

## Portfolio of Research and Innovation Results Project Group: TDX-ASSIST 774500 PDESA

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**SERVICE 1 “Portfolio Dissemination and Exploitation Strategy (PDES)”**  
**MODULE A: Identification and creation of the portfolio of R&I project results**

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## Contents

1. Executive Summary .....	4
2. Methodology .....	5
3. Results and Positioning.....	6
3.1. Proposed project group .....	6
3.2. Clustering features of proposed project group .....	7
3.3. Project group overview .....	7
3.4. Collective challenges .....	10
3.5. Project Group members.....	11
3.6. State-of-the-art Analysis .....	12
3.6.1. Field overview.....	12
3.6.2. Differentiators in the field .....	12
3.7. Project Group Results .....	13
3.8. Main actors in the field .....	15
3.9. SWOT Analysis.....	15
4. Stakeholder Analysis.....	17
4.1. Target stakeholders.....	17
4.1.1. Stakeholder 1 .....	17
4.1.2. Stakeholder 2.....	17
4.1.3. Stakeholder 3.....	17
4.1.4. Stakeholder 4.....	18
4.2. Barriers to dissemination .....	18
4.3. Stakeholder Relevance Analysis.....	19
4.4. Geographical dimension and level of engagement .....	20
5. Stakeholder & Dissemination Networks Mapping .....	21
5.1. Dissemination channels .....	21
5.2. Dissemination network .....	21
6. Conclusions and Recommendations.....	23
Annex 1 Dissemination networks .....	24
Annex 2 Project questionnaire responses .....	27

## 1. Executive Summary

TDX-ASSIST is a Project Cluster addressing Smart Grid, Energy storage and digitalisation organised under the Horizon Results Booster programme (HRB) of the European Commission.

HRB supports effective transfer of research and innovation project results to policy-makers, industry and society by offering various services as dissemination, exploitation strategy and business plan development to projects supported under the 7th Framework Programme (FP7) or Horizon 2020 funding schemes.

This document, the D1.1 Portfolio of Research and Innovation Project Results of TDX-ASSIST identifies the collective results of the project group to be disseminated, their characteristics and the target stakeholders that can benefit from these results and are ultimately the target audience for the project group dissemination activities.

The main objectives of the various projects that will serve in the PG dissemination effort are:

- Facilitate scalable and secure information systems and data exchange between Transmission System Operator (TSO) and Distribution System Operator (DSO).
- Integrate the emerging decentralized ecosystem of Renewable Energy Sources (RES).
- Enhance cooperation and coordination among the transmission system operators of SEE.

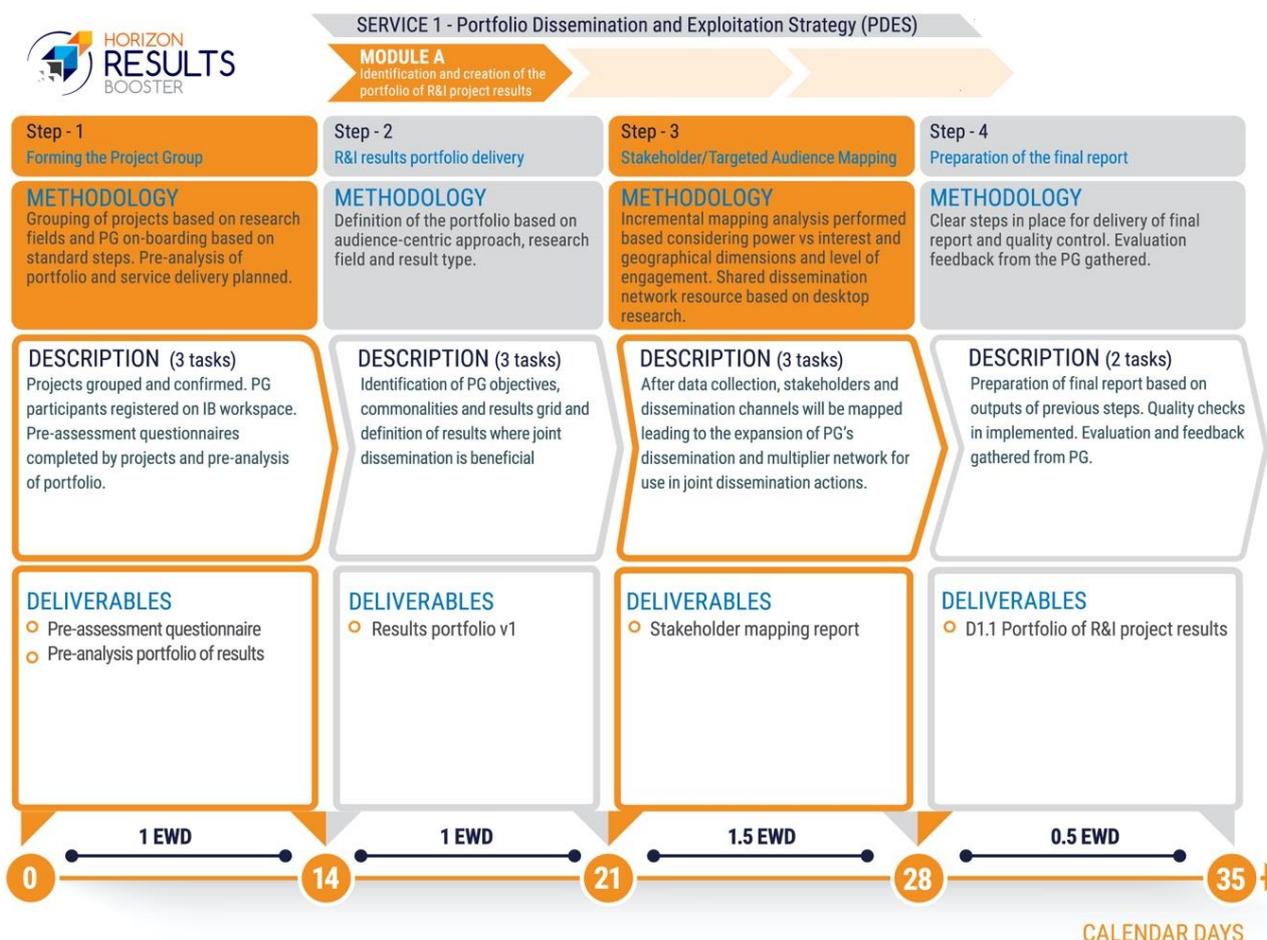
The document is organised as follows:

- Project group overview
- State of the art analysis
- Field overview and differentiators
- Project group results
- Positioning in the field
- Multi-dimensional positioning diagram and SWOT analysis
- Stakeholder analysis
- Dissemination channels
- Conclusions and recommendations

## 2. Methodology

PDES1 identifies and forms groups of projects, or Project Groups (PG), in order to create a Portfolio of Research & Innovation Results (D1.1) that can benefit from joint dissemination from the participating projects. A key element of this process is the identification of commonalities between projects in terms of results, areas of research and target stakeholders. This is the foundation for the establishment of cohesive Project Groups (PGs). The module also includes a mapping of stakeholders/target audiences for joint dissemination actions and an identification of the best dissemination channels.

Figure 1 - PDES 1A Identification and creation of the portfolio of R&I Results



### Step 1 Forming the project group

The service team identifies projects that could join the project group and sends the pre-analysis portfolio of projects and results to the main beneficiary. Following convergence with the main beneficiary the group is confirmed. Projects are then contacted and invited to join the HRB platform. Each project completes the pre-assessment questionnaire the responses to which can be found in Annex B. A first introductory call may take place.

### Step 2 – R&I results portfolio delivery

Using the data collected in the pre-assessment questionnaires and the first versions of the portfolio presented at a conference call, the Service Team elaborates the information to prepare the final Portfolio of R&I results.

### Step 3 – Stakeholder / target audience mapping

Step 3 provides PGs with a full mapping of stakeholders/target audience referred to the identified Portfolio of R&I results, including specifications on how they should address them through the most effective dissemination channels and dissemination networks to leverage on.

### Step 4 – Preparation of the final report

The Lead Expert will resume all results and outcomes in the final report which will include:

1. **Portfolio of R&I results**
2. **Stakeholder mapping report.**

## 3. Results and Positioning

### 3.1. Proposed project group

The first step of HRB Module A is to identify a number of projects that are pertinent to, or have similarities with the main beneficiary project in terms of focus, research field and target stakeholder. For practical reasons, in terms of managing the project group and delivery of PDESA and PDESB, a limited number of projects (maximum 10) are proposed.

The proposed project group is shared with the beneficiary during step 1, who has the opportunity to accept or refuse the projects into the project group. The beneficiary can also propose other projects that they may wish to involve. This can be done both at the application stage or during step 1.

The table below provides an overview of the projects that the service team proposed in the pre-analysis project group document. Additional projects suggested by the beneficiary are also included.

**Table 1 Proposed project group**

Project	GA No.	Invited to join group	Status	Comment
Planet	773839	Yes	Rejected by beneficiary	NA
Plan4res	773897	Yes	Rejected by beneficiary	NA
Interplan	773708	Yes	Rejected by beneficiary	NA
Magnitude	774309	Yes	Rejected by beneficiary	NA
XFLEX	863927	Yes	Joined the group	NA

Project	GA No.	Invited to join group	Status	Comment
Trinity	863874	Yes	Joined the group	NA
SPINE	774629	Yes	Rejected by beneficiary	NA
Crossbow	773430	Yes	Joined the group	NA
E-land	824388	Yes	Joined the group	NA

### 3.2. Clustering features of proposed project group

The project group above was formed after receiving support from the HRB Service Delivery Team in finding suitable complementary project group members. The following summarises the key reasons for this specific composition:

- All the projects of the cluster are funded under the same Call (H2020-EU.3.3.4. “A single, Smart European electricity grid”) which aims at supporting activities that focus on research, development and full-scale demonstration of new smart energy grid technologies.
- The PG members shares a common ultimate objective that is the achievement of an open, decarbonised, environmentally sustainable, climate-resilient and competitive market, under normal and emergency conditions.
- The different PG members address similar stakeholders in the carrying out of their effort: smart grid operators, TSOs and DSOs vendors, utility and energy providers, multi-technology providers.
- The PG members tackle concretely the key-aspects of the “EU Renewable Directive” in order to contribute to the increase of the share of renewable energy across the different sectors of the economy to achieving an integrated energy system that delivers on Europe’s ambition of climate neutrality.
- At different extent, the PG members attempt at finding an effective response to the rising need for a successful integration of renewable energy sources and flexibility provision, to ensure a reliable and stable electric system through the deployment of state-of-the-art technological platforms and innovations (“EU Climate and Energy package”)

### 3.3. Project group overview

Following discussion with the beneficiary in the first conference call a new set of projects were identified. The table below provides an overview projects included in the project group and the challenges each project is addressing.

Table 2 The Project Group

Project Snapshot	Description	Challenges Addressed
<p>TDX-ASSIST</p> <p>Duration: 01.10.2017 – 30.09.2020</p>	<p>The project aims to design and develop novel Information and Communication Technology (ICT) tools and techniques that</p>	<ul style="list-style-type: none"> <li>• Scalability – Ability to deal with new users and increasingly larger volumes of information and data.</li> </ul>

Project Snapshot	Description	Challenges Addressed
<p><b>Website:</b> <a href="http://www.tdx-assist.eu/">http://www.tdx-assist.eu/</a></p> <p><b>No. of Partners:</b> 11</p> <p><b>Funding Programme:</b> H2020-EU.3.3.4.</p> <p><b>Funding Amount:</b> € 4 175 452,50</p> <p><b>Project Type:</b> RIA - Research and Innovation action</p> <p><b>Geographical Coverage:</b> European/International</p>	<p>facilitate scalable and secure information systems and data exchange between Transmission System Operator (TSO) and Distribution System Operator (DSO), in the power management &amp; smart grid sector.</p>	<ul style="list-style-type: none"> <li>• Security – Protection against external threats and attacks.</li> <li>• Interoperability – Information exchange and communications based on existing and emerging international smart grid ICT standards.</li> </ul>
<p><b>X-FLEX</b></p> <p><b>Duration:</b> 01.10.2019 – 30.09.2023</p> <p><b>Website:</b> <a href="http://xflexproject.eu/">http://xflexproject.eu/</a></p> <p><b>No. of Partners:</b> 12</p> <p><b>Funding Programme:</b> H2020-EU.3.3.4.</p> <p><b>Funding Amount:</b> € 7 314 485,25</p> <p><b>Project Type:</b> IA - Innovation action</p> <p><b>Geographical Coverage:</b> European/International</p>	<p>The X-FLEX project proposes a set of integrated solutions that will facilitate the optimum combination of decentralised flexibility assets, of both on the generation (DER) and on the demand side (V2G, power-to-heat/cold, batteries, demand response) enabling all parties, including final prosumers, to offer their flexibility in the local and wholesale market creating benefits to all the actors in the smart grid value chain. This flexibility will make it possible to maintain a stable and secure electricity system with a growing role of variable renewable generation, yet resilient to extreme climate events.</p>	<ul style="list-style-type: none"> <li>• Improve grid flexibility through the integration of flexibility measures provided by storage of electricity, power to-heat/cold, demand response and new market mechanisms;</li> <li>• Increase distributed renewable energy penetration, ensuring affordability of energy;</li> <li>• Improve security and stability of supply and increase the resilience of the electricity grid, avoiding massive investments in infrastructures.</li> </ul>
<p><b>TRINITY</b></p> <p><b>Duration:</b> 01.10.2019 – 30.09.2023</p> <p><b>Website:</b> <a href="http://trinityh2020.eu/">http://trinityh2020.eu/</a></p> <p><b>No. of Partners:</b> 16</p> <p><b>Funding Programme:</b> H2020-EU.2.1.1.</p> <p><b>Funding Amount:</b> € 13 151 140</p>	<p>TRINITY will develop a set of solutions to enhance cooperation and coordination among the transmission system operators of SEE in order to support the integration of the electricity markets in the region, whilst promoting higher penetration of clean energies.</p> <p>This strategic goal will be driven by end-users: 6 Transmission System Operators</p>	<ul style="list-style-type: none"> <li>• The adoption of a single and unified electricity market is one of the main challenges faced by Europe today. South-Eastern Europe (SEE) is still to tackle substantial barriers in order to catch up with the more experienced EU regions. TRINITY will address this challenge in order to improve the current situation and facilitate the interconnection of South-Eastern electricity markets – among themselves and within the current Multi Regional Coupling area (MRC).</li> </ul>

Project Snapshot	Description	Challenges Addressed
<p><b>Project Type:</b> IA - Innovation action</p> <p><b>Geographical Coverage:</b> European</p>	<p>(TSOs), 5 Nominated Electricity Market Operators (NEMOs), 1 Regional Security Coordinator (RSC) and 3 Renewable Energy Source (RES) promoters) and will be achieved through the deployment in the region of four independent, but complementary, TRINITY products.</p>	
<p><b>CROSSBOW</b></p> <p><b>Duration:</b> 01.11.2017 – 31.10.2021</p> <p><b>Website:</b> <a href="http://crossbowproject.eu/">http://crossbowproject.eu/</a></p> <p><b>No. of Partners:</b> 24</p> <p><b>Funding Programme:</b> H2020-EU.3.3.4. - A single, smart European electricity grid</p> <p><b>Funding Amount:</b> € 17.287.742,88</p> <p><b>Project Type:</b> IA - Innovation action</p> <p><b>Geographical Coverage:</b> European</p>	<p>CROSSBOW will propose the shared use of resources to foster cross-border management of variable renewable energies and storage units, enabling a higher penetration of clean energies whilst reducing network operational costs and improving economic benefits of RES and storage units</p>	<ul style="list-style-type: none"> <li>• Improved control of exchange power at international interconnection points.</li> <li>• New energy storage solutions (distributed and centralized).</li> <li>• Enhanced network observability.</li> <li>• Definition of a transnational wholesale market, proposing fair and sustainable remuneration for clean energies through the definition of new business models supporting the participation of new players and the reduction of costs.</li> </ul>
<p><b>E-LAND</b></p> <p><b>Duration:</b> 01.12.2018 – 31.05.2022</p> <p><b>Website:</b> <a href="https://elandh2020.eu/">https://elandh2020.eu/</a></p> <p><b>No. of Partners:</b> 13</p> <p><b>Funding Programme:</b> H2020-EU.3.3.4. - A single, smart European electricity grid</p> <p><b>Funding Amount:</b> € 5 354 345</p> <p><b>Project Type:</b> IA - Innovation action</p>	<p>The main objective is to support the decarbonisation of Local Energy Systems (LES) by developing a E-LAND Toolbox for Multi-Energy Islands including tools and methods addressing the business, society and technology challenges related to LES.</p>	<ul style="list-style-type: none"> <li>• Contribution to the 2030 Climate &amp; Energy objectives: 40% GHG reduction (with respect to 1990) and at least 27% of renewables by 2030.</li> <li>• Solutions for decarbonisation of the local energy system.</li> <li>• Validation of approaches to a safe and secure local energy system that integrates significant shares of renewables (electricity, heating, cooling, water, wastes, etc.).</li> <li>• Design a cellular energy structure.</li> <li>• Implementing of a modular toolbox composed of technology, business and community engagement related tools, and validation of the viability and impact of</li> </ul>

Project Snapshot	Description	Challenges Addressed
Geographical Coverage: European/India		these tools in three regions in Europe and 2 regions in India with different geography, demography, sociography and maturity in terms of business actors, community and end-user activities, implementation of different energy vectors including storage, amount of renewables in the local energy mix and variety of loads that call for efficient and intelligent management system and process.

### 3.4. Collective challenges

The main challenges tackled by the Project Group are summarised in the following table.

**Table 3 Collective Challenges**

Type of Challenge	Complementary Challenge and Description
<b>Societal</b>	Secure, clean and efficient energy.
	Enforcement of the role of citizens and communities as active players in implementing new technology including understanding how the dynamics of existing communities can be explored and further developed in order to secure impact and longevity of the introduced solutions. E-LAND is developing community tools to address this challenge.
<b>Scientific and Technological</b>	Development and implementation of novel smart grid ICT tools and technologies and expanding the scope beyond electricity grid to address all available energy sectors.
	To improve grid flexibility through the integration of flexibility measures provided by storage of electricity, power to-heat/cold, demand response and new market mechanisms.
	To increase distributed renewable energy penetration, ensuring affordability of energy.
	To improve security and stability of supply and increase the resilience of the electricity grid, avoiding massive investments in infrastructures. This can include development and integration of the needed technology tools to change the role of the Local Energy System or isolated community from being a possible grid liability to an actor providing services to the grid, when needed.
	Establish the proper communication protocols in order to allow the different technologies and different energy sectors to work synergically.
<b>Industrial</b>	Enabling enhanced TSO-DSO interaction.
	To demonstrate project impact and replicability potential during the project and beyond the project activities.
	Facilitate the interconnection of South-Eastern Europe (SEE) electricity markets – among themselves and within the current Multi Regional Coupling area (MRC).
<b>Business</b>	Increase the use of, and further develop and validate the current and most advanced innovative business models for energy communities and key energy market players.

Type of Challenge	Complementary Challenge and Description
	Create new business opportunities for different storage technologies (apart from conventional battery storage) which currently do not exist. These include the potential for seasonal storage and cross-vector storage optimisation.

### 3.5. Project Group members

The following individuals have participated in PDES1A. This includes the following type of activities:

- registering on the HRB platform
- participation on conference calls
- completion of pre-analysis questionnaire.

Table 4 Project group members

Project	Name	Organisation	email
X-FLEX	Lola Alacreu Garcia	Grupo Etra	lalacreu.etraid@grupoetra.com
TRINITY	Alvaro Nofuentus Prieto	Grupo Etra	anofuentes.etraid@grupoetra.com
TDX-Assist	Michelle O'Shea	Brunel University	michelle.oshea@brunel.ac.uk
TDX-Assist	Mohammed Radi	Brunel University	mohammed.radi@brunel.ac.uk
CROSSBOW	Manuel Serrano	Grupo Etra	mserrano.etraid@grupoetra.com
E-LAND	Heidi Tuiskula	Smart Innovation Norway	heidi.tuiskula@smartinnovationnorway.com

The following conference call was carried out with the group

- Conference call: 5 October 2020

### 3.6. State-of-the-art Analysis

#### 3.6.1. Field overview

The energy sector accounts for more than 75% of the European Union’s greenhouse gas emissions. Increasing the share of renewable energy across the different sectors of the economy is therefore a key building block to achieving an integrated energy system that delivers on Europe’s ambition of climate neutrality.

The European Green Deal moreover sets out the EU’s path to climate neutrality by 2050, through the deep decarbonisation of all sectors of the economy, and higher greenhouse gas emission reductions for 2030.

As Europe needed to increase the use of energy from renewable sources, the original Renewable Energy Directive (2009/28/EC) establishes an overall policy for the production and promotion of energy from renewable sources in the EU. It requires the EU to fulfil at least 20% of its total energy needs with renewable energy by 2020, to be achieved through the attainment of individual national targets. All EU countries must also ensure that at least 10% of their transport fuels come from renewable sources by 2020.

Deployment of smart grids is one of the three priority thematic areas under the **Trans-European Networks for Energy (TEN-E)** aiming to help integrate renewable energy, complete the European energy market and allow consumers to better regulate their energy consumption.

Smart grid projects that contribute to this and have a significant impact on energy markets and market integration in at least two EU countries, are identified as [Projects of Common Interest \(PCI\)](#) and are considered pivotal for implementing cross-border energy infrastructure in the EU.

Despite intense discussion about the smart grid, development has been slower than expected, with deployment of smart meters generally falling below expectations, and investment in other smart grid segments limited in size. Three factors are slowing the pace of development:

1. Lack of a clear regulatory framework and incentives
2. Absence of significant consumer demand
3. Segment-specific issues

To support on policy and regulatory directions for the deployment of smart grids in Europe, the Commission has set up a [smart grids task force](#), which has issued key reports on standards, cybersecurity and flexibility markets. These are largely agreed by industry, European Standards bodies, public authorities and consumer organisations.

#### 3.6.2. Differentiators in the field

The most relevant differentiators in the field of Secure, Clean and efficient energy system and possessed by the PG are summarised in the following table.

**Table 5 Most relevant differentiators**

Differentiator	Description (order by most important)
Interoperability	This project addresses the further research and development needed to ensure that greater levels of interoperability between TSO and DSO, but also DSO to other Market participants,

	such as other DSOs, Aggregators, Distributed Energy Resources (DER) Operators, Micro-grid Operators, etc., can be realized, and to also harmonise a wider range of standardisation activities that are presently underway or complete.
<b>Holistic, integrated approach to the overall energy value chain</b>	Up to now, projects and research activities in this area have focused mostly on specific energy sources, technologies and actors, considering only a very limited and isolated part of the whole network.  Synergies across all energy flexibility sources and technologies and cooperation among all the actors of the smart grid and energy market, in an efficient and cost-effective manner, will create the optimal combination of decentralised flexibility assets located along the whole energy value chain, providing benefits to all the actors of the smart grid, energy retail and wholesale market, offering an all-win scenario.
<b>Innovative Solutions</b>	TRINITY is exploring innovative solutions such as blockchain tracking systems, modular Open Source solutions and optimized market participation with an approach in which different energy roles cooperate.  E-LAND is developing novel algorithms for multi-vector energy management and optimization using for example machine learning.

### 3.7. Project Group Results

A synthesis view of the main results from the projects in the Project Group is provided in the table below, as the basis for future service definition and stakeholder mapping.

**Table 6 – Dissemination Portfolio Results Grid**

Id	Result	Result type <sup>1</sup>	Project(s)	TRL	Delivery date
R1	TDX-ASSIST WP1 has defined 10 Business Use Cases and 84 Business Objects associated to these BUC and 18 System Use Cases.	Use Cases repository.	TDX-ASSIST	TRL 2-Technology formulation.	28/02/2019
R2	CIM extensions applicable to CGMES or IEC 61970-400 series profiles related to some TDXASSIST Use Cases.	CIM extensions.	TDX-ASSIST	TRL 4-Small scale prototype.	31/05/2020
R3	ECCo SP can be used as efficient platform for data exchange between TSO's and DSO 's in real-time and static information.	Data exchange Platform.	TDX-ASSIST	TRL 5-Large scale prototype. Tested in	31/03/2020

<sup>1</sup> Results types are: Blueprint; Commercial solution; Data set / data pool; Demonstrator; Feasibility study; Framework (e.g. software environment, policy document, legal framework); Hardware (e.g. chip, appliance, drone, sensor, system); Infrastructure (e.g. IT infrastructure, transport infrastructure, energy infrastructure, water infrastructure, building etc.); Methodology; Model (e.g. risk model, mathematical model, data model, physical model, business model etc.); Patent (e.g. utility, design patents and plant patents); Policy report; Prototype; Proxy/broker service; Research and/or virtual environment; Scientific publication (Refereed); Scientific publication (Non-refereed); Software (e.g. routine, integrated platform, library, plugins); Standard (e.g. norms, policies); Taxonomy / Ontology; Tool / Toolkit / toolbox; Training (e.g. learning tools, services, modules); White paper or similar publication; *Other – please specify.*

Id	Result	Result type <sup>1</sup>	Project(s)	TRL	Delivery date
				intended environment.	
R4	13 System Use Cases were developed to reflect the DSO interaction with market. They are documented in a UCMR.	Use Cases.	TDX-ASSIST	TRL 3- Applied research. First laboratory tests completed; proof of concept.	31/03/2019
R5	Full architecture of the data exchange cloud platform based on the actors, services from WP2 and BUCs from WP1.	Data Exchange Cloud Platform.	TDX-ASSIST	TRL 3- Applied research. First laboratory tests completed; proof of concept.	31/07/2020
R6	SERVIFLEX TOOL: Integrated flexibility management tool	Tool/Toolkit	X-FLEX	TRL 7- Demo system	30/09/2022
R7	GRIDFLEX TOOL: Advanced tools for automatic control and observability	Tool/Toolkit	X-FLEX	TRL 7- Demo system	30/09/2022
R8	MARKETFLEX TOOL: Market platform and new market mechanisms	Tool/Toolkit	X-FLEX	TRL 7- Demo system	30/09/2022
R9	X-FLEX Platform: Flexible and scalable integrated platform	Toolkit	X-FLEX	TRL 7- Demo system	30/09/2022
R10	T-MARKET COUPLING FRAMEWORK	Framework	TRINITY	TRL8-1st of a kind commercial system	31/03/2022
R11	T-SENTINEL TOOLSET	Toolkit	TRINITY	TRL8-1st of a kind commercial system	31/03/2022
R12	T-RES CONTROL CENTRE	Toolkit	TRINITY	TRL8-1st of a kind commercial system	31/03/2022
R13	T-COORDINATION PLATFORM	ICT Platform	TRINITY	TRL8-1st of a kind commercial system	31/03/2022
R14	E-LAND Community tools	Toolkit	E-LAND	TRL8	30/06/2019

Id	Result	Result type <sup>1</sup>	Project(s)	TRL	Delivery date
R15	E-LAND Business tools	Toolkit	E-LAND	TRL7	20/11/2021
R16	E-LAND Technology tools	Toolkit	E-LAND	TRL7	31/05/2021
R17	E-LAND Toolbox and replication guidelines	Toolkit	E-LAND	TRL8	31/05/2022

### 3.8. Main actors in the field

This table identifies the elements of differentiations of the results of the Project Group with respect to the main players, similar research initiatives or competitors that are currently working in this field.

Table 7 – Differentiation with key actors in the field

Result ID	Differentiator	Closest Competing/Related Actors
R1	Interoperability	CoordiNet, INTERFACE
R2	Holistic, integrated approach to the overall energy value chain	N/A
R3	Innovative Solutions	MINSAIT, ACCIONA, PROCOM

### 3.9. SWOT Analysis

In the figure below, a preliminary SWOT analysis for the PG has been prepared, to support the envisaged PG dissemination activities.

Figure 2 – SWOT Analysis for the PG

<p style="text-align: center;"><b>Strengths</b></p> <ul style="list-style-type: none"> <li>Advanced Status of PG solutions</li> <li>Strong PG R&amp;D capabilities to develop cutting edge solutions</li> </ul>	<p style="text-align: center;"><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>Current absence of significant customer demand (despite the increasing interest) [<i>N/A for E-Land that developed its solutions with end-users</i>]</li> <li>Slow national deployment of Smart Grid</li> <li>Lack of clear regulatory and incentives framework</li> <li>Current investment limited in size (despite the increasing interest)</li> </ul>
<p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>Increasing interest in clean and efficient energy from policy makers (EU Green Deal, Circular Economy Action Plan), investors and society at large</li> </ul>	<p style="text-align: center;"><b>Threats</b></p> <ul style="list-style-type: none"> <li>Difficult adoption coordination at national level</li> <li>Other private companies “big players” might decide to enter the market</li> <li>Potential technical problem post adoption of the PG solutions</li> </ul>

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>• Increasing relevance of cybersecurity solutions for critical infrastructure</li></ul> | <ul style="list-style-type: none"><li>• Weak Policy Makers engagement (despite the increasing interest)</li></ul> |
|---|---|

Having assessed the above elements, the Project Group should promote its strengths (which will therefore be highlighted in the dissemination activities), mitigate its weaknesses wherever possible, and leverage on the available opportunities while taking into accounts any potential threat.

### Positioning Insights

By analysing the state of the art, actors in the field, the project group's differentiators, the market positioning diagram and the SWOT analysis, we reach the following conclusions:

By analysing the state of the art, actors in the field, the project group's differentiators, the market positioning diagram and the SWOT analysis, we reach the following conclusions:

- Conclusion 1: Despite the growing interest in society at large, end users adoption and investor buy-in will be driven by improvement in the current policy at national level. The Project Group shall therefore focus special attention to foster proper engagement with policy makers to disseminate the impact of the proposed solutions and its alignment with the policy goal of the EU Green Deal.
- Conclusion 2: Dissemination efforts should highlight the R&D excellence, technological advantages and societal impact offered by the PG solutions.
- Conclusion 3: Given the threat of potential technical problem in post adoption of the PG solutions (that might further slow down national deployment), the PG should consider starting pilot deployment tests with the most interested countries.

## 4. Stakeholder Analysis

### 4.1. Target stakeholders

Stakeholders are parties that will be affected by operations, objectives and results of the Project Group. Stakeholders that are relevant for each project in the group are categorised and mapped according to several different perspectives including their geographical broadness, domains, type of activity, interest in the portfolio of results, and level of influence.

The information here was collected from the questionnaire results and the conference call with the project group. The main primary stakeholders for TDX-ASSIST are identified below in order of importance and relevance to the dissemination objectives of the group.

#### 4.1.1. Stakeholder 1

<b>Description</b>	Research and Academia
<b>Projects</b>	TDX-ASSIST
<b>How stakeholders can benefit from the PG results</b>	More services between different stakeholders can be implemented and deployed on the designed data exchange cloud platform
<b>Engagement to date</b>	Neutral (Aware of projects yet neither supportive nor resistant)

#### 4.1.2. Stakeholder 2

<b>Description</b>	Policy makers, Funding Agencies including EU & national digital agencies
<b>Projects</b>	TDX-ASSIST
<b>How stakeholders can benefit from the PG results</b>	<ul style="list-style-type: none"> <li>Provision of a Use Case repository towards IEC System Committee Smart Energy, and TCs associated SyC Smart Energy</li> </ul>
<b>Engagement to date</b>	Supportive (Aware of project & impacts and supportive to change)

#### 4.1.3. Stakeholder 3

<b>Description</b>	Large enterprise(s)
<b>Projects</b>	TDX-ASSIST, X-FLEX, TRINITY
<b>How stakeholders can benefit from the PG results</b>	<ul style="list-style-type: none"> <li>Allow cross-border market participation.</li> <li>Enhancing security and reliability of the existing regional transmission infrastructures.</li> <li>Optimizing the management and operation of RES plants, facilitating their participation in the different electricity markets.</li> <li>ICT platform which would serve for RSC-TSOs and for TSO-RES producers communication and coordination.</li> </ul>
<b>Engagement to date</b>	Supportive, Actively Engaged

#### 4.1.4. Stakeholder 4

<b>Description</b>	Innovation Platforms & Clusters
<b>Projects</b>	X-FLEX, TRINITY
<b>How stakeholders can benefit from the PG results</b>	<ul style="list-style-type: none"> <li>Adoption of new Solutions and Tools to take advantage of the value of energy storage along with other demand flexibility res.</li> </ul>
<b>Engagement to date</b>	Actively engaged

#### 4.2. Barriers to dissemination

The table below outlines the main barriers to successful dissemination actions that have been identified and considerations such as possible initial recommendations.

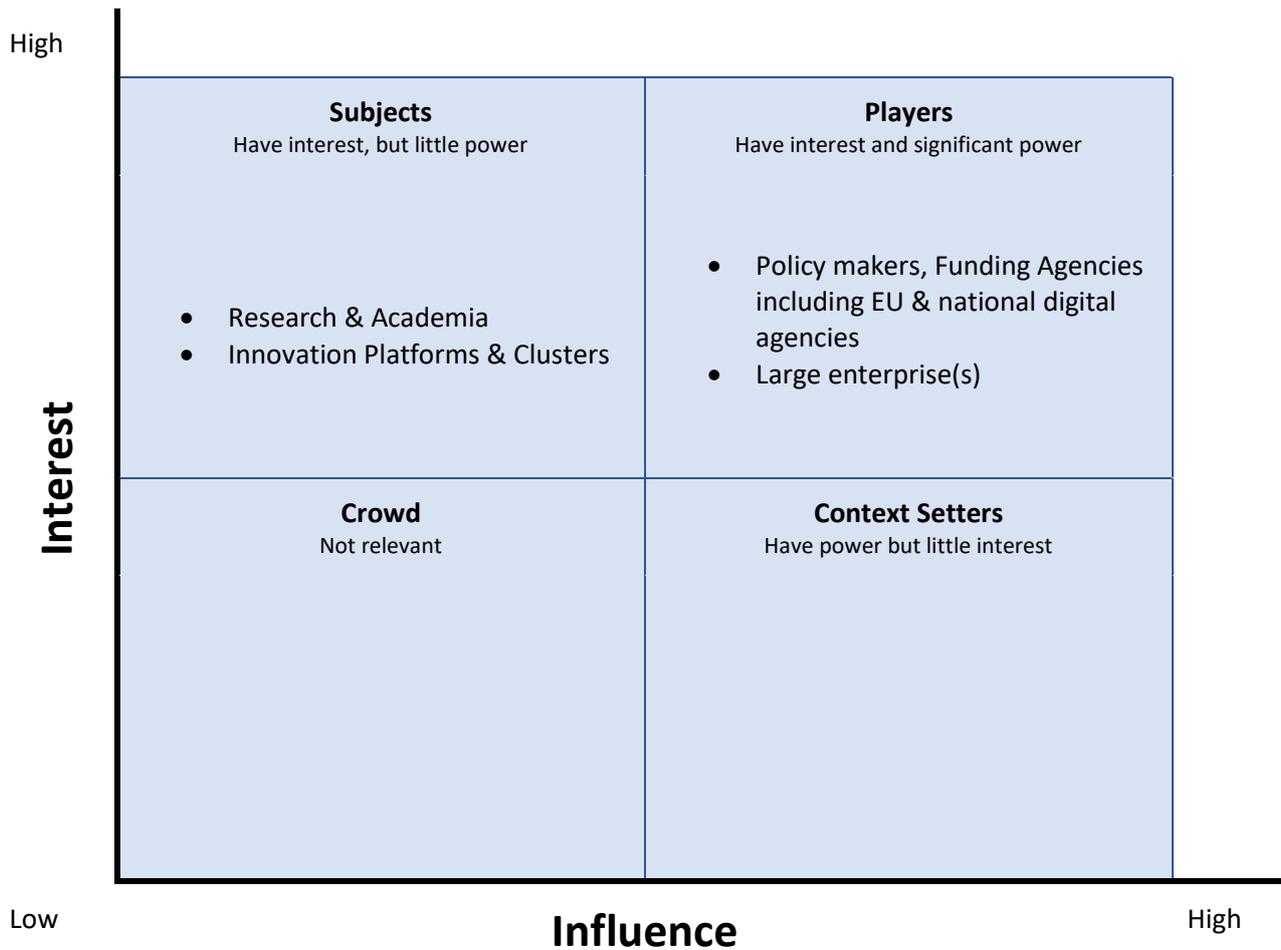
**Table 8 – Barriers to dissemination**

<b>Id</b>	<b>Stakeholder group</b>	<b>Description</b>	<b>Considerations</b>
B1	<ul style="list-style-type: none"> <li>Large enterprises</li> <li>Policy Makers</li> </ul>	Covid-19 related consequences	<p>The biggest barrier to the actual deployment of a Communication &amp; Dissemination plan has been associated, at this stage, with the obvious consequences of the current Covid-19 pandemic.</p> <p>Taking for granted the unavoidable situation that is going to last at least until half-2021, the ordinary communication’s channels and tools need a complete rethinking.</p> <p>The idea of setting-up some dedicated Webinars to showcase each of the most relevant outputs and results of the project Group, for example, could be the most efficient and cost-effective way to reach out the desired Stakeholders, by tapping into a broad list of Stakeholders (as the ones identified in the final Annex 1 section) to ensure a proper promotion.</p> <p>Conversely, the Project Group should intensify the overall digital activity on the whole (keeping an high frequency on social media and websites in terms of content delivery, news and updates) as well as try to join virtual events/fair or policy &amp; academia driven workshops/conferences.</p>

### 4.3. Stakeholder Relevance Analysis

The influence and interest of each stakeholder group is now considered in order to define their strengths in terms of supporting the uptake of the groups result. This will help the project group understand where to invest effort to maximise dissemination activities.

Figure 3 – Influence vs interest grid



#### 4.4. Geographical dimension and level of engagement

In this section we map the stakeholder groups according to geographical dimension and current levels of engagement between the projects in the group.

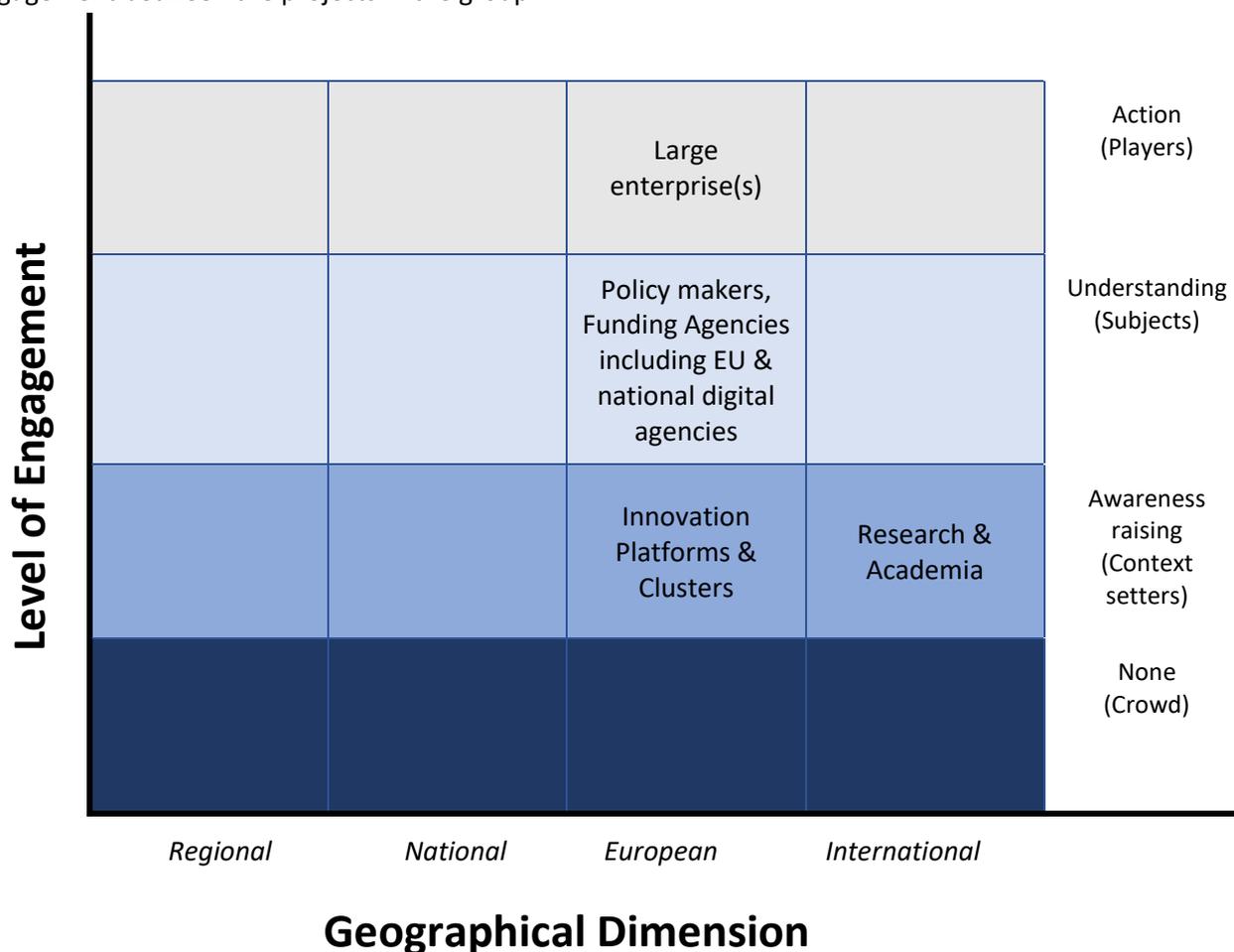


Figure 4 – Geographical dimension vs. Level of Engagement grid

With the analysis of the current state of engagement and importance of the stakeholders now known along with new general goals set, the project group can now identify the right dissemination channels they can use and can be easily referenced when they draw up their Portfolio Dissemination Plan.

## 5. Stakeholder & Dissemination Networks Mapping

### 5.1. Dissemination channels

Based on the desired level of engagement and the dissemination network, the diagram below maps the stakeholders with the most appropriate dissemination channel to use to create the greatest impact.

Table 9 – Dissemination Channels

	Research & Academia	Policy makers, Funding Agencies including EU & national digital agencies	Large enterprise(s)	Innovation Platforms & Clusters
Videos	X	X	X	X
Website Pages and Blogs	X	X	X	X
Newsletters				X
Social: Twitter	X			X
Social: LinkedIn	X			X
Press Releases and Kits	X			
Collaterals: Flyers, Banners, Posters	X	X	X	X
Events and Workshops	X	X		
Presentations	X	X	X	X
Infographics	X	X	X	X
Policy Briefs			X	

### 5.2. Dissemination network

Based on the analysis on target stakeholders, the HRB service delivery team identified a dissemination network with approximately 50 contacts and related social media channels identified across the stakeholder groups. All information gathered is publicly available. This can serve as an important basis for future dissemination activities.

The full network can be found in Annex 1.

## Insights – Channels to approach your audience

By analysing your collective target stakeholders, we recommend the following channels to approach your audience:

- **Videos** – Develop tailored videos that allow the project group’s targeted stakeholders to immediately grasp the developed solution’s positive impact on their activities. The video should effectively deliver the message, but also be engaging and professional to make sure the audience’s attention remain high.
- **Website pages** – Either create a joint website or catch-all landing page to showcases the collective results and impacts achieved by the project group. Alternatively, each project should create one page in each of their websites containing the joint results attained as project group. The website pages should immediately give the viewer(s) a clear idea of how they will take advantage by adopting the developed solution by creating tailored content for each Stakeholder.
- **Twitter** – To increase the reach of your social media content, identify and use in your posts the most used hashtags in you field. Identify and tag in your posts the most popular. Consider creating either a joint account as a project group. Each post should have a Call to Action (page visits, signups for registration, download of a report, views for a video etc.) and should provide rich content messages to the audience. Consider the possibility to perform a thorough Hashtag research, in order to better understand the key-facts within your field and/or the most trending topics for the projects and join the discussion.
- **Press releases** – Research the type of news published by the press and media identified in the dissemination networks. See what topics they write often and have a feel for their style or what type of information they like to post then write press releases that cover those. When sending press releases to media outlets, consider offering an exclusive interview with either your head of research, business developer, policy expert (depending on what the media outlet’s audience is).

Some short heads-up to create informative and engaging press Releases:

- Make it easy to find the relevant info.
  - Max out subject field and headline.
  - Capture the whole story in the headline/subhead.
  - Don’t just announce news: put it in context. Ask yourself: why is this important and why should people care?
  - Tie the PR to larger events and trends that are happening in the world.
  - Make sure the press release is grammatically correct, error-free, and doesn’t have long wordy paragraphs. The first paragraph should have important facts that answer: who, what, when, where, and why.
  - Close with a call to action or the message you want to leave in the mind of the reader.
- **Infographics** – Design various infographics tailored for each Stakeholder to visually and easily explain them what your solution is, what it does, how it does it, and finally to show them how the it will positively impact them. Focus on interesting statistics and facts that resonate with your stakeholders. Dimensions of the infographics should make it optimal for sharing online, particularly social media (i.e. think landscape layouts instead of portrait).
  - **Policy briefs** – Create a unified policy position or a position paper. Be creative in repurposing policy briefs. Even if they are in a downloadable format, they should be introduced by easily digestible content linking to the policy briefs such as blogs, a social media post that has an infographic attachment or a YouTube video.
  - **Newsletters** – First, design a stakeholder journey that will help you collect subscribers. Have a way for subscribers to sign up to your newsletter form (usually in a website). You can even brand your newsletter as a curator of the latest developments in the European satellites industry. Consider

segmenting newsletters as well so you can also consider sending tailored newsletters to specific stakeholder groups i.e. an SME newsletter can't just have specific updates from the projects but also latest developments in the general field or industry. Populate your newsletter with news articles, infographics, videos, etc.

- **LinkedIn** – Use LinkedIn to connect with relevant organisations/professionals and contact them directly to explore collaborations. Join existing groups that already deal with your same subject, and spark discussions with the members to promote synergies and adoption of your solutions by sharing articles, infographics, videos, etc.
- **Flyers, banners, posters** – Develop different printable material for each stakeholder group and ensure you have tailored message for each, particularly for fliers. Consider designing flyers that can also be shared digitally so you can repurpose flyers for social media (also focusing on a specific feature/output of the project).
- **Presentations** – The idea of a branded PPT template to be deployed in multiple occasions (meetings, conferences, virtual events, talks etc.) will ensure continuity and a very good recognition of the project in front of your audience over the long run.

## 6. Conclusions and Recommendations

Following an in-depth analysis of the we conclude that:

- The PG results deliver innovations in the field of Smart Grid, Energy storage and digitalisation.
- The project group's stakeholders are, by order of priority:
  - Research and Academia
  - Policy makers, Funding Agencies including EU & national digital agencies
  - Large enterprise(s)
  - Innovation Platforms & Clusters
- The barriers to dissemination are
  - Covid-19 related consequences: risk mitigation plan to tackle the consequences of the pandemic on Communication & Dissemination effort.
- The recommended dissemination channels to be used by the project group to reach its newly-identified common stakeholders are
  - Videos
  - Website Page
  - Twitter
  - Press Release(s)
  - Infographics
  - Policy Brief
  - Newsletter
  - LinkedIn
  - Flyers/Banners/Posters
  - PPT Presentations

## Annex 1 Dissemination networks

Based on the analysis in target stakeholders, the HRB service delivery team identified a dissemination network with contacts and related social media channels identified across the stakeholder groups to start engaging with. This can serve as an important basis for future dissemination activities.

Beside this, the EC recently published a “Social media guide for EU funded R&I projects” listing several social media pages and profiles to follow and engage with. The guide is available at

[http://ec.europa.eu/research/participants/data/ref/h2020/other/grants\\_manual/amga/soc-med-guide\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/other/grants_manual/amga/soc-med-guide_en.pdf)

Research & Academia

Press/Media

Including general local/national/international press, media and scientific journals

1. Academia
  - a. Website: <http://www.academia.bz.it/>
  - b. Email: communication@eurac.edu
2. Eurac Research
  - a. Website: <http://www.eurac.edu/en/pages/default.aspx>
  - b. Email: info@eurac.edu
  - c. Twitter: <https://twitter.com/eurac>
3. Oxford Academic
  - a. Website: <https://academic.oup.com/journals>
  - b. Twitter: <https://twitter.com/oupacademic>
4. Academia Publishing
  - a. Website: <https://www.academiapublishing.org/>
  - b. Email: service@academiapublishng.org
  - c. Twitter: <https://twitter.com/AcademiaPub>
5. Academic Journals
  - a. Website: <https://academicjournals.org/>
6. International Journal of Academic Scientific Research
  - a. Website: <http://www.ijasrjournal.org/>
  - b. Email: editor@ijasrjournal.org
7. Times Higher Education
  - a. Website: <https://www.timeshighereducation.com/>
  - b. Email: communications@timeshighereducation.com
8. Open Academia
  - a. Website: <https://openacademia.net/>
  - b. Email: info@openacademia.net
  - c. Twitter: [https://twitter.com/open\\_academia](https://twitter.com/open_academia)
9. Frontiers in Environmental Science
  - a. Website: <https://www.frontiersin.org/journals/environmental-science>
  - b. Email: editorial.office@frontiersin.org
  - c. Twitter: <https://twitter.com/FrontEnvSci>

## Events & Trade Fairs

Including relevant conferences, workshops, fairs or/and exhibitions

1. 2020 10th International Conference on Power and Energy Systems (ICPES 2020)
  - a. Website: <http://www.icpes.org/>
  - b. Email: icpes@outlook.com
2. 2021 the 5th International Conference on Management Engineering, Software Engineering and Service Sciences (ICMSS 2021)
  - a. Website: <http://www.icmss.org/>
  - b. Email: icmss\_icmss@163.com
3. 2020 4th International Conference on Power and Energy Engineering (ICPEE 2020)
  - a. Website: <http://www.icpee.org/>
  - b. Email: peeng@cbees.net
4. 2020 8th International Conference on Environment Pollution and Prevention (ICEPP 2020)
  - a. Website: <http://www.icepp.org/>
  - b. Email: icepp@cbees.net
5. The 10th International Conference on Informatics, Environment, Energy and Applications (IEEA 2021)
  - a. Website: <http://ieea.org/>
  - b. Email: ieea@sciei.org
6. 2021 11th International Conference on Renewable and Clean Energy (ICRCE 2021)
  - a. Website: <http://www.icrce.org/>
  - b. Email: icrceconf@126.com
7. International Conference on Renewable Energy
  - a. Website: <https://premc.org/conferences/icren-renewable-energy/>
  - b. Email: icren2020@premc.org
  - c. Twitter: [https://twitter.com/icren\\_renewable](https://twitter.com/icren_renewable)
8. Fifth Energy and Society Conference
  - a. Website: <https://webmagazine.unitn.it/en/evento/sociologia/71352/fifth-energy-and-society-conference>
  - b. Email: energy-society-srs@unitn.it
9. 5th International Conference on Energy Research and Technology (ICERT'21)
  - a. Website: <https://icertseries.com/>
  - b. Email: info@icertseries.com

## Relevant initiatives

Including projects, strategic alliances in regional, national, European, international levels.

Policy makers, Funding Agencies including EU & national digital agencies

## Press/Media

Including general local/national/international press, media and scientific journals

1. Energy Policy
  - a. Website: <https://www.sciencedirect.com/journal/energy-policy>
2. Economics of Energy & Environmental Policy (EEEP)
  - a. Website: <https://www.iaee.org/en/publications/eeepscope.aspx>
3. Twitter: International Journal of Sustainable Energy
  - a. Website: <https://www.tandfonline.com/toc/gsol20/current>
4. Nature

- a. Website: <https://www.nature.com/nenergy/>
- 5. The Economist
  - a. Website: <https://www.economist.com/search?q=Energy+policy>
- 6. Energypost.eu
  - a. Website: <https://energypost.eu/>
  - b. Twitter: [https://twitter.com/Energy\\_Post](https://twitter.com/Energy_Post)
- 7. The Energy Journal
  - a. Website: <https://www.iaee.org/en/publications/scope.aspx>

#### Events & Trade Fairs

Including relevant conferences, workshops, fairs or/and exhibitions

1. 5th International Conference on Energy Economics and Energy Policy (ICEEEP 2021)
  - a. Website: <http://www.iceeep.com/>
  - b. Twitter: [@iceeep@zhconf.ac.cn](https://twitter.com/iceeep)
2. International Renewable Energy Conference (IREC)
  - a. Website: <https://www.ren21.net/events/irecs/>
3. ICEEPS 2021: Energy Economics, Policy and Security Conference
  - a. Website: <https://waset.org/energy-economics-policy-and-security-conference-in-january-2021-in-paris>
4. ICEESP 2021: 15. International Conference on Energy Economics, Security and Policy
  - a. Website: <https://waset.org/energy-economics-security-and-policy-conference-in-january-2021-in-amsterdam>
5. ICEECCP 2021: Energy, Environment, Climate Change and Policy Conference
  - a. Website: <https://waset.org/energy-environment-climate-change-and-policy-conference-in-february-2021-in-amsterdam>
6. ICEECP 2021: Energy, Environmental and Climate Policy Conference
  - a. Website: <https://waset.org/energy-environmental-and-climate-policy-conference-in-march-2021-in-paris>
7. ICEEEP 2021: Energy Economics and Energy Policy Conference
  - a. Website: <https://waset.org/energy-economics-and-energy-policy-conference-in-april-2021-in-athens>
8. ICEECP 2021: Energy, Environment and Climate Policy Conference
  - a. Website: <https://waset.org/energy-environment-and-climate-policy-conference-in-october-2021-in-new-york>

#### Large enterprise(s)

##### Press/Media

Including general local/national/international press, media and scientific journals

1. CEEnergy News
  - a. Website: <https://ceenergynews.com/>
  - b. Email: [newsroom@ceenergynews.com](mailto:newsroom@ceenergynews.com)
  - c. Twitter: <https://twitter.com/ceenergynews>

## Innovation Platforms & Clusters

### Press/Media

Including general local/national/international press, media and scientific journals

1. CEEnergy News
  - a. Website: <https://ceenergynews.com/>
  - b. Email: [newsroom@ceenergynews.com](mailto:newsroom@ceenergynews.com)
  - c. Twitter: <https://twitter.com/ceenergynews>
2. Balkans Green Energy News
  - a. Website: <https://balkangreenenergynews.com/>
  - b. Email: [office@balkangreenenergynews.com](mailto:office@balkangreenenergynews.com)
  - c. Twitter: <https://twitter.com/BalkanGreEnNews>

### Relevant initiatives

Including projects, strategic alliances in regional, national, European, international levels.

1. The Renewables Grid Initiative
  - a. Website: <https://renewables-grid.eu/>
  - b. Twitter: <https://twitter.com/RenewablesGrid>
2. ENTSO-E
  - a. Website: <https://www.entsoe.eu/>
  - b. Twitter: [https://twitter.com/ENTSO\\_E](https://twitter.com/ENTSO_E)

## Annex 2 Project questionnaire responses

At the start of Module A, all participating projects are requested to complete a questionnaire. All responses can be found at this link

[https://workspace.horizonresultsbooster.eu/system/files/3497/tdx\\_assist\\_modulea\\_pre\\_assessment\\_questionnaire\\_for\\_individual\\_project.xlsx](https://workspace.horizonresultsbooster.eu/system/files/3497/tdx_assist_modulea_pre_assessment_questionnaire_for_individual_project.xlsx)