Summary of the 1st PANTERA workshop in Sofia.

PAN European Research and Innovation Activities for Smart Grids, Energy Storage and Local Energy Systems

02 July 2019, Sofia, Bulgaria

The first regional PANTERA Workshop in Sofia, Bulgaria has joined 49 project partners and Stakeholders from 9 countries to share their needs, experience and vision on how to strengthen the research and innovation activities within the Balkan region. The high-level management of the Bulgarian DSOs, electric vehicle cluster, TSO, Electricity trading companies, Ministry of Energy, as well as key stakeholders from the energy industry and academia from Bulgaria, Romania, Greece and Cyprus indicated their commitment to the PANTERA process.

The Vice-Rector and Head of Research and Development Sector Professor **Dr. Eng. Ivan Kralov** and **Rad Stanev** from TU Sofia opened the morning session by welcoming the attendees of the 1st workshop of PANTERA, emphasizing the role that R&I has in the development of

society and the economy of knowledge. To this effect, TUS is honoured to welcome the event and be a full active partner in the project PANTERA which is targeting to enhance R&I possibilities in Europe especially in countries that engage less in the energy transition process.

Venizelos Efthymiou, from FOSS the coordinator of the project, followed with setting the scene for the PANTERA project to deliver. Started by highlighting the objectives of the project and how the PANTERA process could help towards the fulfilment of the energy transition vision through the stakeholders' support/engagement. Among others he stressed the following:

> ➢ To ensure sustainable, secure and affordable energy supplies in the European Union, a fully integrated grid and energy market are required.

> ➢ Through integrated emerging technologies and common energy market rules facilitated through cross-border infrastructure, that can optimize the use of sustainable resources in the EU, meaning that energy can be produced in one EU country and delivered to consumers in another.

> ➢ Cooperation and collaboration are key.

> ➢ This is why the EU-funded PANTERA project will identify and implement initiatives aimed at raising the participation of EU countries in the needed R&I for developing technologies, systems and markets in support of the common energy market and the energy transition.

> ➢ The project's main goal is to bridge the gaps in research and innovation in the energy field that exist between the EU Member States.

> ➢ Its mission is to become the single point of reference for smart grids in Europe.

In the next, **Veneta Tsvetkova** representative from the Ministry of Energy of Bulgaria analysed the Energy policies and vision on energy transition of Bulgaria. Within her speech, the context of the challenges and the next steps for fulfilling the Bulgarian commitment towards the EU were highlighted. In short, she stressed that:

> ➢ In Bulgaria, the development of renewable energy rapidly grows. Installed capacities for the production of renewable energy, mainly solar and wind, have significantly increased in recent years.

➢ Electricity production from photovoltaic and wind power plants is volatile and highly dependent on meteorological conditions creating the need for grid modernization.

➢ Hence, investments are needed for further development of electricity grids and implementation of new technologies: smart metering and smart grids through appropriate legislation amendments covering personal data protection as well.

Mario Dionisio the Project Officer DG ENER (EC) introduced the EC R&I policy, trends and challenges in relation to EU Energy Policy and briefly covered the following:

- Horizon 2020 and beyond

- The energy transition

- PANTERA

He highlighted how the EC can support trends and tackle challenges underlining the fact that we are in a unique opportunity to modernise our economy and to boost competitiveness create growth and jobs.

He briefly introduced the plans for Horizon Europe in relation to the Commission proposal for

- a € 100 billion research and innovation funding programme for seven years (2021-2027):
  o to strengthen the EU's scientific and technological bases
  o to boost Europe's innovation capacity, competitiveness and jobs
  o to deliver on citizens' priorities and sustain our socio-economic model and values

- Additional € 4.1 billion are proposed to be allocated for defence research, in a separate proposal for a European Defence Fund.

He finished by reiterating the importance of gathering in Sofia to discuss the R&I agenda in Europe and how the Commission through PANTERA can boost the process:

- To better frame the status of EU grids

- To disseminate EU R&I&D activities on grid modernisation for the energy system transition

- Raise awareness on possible application/replication throughout the EU

- Pan European Technology Energy Research Approach

- Exchange of experiences, knowledge, use cases, etc.

- PANTERA aims to deliver a pan-European multi-dimensional platform for a modern grid contributing to the energy policy objectives

As a second voice from the EC, **Sebastian Gras** Policy Officer (EC) representing the European Connection Facility addressed the meeting laying the importance of creating bridges in all spheres of our development and in support of the energy transition. He identified the synergies that exist in the activities of the two sectors and emphasised the importance of capitalising on them to achieve the high-level objectives of the EU.

R&I is not the prime objective of the Europe Connection Facility, but it is the bridge to deliver promising technologies to the European Networks connecting and facilitating.

Within the next 2 hours, **Tasos Tsitsanis** (Suite5, EL), **Dimitar Zarchev** (ESO, BG), **Mihai Mladin** (CRE, RO), **Rad Stanev** (TU-Sofia, BG) representing European Academics, Policy and Energy Sector experts from the Balkan region -and mainly Bulgaria, Romania and Greece- participated in the workshop's agenda by presenting the R&I challenges on Energy into their countries, the gaps to be addressed and good practices as a way to move the energy transition forward.

In the next session, **Luciano Martini** (Chairman for EERA JP for SG) gave the presentation "Pan-EU R&I community: Stakeholders involvement and enhanced collaboration opportunities". He focused on two EU level initiatives that are very important for PANTERA activities and objectives: EERA JP SG and ETIP SNET. EERA JP SG is an association of research centres and academia that gathers together 40 participants from 17 EU countries that are dealing with smart grids Research & Innovation (R&I) while the ETIP SNET is an important initiative fostered by the European Commission that aims to guide Research, Development & Innovation (RD&I) to support Europe's energy transition. Moreover, the speaker introduced ISGAN and Mission Innovation Challenge 1 on Smart Grids. Luciano Martini focused, also, on stakeholders' involvement and enhanced collaboration opportunities through the aforementioned associations and PANTERA initiative.

Christina Papadimitriou (FOSS, CY) and **Andrei Morch** (SINTEF, N) presented the Promises and expectations from PANTERA initiative for enriching R&I in support of the energy transition.

The morning session has been completed with a group photo.

In the afternoon session, **Ludwig Karg** (ERA-Net Smart Energy Systems expert) introduced the ERA-Net Smart Energy Systems and their approach on building a European wide Knowledge Community for R&D&I on their member's state level. Through their approach, potential synergies with the PANTERA initiative were also highlighted.

As stakeholders' involvement is of high importance through the PANTERA process an interactive SWOT analysis to identify areas of actions and next steps were organised with the support of **Ludwig Karg**.

SWOT analysis; Weaknesses pinboard

The workshop ended by discussing and analysing in a roundtable discussion with all attendees the main findings of the SWOT analysis performed. The strongest factors shaping the SWOT analysis can be found in the next table concerning the Balkan region and the complete list in the attached annex in descending order depending on the votes received from the participants.

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
Knowledge in EU extensive and accessible	Project results are not utilized	High potential for renewable energy resources	Data handling
R & I family is strong in numbers and quality and well connected to EU networks	Weak industry involvement	Education	Bureaucracy
Regulation promotes RES & energy efficiency	Slow regulation adaptation compared to technology evolution and system needs	Low cost of ICT hardware infrastructure	Funds
A lot was done in infrastructure and technology evolution	Weak in communication of achieved knowledge, results and solutions	EU funds	Action is needed from outside EU too
	Low involvement of stakeholders	Job opportunity	
	Slow technology penetration	Energy active citizen	
		Open energy market	
		Collaboration of stakeholders	
		Investment	

➢ Throughout the workshop, parallel interviews were conducted as a means of stakeholders' consultation. The main feedback from the interviewed stakeholders is that the PANTERA's approach appears to be reasonable and timely. More specific summary of the interviews will be included in the dedicated deliverable D4.1.

The workshop's main outcomes can be summarized as follows:

➢ PANTERA initiative has the full support of EC on delivering the promised vision with close collaboration with existing EU tools.
➢ PANTERA initiative can have constructive and fruitful cooperation with other pan-European associations such as EERA AISBL / JP4SG / Storage, ETIP SNET, ERANET Smart Energy Systems etc. to support the energy transition, leverage the smart grids investments and maximize their impact.
➢ Stakeholders of the Balkan region interacted with the PANTERA initiative and further involvement can be established for achieving a "win-win" situation

➤ Stakeholders have a principal role into the PANTERA process and thus ways on their involvement were discussed through the PANTERA (regional) desks, ad hoc working groups and participation in targeted workshops.

➤ SWOT analysis highlighted the strongest shaping factors (mainly Strengths and Weaknesses and identified opportunities and threats that are of critical importance to know and adapt accordingly) on how PANTERA needs to act and move forward with the support of the stakeholders for the Balkan region.

➤ Main challenges and prevailing barriers were identified that form a great constructive feedback for the next workshops to be organised by PANTERA

Annex

STRENGTHS	
Knowledge in EU extensive and accessible	• A lot of knowledge and experience around the EU • Good networking synergies • Easy access to knowledge & resources • Networking activities
R & I family is strong in numbers and quality and well connected to EU networks	• High-level researchers linked to R&I at EU level • Project under implementation could give the best practice examples • A lot of R&D EU projects are already done • Potential of knowledge transfer between R&I and industry • The strong interest of ERA-NET family to link with low spending counties
Regulation promotes RES & energy efficiency	• Incentives for PV rooftops & energy-efficient buildings • New regulations focusing on social acceptance and consumer engagement • Regulation for energy communities
A lot was done in infrastructure and technology evolution	• There is a good EU grid infrastructure • Good working relations between different stakeholders • Integration of RES through a regulatory framework • Main issues in the energy field are addressed

WEAKNESSES	
Project results are not utilized	• R&D results are not well communicated • Lack of access to project results & knowledge • Lack of demonstration of projects • Lack of information about the possible coupling of instruments/supplementary funding
Weak industry involvement	• Cannot convince the industry to invest • High investment cost of new technologies restricts the deployment of innovative technologies • Missing business case • Missing leadership • Long decision process • No clear market specification • EU industry is not competitive (e.g. PV and storage)

Slow regulation adaptation compared to technology evolution and system needs	• The regulation is so slow to peak up with the technology evolution • No regulation about synergistic approaches and sector coupling • Lack of understanding the urgency of energy shift at the policy level • TSO & DSO don't want to change
Weak in communication of achieved knowledge, results and solutions	• Lack of communication between projects/partners • Lack of communication between project applications • Data exchange is difficult among stakeholders which leads to reinventing the wheel • Lack of networking & synergies • Scientific results are not connected with each other
Low involvement of stakeholders	• Lack of understanding of regulation & policy by the end-users • Customers are not ready or educated enough for smart grids • Limited involvement of some stakeholders
Slow technology penetration	• Technology penetration is slower than they should be (e.g. Smart meters) • The area that is rich in renewable have weak access to the grid

OPPORTUNITIES	
High potential for renewable energy resources	• Local renewable energy resources can meet the EU energy needs • Potential of hydro infrastructure
Education	• Educate students in schools on energy sustainability
Low cost of ICT hardware infrastructure	• Low cost of ICT hardware infrastructure
EU funds	• Funding available on the European level • Providing information on funding opportunities
Job opportunity	• More jobs opportunity • More energy experts
Energy active citizen	• More energy active citizens
Open energy market	• Opening of the energy market
Collaboration of stakeholders	• Collaboration of stakeholders from other projects associated
Investment	• Possibility of creating potential companies to invest in new projects

THREATS	
Data handling	• Security and personal data handling • Social acceptance
Bureaucracy	• Bureaucratic legislation from each country

	• In some countries regulatory bodies have inertia on fulfilling EU recommendations
Funds	• Insufficient national funds • EC sponsors projects with more than one country involved
Action is needed from outside EU too	• If the rest of the World did not take action, the EU cannot save the World Alone