the EIRIE platform. Work that was not within the time allocated to INYCOM was left out as beyond their scope and included in the open tender to be taken up by the contract owner of the upcoming service contract, beginning 1st of September 2023.

Based on these needs, the new tender issued by DG ENER for securing a new service contract as from 1st of September 2023 since SPRING is finishing on 30th of August 2023, has included the operational and development needs of EIRIE as the responsibility of the new service contract to be signed. This is evident within the clauses of the published tender as indicated in the paragraphs in Table 1.

Figure 24: INYCOM – Detailed schedule of works for EIRIE

ID	EIRIE: Developments	Requested by	Description	Current status	Priority	Notes	Effort (Working Days)	Start Week
1.1	Use Cases	Lola - ETRA	Functionality for downloading Ucs in Word and PDF	IN PROGRESS	3		10	W22
1.2		Lola - ETRA	Ucs can be uploaded in the IEC 62599-3 XML format	PENDING	3		10	Out of work scheduling
1.3		Lola - ETRA	Changes requested in the review process to validate the tool by BRIDGE DM WG	IN PROGRESS	3		2	W22
1.4		Venizelos	Repository Search Tool: To create a new tab to the right of "REGULATIONS & STANDARDS" with the options to search for Use cases and delete "Use Cases" type in Data Collection.	TO DEFINE (On Hold)	1	VE: Agree to be out of scope	15	Out of work scheduling
2.3	Regional desks	Anna Mutule	Possibility of formatting text (Missing) -> CKEditor	DONE	5		7	W21
3.1	Smart Grids Project search tool	Marcello (JRC)	the first point was that you have to select a country to get results, as leaving it blank does not default to "All" as in the other drop down menus. This is fine, but if no country is	DONE	4	Include an advisory to the user if he/she clicks on the serach button and no country is selected	4	W19
3.3		Marcello (JRC)	The intro on the webpage says "In the following map you can view the distribution of Smart Grid/ Smart Energy Systems projects awarded across the EU through National, Regional and EU programmes, during the last	DONE			2	W18
3.4		Marcello (JRC)	Upon performing any search, three "generic" graphs are displayed first – "% of Projects per capita per EU average", "% of projects per capita normalized" and "Projects per capita normalized" for all countries. I call them "generic" because the first two only depend on the selected country and not on other parameters, while the third is always the same regardless of what is being searched. (By the way, in this last one the caption is	DONE	4	I agree with the recommendation of Marcello, hence please move them last in the set of drawings. The title of the third plot can be changed to read: Project per capita normalised of all countries included in the analysis	2	W18
4.2	Laboratories	Soeren Lohr (Derlab)	It seems like some textfields don't have enough available characters for some of the information that we have. I propose to make	DONE		Wating answer from Soeren. Which fields need to be extend?	2	W20
5.1	Data Collection	Venizelos	Option to upload Excel files in Datasets	TO DEFINE (On Hold)	4		12	W26
6.1	Projects	Venizelos	Add the option to select multiple technologies and sub-technologies to the project. If possible, combine Maturity index	PENDING	3		6	W29
6.2		Venizelos	In Repository Search tool: add the filter Technologies (changed Topic Reasearch sub-	PENDING	3		3	W31
6.3		Venizelos	Delete Topic Related sub-areas in projects and in the Search Repository Tool	PENDING	3		3	W31
7.1	Home	Venizelos	Update JRC, Derlab, Bridge and ETIP Logos	TO DEFINE (On Hold)	3		2	W32
7.2		Venizelos	Align Bridge and ETIP Logos on landing page	TO DEFINE (On Hold)	3		2	W32
8.2	Bug Fixing - Some errors found in EIRIE	Venizelos	The other errors you mention in your email are related to the use of an old version of PHP in	PENDING	2	VE: Can we discuss? JIB: Rescheduled for the W33		W33
10.1	Others - PHP Update	Project requirement	Update PHP to version 8	PENDING	3		20	W33
10.2	Others - Configure JRC email as Sender in EIRIE	Project requirement	Configure JRC email as Sender in EIRIE	DONE	4		1	W32
11.1	Search Repository - Regulations & standars	Venizelos	For both Regulations and Standards, we need to remove the search field for Country	PENDING	1	VE: Out of scope	4	Out of work scheduling
11.2		Venizelos	For both the search field of Technology / standard should be reworded to read	PENDING	1	VE: Out of scope	5	Out of work scheduling
11.3		Venizelos	For both the name/acronym/description should be reworded to read "Name (from a	PENDING	1	VE: out of scope	2	Out of work scheduling
11.4		Venizelos	For Regulations the Committee should be reworded to "Committee / Associations" and the list should be replaced with: ENTSOe and below DSO Entity. For Regulations should	PENDING	1	VE: out of scope	8	Out of work scheduling
11.5	Search Repository - Data Collection	Venizelos	Change filters depending on the Data collection type selected	TO DEFINE (On Hold)	1	VE: ouit of scope	15	Out of work scheduling
12.1	Maturity Index		Reset TRLs on the specific table of the Database (JRC)	DONE	5		3	W18
12.2	Maturity Index		Works related to Maturity Index (If any)	TO DEFINE (On Hold)	5	VE: Not known - may be zero		Out of work scheduling
13.1	API - EPRI		Works related to API of EPRI		1	VE: out of scope	20	Out of work scheduling
14.1	HANDOVER		Handover of the platform	TO DEFINE (On Hold)	5		30	

No	Requirement of the call[5]
1	Daily operation of EIRIE to meet the requirements of users coming from all sectors of projects related to energy
2	Page 7: To ensure the general management of knowledge made available by the projects, with the aim to maintain the results originating from the working groups, task forces and projects (e.g., key reports, methodologies, (software) tools, data collections etc.) retrievable and searchable on the BRIDGE website and/or EIRIE platform; to ensure an active participation and involvement from the projects in the BRIDGE processes;
3	Page 14: Finally, BRIDGE is expected to manage the knowledge that has been generated by the working groups, taskforces and by ongoing and finished projects and ensure it remains available and easily accessible. This includes establishing linkages and feeding research results, methodologies, tools etc. into the Commission's EIRIE knowledge platform.
4	Page 19: The Contractor is required to facilitate the dissemination and reuse of the valuable knowledge gathered and produced by the BRIDGE projects. Thus, it must collect the relevant project results, e.g. project deliverables, reports, use cases, tools and methodologies, data analytics and visualisations, best practices and feed them, in a suitable format, into the EIRIE platform. EIRIE should be promoted as one-stop-shop for knowledge in the field of smart grids and energy systems.
5	Page 20: The Contractor must act as a liaison between the BRIDGE community (as provider of the information) and the Commission's Joint Research Centre - JRC (which hosts the EIRIE platform). The search engine of the EIRE platform currently indexes and serves results from the BRIDGE databases to EIRIE users directly within EIRIE. The Contractor will collaborate with the JRC in maintaining, updating and expanding this connection mechanism to include, if needed, new categories of data.
6	Page 20: Presently, the information collected from BRIDGE and available within the EIRIE platform include technologies demonstrated, the geographical location of demonstrators, project start and end dates, the category of results (technical reports, tools, data sets, stories, videos, webinars, etc.). This data are tagged and searchable according to different criteria. The Contractor will also liaise with the JRC to discuss possible inclusion of new project categories and data types in the index of the EIRIE search engine.
7	Page 20: For ETIP SNET, the website must include at least information about the ETIP SNET mission, governance and how stakeholders could get involved, information about the working groups (composition, activities), a section for news and articles, a section with upcoming and past events, a download section for publications, a secured section reserved for ETIP SNET members, and links to related web sites (including EIRIE). It will also include contact information for contacting the Technical

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[5] **Call for tenders CINEA/2023/OP/0001**

Support to R&I strategic planning and implementation with regard to smart energy systems, ensuring feedback from R&I projects and communities to policy-making processes: The_Tender

	and Support Office by phone and by e-mail. Other functions that can support the objectives of the ETIP could be proposed in the tender;
8	Page 21: ETIP SNET presence on the EIRIE platform: Complementing task 6 above, which ensures that relevant information from BRIDGE is collected and fed into the EIRIE platform, a similar action is envisaged for ETIP SNET. Thus, all the deliverables, information, reports etc. that stem from ETIP SNET and are considered to be relevant for the scope of EIRIE will be fed into that platform. This activity should be much more limited in scope and effort than the activities described in task 6 related to BRIDGE.
9	Page 22: In addition to personnel costs, the tenderers should foresee a budget for at least the following activities: • design and maintenance of websites; • contribution to the EIRIE platform;
10	Page 23: In practice, hosting the two websites and the EIRIE platform is managed by the European Commission. For updating and maintaining them, the Contractor is expected to closely collaborate with the relevant Commission services.
11	Page 30: Maintain ETIP SNET online presence – updated web site, at least 18 tweets per year, functional internal system for web conferences and file sharing, representation at key events, inputs to the EIRIE platform
12	Page 31: Knowledge management sharing – feeding into EIRIE project results Feed into the EIRIE platform the final results of each BRIDGE project that end its implementation (as per task 5) – within three months of the project's end date.

3.2 JRC and access to confluence

As indicated in section 3.1 JRC has undertaken serious responsibilities in hosting EIRIE platform on their servers covering all the implied costs. Additionally, JRC has taken the responsibility to offer access to CONFLUENCE supported by the services of JRC, allowing collaboration work planned through EIRIE for all the connected stakeholders.

All the costs for providing the required software to run the services and the connected applications in CONFLUENCE are covered by JRC and allowed access to all stakeholders that showed interest to connect.

As presented in Figures 25, 26, 27 and 28 the pages within CONFLUENCE are fully operational and they offer the required collaboration spaces that the regional desks are already using for strengthening the work of their regions.

New users that would like to use the CONFLUENCE pages should apply for access to the Administrator of EIRIE and he / she will direct the request to the services of JRC for completing registration and access. Initial registration within CONFLUENCE is done by the EIRIE Administrator and authorization request is passed on to the services of JRC who respond.

Figure 25: EIRIE in CONFLUENCE with freedom to build as many pages as required for the collaborating entities

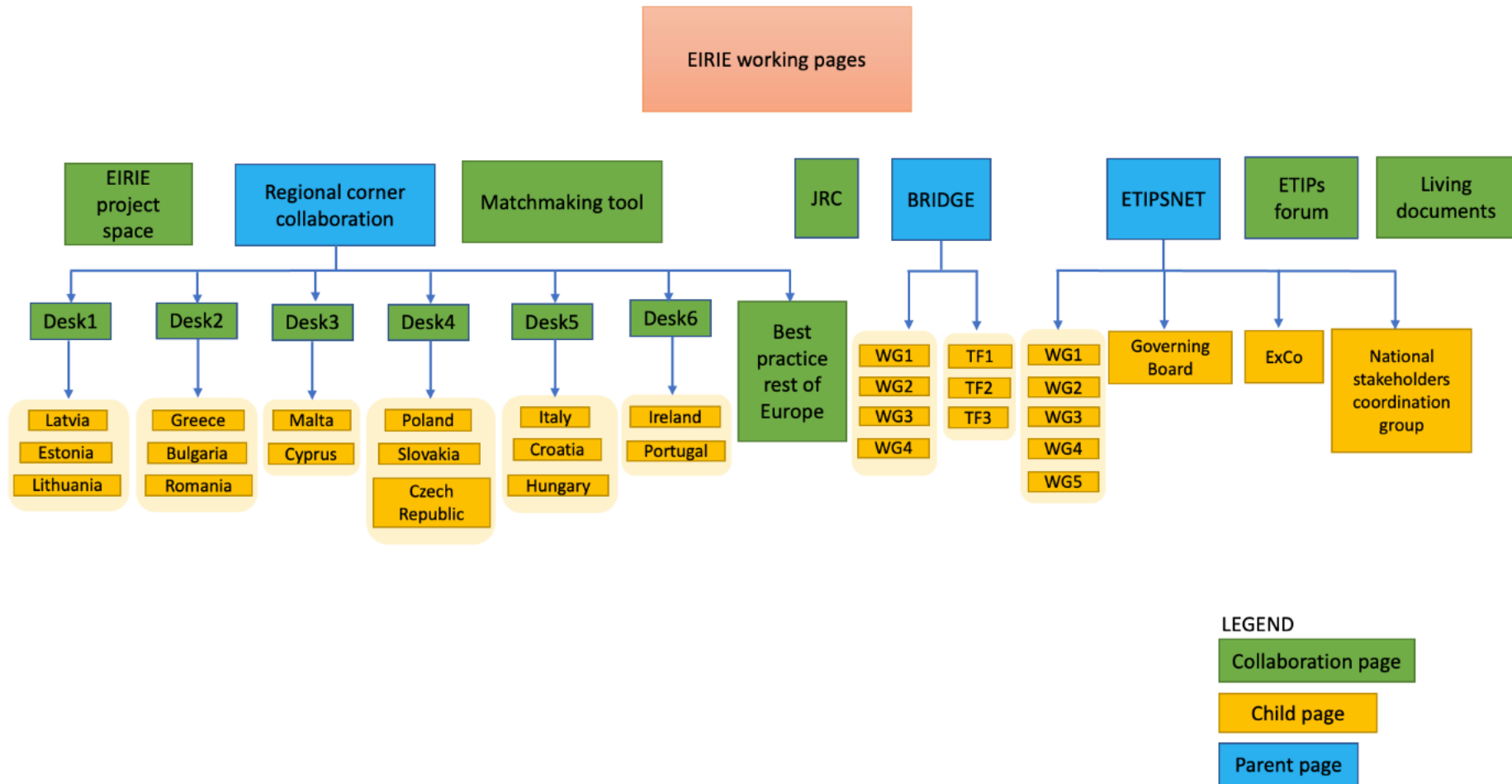Figure 26: EIRIE working spaces forming the management structure for developing collaboration work

Pages

✏ Edit   ☆ Save for later   ◎ Watch   ⋖ Share   ⋯

EIRIE - European Interconnection for Research, Innovation and Entrepreneurship Home

Created by Butler Confluence STUDIO user, last modified by PSARA Kyriaki on Nov 10, 2021

1.1. ABOUT EIRIE

It is EIRIE's vision to create, through the planned multi-functional collaborative platform, this reference operational point to unify European activity, incentivize further investments in smart grids and support access to exploitable results that can spark further work and cooperation capable of bridging the existing gaps.

Confluence is a team workspace where knowledge and collaboration meet. Dynamic pages give your team a place to create, capture, and collaborate on any project or idea. Spaces help your team structure, organize, and share work, so every team member has visibility into institutional knowledge and access to the information they need to do their best work.

The **following links** provide an overview of the key features of Confluence and explain its basic and advanced usage as a knowledge management tool and a collaborative environment. If you still have a question that has not been answered, write and tell us about it.

- EIRIE Confluence How To
  - EIRIE Confluence User's Guide
  - EIRIE Confluence Administrator's Guide
    - EIRIE Groups
    - Confluence Restrictions

1.2. USEFUL LINKS

Maturity index tool

This tool is based on a methodology for quantification of the maturity level of the functionalities of the smart grid paradigm as they are defined in the European Technology and Innovation Platform Smart Networks for Energy Transition (ETIPSNET) roadmap. The first step is the evaluation of the **advancement of the technologies**, then the **level of the maturity of the** functionalities that will support the integrated grid of the future and lastly the **smart grid system readiness** as a whole. Through this evaluation, progress made so far can be evaluated, the needs for future research can be identified and the funding of the European Commission (EC) has a quantified direction to go. This methodology is part of the EIRIE platform of the EC hosted by Joint Research Centre (JRC) and is validated through the extensive data base of European Horizon2020 projects.

To access the maturity index tool follow the link here.

Questionnaire

Figure 27: EIRIE within CONFLUENCE with all tools being available for enhanced collaboration.

1. About Cyprus

Cyprus, officially the Republic of Cyprus, is an island country located south of the Anatolian Peninsula in the eastern Mediterranean Sea. It is geographically in Western Asia, but its cultural ties and geopolitics are overwhelmingly Southeastern European. Cyprus is the third-largest and third-most populous island in the Mediterranean. It is located north of Egypt, east of Greece, south of Turkey, and west of Lebanon and Syria. Its capital and largest city is Nicosia. The northeast portion of the island is de facto governed by the self-declared Turkish Republic of Northern Cyprus.

2. Useful links

Energy is high in the agenda for Cyprus and the following links give a good inside on the activities in progress:

Useful link 1

Department of Energy of Cyprus

The mission of the Ministry of Energy, Commerce and Industry is to design and implement policies in the fields of hydrocarbons, energy, commerce, industry, trade and consumer protection, aiming at the rational use of indigenous energy sources, the monitoring and coordination of the supply of energy for domestic needs, the promotion of renewable energy sources and energy conservation, the strengthening of entrepreneurial competitiveness and Cyprus' extroversion, the stimulation of investment, the improvement of the business

Useful link 2

CERA

The Cyprus Energy Regulatory Authority (CERA) has been established in 2003 in accordance with the European Union directives. According to the responsibilities and the authorization given by the law, it is the National Independent Regulatory Authority for Energy which is able, to oversee and regulate the market for the electricity and gas, ensure effective and fair competition, protect the interest of the consumers, ensure safety, quality, competence, continuity and reliability in the energy supply, as well as encouraging the use of RES.

Useful link 3

TSOC of Cyprus

The Transmission System Operator of Cyprus who acts as the market operator as well.

Energy mix in a typical day in Cyprus: 13 April 2023

Useful link 4

DSO of Cyprus

Figure 28 Typical working page in Regional Desk 3 related to Cyprus: An example of collaborative work

3.3 Hosting work of BRIDGE on EIRIE

The most important step forward taken by DG ENER is their decision of considering EIRIE as the home of projects, BRIDGE and ETIP SNET. The home for hosting their work for promoting it and making it visible to all.

In this direction, the Working Group DATA of BRIDGE has taken a decision in 2022 to build on EIRIE a common repository for Use Cases developed by projects for the benefit of the community of BRIDGE projects and wider R&I stakeholders. To this end a task force has undertaken to do all the preparatory work to facilitate the design and operation of the required repository based on published standards. This requirement is important for the BRIDGE community since this will safeguard interoperability between data spaces which is considered fundamental in the digitalised world that we are moving to.

Using the functionalities offered by EIRIE the Task Force has worked to adjust the identified fields to meet all the designed requirements of the Working Group DATA. This is currently developed and has entered the testing phase of the repository space using volunteered projects. Figures 30 and 31 are showing the areas where work has been done to facilitate the build up of the Use Case Repository and Figure 29 shows the area from where various searches for specific entries can be executed by users.
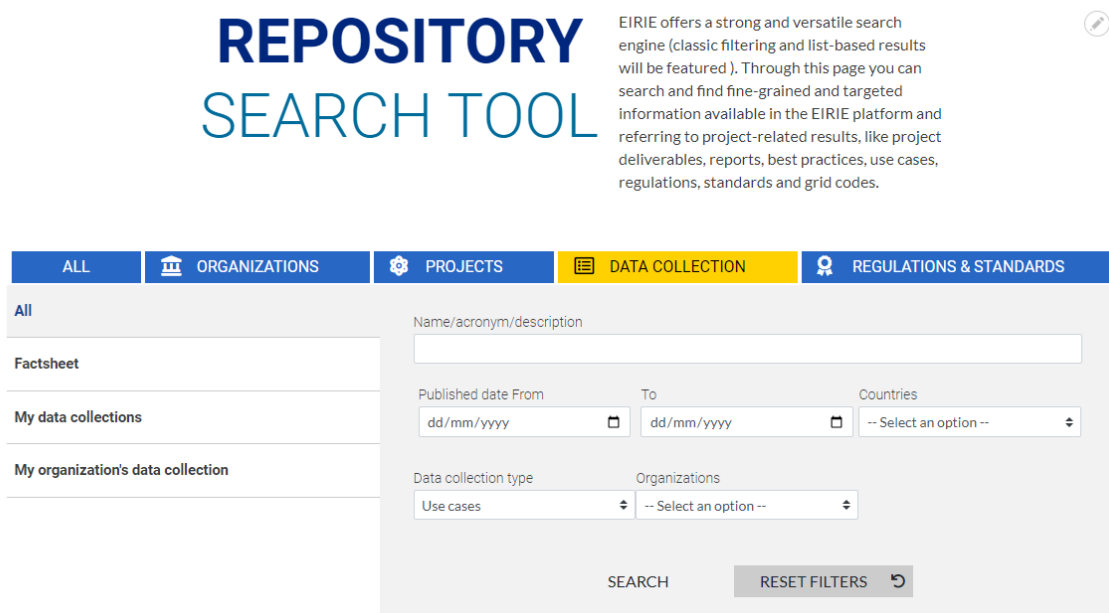

Figure 29: Repository Search Tool to facilitate the search for entries.

The data entry can be managed by Content Managers that will be specifically authorized by the Administrator. It was further agreed to appoint a selected group of editors who will have the authority to publish the uploaded use cases after going through a quality control. This is considered as very important so as to safeguard quality of content on EIRIE. These appointed auditors will be responsible for a year and then changed with new volunteers coming from the experts of the BRIDGE community.

Manage fields ☆

Edit | **Manage fields** | Manage form display | Manage display | Manage Dependencies | Manage permissions | Translate content type

+ Add field

Label	Machine name	Field type	Operations
1.2 Version management	field_use_case_version	Entity reference revisions	Edit ⌄
1.5 Key performance indicators (KPI)	field_use_case_key_performance	Entity reference revisions	Edit ⌄
1.6 Use case conditions	field_use_case_conditions	Entity reference revisions	Edit ⌄
1.8 General remarks	field_use_case_general_remarks	Entity reference revisions	Edit ⌄
2 Diagrams of use case	field_use_case_diagrams	Entity reference revisions	Edit ⌄
3.1 Actors	field_use_case_actors	Entity reference revisions	Edit ⌄
3.1. Actors	field_use_case_actor	Entity reference revisions	Edit ⌄
3.2 References	field_use_case_references	Entity reference revisions	Edit ⌄

Figure 30: Use Case Repository: Designed fields for managing the use cases that are editable.

Figure 31: Use Case Repository: Entry point of Use cases that can be managed by a Content Manager

3.4 ETIP SNET: Working with the industry experts

As already indicated the PANTERA consortium has been very active in ETIP SNET activities taking on responsibilities in WG5 and the operation of the 5 Working Teams referred to in detail in Section 2 of this report.

One important activity that was chaired by the coordinator of the PANTERA project, is the responsibility of drafting a policy paper on Regulatory Sandboxes that was requested by DG ENER. The paper has been formally been completed and submitted to the Commission within the promised timeline i.e.

- First complete draft 5th of May 2023
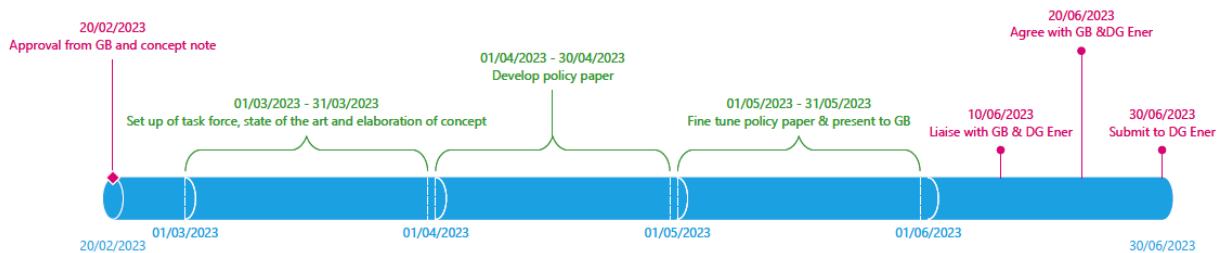- Complete policy report by 30th of June 2023.

Figure 32: Regulatory sandboxes policy paper timeline

The work done was extensive and some important conclusions have been reached as indicated in the paragraphs below:

This policy paper answers the request from the European Commission to ETIP SNET to provide the opinion of the energy stakeholders in industry, technology vendors and academia in using regulatory experimentation for expediting the process to meet the strategic objectives of Green Deal and REPowerEU. A regulatory sandbox, as defined by CEER, is the general framework that innovators can apply to test their innovative products, services, and methodologies for a certain period. It may imply a derogation from standard regulations, subject to conditions imposed by the regulator, and in some emerging cases derogation may not be necessary.

Through the investigations conducted to compile this report, it is identified that the main characteristics associated with regulatory sandboxes are related to the following:

- *Set up to support innovative solutions to promote regulatory learning.*

- *Limited timeframe implementation.*

- *Occurring in a limited part of a sector or area [6] but, in the case of grid operators, they can embrace a large portion of the network.*

- *Controlled in a (near) real-world environment.*

- *TRL 7-9*

- *Can imply a regulatory derogation.*

- *Regulatory sandboxes can be "policy-oriented" or "innovator-oriented" [9]. Policy-oriented regulatory sandboxes are launched by regulators to address specific goals,*

while innovator-oriented are led by sector stakeholders to bring a new product or service to the market.

The main conclusions coming from the 46 distinct contributions of ETIP SNET stakeholders to a dedicated questionnaire are:

➢ *Barriers when implementing innovative solutions in the market*

- *Regulatory and legal hurdles may limit the implementation of innovative solutions, either because the current regulatory framework does not support certain types of spending or because it does not allow certain types of activities.*

- *Resistance to change among stakeholders who may be skeptical about the value of the innovation, or the potential risks involved is a significant challenge.*

- *Lack of clear business models that support innovation, while maintaining reliability and regulatory compliance.*

- *Conflicting pursuits from actors in the same ecosystem. Lacking openness towards innovation and willingness to collaborate with stakeholders to demonstrate the value and potential benefits of innovative solutions.*

- *Lack of maturity in new technologies and lack of capacity of equipment suppliers to implement new technologies on a large scale.*

- *Insufficient remuneration schemes and lack of incentives for operators to implement innovative technologies.*

- *Lack of coordination among public agencies responsible for innovation funding and complex application processes leading to a fragmented and inefficient system.*

- *Lengthy and complicated processes surrounding the implementation of innovative solutions, which can deter developers from participating in innovation activities.*

- *The traditional cost-of-service approach to electric price formation, which relies on forecasting fixed cost obligations, thus obstructing experimentation with innovative technologies and business models.*

➢ *Main areas with real value needing regulatory experimentation*

- *Flexibility markets: regulatory experimentation for effective use of implicit DR, explicit DR, smart use of storage in all forms including EVs and aggregated flexibility coming from energy communities.*

- *Demand Response to manage peak electricity demand, reduce costs, and increase grid reliability.*

- *Energy Communities: support Energy Communities formation, operation, and integration into the grid, including Self Consumption and Peer-To-Peer Trading for Energy Sharing.*

- *Energy Storage: experiment with new business models and pricing structures that can support the deployment of storage technologies and use of storage systems as network assets.*

- *Electric Mobility: Regulatory experimentation to manage the charging infrastructure, incentivize the adoption of electric vehicles, and address the challenges of grid integration (smart charging, V2G and G2V).*

- *Design of tariffs: TUoS and DUoS tariffs that determine the types of expenditures prioritized (OPEX vs. CAPEX) for grids including payback periods. Develop effective incentive-based targets and rewards to meet the challenges of the energy transition and the shift from central to distributed sources of energy.*

- *Gas Networks: Innovative experimentation on renewable gas with benefit for the whole energy system and for the final consumers.*

  ➤ ***Types of experimentation tools preferred by the industry***

- *Innovative regulatory sandbox is the preferred option, offering the parallel experimentation of all identified options to reach optimal solution faster through real life implementation.*

- *Embedding sandboxes in a permanent institutional framework ensuring monitoring, evaluation and follow-up.*

- *Regulatory experimentation tracked at European level carefully selected case studies strategically sited to ensure consistency with new directives and regulations, but deployment through concrete field experiments in member states.*

- *Preference for experimentation tools for technical assurance, so that technologies can be implemented by other grid operators more quickly.*

- *Incentive regulation to realize the strategic goals, especially with regards to the energy transition towards decarbonization.*

- *Development of a publicly available grid model, including market structure representation. This can provide opportunities for new innovations to be evaluated in a system representing holistically the real world to assess benefits.*

  ➤ ***Lessons learnt through regulatory experimentation - success factors***

- *A major success factor is the involvement of private and public stakeholders in the design and participation in regulatory sandboxes, as well as in the derivation of conclusions from the trial. Close collaboration with regulators along the entire development process.*

- *Regulatory sandboxes should not be technology biased. Any restrictions can reduce the availability of new solutions/technologies.*

- *There can be jurisdictional constraints in designing regulatory sandboxes. One important jurisdictional constraint concerns compliance with EU legislation, which the NRA should take into consideration when designing the regulatory sandbox investigation. Following successful completion of the planned investigations with positive results, implementation and scaling up should be pursued following targeted amendments to the EU legislation with the support of CEER.*

- *Some regulatory sandbox experiments may not allow sufficient time to evaluate the full benefits or issues of a particular innovation or new regulation. Monitoring and characterizing benefits over an adequate period is important.*

- *Involving consumer participation and deploying equipment at consumer premises is always more difficult than anticipated.*

- *Avoid unnecessary duplication by wide dissemination of on-going innovation trials that involve regulatory and policy adjustments and build on previous efforts.*

3.5 EXPERA and Clean Energy Transition Partnership

Following the approval of the Clean Energy Transition Partnership (CETP) by the middle of 2022, the work for connecting the EXPERA and ERA NET platform has softened down, and discussions emerged to come closer to the CETP and work collectively for connecting the two knowledge platforms. The work done already with EXPERA will stay on EIRIE as valuable information but with the intention of extending in the direction of the work that will be done through CETP.
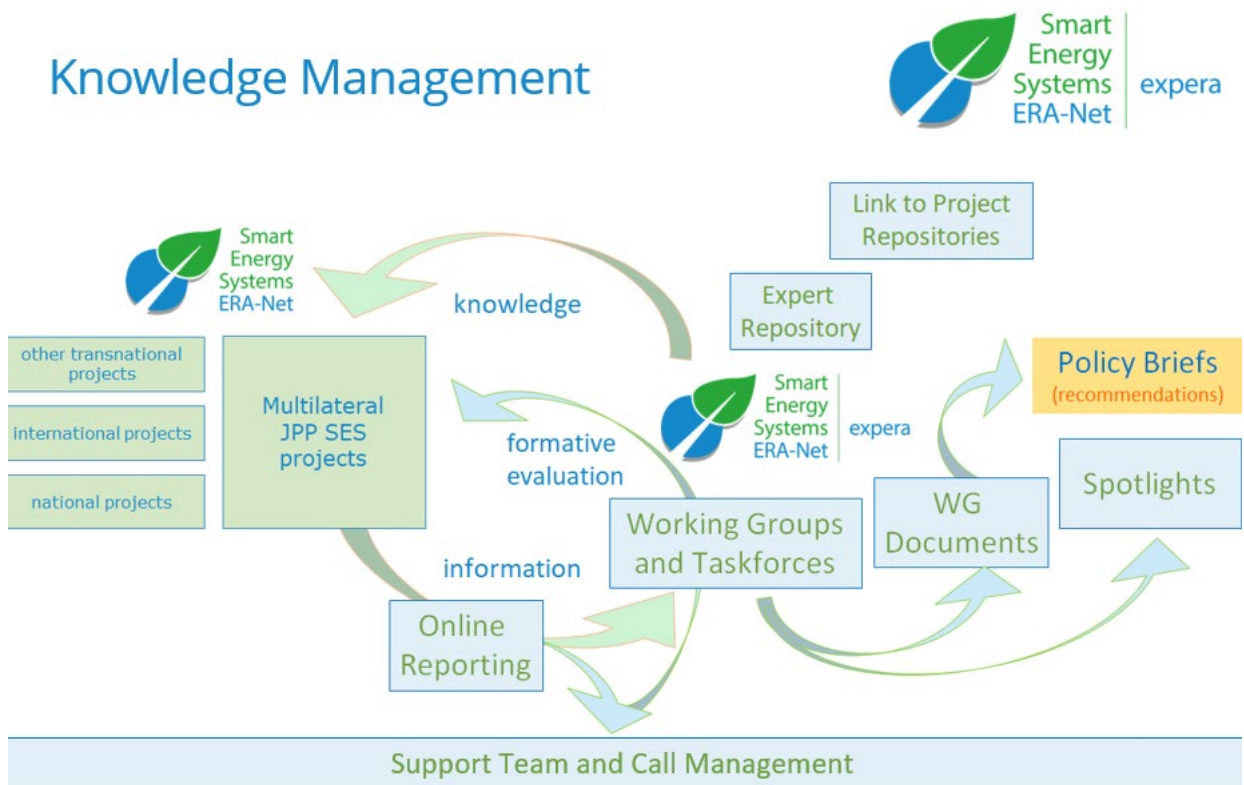

Figure 33Knowledge building within EIRIE – EXPERA – CETP

Current discussions are ongoing in this direction and the current understanding is the direction of building a common knowledge hub to carefully be designed to host the incoming information from the CETP family. EIRIE will have access to this knowledge hub and the architecture will depend on the wishes of the partnership. Figures 33, 34 and 35 give an indication of the ongoing discussions.

Figure 34: Building knowledge with the support of experts to serve the R&I community
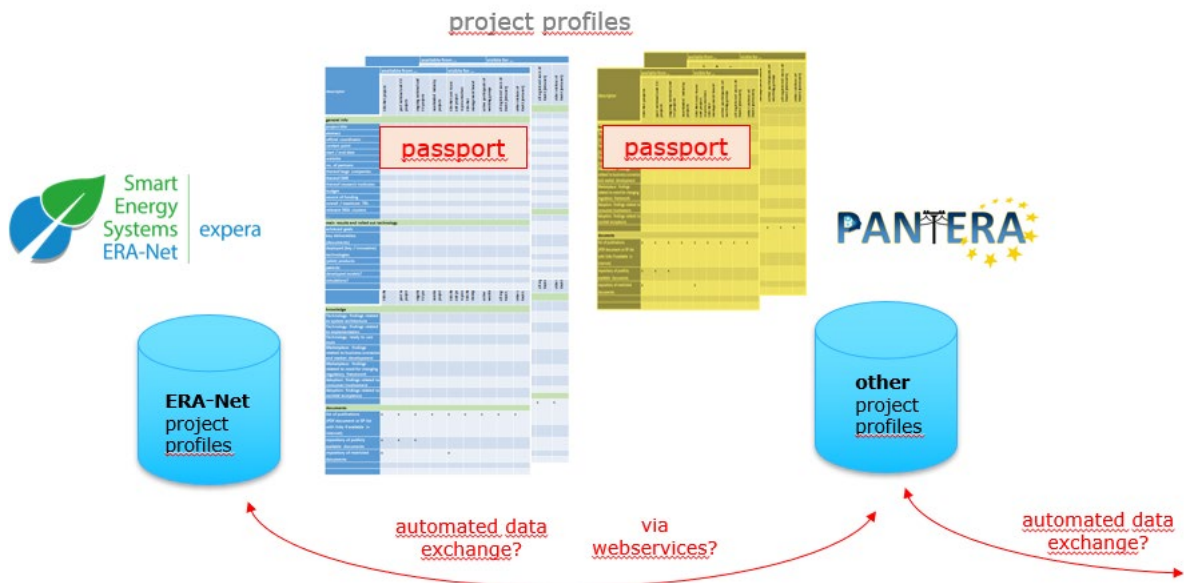

Figure 35: Connecting platforms along the principles developed within EIRIE.

4 Assessment of the PANTERA established collaborations.

As can be seen in the above paragraphs, collaboration with European and international entities is high, building useful output for the R&I community of Europe. This rich collaboration activity is centred around the following activities:

- Active participation in the Working Groups of ETIP SNET with emphasis in the activities of WG5 who has a horizontal view of all the activities of ETIP SNET, hence nearer to the strategic objectives of PANTERA and the role that EIRIE is required to play to bring closer together the R&I community of Europe. Leading the work of the Working Teams

of WG5 facilitates the promotion of the needs and requirements of EIRIE to be developed and deployed to enrich the capabilities of the platform for the benefit of all stakeholders linked to EIRIE and PANTERA.

- Active participation and collaboration with BRIDGE and the projects that are active in the structured working groups of the initiative. Working closely with the experts of BRIDGE to develop the required applications in EIRIE gives direct collaboration opportunities for the stakeholders of EIRIE with the active contributors to EU projects hosted in BRIDGE.

- Working closely with the experts of ETIP SNET in promoting the scope and objectives of regional workshops brings the stakeholders of PANTERA and EIRIE closer to the policy issues of EU for influencing position papers and policy recommendations that are seriously taken on board by the stakeholders of ETIP SNET and the Commission. Moreover, the outcomes and results of projects are scrutinized identifying the lessons learned and future gaps and needs, giving valuable feedback to stakeholders for planning their work forward.

- Bringing together knowledge, information and data on EIRIE acting as a real single point of reference, is shown in practice that it is possible and already functioning with good results. This together with the work done for building common taxonomies for the active platforms in Europe and internationally improves traceability and quality of provided knowledge, information and data giving the possibility for a complete and reliable resource.

- PANTERA and EIRIE built strong working relations with EERA AISBL and EERA JP for Smart Grids giving the possibility for common events hence raising impact in bringing the stakeholders together sharing experience and lessons learned. Building collaboration options with these associations closely supporting adds value and content to the planned activities with wider audience throughout Europe, hence raising impact for wider influence and support.

- The example of a successful deliverable to the commission through the work of the working groups of ETIP SNET, chaired by a representative coming from PANTERA addressing the current issue of regulatory sandboxes gives real evidence of the importance of such collaborations and mode of working. Building this possibility through EIRIE is already a possibility giving evidence that wider countries can play a role if they utilize effectively the means provided through EIRIE.

- It is evident from the outcomes reported, that PANTERA and EIRIE have gone a long way forward in the correct direction but more needs to be done in a coordinated way through the support of the service contract managed by DG ENER, the working groups of ETIP SNET and the experts of BRIDGE. In this scope of work the role of the stakeholders is hugely important and that is why collaboration through EIRIE should be high in the agenda along the lines that have already given positive results.

5 Conclusions

Interactions and collaboration work with associations, organizations and initiatives in Europe have been high in the agenda of the PANTERA project. As presented in this report all targeted work has been completed successfully giving evidence that the EIRIE platform can play the linking role that we have planned for it. Evidence, is given in this report that activities throughout the project period, were rich in the directions identified in the concept, with results that justify the set-out objectives.

It is clear that stakeholders coming from the low activity countries can benefit immensely if they,

- Are active within the framework of EIRIE, the regional corner and other collaborative entities that spring from the development work within EIRIE.
- Are active in the working groups of ETIP SNET and BRIDGE actively contributing to the tasks that spring from the planned work within these initiatives.
- Are active in the regional workshops and other events that ETIP SNET is organising throughout the year, since through these planned activities results, lessons learned and identified gaps and needs are exhaustively discussed and shared giving valuable input to their aspirations.
- Are active in the Joint Programmes of EERA since through these activities the collective effort of the experts in the field in Europe identify the areas that are most important for giving emphasis. Additionally, through this joint work, lessons learned and progress made are dwelt on, bringing the involved stakeholders closer to the state of the art, and ready more knowledgeable next steps.

This report gives real evidence, that EIRIE is the home of projects financed by the Commission and thus the R&I community of the low activity countries should build stronger links with the stakeholders active in EIRIE to raise their accessibility to knowledge and their visibility to the experts in the field. At the same time, EIRIE will be the source for state-of-the-art knowledge, information and data and thus ease their work to achieve more and with higher quality.