



ETIP SNET

EUROPEAN TECHNOLOGY AND INNOVATION PLATFORM SMART NETWORKS FOR ENERGY TRANSITION



D3.3 Minutes of the regional workshops 2018

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1. INTRODUCTION

1.1 OBJECTIVES OF THE REGIONAL WORKSHOPS

The Regional Workshops aim at:

- Presenting national and regional RD&I projects of significant added value addressing energy system integration issues, in line with the thematic priorities of the ETIP SNET Working Groups;
- Identifying unsolved RD&I topics and monitoring the implementation of RD&I activities at national and regional levels in Europe;
- Ensuring consistency between national and European views;
- Stimulating knowledge-sharing between stakeholders and among Member States and associated countries, so as to foster the efficient implementation of RD&I projects all over Europe.

1.2 ORGANISATION OF THE REGIONAL WORKSHOPS

1.2.1 REGIONAL APPROACH

Based on the experience gained during the Grid+Storage workshops organised in 2016 (see <http://www.gridplusstorage.eu/workshops>), and on the will to stimulate exchanges between stakeholders within different countries, it was proposed to adjust the scope of the different regions and to divide Europe into four parts, as illustrated below.

- Region 1: PT, ES, FR, UK, EI
- Region 2: DK, SE, FI, NO, LT, LV, EE
- Region 3: IT, SL, KR, MT, HU, RO, BG, GR, CY
- Region 4: BE, NL, LU, DE, PL, CH, AT, CZ, SK, HU



The workshops were organised for 2018 according to the schedule presented in the table below.

Table 1 – Planning for the 4 regional first knowledge sharing workshops

Workshop nr.	Member States	Location	Date
1	Italy, Slovenia, Malta, Hungary, Romania, Bulgaria, Croatia, Greece and Cyprus	Zagreb (Croatia)	19-20 September 2018
2	Denmark, Sweden, Norway, Finland, Latvia, Lithuania and Estonia	Helsinki (Finland)	3-4 October 2018
3	Belgium, Netherlands, Luxembourg, Poland, Austria,	Brussels (Belgium)	11-12 October 2018

	Germany, Switzerland, Czech Republic and Slovakia		
4	Spain, France, Portugal, Ireland and the UK	Madrid (Spain)	22-23 November 2018

1.2.2 PROGRAMME OF THE KNOWLEDGE SHARING WORKSHOPS

The 4 workshops are held over two days according to the agenda below (adjusted depending on logistical constraints and number of projects presented):

Slot duration	Speaker	Purpose
5 min	Workshop host representative	Welcome words
15 min	ETIP SNET Chair/co-chair	Introduction to R&I activities in the scope of the ETIP SNET; presentation of the ETIP SNET Vision 2050, purpose of the workshop and agenda
Project session 1 (group of projects addressing topics within the scope of ETIP SNET WG1)		
15 min	ETIP WG1 representative	High-level vision (overarching goals and constraints) for the European energy system and respectively of the contribution of various technologies to this system – in relation with the concerned WG(s). Topics to be discussed during the roundtables.
30 min per project	Projects' representatives	Presentation of the findings of the project. Focus on: <ul style="list-style-type: none"> • The project overarching objectives, the consortium; • Project Key exploitable results: Added value, quantifiable benefits (improvement of the management of the grid, decrease of CO2 emissions, etc...) and final beneficiary; • The main lessons learned and barriers to innovation / exploitation of the results; • Needs for future R&I activities coming out of the project (if any !); • Deployment prospects of the most promising solutions. • Identify needs for further testing (platforms, demos, etc...) and an emphasis on interoperability is welcome • Information about the use/need of an inter-regional cooperation. Each presentation is followed by Q&A.
30 min	Roundtable (animated by ETIP SNET support team)	Presence of all speakers in the session + ETIP WG1 representative + WG5 representative

Project session 2 (group of projects addressing topics within the scope of ETIP SNET WG2)		
Similar structure than first session		
Project session 3 (group of projects addressing topics within the scope of ETIP SNET WG3)		
Similar structure than first session		
Project session 4 (group of projects addressing topics within the scope of ETIP SNET WG4)		
Similar structure than first session		
Concluding session		
45 min	WG5 representative	Consolidation of recommendations in terms of “Innovation implementation in the business environment”
45 min	ETIP SNET support team	Wrap-up of the recommendations from the projects presented and of the conclusions from the roundtables
10 min	ETIP SNET support team / Host	Closing words, invitation to participate in upcoming consultation processes

1.3 STRUCTURE OF THIS REPORT

For each of the regional workshops, this report gathers the following information:

- List of projects presented, including the link to the slides displayed at the workshop;
- Participants in the different roundtables and statistical analysis of the attendees per country and organisation of origin;
- Main questions raised during the projects’ Q&A sessions;
- Recommendations for innovation implementation in the business environment;
- Summary of the main recommendations from the projects and conclusions from the roundtables.

2. REGIONAL WORKSHOP 1 (BULGARIA, CROATIA, CYPRUS, GREECE, HUNGARY, ITALY, MALTA, ROMANIA AND SLOVENIA)

The first workshop was held in Zagreb (Croatia) on the 19-20 September 2018. The workshop agenda is available on the [ETIP-SNET website](#).

2.1 PROJECTS AND PARTICIPANTS IN THE WORKSHOP

2.1.1 R&I PROJECTS PRESENTED

Thirteen R&I projects were presented during the first workshop, as displayed in the table below:

Table 2 – Projects presented at the workshop 1

Project	Country	Purpose	Speaker	Link to presentation
Session 1: Projects addressing topics within the scope of ETIP SNET's Working Group 1 (WG1): "Reliable, economic and efficient smart grid system"				
The NEDO Project	Slovenia	The Slovenian electric Transmission system operator ELES and the Japanese research agency NEDO (through company Hitachi) are financing an overall smartgrids project in Slovenia covering a wide scope of smart grids and smart communities' topics. Part of the project dealing with demand response is already running 9 months of demonstration during which a Demand Response Control System was designed and 830 household and small commercial consumers were included to participate in active demand response activities aiming at reducing energy (power) consumption during peak consumption periods. One hundred (100) households are equipped with direct load control units and HEMS, which perform demand reduction automatically, while the rest receive SMS and email notifications. So far, the results are very promising providing approximately 30% peak power reduction at participating users.	Gregor OMAHEN	Link
The LivinGrid Project	Italy	The aim of the project is to develop new models for the enhancement of the system observability, as well as for the optimal management, in emergency conditions, of the National Transmission Network (NTN), of the disconnection and reconnection of portions within the network, and of the related DER. The project will contribute to overcome the traditional "load shedding" concept, and the distributed generation curtailment. The project benefits from the outputs of other projects: the ISERNIA project and the Puglia Active Network Project.	Gareth BISSELL	Link

Projects for Smartening the Greek Islands	Greece	The projects are realized in the Non-Interconnected Island Systems (NIIS) in Greece. The aim is to increase RES penetration in energy systems of the non-interconnected islands, reducing the operational cost and ensuring an uninterrupted electricity supply to their inhabitants. The projects deal with the development of advanced Energy Management Systems having as main goal the establishment of the needed infrastructure for 32 ES of NII, covering the emerging needs of all participants in the NII's market. The also deal with generation planning tools able to maximise RES installations. An ambitious project is the preparation of 3 pilot Smart Islands projects that will achieve over 60% annual RES penetration by installing Hybrid stations with Smart Management systems. This is a major challenge for Non-Interconnected Islands that need to maintain voltage and frequency stability faced solely by RES.	Nikos HATZIARGYRIOU	Link
Session 2: Projects addressing topics within the scope of ETIP SNET's Working Group 2 (WG2): "Storage technologies and sector interfaces"				
Husahagi Wind Power Plant and Battery Energy Storage System	Faroe Islands	The energy storage system installed at the Husahagi Wind Power Plant on the Faroe islands is enhancing grid stability by smoothing ramp rates and allowing a very high wind penetration to be present in the electrical grid reaching levels of even higher than 80% for hours at multiple times during the course of the year. Additionally, it reduces the noise in system frequency and can provide ancillary grid services such as frequency control in the future. The power of the Wind Power Plant is 11.7 MW with 2.3MW / 0.7MWh of Li-On Battery Storage installed in a weak grid on the Faroe Islands. The project presents a very high attractive return of investment.	Georgios ARGYRIS	Link
The EVBASS Project	Croatia	The first part of the project is focused on analysis of current scientific and commercial state-of-the-art, as well as legislative so as to develop a viable business model of the BSS business case considering the optimization of the BSS operation (day-ahead scheduling and real-time operation) and control and communication of the BSS. The second part of the project will assess the impacts that BSS and a group of BSSs have on power systems considering points of view of Distribution and Transmission System Operators. The final stage of the project will be the deployment of a testbed that consists of a central computer, a large number of EV battery stacks, and all the accompanying control and communications infrastructure. This will provide the opportunity to test the developed algorithms in a realistic environment and to verify the results.	Hrvoje PANDZIC	Link
The StoRES Project	Cyprus, Greece, Slovenia, Italy	StoRES foresees the development of an optimal policy for the effective integration of photovoltaics (PV) and energy storage systems (ESS) via testing smart solutions in 5 MED islands and rural areas. The challenge is to achieve high PV penetration in their energy mix through solving all market/technical/grid/tariff issues without compromising grid stability or security of supply.	Venizelos EFTHYMIU	Link

The SUCCESS Project	Croatia	The project aims at answering the following questions: <i>Who and why will install and own storage? What size and where? What services will these units provide?</i> The project focuses on the aspects of storage role in distribution networks. In particular the role of storage in all segments of the distribution network life cycle (from planning stage to real-time operation). It discusses the role of the aggregator and recognizes challenges the aggregator faces and preconditions missing (such as insufficiently liberalized retail markets) to enable the operation of the aggregator. It considers market and regulatory EU environment, with special focus on Croatia so as to enable larger RES integration.	Tomislav CAPUDER	Link
Session 3: Projects addressing topics within the scope of ETIP SNET's Working Group 3 (WG3): "Flexible generation"				
the uGRIP Project	Croatia	This project aims to develop a full-scale microgrid that consists of distributed generators, both renewable and controllable, storage units and flexible loads. A real-life microgrid may perform arbitrage, provide flexibility thus increasing the utilization of RES, take part in corrective actions, provide voltage support, and defer investments in power lines and (distributed) generation. A structure of the local, distribution-level market is defined and demonstrated within the project. The complex interactions between the microgrid, distribution network, transmission network, wholesale electricity market and local distribution level market has been investigated and a viable operation mechanism is proposed.	Hrvoje PANDZIC	Link
the Energia 2020 Project	Italy	The "Smart Polygeneration Microgrid" (SPM) is a LV demonstrator infrastructure hosted at Savona Campus facilities, within the project 'Energia 2020' lead by the University of Genova. It consists of renewable and innovative generation/cogeneration units (micro turbine fed with natural gas, photovoltaic plants, energy storage, EV charging stations), a dedicated electric network, integrated with the existing grid of the University Campus and an Energy Management System to optimally manage the sources. The entire system is supervised by a control room to which signals are sent from sensors, actuators and, in general, from all the smart distributed systems in the field.	Mansueto ROSSI	Link
the SMARTGEO Project	Italy	The project aims to design, build and integrate an innovative concept of advanced remote diagnostic and prognostic system on the geothermal power plant «Rancia 2» (Italy- Tuscany), and its related equipment's and infrastructures (wells, steam gathering network, reinjection pumps and pipelines, steam cleaning systems, Amis).	Matteo GALGANI	Link
Session 4: Projects addressing topics within the scope of ETIP SNET's Working Group 4 (WG4): "Digitisation of the electricity system and Customer participation"				
The SUCCESS Project	Romania	The SUCCESS project will develop an overarching approach to threat and countermeasure analysis with special focus on the vulnerabilities introduced by Smart Meters in the energy domain.	Mihai SANDULEAC	Link

		<p>The project aims at designing, developing and validating on small scale field trials a novel holistic adaptable security framework. This would be able to significantly reduce the risks of cyber threats and attacks when next generation, real-time, scalable, unbundled smart meters are deployed in smart electricity grids, enabling innovative applications and value-added services within the emerging smart decentralised energy system paradigm.</p> <p>SUCCESS will achieve this objective by encapsulating the key challenges of Security, Resilience, Survivability and Privacy into 3 use cases which will focus the research, implementation and evaluation concepts of the project.</p>		
The "Smart metering LTD" Project	Hungary	<p>The main objective of the Pilot Project is to evaluate the possibilities of establishing a nationwide smart grid. The survey should be able to provide an opportunity to analyse the economic aspects of extending the smart grid nationwide in the future and to evaluate the operational experiences in relation to certain elements of the smart grid.</p> <p>The goal of the Smart Grid Pilot Project is to develop and test a metering infrastructure, mainly for electricity, natural gas and water, that may contribute to the modernization of the energy system as regards sustainability, competitiveness and security of supply, to increasing energy efficiency and consumer savings, as well as to the management of system balancing problems.</p>	Gusztav VARGA	Link
The STEELFLEX Platform Project	Slovenia	<p>"The platform for flexible energy management in steel (STEELFLEX)" refers to the development of the advanced platform for flexible energy consumption management. Two pilot demonstrations will take place, a flexible energy consumption master platform and the Steelflex application that targets the steel industry, offering steel companies to optimize their energy flexibility potential to reduce their energy costs, provide ancillary services to TSO/DSOs and improve their forecasting activities to reduce balancing costs.</p>	Tomaz FATUR	Link

During this workshop, there were no presentations of projects from Malta.

2.1.2 ROUNDTABLES

Four roundtables were held during the workshop, moderated by Coralie BADAJOZ and Daniel HERNANDEZ. The four were devoted to questions and different exchanges between the speakers of the projects presented, the representatives from EDSO for Smart Grids and EASE and the respective representatives of the different ETIP SNET Working Groups. The table below shows the participants in each roundtable.

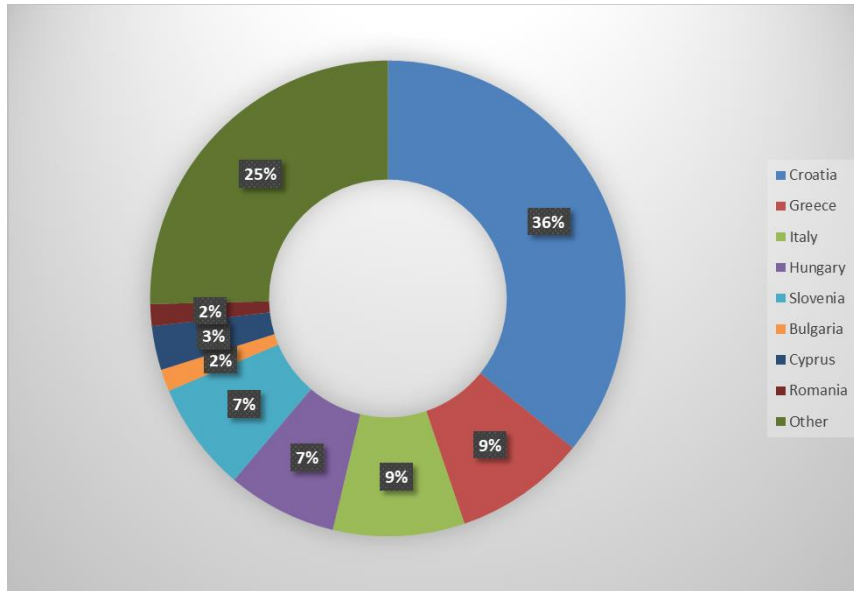
Table 3 – Participants in roundtables at the first regional workshop

Roundtable nr.	Participants
1	<ul style="list-style-type: none"> • Gareth BISSEL (Enel, WG1 Representative) • Gregor OMAHEN (ELES) • Nikos HATZIARGYRIOU (NTUA) • Venizelos EFTHYMIU (FOSS) • Coralie BADAJOZ (ETIP SNET Support Team, DOWEL)
2	<ul style="list-style-type: none"> • Claire LAJOIE-MAZENC (RTE, WG2 representative) • Hrvoje PANDZIC (FER, University of Zagreb) • Venizelos EFTHYMIU (FOSS Research Centre) • Tomislav CAPUDER (FER, University of Zagreb) • Daniel HERNANDEZ (ETIP SNET Support Team, DOWEL)
3	<ul style="list-style-type: none"> • Michael LADWIG (General Electric, WG3 Representative) • Hrvoje PANDZIC (FER, University of Zagreb) • Mansueto ROSSI (University of Genova) • Matteo GALGANI (EGP) • Coralie BADAJOZ (ETIP SNET Support Team, DOWEL)
4	<ul style="list-style-type: none"> • Elena BOSKOV KOVACS (Blueprint Energy Solutions, WG4 Representative) • Mihai SANDULEAC (CRE) • Gusztav VARGA (KOM Central Smart Metering Plc.) • Tomaz FATUR (Solvera LYNX) • Daniel HERNANDEZ (ETIP SNET Support Team, DOWEL)

2.1.3 LIST OF ATTENDEES

Around 70 participants were registered for the workshop. The distribution of participants by country is provided in the figure below:

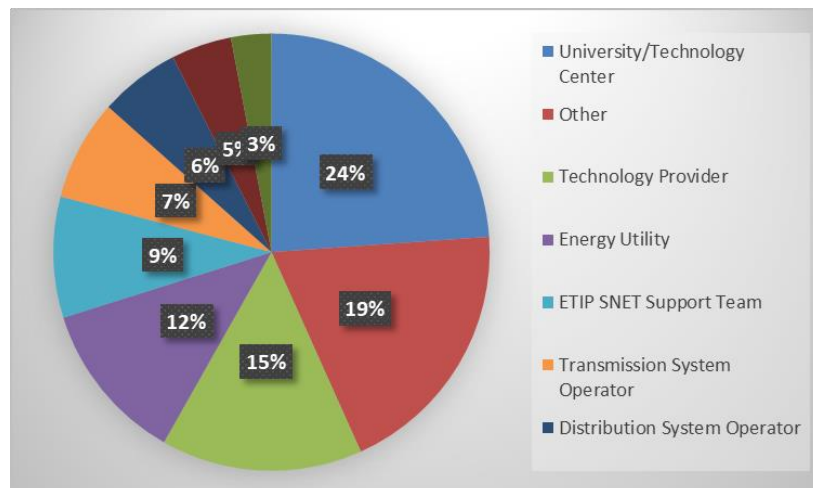
Figure 1 – Distribution of participants by country



It can be noticed that the three main countries represented from the eastern region are Croatia, Greece and Italy. Also, 25% of the participants are coming from other countries located outside of the eastern region: the UK, France and Germany are the most represented.

Moreover, the following figure gives an indication of the distribution of participants by their type of organization:

Figure 2 – Distribution of participants by organization



It can be pointed out that 24% of the audience comes from University/Technology Centres 19% from Other category (automobile, media, funding agency, research institute, NPO, etc.) and 15% from technology provider.

2.2 MAIN QUESTIONS FROM THE PROJECTS' Q&A SESSIONS

Each project presentation has been followed by a session of questions and discussions (10 minutes for each session). The main questions and comments are collected in the table below:

Table 4 – Main questions and comments by project (Zagreb)

Project	Country	Main Questions & comments
Session 1: Projects addressing topics within the scope of ETIP SNET's Working Group 1 (WG1): "Reliable, economic and efficient smart grid system"		
The NEDO Project	Slovenia	The main issues raised by the project concerned the mechanism used to involve potential participants in DSM projects observing that the present methods (e.g. mechanism of compensation for participation) are not very effective. The economic gain for consumers (20€/yr) is perceived as not "appealing" and it does not motivate participation on a large scale. Some questions were asked in order to investigate different mechanisms to motivate people (fee for non-participation? a more severe regulation? how to recruit voluntaries? by mail? by presentation in local communities?). In order to increase participation, solutions should be simple and cost effective. Home automation is good solution for quick response needs but questionably cost effective. A second important issue concerned the rural areas, difficult to reach, with problems of reliability of supply and where ICT is an issue. One of the solutions pointed out was to develop and apply innovative market approaches for flexibility services, such as for example a nodal flexibility market.
The LivinGrid Project	Italy	Main questions were focusing on the innovation level of the project. The project uses an existing microgrid, and the innovation consists in the high-speed communication (that is a target to be reached by 2050). Another point was the involvement of the prosumer in the project (bulk production VS prosumer generation). It was stressed that, in this project the prosumer is simply the interface.
Projects for Smartening the Greek Islands	Greece	The main issue was about the percentage (or the threshold) of RES that can contribute to the energy mix. The importance to have 50% of thermal generation in the system was reminded to keep the relevant frequency. Again, the participation of local community in the projects was discussed. Local energy communities (LEC) are key in the clean energy package: the intention to put the local into the equation and to develop incentives was raised.
Session 2: Projects addressing topics within the scope of ETIP SNET's Working Group 2 (WG2): "Storage technologies and sector interfaces"		
Husahagi Wind Power Plant and Battery Energy Storage System	Faroe Islands	The project generated an important reaction of the public about the 'very fast' Return of Investment reached of 4.5 years. It was mentioned that this project would have a very good replicability in MED islands; however, due to the specific network topology of the Faroe Islands, the remuneration schemes and cost-savings generated with the project, it was economic viable and profitable with the BESS used. It was said, that the reduction of curtailment will increase with more experience and the penetration of wind energy in the island will be higher than the 80 % (load share) reached nowadays. The speaker highlighted that the close cooperation of all the stakeholders involved in the project has been a key factor to succeed. The full integration of the BESS is a very big challenge and the coordination and cooperation between batterie manufacturers, power electronics manufacturers and integrators, is crucial for the well-development of the project and a viable business case.

The EVBASS Project	Croatia	<p>The scaling up of this project has been evoked. Some other cases about car batteries' swapping stations businesses have been discussed (i.e. Israel – Better Place). The lack of standards has been commented. This is a major issue impacting the technical and business viability of this type of projects.</p> <p>Possible users and customers have been discussed: i.e. transportation companies' fleet. Issues related to the life cycle of the battery when providing different type of services has been commented. Also, the impact and issues of using 2nd life batteries. EU Projects dealing with these issues have been mentioned (inteGRIDy, ELSA...).</p>
The StoRES Project	Cyprus, Greece, Slovenia, Italy	<p>The following questions were discussed in the context of this presentation: centralise vs decentralise storage? where is the right place to use the BESS (HV/MV/LV/household)? and who should own the assets? in order to maximise the impact and the technical and economic benefits of the batteries in the energy network. It has been said that it will depend on the local context and the specific needs of the energy system where the batteries are been deployed. Emphasis was given to the fact that ancillary services delivered by batteries are best suited to Operators for developing and operating. This will also determine the properties of the battery (cycling, manufacturing, composition materials).</p> <p>The need of innovative products and multiplicity of use in the different markets would help the BESS deployment and the business cases to be adapted.</p> <p>The differences between regulatory practices related to BESS in the Southern Region of Europe were evoked (Greek Islands, Cyprus, Croatia, Slovenia). Finally, it has been recommended that future policies should identify the right combined tariff system so as to favour the deployment of storage at EU level.</p>
The SUCCESS Project	Croatia	<p>It has been said that regulatory framework for aggregators is still missing. The lack of aggregators in EU is difficult to validate results of modelling (and business cases).</p> <p>The lack of reliable and accurate data related to EVs has been commented: data is needed to facilitate the planning and calculations for reinforcement of the grid, for developing charging stations, etc.</p> <p>When developing the business models for EVs, how to evaluate the cost for the owner? how to consider the degradation of the battery and the issues caused to the owner of the vehicle? It has been asked if the DSOs would need additional flexibility or if the grid is strong enough to be reliable.</p>
Session 3: Projects addressing topics within the scope of ETIP SNET's Working Group 3 (WG3): "Flexible Generation"		
the uGRIP Project	Croatia	<p>The discussions focused on the following topic:</p> <ul style="list-style-type: none"> - How the aggregator can provide cheaper prices to the consumer: the need to pay more attention to the customers and learn their habits was stressed. - Moreover, additional information has been requested related to the final beneficiary of the project. It was indicated that the 2 main targets are the policy makers and the operators of the electricity system.
the Energia 2020 Project	Italy	<p>The main topics discussed focused on the technical aspects of the project: why did the project use microturbines? How to co-optimize the thermal and electrical supply? It was indicated that the microturbines are more flexible and that an optimization algorithm has been used for the co-optimization of thermal and electrical supply. Indeed, the coupling of micro-turbines intends to satisfy the electrical and thermal demand. It was also stressed that renewable fuels shall be considered for the future such as liquid fuels. Last but not least, since the project was being developed at the campus scale, the question of the scalability of the project has been raised: the projects' outputs might be used for refurbishment areas in Savona.</p>
the SMARTGEO Project	Italy	<p>The collaboration between industries and Universities to foster synergies was stressed during the discussion. Moreover, the replicability of the outputs of the project within other industries' sectors was considered: it was reminded that the results could be used in industries that can adopt the platform developed within the project.</p>

Session 4: Projects addressing topics within the scope of ETIP SNET's Working Group 4 (WG4): "Digitisation of the electricity system and Customer participation"		
The SUCCESS Project	Romania	The need for standards and communication interfaces for the integration of smart meters has been stated. The industrialisation of 'enhanced' smart meters with a multiservice approach is a very difficult step towards deployment. Difficulty to reach the market. Also, who is going to pay for this technology? It has been proposed that a joint multi-actor investment for stacked services might be a solution for the deployment of this technology. A multi revenue stream business model is needed to have a viable business case. The issues related to data privacy, cybersecurity and the GDPR have been stated as essential when dealing with this type of technologies.
The "Smart metering LTD" Project	Hungary	The issues related to the deployment of smart meters in Hungary have been exposed and commented with the audience. When deploying smart meters, it is very hard to convince customers in countries where there are only a couple of euros/month earned. Impact in the energy bills matters. It has been commented that in some EU countries there is a need to build relevant infrastructure before thinking about the deployment of smart devices (smart meters, etc.) in the energy network. Discussions have taken place about the costs of this modernisation and who should be paying for this. The role of attractive applications (gamification) is very important to foster the social acceptance regarding smart meters and appliances.
The STEELFLEX Platform Project	Slovenia	It has been said that 'Interoperability' towards the deployment of flexibility platforms managed by aggregator(s) is a key success factor and a major challenge: for instance, between the steel industry and energy suppliers (STEELFLEX project). Issues related to the quality of the data and ownership of the data have been stated. The need for new markets and products for flexibility has been discussed. Technical questions have been made from the public regarding the voltage level of the steel factory involved in the project (TSO network) and about its power needs and issues (time frame).

2.3 RECOMMENDATIONS FROM THE PROJECTS AND CONCLUSIONS FROM THE ROUNDTABLES

These recommendations and conclusions have been discussed and agreed upon during the final wrap-up session of the workshop.

2.3.1 SESSION 1: ADDRESSING TOPICS WITHIN THE SCOPE OF ETIP SNET'S WORKING GROUP 1 "RELIABLE, ECONOMIC AND EFFICIENT SMART GRID SYSTEM"

- Societal aspects and communication campaigns have to be considered in order to foster the participation of stakeholders in evolving retail energy markets.
- Additional European standards are still needed to facilitate communication between stakeholders (regulated operators for instance) to avoid interoperability issues.
- Subsidies schemes are needed to foster and support the advent of local energy communities (with all its possible roles), in line with the Clean energy Package negotiations.
- A neutral body is needed to implement and assess the planning process of the integrated energy system, including the interfaces between energy vectors (mainly PtX).
- High level transparency is required to solve the lack of trust among stakeholders to achieve an integrated perspective of the energy system.
- Network regulation shall address both CAPEX and OPEX (TOTEX) when deploying innovative technologies in order to achieve viable business cases.

2.3.2 SESSION 2: ADDRESSING TOPICS WITHIN THE SCOPE OF ETIP SNET'S WORKING GROUP 2 "STORAGE TECHNOLOGIES AND SECTOR INTERFACES"

- Investment from the government in charging infrastructure is strongly recommended to increase the amount of EVs in some countries.
- To satisfy the energy system needs (specifications) and have a viable business case, a holistic design of the BESS is required. Full cooperation between batterie manufacturers, power electronics manufacturers and integrators, is needed.
- The regulated operators shall own and operate BESS in order to provide system services and to optimise the use of the grid (cost optimisation strategies).
- New approach to network planning to account for available flexibilities provided by the DRS.
- More accurate and reliable EV data is needed to facilitate the planning and calculations for reinforcement of the grid, for developing charging stations, etc.

- Many regulatory barriers need to be removed (double grid fees, add value of different services) in order to foster the development of BESS for instance.

2.3.3 SESSION 3: ADDRESSING TOPICS WITHIN THE SCOPE OF ETIP SNET'S WORKING GROUP 2 "STORAGE TECHNOLOGIES"

- Regulatory barriers have to be removed to allow aggregators to participate in different markets and provide different kind of services to the energy systems (flexibility).
- Aggregators need to reach a critical mass (MW/MWh) to be able to participate to the ancillary services markets.
- Match making between industry and academia needs to be enhanced, for instance, with collaborative Platforms allowing optimum exploitation and dissemination strategies.
- For the development of microgrids, which provide flexibility, interoperability related standards are needed.

2.3.4 SESSION 4: ADDRESSING TOPICS WITHIN THE SCOPE OF ETIP SNET'S WORKING GROUP 4 "DIGITISATION OF THE ELECTRICITY SYSTEM AND CUSTOMER PARTICIPATION"

- To allocate fund, the authority has to make sure that the societal aspects are considered within the project so as to have larger samples of stakeholders.
- Internet should be assured at European level, as a pre-requisit to support the digital agenda. Emphasis should be made in rural areas.
- In general, NORM as a DSO-only related equipment is a barrier. A joint investment between stakeholders for stacked services might be a solution.
- It is needed to generate the correct value chain of the different energy services without forgetting to create benefit to the end-user.
- Need to build and enhance the relevant infrastructure to continue the development of smart appliances
- « Qualified energy user », and « non-qualified energy user »: attractive communication strategies for each of these groups is needed.
- Right incentives (gamifications, contests) are to be foster to reach the critical mass.
- The need of societal approach hubs is needed to manage data. The identification of a responsible party is needed and data access from the source could be a solution.

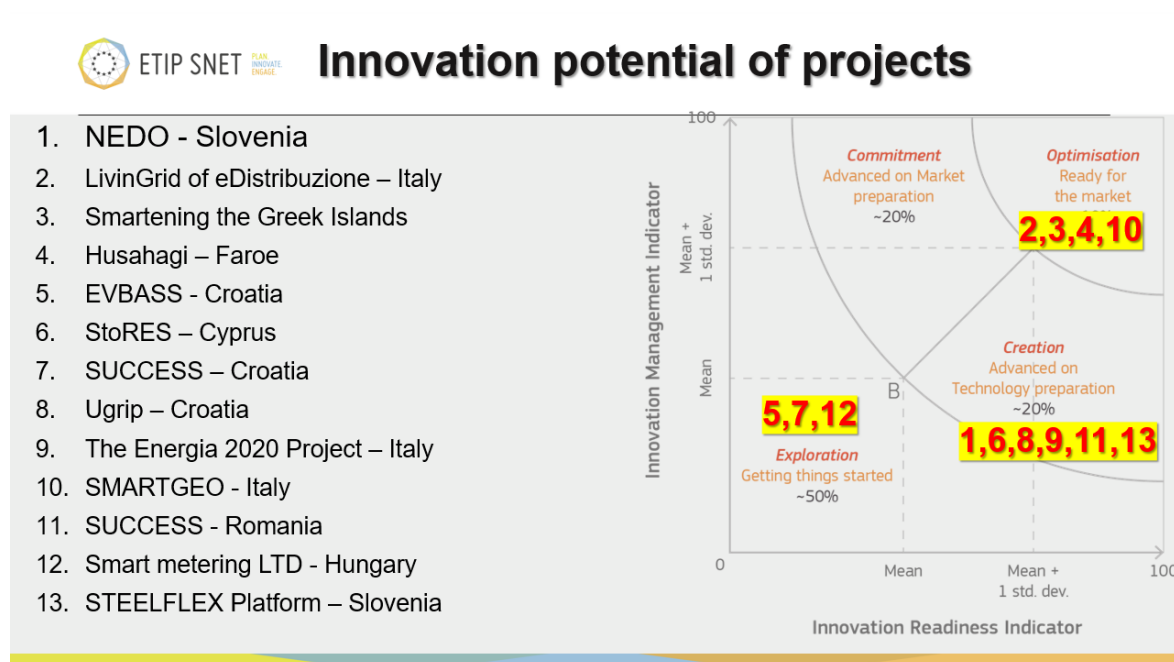
2.4 RECOMMENDATIONS FOR INNOVATION IMPLEMENTATION IN THE BUSINESS ENVIRONMENT

The 2018 workshops are now including a dedicated session related to the WG5 topics “Innovation implementation in the business environment”. The aim is to provide recommendations to the projects by identifying ways for commercial breakthrough or suitable next steps for the effective use of their results.

The WG5 representative highlighted the 3 main questions the Project consortia shall ask themselves regarding their innovation path:

1. What is the research path / main focus of your project?
2. What is the innovation potential, capacity and maturity of projects to successfully achieve targeted objectives and raise impact?
3. During project execution what actions / measures you have taken / addressed as consortia in extending the life of the project beyond funding period for fulfilling project objectives and raising impact?

Afterwards, the 13 projects presented during the workshop have been classified depending on their innovation potential as shown in the Innovation Readiness map below:



The above classification of the projects was based on the identified exploitation paths and high-level project objective of all projects presented following the methodology depicted in the drawing below, which are summarised in the following paragraphs. The high-level exploitation paths of projects were briefly discussed with the participants so as to obtain a rough estimation of innovation readiness and maturity depicted above. The main objective of the session was to identify the methodology and give an initial assertion of where each project stands as a

genuine feedback to project consortia and not as a documented evaluation of projects. In this respect, what is reported in this section is to be taken as a methodology and not as a detailed documented evaluation of project results on which future decisions will be based on. Further work is needed to reach valid evaluation stage, and this is on consortia to conduct and inform whoever is appropriate.

- NEDO – Slovenia

Investment project to validate technologies in solving real problems to generate policies for replication.

- LivinGrid of eDistribuzione – Italy

Move away from BAU to adapt SG solutions for managing distributed resources offering observability, controllability for cost effective integration and optimised utilisation of renewable energy sources.

- Smartening the Greek Islands

Mitigate emissions and cost of energy on islands through effective use of local resources by effectively adapting emerging technologies, automation and smart solutions.

- Husahagi – Faroe

Adapting wind parks to the needs of isolated grids with high wind penetration through the use of a suitable BESS.

- EVBASS – Croatia

Open investigation of options available for battery swapping stations to identify business options forward.

- StoRES – Cyprus

Optimal use of social and behind the meter storage in support of PV penetration to maximize benefits to all connected users.

- SUCCESS – Croatia

Complementary needs of the grid to increase benefits of fast charging systems with BESS that make them competitive.

- Ugrip – Croatia

Energy transition towards more optimal market operation models with level playing field for all actors including aggregators and microgrid operators.

- The Energia 2020 Project – Italy

Establishment of a living lab for the energy transition towards sustainability to meet educational and technological needs.

- SMARTGEO – Italy

Digitalization of processes in the geothermal industry for innovative technological solutions of prognosis and control to achieve higher optimization and efficiencies.

- **SUCCESS – Romania**

Interoperable gateway to the user meeting metrology needs together with system and market needs adaptable and expandable.

- **Smart metering LTD – Hungary**

Multi service smart meters with universal communication platform offering multi-operational use can be attractive for mass deployment. More work is needed.

- **STEELFLEX Platform – Slovenia**

Understand production in the steel industry, identify flexibility in production process, develop an operational interoperable platform using an integrated communication platform to generate economic benefits through effective use of the generated flexibility.



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