With the support of the Erasmus+ Programme of the European Union

Education for Digitalization of Energy

Deliverable 7.3

Report on fostering support for the project results

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Abstract:

This report describes all the activities and interactions with the stakeholders, synergies created, events organized and hosted by the consortium as part of al the tasks associated with WP7 to create awareness of the project concept and results and trigger open discussions, facilitate collaborations and to spark innovation in the education for digitalization of the energy sector domain. The activities conducted in the last 36 months of the project include dissemination and fostering support of the results associated with the skill gaps in the energy sector (part of WP2), stakeholders strategic network mapping (WP3), best practices, requirements and policies for the educational system (WP4), sector skills strategy (WP5) and trial demonstrations activities (WP6). All these actions include website and social media dissemination, newsletters, press releases, policy briefs, summary documents, videos, interviews, blogs, but also hosting and organizing events, workshops and special sessions during events, and organization of stakeholder and advisory board meetings.

DISCLAIMER

	Participant organisation name	Short	Country
01	UNIVERSIDAD PONTIFICIA COMILLAS	COMILLAS	Spain
02	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	NTUA	Greece
03	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE	RWTH	Germany
04	FOSS Research Centre for Sustainable Energy – U. of Cyprus	FOSS	Cyprus
05	Politecnico di Milano – METID	POLIMI	Italy
06	Kungliga Tekniska Högskolan	KTH	Sweden
07	Fundación Obra Social y Monte de Piedad de Madrid – Escuelas Profesionales Padre Piquer	PIQUER	Spain
08	Centrul Roman al Energiei	CRE	Romania
09	REPSOL SA	REPSOL	Spain
10	IBERDROLA	IBERDROLA	Spain
12	DNV	DNV	Spain
13	EDSO for Smart Grids	E.DSO	Belgium
14	NTT Data Italia SPA	NTT	Italy
15	NOVEL Group	NOVEL	Luxembourg
16	University of Cologne Business School	UCBS	Germany
17	Institute of Energy Economics at the University of Cologne	EWI	Germany

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Document History

Version	Date	Contributor(s)	Description
V1.0	November 2022	Radu Plamanescu (CRE)	Initial state of the document, ToC,
V2.0	December 2022	Radu Plamanescu (CRE), Carina Zidaru (CRE)	Integrate contributions and finalize the document.

Document Reviewers

Date	Reviewer's name	Affiliation
December 2022	Miguel Ángel Sánchez Fornié	University COMILLAS
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Table of Contents

Definitions, Acronyms and Abbreviations

ATEE	Association for Teacher Education in Europe
BSDE	Blueprint Strategy for Digitalisation of Energy value chain
CEDEFOP	European Centre for the Development of Vocational Training
CEER	Council of European Energy Regulators
CIRED	Centre for International Research of Environment and Development
DG	Directorate-General
DG-EAC	Directorate-General for Education and Culture
DSO	Distribution System Operators
EAEA	European Association for the Education of Adults
EASE	European Association for Storage of Energy
EC	European Commission
ECTS	European Credit Transfer and Accumulation System
ECVET	European Credit system for Vocational Education and Training
E.DSO	European Distribution System Operators
ENCS	European Network for Cyber Security
ENTSO-E	European Network of Transmission System Operators for Electricity
EP	Exploitation Plan
EPES	Electrical Power and Energy System
EQAVET	European Quality Assurance in Vocational Education and Training
EQF	European Qualifications Framework
ESCO	European Skills/Competences, Qualifications and Occupations
EU	European Union
EURASHE	European Association of Institutions in Higher Education
ICT	Information and Communication Technologies
IEA	International Energy Agency
IPR	Intellectual Property Rights
MOOCS	Massive Open Online Courses

PMU	Phasor Measurement Units
SEFI	European Society for Engineering Education
SSA	Sector Skill Alliance
TL	Task Leader
TSO	Transmission System Operators
VET	Vocational Education Training
I-VET	Initial Vocational Education Training
C-VET	Continuous Vocational Education Training
TVET	Technical and Vocational Education and Training
WAMC	Wide Area Monitoring and Control
WEC	World Energy Council
WP	Work Package
WPL	Work Package Leader

Executive Summary

D7.3 – Fostering support for the project results highlights the activities carried out by EDDIE consortium to increase the project impact and relevance, to disseminate the achieved results among relevant stakeholder groups and to pave the way for exploitation to support the education in the energy system as it evolves very much affected by its transition and digitalization. This report is a comprehensive and living document which gives an introduction and outline of the achieved dissemination activities and the ones proposed throughout the duration of the project, the tools, actions, and channels to be used in the dissemination and outreach of the products results.

As can be found in this document, the EDDIE partners have participated and organized different actions during the first 3 years of project implementation. These actions included organization of conferences and workshops, participation in conferences, workshops and fairs, social media dissemination, newsletters and flyer and poster preparation, non-peer-reviewed articles, and had heterogeneous audience and objectives. Moreover, these activities involved sometimes not only cooperation between the partners of the consortium but also collaborations with other projects and European initiatives, creating new synergies and networking. Additionally, some of the project Key Performance Indicators (KPIs) purposed at the beginning of and for the complete project were already achieved. The rest of the KPIs are still on-going and our target is to achieve all of them upon the project completion.

Within EDDIE stakeholder mapping, relevant target groups were identified with the aim of establishment of a Sector Skills Alliance, to develop an industry-driven Blueprint Strategy for the education and training in the energy sector which is continuously affected by digitalization. This Blueprint is an industry-driven strategy that will anticipate and contribute to meet the skills' demands for the sustainable growth and digitalization for the European Energy sector, becoming therefore the main observatory for this area of interest as supported by the European Commission. The relevant members of EDDIE stakeholder map were approached during private consultations and public events including the international advisory board meetings, stakeholder meetings, the participation to industry fairs and innovation events as well as through the active participation to initiatives promoted by the European Commission.

The EDDIE consortium will continue to disseminate the project outcomes to relevant stakeholders during the remaining of the project, creating or updating the dissemination material when necessary.

1. Introduction

This deliverable is a major outcome of Tasks 7.2 and 7.4 but has received contributions from all the tasks associated with WP7, whose overarching objective is to maximize the scientific, industrial, educational and societal impact of the project by creating awareness of the sector skills strategy, new directions and trends, technologies and the innovation activities within the project but also to engage actively with the public and the relevant stakeholders channeling and guiding feedback that will be incorporated in the strategic orientation of the project.

With this aim, the tools used by EDDIE, besides the web portal which serves as the first link to disseminate the project (**https://www.eddie-erasmus.eu/**), are the organization and participation in innovation and dissemination events (like workshops, conferences, industrial fairs, and other events), documents summaries for all the results and research assessments, press releases and contributions within the EU context. Another important tool that will be used is the development and organization of educational activities aiming to demonstrate the feasibility and materialization of the sector skills strategy for the digitalization of the energy value chain while training professionals with new skills to manage the new context of energy systems.

The impact objectives of all the activities on promoting EDDIE results, assessments and research work can be sorted in multiple groups based on different target audiences:

- Fostering support towards relevant stakeholder groups in energy industry (Energy producers and suppliers, Network Operators, Industrial and ICT suppliers, both equipment and services) These activities include the participation to industrial conferences, fairs and innovation events, the private and public, stakeholders (manufacturers, energy providers, policy decision makers, etc.), as well as the commitment in initiatives promoted by the European Commission like BRIDGE and ETIP-SNET.
- Fostering support towards the education providers and research community (Academic, training, research, and life-long learning community). The activities in this category include the participation in international peer-reviewed scientific conferences, the organization of special sessions, the publication in highly ranked, prestigious, international peer-reviewed journals and magazines. The aim is to create awareness of the project work and assessments for skills gap identification, best practices at EU level.
- Fostering support towards the VET systems and life-long learning (Sectoral organizations in the energy and lifelong learning fields). EDDIE addresses the gaps in current educational programs and the need for professionals with new skills crossing energy and ICT fields by organizing a face-to-face and an online inter-disciplinary course to promote the of BSDE.
- Fostering support towards other EU Erasmus+ Alliances projects and initiatives. The objective of these kind of activities and initiatives is to create a detailed view of the cross-cutting issues found during research projects, allowing to tackle the obstacles that innovation is facing, create synergies with other projects paving the way towards innovation for the digitalization of the energy sector.
- Fostering support towards Administration bodies and policy makers. Within this group of stakeholders, the aim is for presentation of the EDDIE concepts and results concerning the definition of a new framework for the education curricula and discussion about the implications for the educational providers. The objective is to raise awareness of the importance of the EDDIE topics and achievements among interested groups able to influence future decisions at National and EU level.
- EDDIE Advisory Board members. Within this group the focus is for comprehensive presentation of the ongoing work on the definition of new strategies for education of digitalization and discussion about the implications for the sector actors. Objective of the meetings is to collect feedback on the definition of blueprint strategy validated in the pilot trial and thereby ensure the European-wide acceptance and usability of the project outcomes.

1.1. Objectives and outline of the deliverable

The objective of this deliverable is to report about all EDDIE communication, dissemination and events that took place in the first 36 months of the project, for whose organizational and logistical enabling has been coordinated by WP7 leader (CRE) within all tasks. It starts describing the dissemination framework adopted in the project, the exploitation results associated with the different WPs established in the project as well as mentioning its contribution to the EU related objectives (Chapters 2, 3 and 4 respectively).

The description of the events is reported in Chapter 5, where the activities have been organized according to the following categories:

1. Events where EDDIE project has been presented
2. Events where members of the EDDIE consortium took benefit of their attendance and mentioned EDDIE project.
3. Events attended due to their importance and relevance and content to be considered within EDDIE.
4. Scientific work and publications.
5. EDDIE international advisory board meetings.
6. Plan for future events.

The contribution from the members of our International Advisory Board with their external high level and qualified opinions is included (chapter 6) and also the contribution of the project to the scientific community by means of works and publications (chapter 7)

1.2. How to read this document

This is a stand-alone document that can be read on its own. It describes all the activities carried out to foster support of EDDIE results, as part of all tasks related to WP7. Moreover, it is the actual implementation of the dissemination and exploitation plan, with all the concrete actions undertaken by the project partners to promote EDDIE consistent work and sector skills strategy to relevant, stakeholders representing the whole energy value chain, education providers, VET systems, and the project advisory board. The document is structured as follows:

- Chapter 2 describes the dissemination framework, with all the associated means and tools.
- Chapter 3 is related to the exploitable results, associated with all the WPs.
- Chapter 4 highlights EDDIE contribution to EU context.
- Chapter 5 lists all the events where EDDIE project was promoted to the relevant stakeholder groups.
- Chapter 6 is related to direct feedback from the Advisory Board Meetings.
- Chapter 7 refers to EDDIE contribution to the scientific community.
- Chapter 8 concludes the report.

2. EDDIE Dissemination framework

2.1. Dissemination strategy implementation

The objective of the dissemination part refers to all the activities carried out by the consortium towards maximizing the impact of the project results using the interactive communication channels between the project and the target groups (e.g., universities and other educational institutions, utilities, energy sector stakeholders, professional workers association, policymakers, and the general public).

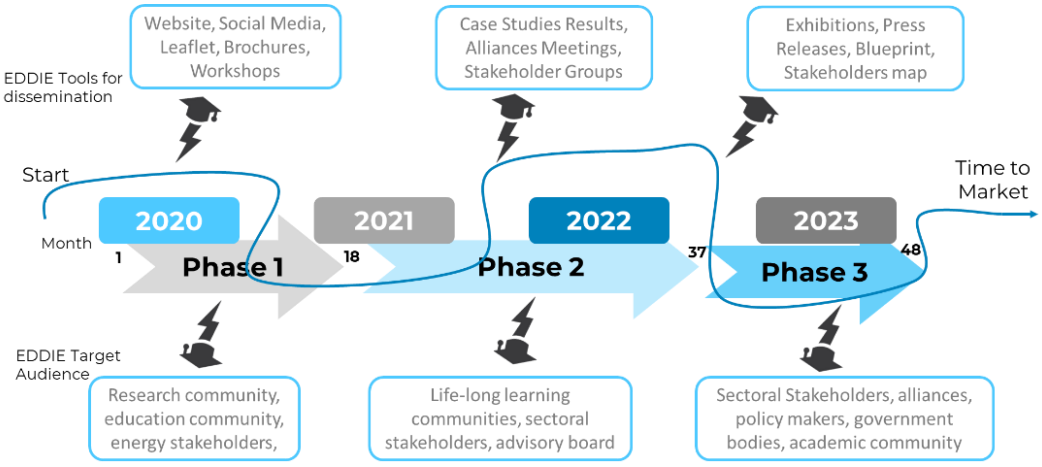


Figure 2-1. EDDIE's fostering support activities throughout the project implementation

EDDIE dissemination activities have been carried out based on the position of the target audience with respect to the time-to-market of the results, as follows:

- Phase 1: (Months 1-18): selecting the dissemination channels, key messages, communication activities towards innovation (Long time-to-market).
- Phase 2 (Months 19-37): Policy fostering sector innovation (Midterm time-to-market)
- Phase 3 (Months 38-48): Matching market analysis and Exploitation (Short time-to-market).

To maximize the communication and exploitation potential of EDDIE consortium, the dissemination activities were tailored the way to reach the target audiences through appropriately selected channels and tools. One of the key elements of the EDDIE strategy was the identification of dissemination target areas and audiences. To ensure the effectiveness of the communication strategy, it is and has been important to that each target group receives the message relevant to them at the right time using the right channel. At the same time, the key national, regional and local stakeholders are and were actively involved throughout the project implementation using the appropriate messages and channels as described in the report D7.2 Dissemination and Exploitation Plan.

EDDIE partners have important and significant link with European and international actions, incentives, work programs, technical committees etc.:

- Most of EDDIE partners already participated, and currently participates in EU project consortiums or associations, related with EDDIE project. This was the adequate basis for significant knowledge and technology transfer, from former innovation and development projects by strengthening the exploitation of results.
- Some EDDIE partners are involved in the activities of European Clusters, Alliances, industrial groups, standardization bodies, academic partnerships, EU Task Forces, technical committees etc.
- Some EDDIE partners are members of international committees, technical boards of important symposiums, all that can ensure and facilitate the dissemination of EDDIE results
- Many EDDIE partners have consolidated collaborations between each other (research, academy and industrial) also through EU funded projects. Thus, will certainly strengthen the cooperation within EDDIE project, towards a successful finalization of the project.

National level, EDDIE project results and activities will be disseminated among:

- All industrial stakeholders identified.
- Academic framework, at all levels, including Vocational Education Training (VET) Providers.
- Relevant local, regional, and national public bodies, important regulators.

Relevant professional associations, lifelong learning associations, as they can inform their members and contacts about EDDIE project and its results, being therefore important local dissemination means

2.2. Evaluation of dissemination activities

For evaluation of EDDIE impact using dissemination activities, quantitative indicators and associated metrics were set and agreed with the project management board (PMB), subjected to variations during the project implementation. The summary of all the key performance indicators (KPIs), as defined for the complete project, is structured in Table 2-1, for a better understanding of the progress. The background activities leading to achieving the KPIs are summarized and highlighted in the following chapters.

Table 2-1. KPIs associated with WP7 activities during the implementation of the project

Activities		Expected Level	Current situation	Qualitative impact
Peer reviewed articles, books, book chapters etc (Papers disseminated through IEEE conferences, IEEE Transactions, Energies, CIGRE conferences, symposiums etc)		10 articles	3 articles (more details will be found in chapter 7)	The followed approach will be for high-impact publication magazines, conferences, symposiums, with energy experts participating and interacting. The publications are addressed to a highly educated public with pertinent opinions and visions. This activity is **ongoing**.
Videos and Multimedia	Videos on Youtube	>5000 views	Results=1000 Views on YouTube (9 videos on YouTube, 0 on TV); CRE hosted 8 minute online video conversation with a representative of each partner and a nominated (by the same partner) person relevant for EDDIE and for the energy sector, education activities or other professional topics. So far 9 videos were produced.	The consortium hosted online video conversation with a representative of each partner and a nominated (by the same partner) person relevant for the context of digitalization of the energy value chain. The purpose of such interviews is for the stakeholders to get familiar with the partners background, expertise and relevance for the EDDIE ecosystem (digitalization, energy sector, education, VET etc.) For the last year of the project, more videos will be produces for the trial site demonstrations as to create the proper presentation of each trial. We are targeting the 5000 views on Youtube. This is **ongoing**
	Video news releases:	8 news pieces (2 on National TV)	0 video news released	The video news will be related to the trial demo sites, presenting the

				work and all the relevant activities for each trial. This is **ongoing**.
	Newsletter	>500 Subscribers Total Number = 16 (4 per year)	400 Subscribers to Newsletter;	On one side, the number of newsletter subscribers will be increased naturally by the number of stakeholders joining our strategic network, as part of the WP3, and on the other side, with the help of all the trial demo activities that will involve numerous participants. This is **ongoing**.
	Press conferences	>2 Press Conferences	0 Press Conferences.	The press conferences will be organized for the presentation of the trial sites and for the end of the project. The number of press conferences will be reached in the last year of the project. **Ongoing**.
Project website		>40.000 visits	30 000 website visits for the first 3 years of the project	During Y3 a lot of dissemination and exploitation activities were carried out in terms of blogs, policy brifes documents, examples of best practices etc., all targeted for the groups of stakeholders identified as part of EDDIE database. This activity is **on track and ongoing**.
Social media		> 3 Applications (Linkedin smart grids, Twitter, Facebook). 500 followers	3 Social handles Created. LinkedIn (774 followers), Twitter (185 followers), YouTube (20 Subscribers).	On track and achieved for the overall project. Still growing and continue for Y4. The social media numbers are the results of the intensive dissemination actions including interviews, blogs, policy briefs documents, new trends, new strategies at EU level. All actions were tailored for the stakeholders groups identified as part of EDDIE stakeholders map. **Achieved** but still **ongoing**.
Workshops and other events		"Participation in 2 top conference contributions/year and 1 Fair /year"	EDDIE project partners have participated in more than 10 top international conferences and events and in 1 Fair. Moreover, EDDIE consortium organized and hosted two special panel session within "Promoting cooperation between digitalisation of energy centres of expertise and	EDDIE consortium managed to participate but also host some important events and panel sessions to disseminate the project results, strategy and assessments. In the same time, virtual booth within fairs and events were possible and the consortium interacted with the stakeholders. This activity was **achieved** for each year of the implementation as it can be found in chapter 5.

		digital innovation hubs" and EUSEW 2022. Another important event was Enlit Europe 2022, where EDDIE was part of the EU Project Zone (online and on-site). The details of all events are presented in chapter 5.	
Non-peer reviewed publications (reports, briefs, books, articles targeting policymakers, industry or other end users)	>10 publications > 30.000 readers	More than 20 documents (articles) were published in 2022 as for blogs, policy briefs, new strategies at EU level, best practices relevant for EDDIE, summaries of documents and deliverables, results, assessments, press releases on various topics etc.The total of readers is over 25000 for the first 3 years of the project.	The purpose of such texts is to highlight the main scientific achievements on the pathways of digitalization of the energy sector. The policy briefs include relevant new directions, new strategies at EU level relevant for EDDIE context. The interview series show relevant professionals talking about their filed of research in addressing the digitalization of the energy sector, raising awareness, acceptance and understanding of current trends and strategies in this field. The activity is **on track** and **ongoing**

2.3. Visual identity tools

A set of graphical elements has been designed and used in all dissemination activities to appropriately impact the target audience and easily identity the EDDIE project. Those elements include the EDDIE logo, templates for reports, press releases, summaries, documents, as well as other promotional materials such as private and public presentations, leaflets, roll-ups, brochure etc.

These tools have been created with specific objectives such as consistency (allowing an effective and coherent communication of the project results, assessments and strategy), reusability (keep the same structure for multiple types of documents allowing to create the statement and impact of EDDIE) and appeal (branding and easy recall while giving equal importance to symbolic elements and aesthetics).

Below are some examples of EDDIE visual identity, such as project logo and background image used in certain situations (for the website, and social media channels), as can be seen in Figure 2-2.

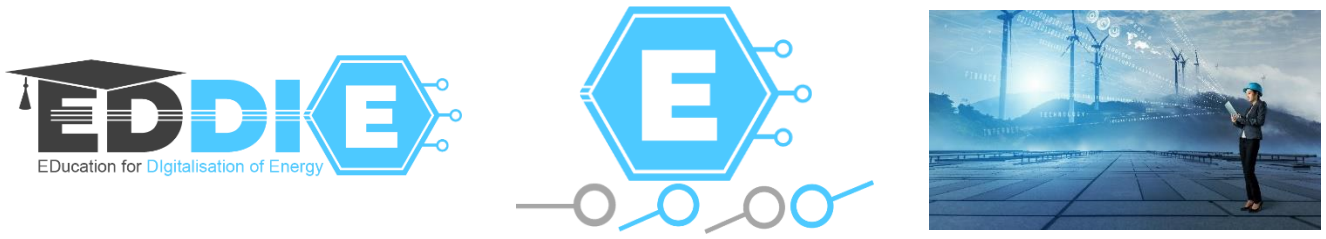


Figure 2-2. Collection of EDDIE visual tools, such as project logo, accents of the logo and background image

As part of the visual identity, we can include here the typography used in all EDDIE materials and the project colors, as be seen in Figure 2-3.

MONTSERRAT
is the font for the logo

ARIAL
is mainly used for classic typography and all templates

HTML code: #4DC9FF
RGB code: R:77 G:201 B:255

HTML code: #3F3F3F
RGB code: R:63 G:63 B:63

HTML code: #BFBFBF
RGB code: R:191 G:191 B:191

Figure 2-3. Colours and typography associated with EDDIE visual identity

2.4. EDDIE promotional materials

The project consortium released a first version of a project brochure, focusing on general aspects of the project and highlighting the main topics addressed within the implementation. The digital version of this brochure can be seen in Figure 2-4 and the printed version was distributed to all consortium partners and already used in several occasions for project outreach and promotion, as it can be seen in Figure 2-6.

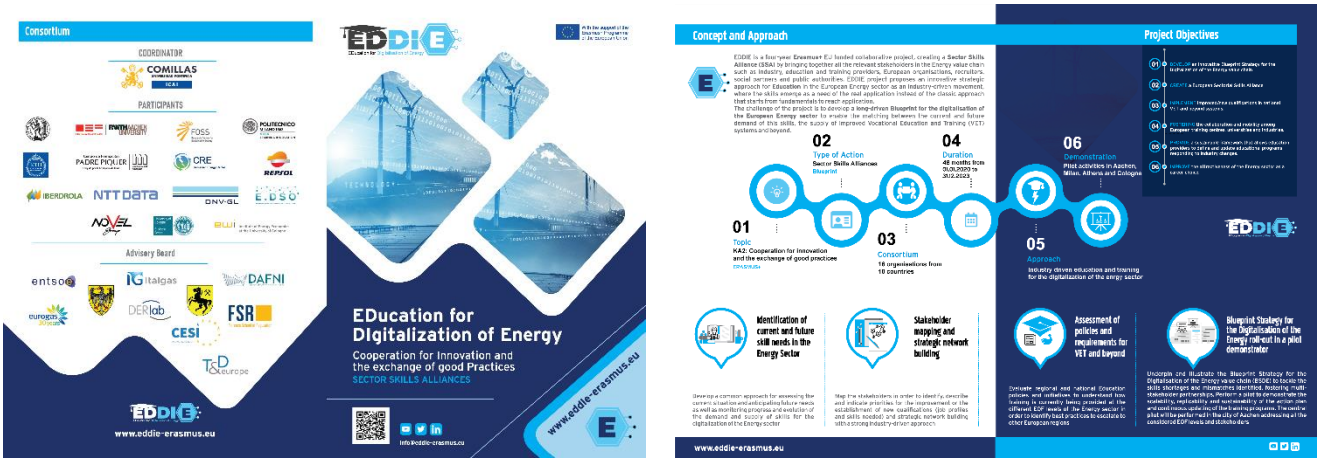


Figure 2-4. EDDIE brochure - version #1 - page 1&4 (left side) and page 2&3 (right side)

The same approach was for the roll-up, with a first version including a brief overview of the project goals and strategy. The digital version of this roll-up can be seen in Figure 2-5 and the printed version was distributed to all consortium partners and already used in several occasions for project outreach and promotion, as it can be seen in Figure 2-6.

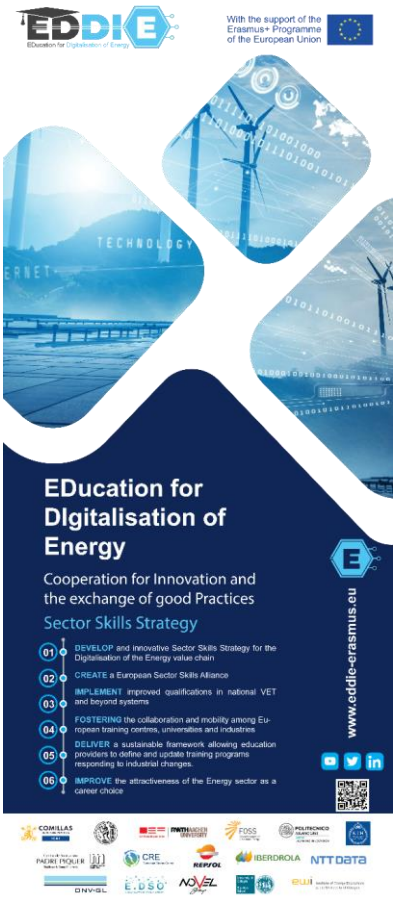


Figure 2-5. EDDIE Roll-up digital version (#1)

Figure 2-6. Examples of printed versions of the promotional materials of EDDIE.

2.5. Project website

Project website, as one of the main communication tools of project is ensuring the maximum visibility of the EDDIE research results, assessments, strategy and dissemination activities. The URL address of the website is: www.eddie-erasmus.eu. The website was built upon the criteria and considering the suggestions given in the "EU Project Websites – Best Practice Guidelines (EC, 2010)" and it follows features such as visual communication, information communication, visibility, regular update of contents and monitoring tools.

The landing page of the website can be seen in Figure 2-7 and the menu of the website features the most important parts of the assessments and results of all work packages.

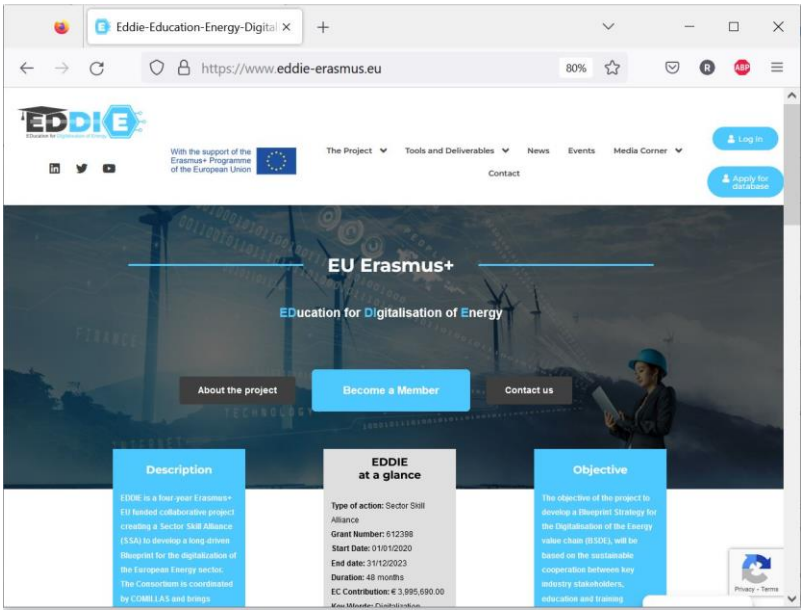


Figure 2-7. Landing page of EDDIE website

From the top menu, the users have access to all the relevant results and assessments of the project. The following paragraphs will highlight some of the relevant features of the website. The bullets below correspond to top menu *"Tools and Deliverables"*.

- *Assessment and identification of current and future skills in the energy sector*, as part of the research done in WP2. This page highlights the results of the surveys conducted on skill gaps, challenges, digital technologies for the energy sector, education and training providers, deliverables, and summaries. The visual identification of this page is given in Figure 2-8.

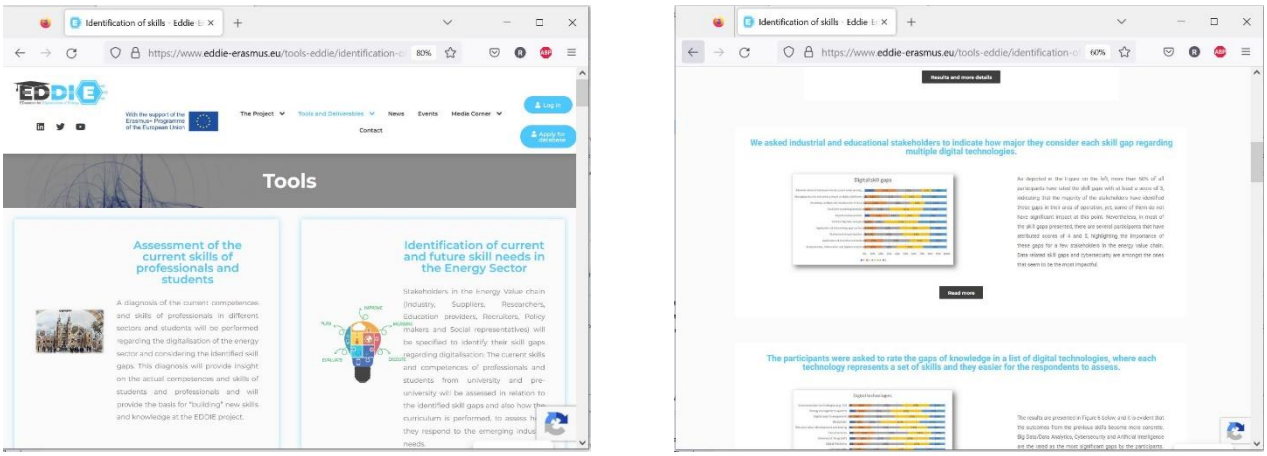


Figure 2-8. WP2 results as part of the EDDIE website.

- *Strategic stakeholder mapping*, that involves the creation of a Stakeholders' map as a database of sector occupations and job profiles, with skills content analysis and set the ground for a strategic cooperation. The part of the website dedicated to WP3 and the work for the creation of the database is given in Figure 2-9. The users can begin the process of becoming members in our database using the button ***"Apply for database"*** that can be found on top right of the website menu (as can be seen in Figure 2-9, but also using the button on the landing page, as can be seen in Figure 2-7).

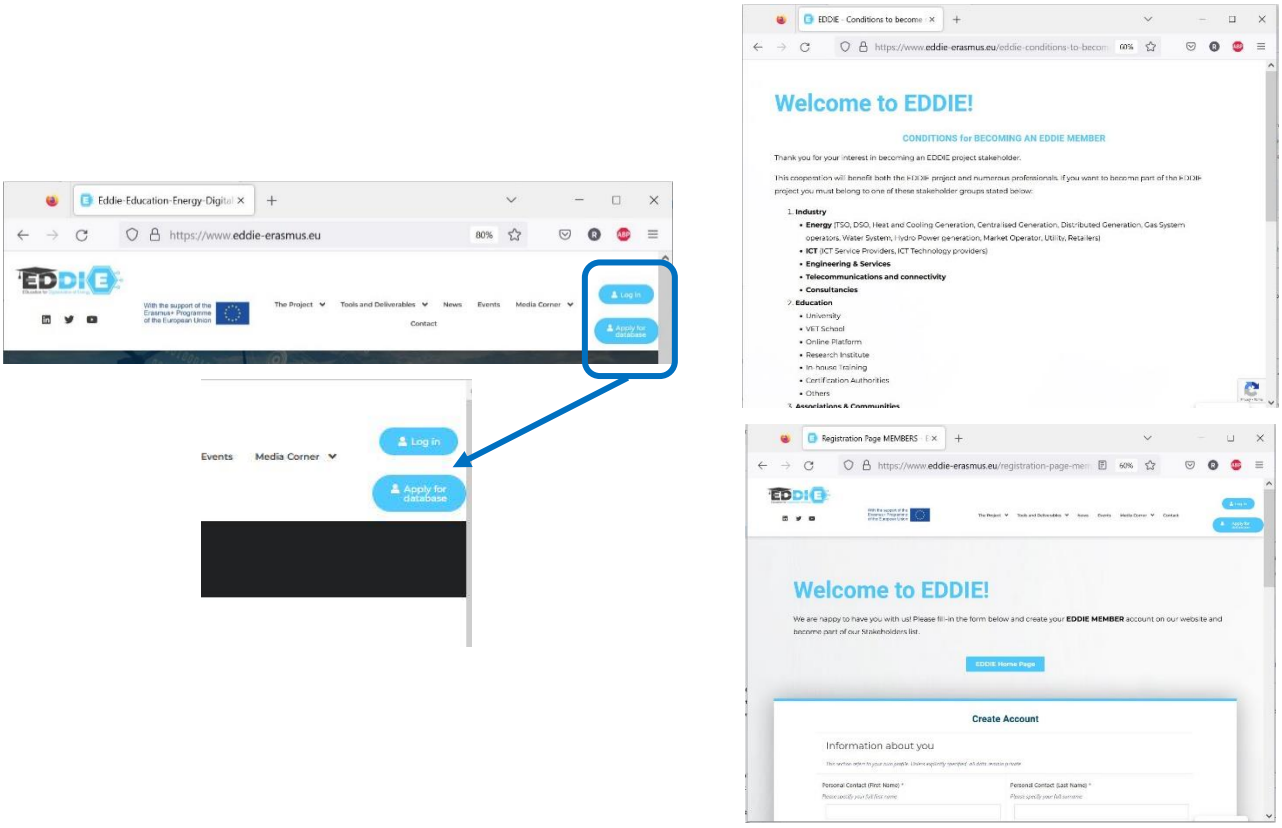


Figure 2-9. How to become part of EDDIE database of stakeholders.

- *Skills delivery and best practices at regional, national, and European level for VET and universities policies and initiatives*. The dedicated section for showcasing a detailed description of best practices and analysis will become the basis for the identification of Energy sector skills and qualifications and their integration into educational systems at different levels, as part of the work in WP4. The section of the website is in Figure 2-10 and includes the results, assessments, deliverables and summaries for the work done in WP4.

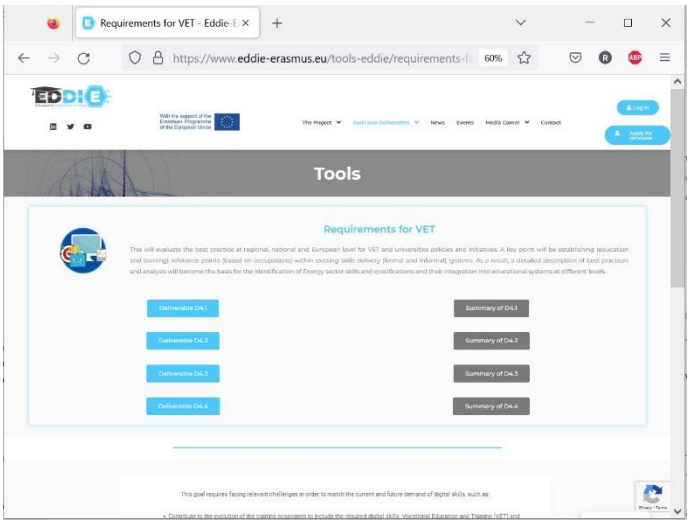


Figure 2-10. Skills delivery and best practices for VET and universities

- *Sector Skills Strategy*, with concrete examples of policies and initiatives at national and regional level aiming at addressing skill shortages and mismatches as well as fostering multi-stakeholder partnerships. The section dedicated to WP5, highlighting the views and action plans on building the skills strategy, templates for educational programs, recommendations to improve educational frameworks in focus countries. The section of the website is in Figure 2-11 and includes the results, assessments, deliverables and summaries for the work done in WP5.

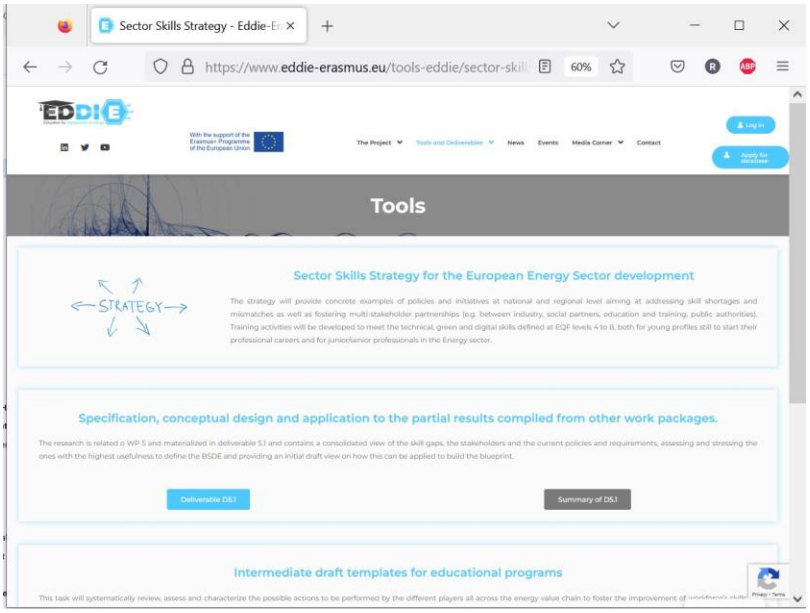


Figure 2-11. Sector Skills Strategy for the European Energy Sector development

- *Public deliverables* is the section containing all the official public documents produced by the project consortium as mentioned in the Grant Agreement. The section of the website is in Figure 2-12 and includes the deliverables and their summaries.

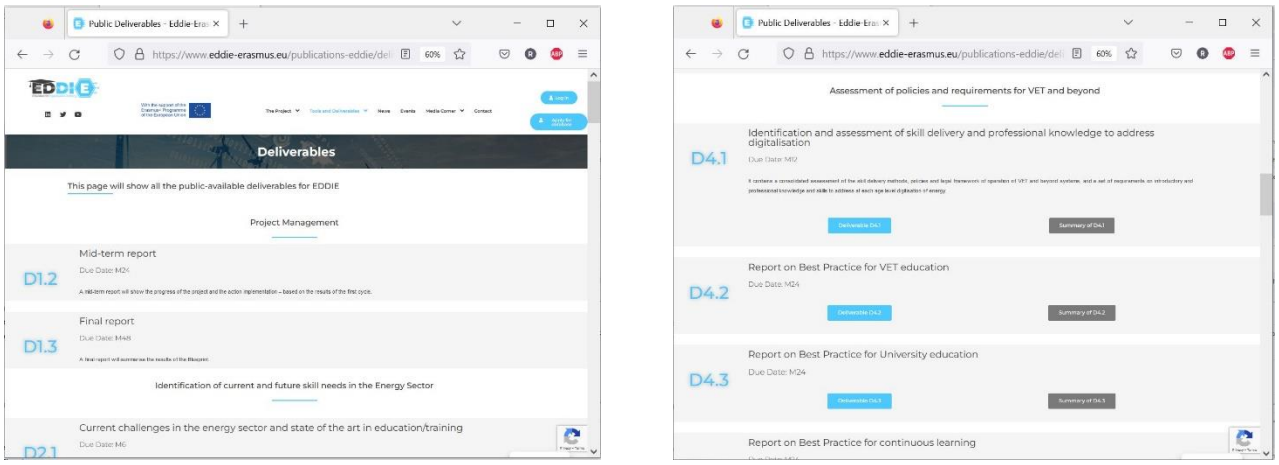


Figure 2-12. Public deliverables section on EDDIE website.

Other sections of the website used for fostering support of the project results are the “News” and “Events” tabs on the top menu.

- In the *News* section, the stakeholders can find all the relevant actions and activities of EDDIE consortium, policy briefs, press releases, blogs, summary of events and meetings, summaries of results, new directions at EU level, new policies etc. The section of the website is in Figure 2-13 and includes a timeline of all the actions and activities.

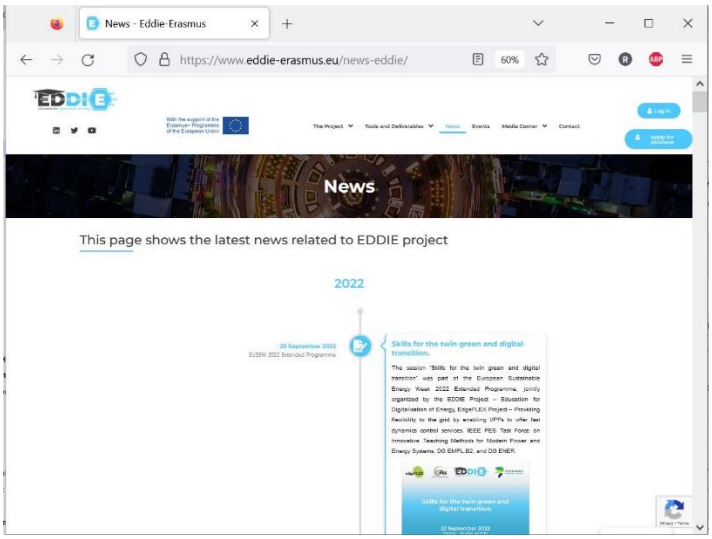


Figure 2-13. News section of EDDIE website.

- In the “Events” section, the stakeholders can find all the relevant dissemination events, organized and hosted by the EDDIE consortium, events attended by the project partners where EDDIE was mentioned, or just relevant events where the partners participated and extracted knowledge that could be used in EDDIE action plans. The section of the website is in Figure 2-14 and includes a timeline of all the events within the implementation of the project. The section is divided into “Upcoming Events” – as the stakeholders can find EDDIE website as a repository for relevant future events related to the Education and Digitalization of Energy sector – and “Past events” for more information, press releases and summaries about past events.

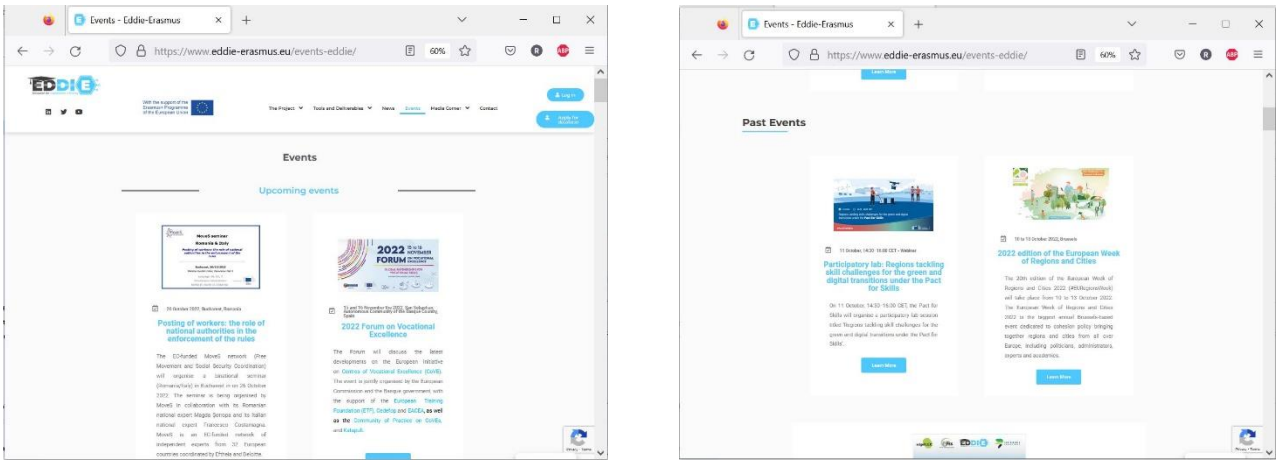


Figure 2-14. Events section on EDDIE website

2.6. Social media channels

2.6.1. LinkedIn

A LinkedIn page (https://www.linkedin.com/company/eddie-energydigitaledu/) has been created as one of dissemination instrument for reaching professionals stakeholders (industry, education and policy) in the most used media by them. The Figure 2-15 below underlines the progress achieved with all the activities performed 777 followers and more than 200 posts.

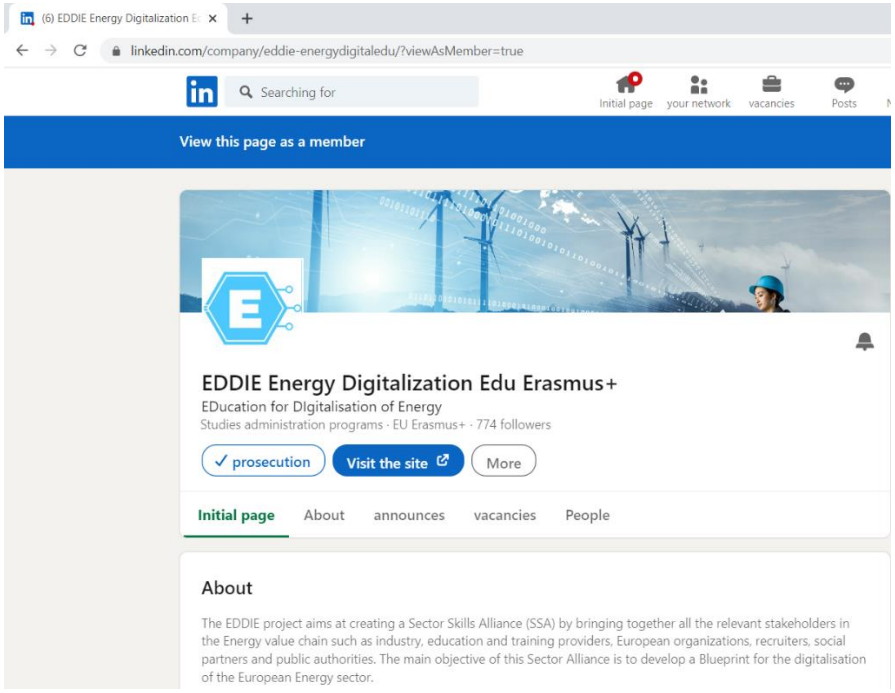


Figure 2-15. EDDIE's LinkedIn page

All EDDIE's activities and actions (project results, assessments, relevant documents, deliverables, summaries of deliverables, events, press releases etc.) carried out within the implementation of the project are continuously shared with the stakeholders using the LinkedIn official page. Some examples can be seen in the Figure 2-16 below.

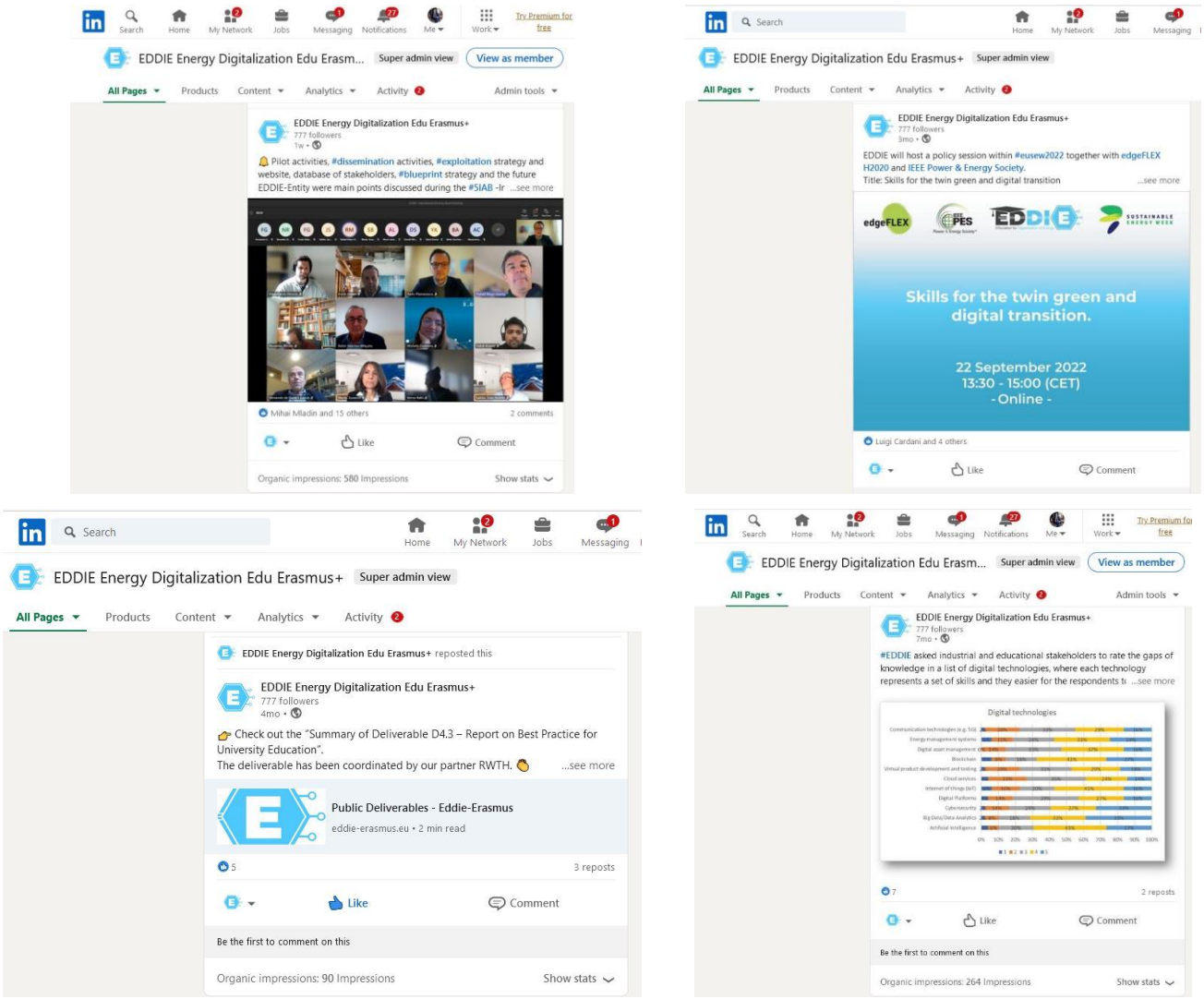


Figure 2-16. Examples of social media shares on LinkedIn page

2.6.2. Twitter

A Twitter page (https://twitter.com/EddieEnergyEdu) has been created and is functional since March 2020, as one of dissemination instrument for reaching the general public, individual researchers, teachers, policy makers, trainers etc. It will give the opportunity to interchange information with interested general stakeholders. Figure 2-17 below shows the progress achieved in the activities performed: 185 EDDIE's followers and more than 200 tweets.

All EDDIE's activities and actions (project results, assessments, relevant documents, deliverables, summaries of deliverables, events, press releases etc.) carried out within the implementation of the project are continuously shared with the stakeholders using the Twitter official page, concomitant with the LinkedIn official page. Some examples can be seen in the Figure 2-18 below.

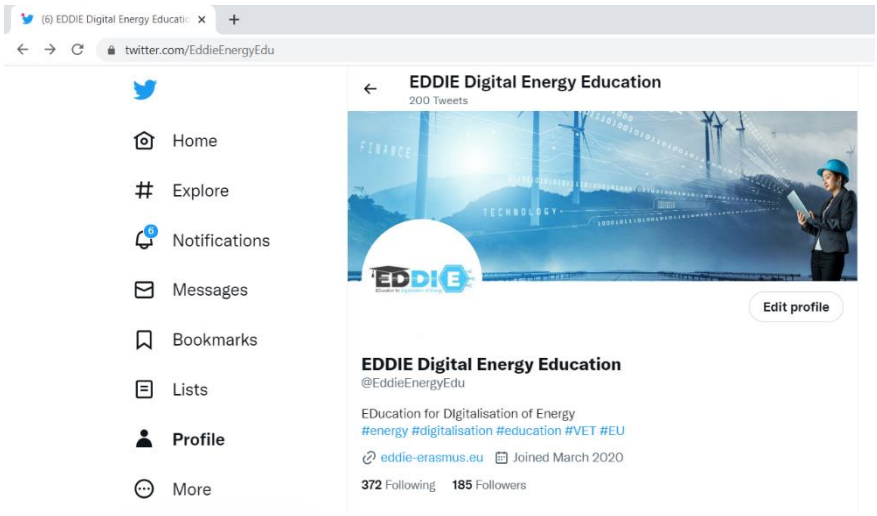


Figure 2-17. EDDIE's official Twitter page

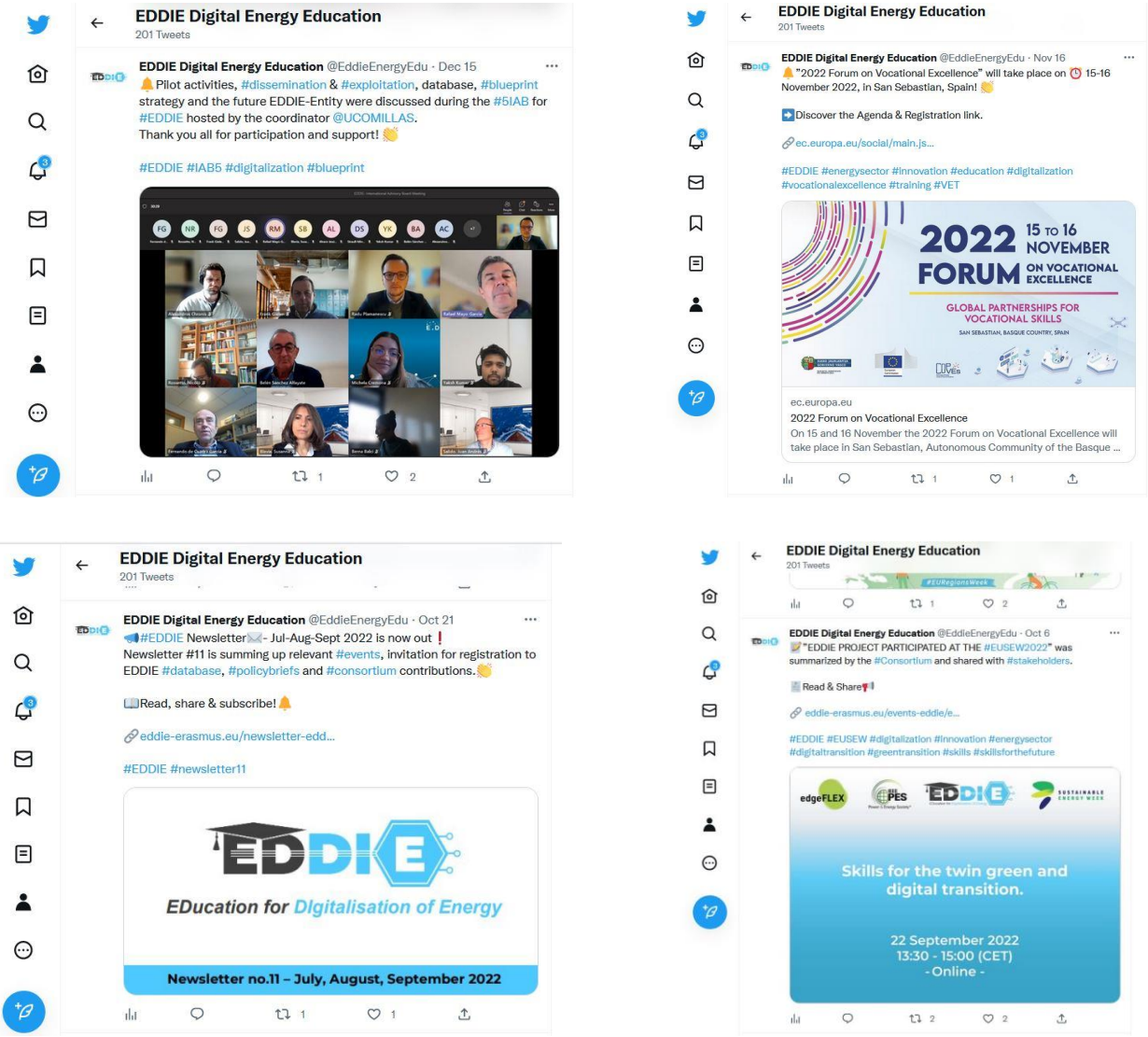


Figure 2-18. Examples of social media shares on Twitter page

2.6.3. YouTube channel

To help the consortium in the publication of videos produced to disseminate activities of the project (i.e. videos of related conferences or workshops, interviews etc.), a dedicated channel on the YouTube platform was created. The channel is publicly available at https://www.youtube.com/channel/UCIZOKcclOt1zmlk2iUSAX-w/videos and contains videos that are referred to or have link into the project main website. Further videos will be made available online as for new results and demonstrators provided by the partners. The Figure 2-19 below shows the progress achieved with the activities performed: 20 subscribers.

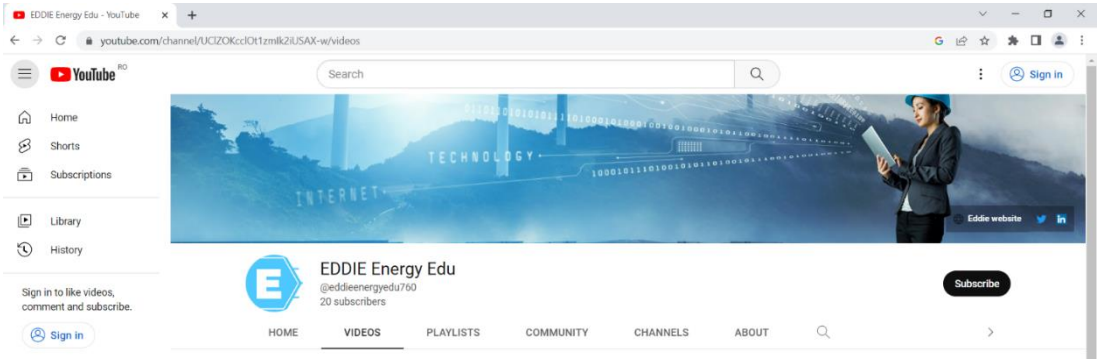


Figure 2-19. EDDIE's official YouTube channel

The consortium hosted online video conversation with a representative of each partner and a nominated (by the same partner) person relevant for the context of digitalization of the energy value chain. The purpose of such interviews is for the stakeholders to get familiar with the partners background, expertise and relevance for the EDDIE ecosystem (digitalization, energy sector, education, VET etc.). Some of these examples can be seen in **Figure 2-20** below.

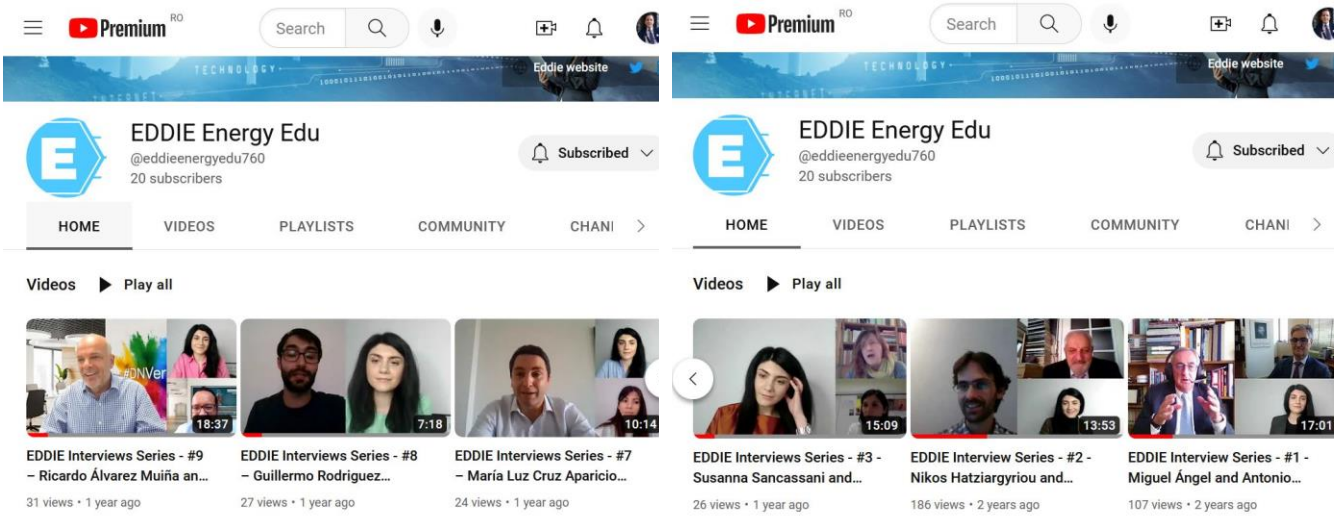


Figure 2-20. Examples of videos shared on YouTube.

For the last year of the project, more videos will be produced for the trial site demonstrations so to create the proper presentation of each trial. The video news will be related to the trial demo sites, presenting the work and all the relevant activities for each trial. We are targeting the 5000 views on YouTube. This activity is ongoing.

2.7. Newsletter and e-newsletter

EDDIE newsletter is issued every quarter (every 3 months) on the project website and contains highlights of project-related news (e.g., Meetings, upcoming deliverables, actions etc.), announcements of the project progress, dates and details, for past and upcoming conferences, meetings, events, or publications, lectures, talks, and trainings opportunities, policy briefs, blogs, etc.

The process of creation and delivery of the newsletter goes through certain stages. First step consists in collecting information from the project partners regarding the most relevant activities they have had during that specific period of 3 months, a short description of the activity and images and links supporting the message. After the selection of the key subjects from their responses, CRE is centralizing the inputs into a core document which will be published on a dedicated page on the website available to access at the following link below:

Newsletters

Furthermore, the same content is distributed on email as eNewsletter, a publication developed by using the HTML format friendly with incorporation of images, colors, videos, and links. The eNewsletter will address target groups and end-users (internal partners, industrial, scientific, standardization organizations, stakeholders, and the general public) in a style and language tailored to each group. The Figure 2-21 below shows some examples of content shared with the newsletter (the pictures are from the last newsletter shared with the stakeholders).

Figure 2-21. Examples of content for the newsletter.

Subscription to this newsletter is open to everyone, using the dedicated form on EDDIE website, by clicking on the button “Subscribe to Newsletter” on the bottom of the landing page of the website. A pop-up window will appear where the users can fill-in their email address as a mandatory field for subscription, as can be seen in Figure 2-22.

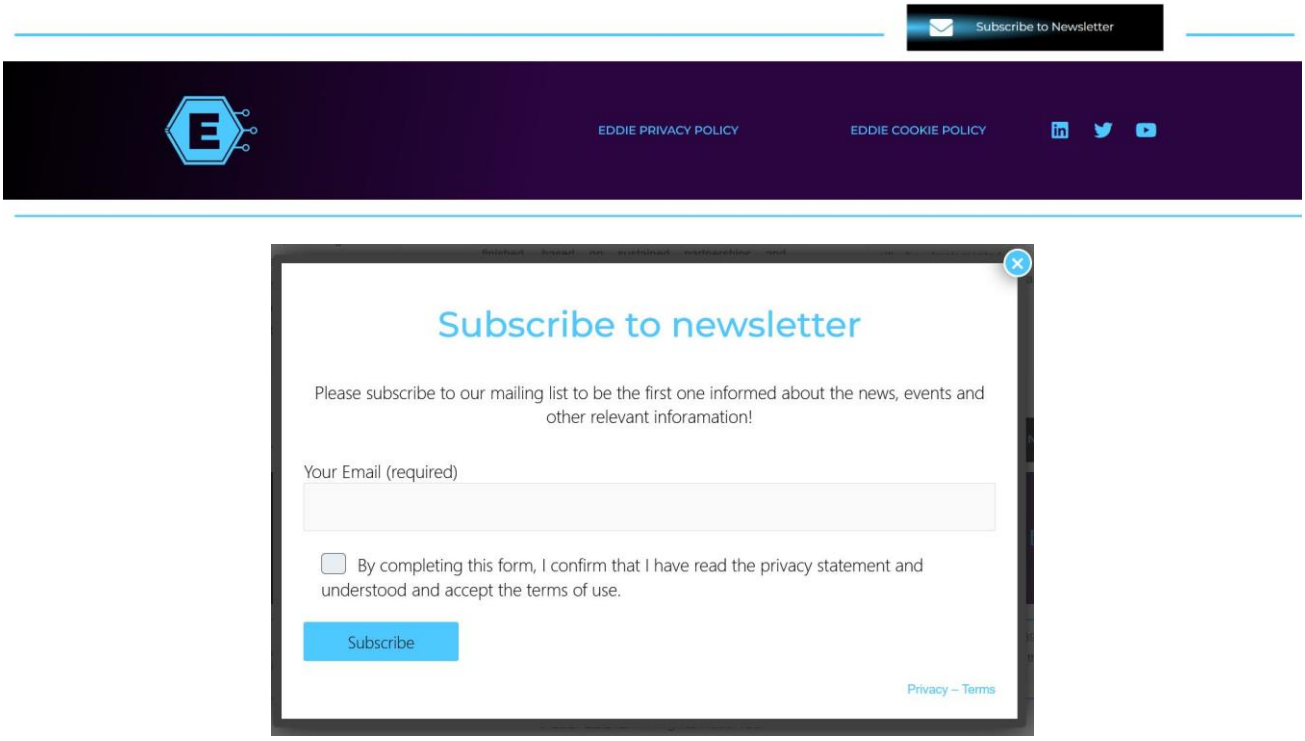


Figure 2-22. EDDIE's newsletter subscription process.

For comprehensive and accurate details about the above information (contained in the newsletter), a dedicated page on the website (Figure 2-23) is available to access the full text of the newsletter (http://www.eddie-erasmus.eu/newsletter-eddie/).

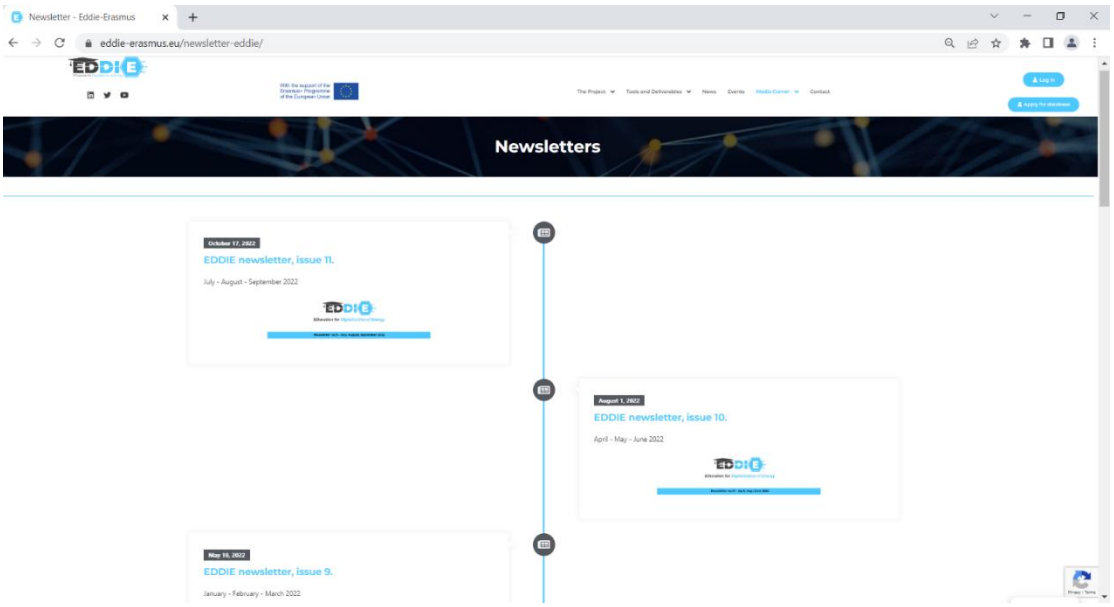


Figure 2-23. Newsletter section on EDDIE website

In Table 2-2 it can be found the plan for publishing the newsletters during the EDDIE implementation period by naming the leader responsible for the specific newsletter edition; main contributors; the start, end, and due date. The newsletter will be published on the website and promoted on the project social media handles.

Table 2-2. EDDIE Newsletter timeline

S/N	Newsletter	Leader	Main Contributors	Start	End	Due
1	Newsletter # 1	CRE	ALL	January	March	15/Apr/20
2	Newsletter # 2	CRE	ALL	April	June	15/July/20
3	Newsletter # 3	CRE	ALL	July	September	15/Oct/20
4	Newsletter # 4	CRE	ALL	October	December	15/Jan/21
5	Newsletter # 5	CRE	ALL	January	March	15/Apr/21
6	Newsletter # 6	CRE	ALL	April	June	15/July/21
7	Newsletter # 7	CRE	ALL	July	September	15/Oct/21
8	Newsletter # 8	CRE	ALL	October	December	15/Jan/22
9	Newsletter # 9	CRE	ALL	January	March	15/Apr/22
10	Newsletter # 10	CRE	ALL	April	June	15/July/22
11	Newsletter # 11	CRE	ALL	July	September	15/Oct/22
12	Newsletter # 12	CRE	ALL	October	December	15/Jan/23
13	Newsletter # 13	CRE	ALL	January	March	15/Apr/23
14	Newsletter # 14	CRE	ALL	April	June	15/July/23
15	Newsletter # 15	CRE	ALL	July	September	15/Oct/23
16	Newsletter # 16	CRE	ALL	October	December	15/Jan/23

Name: *"EDDIE newsletter, issue 1."*

Topic: A summary of the main activities of EDDIE for the 3 months of the project (January, February, March 2020).

Type of Publication: Newsletter

Date: April 2020

Website: http://www.eddie-erasmus.eu/newsletter-eddie/

Name: *"EDDIE newsletter, issue 2."*

Topic: A summary of the main activities of EDDIE for the 3 months of the project (April, May, June 2020).

Type of Publication: Newsletter

Date: July 2020

Website: http://www.eddie-erasmus.eu/newsletter-eddie/

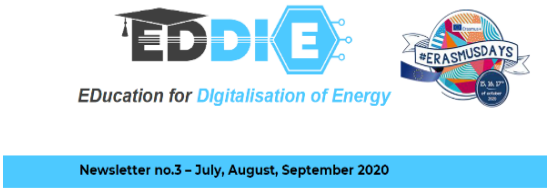
Name: *"EDDIE newsletter, issue 3."*

Topic: A summary of the main activities of EDDIE for the 3 months of the project (July, August, September 2020). This newsletter was shared during the Erasmus Days as EDDIE was an associated project of the event.

Type of Publication: Newsletter

Date: October 2020

Website: http://www.eddie-erasmus.eu/newsletter-eddie/



Name: *"EDDIE newsletter, issue 4."*

Topic: A summary of the main activities of EDDIE for the 3 months of the project (October, November, December 2020).

Type of Publication: Newsletter

Date: January 2021

Website: http://www.eddie-erasmus.eu/newsletter-eddie/

Name: *"EDDIE newsletter, issue 5."*

Topic: A summary of the main activities of EDDIE for the 3 months of the project (January, February, March 2021).

Type of Publication: Newsletter

Date: April 2021

Website: http://www.eddie-erasmus.eu/newsletter-eddie/

Name: *"EDDIE newsletter, issue 6."*

Topic: A summary of the main activities of EDDIE for the 3 months of the project (April, May, June 2021)

Type of Publication: Newsletter

Date: July 2021

Website: http://www.eddie-erasmus.eu/newsletter-eddie/

Name: *"EDDIE newsletter, issue 7."*

Topic: A summary of the main activities of EDDIE for the 3 months of the project (July, August, September 2021)

Type of Publication: Newsletter

Date: October 2021

Website: http://www.eddie-erasmus.eu/newsletter-eddie/

Name: *"EDDIE newsletter, issue 8."*

Topic: A summary of the main activities of EDDIE for the 3 months of the project (October, November, December 2021)

Type of Publication: Newsletter

Date: January 2021

Website: http://www.eddie-erasmus.eu/newsletter-eddie/

Name: *"EDDIE newsletter, issue 9."*

Topic: A summary of the main activities of EDDIE for the 3 months of the project (January, February, March 2022)

Type of Publication: Newsletter

Date: May 2022

Website: http://www.eddie-erasmus.eu/newsletter-eddie/

Name: *"EDDIE newsletter, issue 10."*

Topic: A summary of the main activities of EDDIE for the 3 months of the project (April, May, June 2022)

Type of Publication: Newsletter

Date: August 2022

Website: http://www.eddie-erasmus.eu/newsletter-eddie/

Name: *"EDDIE newsletter, issue 11."*

Topic: A summary of the main activities of EDDIE for the 3 months of the project (July, August, September 2022)

Type of Publication: Newsletter

Date: October 2022

Website: http://www.eddie-erasmus.eu/newsletter-eddie/

2.8. Eddie informal publications

2.8.1. Blogs

Four blogs are posted on the EDDIE's website for each month of the project. The blogs submitted by the consortium partners monthly address general topics related and relevant to EDDIE project, from the expertise of each partner. The timeline, schedule, templates, and topics for the blogs were and will be developed and shared with all the partners for a successful initial dissemination activity. The goal is to present the latest technologies in the energy sector focusing on the digitalization of the energy sector. The following informal publications were prepared by EDDIE partners, posted on the website, and shared on social media. Below can be found a list with the all the relevant blogs.

Name: *"Digitalization of Electricity Distribution Systems"*

Topic: The topics of this blog are the digitalization of distribution systems, digital tools used by Distribution System Operators, test-cases of distribution systems, and Reference Network Models.

Type of Publication: Blog on the website

Date: September 2020

Website: http://www.eddie-erasmus.eu/publications-eddie/blogs-eddie/digitalization-of-electricity-distribution-systems/

Name: *"Real-time simulation for realistic testing of smart grid solutions"*

Topic: The topic of this blog is Real-time Hardware-in-the-Loop (HIL) simulations and the application for the power systems.

Type of Publication: Blog on the website

Date: September 2020

Website: http://www.eddie-erasmus.eu/publications-eddie/blogs-eddie/real-time-sumilation/

Name: *"Distribution Energy Management System for the microgrid of FOSS/University of Cyprus"*

Topic: The topic of this blog is: A distribution energy management for the energy community hub of the University of Cyprus meeting its research and educational endeavors.

Type of Publication: Blog on the website

Date: September 2020

Website: http://www.eddie-erasmus.eu/publications-eddie/blogs-eddie/distribution-energy-management-system-for-the-microgrid-of-foss-university-of-cyprus/

Name: *"Open-Source solutions for Grid Automation"*

Topic: The complexity of today's and future power systems calls for tools that are suited for data-driven monitoring, control and optimization at a large scale. Power systems need to be reliable, manageable, resilient, safe, predictable, and affordable, and in the management of these systems in the modern era, the role of Information and Communication Technologies (ICT) and digitalization are increasingly important.

Type of Publication: Blog on the website

Date: September 2020

Website: http://www.eddie-erasmus.eu/publications-eddie/blogs-eddie/rwth-blog-1/

Name: "*MOOCs and digitalisation of energy"*

Topic: Massive Open Online Courses (MOOCs) emerged in the 1st decade of the 21st century as a form of open education and their scenario is rapidly evolving also due to the Covid crisis."

Type of Publication: Blog on the website

Date: October 2020

Website: http://www.eddie-erasmus.eu/2020/11/26/moocs-and-digitalisation-of-energy/

Name: *"Promoting digital Spaces in VET education"*

Topic: A new training program that brings digital spaces to Basic VET Programmes.

Type of Publication: Blog on the website

Date: October 2020

Website: http://www.eddie-erasmus.eu/2020/11/26/moocs-and-digitalisation-of-energy/

Name: *"Resilient microgrid platform at KTH"*

Topic: Microgrids are building blocks of future smart grids, as key enablers for renewable energy integration, smart community deployment and grid resilience enhancement.

Type of Publication: Blog on the website

Date: October 2020

Website: http://www.eddie-erasmus.eu/2020/12/10/blog-6-kth/

Name: *"Phasor Measurement Unit for Monitoring Power Systems"*

Topic: The topic of this blog is about PMUs seen as the most important achievement in technology for monitoring the power systems.

Type of Publication: Blog on the website

Date: November 2020

Website: http://www.eddie-erasmus.eu/2020/11/30/blog-8-cre/

Name: *"Digitalization Of Renewable Generation"*

Topic: Digitalization has been an essential part of Iberdrola's business and the use of information technologies has become a fundamental asset for the company.

Type of Publication: Blog on the website

Date: November 2020

Website: https://www.eddie-erasmus.eu/2021/01/08/blog-9-iberdrola/

Name: *"OneNet and WiseGrid projects"*

Topic: In recent years, the rapid development of renewable power generation has unlocked a change in the one-way street of power generation and consumption. Which leads to a more and more interconnected energy system. Therefore, new cooperations and communication are needed to ensure a smooth energy supply.

Type of Publication: Blog on the website

Date: December 2020

Website: https://www.eddie-erasmus.eu/2021/01/08/blog-10-edso/

Name: *"Applied data analysis for driving patterns - Anxiety about Electric Mobility Range often unsubstantiated"*

Topic: The mobility sector and the building sector are two of these sectors with rapidly increasing levels of electrification. A growing number of electric vehicles and heat pumps in distribution grids are the outcome of this development.

Type of Publication: Blog on the website

Date: January 2021

Website: https://www.eddie-erasmus.eu/2021/02/16/blog-11-ewi/

Name: *"Smart Energy – Mastering the Energy Landscape of the Future"*

Topic: University of Cologne Business School together with it partner EWI (Institute of Energy Economics at the University of Cologne) is developing Executive Education Programmes to address the knowledge and skills needed for shaping the ernergy sector of the future. Such a „Smart Energy Programme" addresses the complex role digital transformation plays in energy production, distribution and consumption.

Type of Publication: Blog on the website

Date: January 2021

Website: https://www.eddie-erasmus.eu/2021/02/25/blog-12-ucbs/

Name: *"A new Wave of Automation"*

Topic: The appropriate adoption of AI technologies will result in advanced automation processes, in this case in combination with the different types of robotics (industrial, collaborative, logical, mobile, etc.), which will allow us humans to focus on the tasks of more value and more aligned with our nature.

Type of Publication: Blog on the website

Date: February 2021

Website: https://www.eddie-erasmus.eu/2021/03/20/blog-13-comillas/

Name: *"Optimal operation of multi-carrier local energy communities by implementing the energy hub concept"*

Topic: The topic of this blog is: State-of-the-art tools developed to assist in the optimal operation of multi-carrier local energy communities while meeting technical, economic and environmental targets through the use of the energy hub concept.

Type of Publication: Blog on the website

Date: February 2021

Website: https://www.eddie-erasmus.eu/2021/03/20/blog-14-foss/

Name: *"Enabling sustainable Energy Communities"*

Topic: This blog deals with sustainable Energy Communities, enabling factors and emerging business models and briefly presents the results of an article published by EDDIE's partners NTUA and KTH, at the Energies Journal (MDPI).

Type of Publication: Blog on the website

Date: March 2021

Website: https://www.eddie-erasmus.eu/2021/04/11/blog-15-ntua/

Name: *"Digital Transformation: The Key Role of MOOCs"*

Topic: The debate over digital transformation has been on the table for years. But now more than ever, the push for a concrete shift is intensifying, also due to the Covid-19 pandemic. This could lead to an important job crisis, if we do not implement new strategies for the development of digital skills for young and low-skilled workers.

Type of Publication: Blog on the website

Date: March 2021

Website: https://www.eddie-erasmus.eu/2021/04/27/blog-16-polimi//

Name: *"New digital pedagogies on the horizon: SLEW - "SECOND LIFE FOR ENERGIEWENDE"*

Topic: Teaching of electrical energy systems is challenging, in that it is not possible for students to directly experience their phenomena, so much so that electrical engineering is normally perceived as rather abstract and heavily based on mathematical modelling.

Type of Publication: Blog on the website

Date: April 2021

Website: https://www.eddie-erasmus.eu/2021/04/27/blog-17-rwth/

Name: *"Digitalization of education and the fight against the social crisis generated by COVID-19"*

Topic: The topic of this blog summarizes some of the actions developed by the Padre Piquer Training Center to combat the social crisis unleashed by COVID-19.

Type of Publication: Blog on the website

Date: April 2021

Website: https://www.eddie-erasmus.eu/2021/04/27/blog-18-piquer/

Name: "DIGITAL EDUCATION ACTION PLAN 2021-2027 PROPOSED BY EUROPEAN COMMISSION"

Topic: European Commission (EC) published at the end of 2020 the Digital Education Action Plan (DEAP) for the next seven years, 2021-2027, calling for stronger cooperation between European Member States.

Type of Publication: Blog on the website

Date: May 2021

Website: https://www.eddie-erasmus.eu/2021/05/28/blog-19-cre/

Name: "*Repsol develops smart energy management system that improves customer efficiency*"

Topic: Repsol has developed an energy management system (EMS) that uses artificial intelligence algorithms and advanced optimization to manage energy efficiently.

Type of Publication: Blog on the website

Date: May 2021

Website: https://www.eddie-erasmus.eu/2021/05/28/blog-20-repsol/

Name: *"STAR Project: a global benchmark in smart grids deployment"*

Topic: Thanks to the STAR project, Iberdrola has completed the digitization process of its distribution network in Spain with the installation of more than 10.8 million digital meters and the infrastructure that supports them, as well as the adaptation of around 90,000 transformation centres, to which it has incorporated remote management, supervision and automation capabilities.

Type of Publication: Blog on the website

Date: June 2021

Website: https://www.eddie-erasmus.eu/2021/05/28/blog-21-iberdrola/

Name: *"Local electricity markets bring together supply and demand locally"*

Topic: Decarbonized, decentralized and digital: The German electricity system is undergoing structural change as part of the energy transition and climate targets.

Type of Publication: Blog on the website

Date: July 2021

Website: https://www.eddie-erasmus.eu/2021/07/02/blog-22-ewi/

Name: *"Creative Destruction of Jobs in the Energy Sector – EDDIE Project"*

Topic: To meet the European energy and climate targets for 2030, each EU Member State had to submit a final National Energy and Climate Plan (NECP) by the end of 2019. The NECPs foresee a lasting change and transition of the so far centralized energy sector, which needs to incorporate rapidly an increasing amount of new decentralized actors to meet the targets.

Type of Publication: Blog on the website

Date: August 2021

Website: https://www.eddie-erasmus.eu/2021/07/03/blog-23-edso/

2.8.2. Interviews

EDDIE's interviews, another dissemination activity proposed and agreed with all the partners, started in M9. CRE is organizing an 8-minute online video conversation with a representative of each partner and a nominated (by the same partner) person not directly involved in the project relevant for energy sector, education activities or other professional topics that are close to the project interests. The objectives are to bring forward the people inside the project; to promote the work done within the projects by bringing arguments with examples and insights from EDDIE work; to build a stronger network by inviting experts to dialog and to collect a series of ideas, perspectives, and suggestions from people with experience for the research and innovation part of EDDIE. The timeline, schedule and format of the interviews are developed and shared internally with all the partners. EDDIE's interviews will be available for the public and disseminated through our project website, YouTube channel and social handles, addressing the digitalization of energy sector, education activities and other professional topics of interests close to both company's activity and EDDIE. The following informal publications were prepared by EDDIE partners, posted on the website, and shared on social media. Below can be found a list with the relevant interviews.

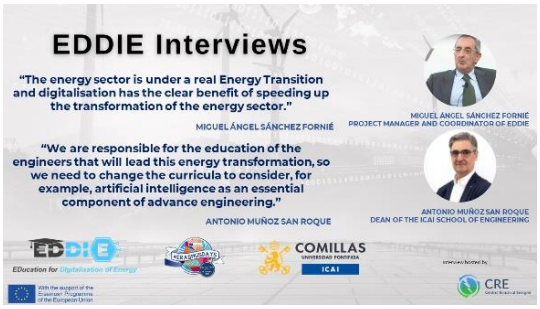
Name: "EDDIE Interview Series #1 – First guest – Partner Comillas University"

Guests: Miguel Ángel Sánchez Fornié - Associate Researcher, Dr. Antonio Muñoz San Roque – Dean of ICAI School of Engineering, Comillas.

Date: October 2020

Type of Publication: Interview

Website: http://www.eddie-erasmus.eu/publications-eddie/eddie-interviews/



Name: "EDDIE Interview Series #2 – Second guest – Partner National Technical University of Athens"

Guests: Dr. Panos Kotsampopoulos – Senior Researcher, Dr. Nikos Hatziargyriou – Professor in Power Systems

Date: November 2020

Type of Publication: Interview

Website: http://www.eddie-erasmus.eu/publications-eddie/eddie-interviews/

Name: "EDDIE Interview Series #3 – Second guest – Partner Politecnico di Milano - PoliMI – METID"

Guests: Lecturer Susanna Sancassani –Managing Director at METID, Dr. Daniela Casiraghi – Project Manager for Innovative Projects at METID

Date: February 2021

Type of Publication: Interview

Website: http://www.eddie-erasmus.eu/publications-eddie/eddie-interviews/

Name: "EDDIE Interview Series #4 – Second guest – Partner Research Centre for Sustainable Energy - University of Cyprus - FOSS"

Guests: Andreas Stavrou – Assistant Manager at the Electricity Authority of Cyprus, Savvas Vlachos – Director of Cyprus Energy Agency

Date: March 2021

Type of Publication: Interview

Website: http://www.eddie-erasmus.eu/publications-eddie/eddie-interviews

Name: "EDDIE Interview Series #5 – Second guest – Partner Kungliga Tekniska högskolan - KTH"

Guests: Stefan Östlund – Professor & Vice-President of Global Relations at KTH, Agneta Rinman – Strategy & Learning Director and CEO of KTH

Date: April 2021

Type of Publication: Interview

Website: http://www.eddie-erasmus.eu/publications-eddie/eddie-interviews

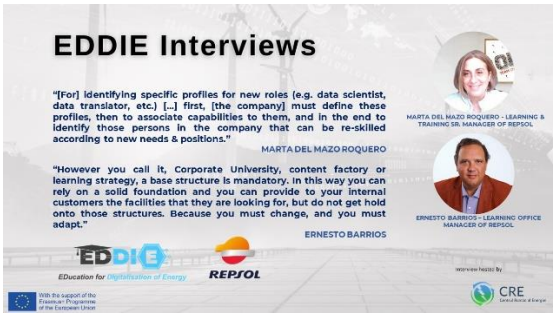
Name: "EDDIE Interview Series #6 – Second guest – Partner REPSOL"

Guests: Marta del Mazo Roquero – Learning & Training Senior Manager of REPSOL, Ernesto Barrios – Learning Office Manager of REPSOL

Date: May 2021

Type of Publication: Interview

Website: http://www.eddie-erasmus.eu/publications-eddie/eddie-interviews



Name: "EDDIE Interview Series #7 – Second guest – Partner IBERDROLA"

Guests: María Luz Cruz Aparicio – Innovation Manager, IBERDROLA, Jose María Gallardo Calles – Digitalization & Innovation Senior Manager, IBERDROLA

Date: June 2021

Type of Publication: Interview

Website: http://www.eddie-erasmus.eu/publications-eddie/eddie-interviews

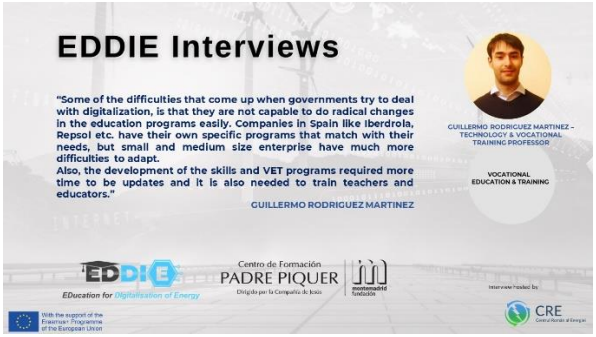
Name: "EDDIE Interview Series #8 – Second guest – Partner Escuelas Profesionales Padre Piquer - PIQUER"

Guests: Guillermo Rodriguez Martinez – Technology & Vocational Training Professor, Padre Piquer School

Date: June 2021

Type of Publication: Interview

Website: http://www.eddie-erasmus.eu/publications-eddie/eddie-interviews



Name: "EDDIE Interview Series #9 – Second guest – Partner DNV"

Guests: Santiago Blanco – Executive Vice-President and Regional Director in DNV'S Energy Systems Area, DNV, Ricardo Álvarez Muiña – Digital Assurance and Supply Chains Operations Manager, DNV

Date: June 2021

Type of Publication: Interview

Website: http://www.eddie-erasmus.eu/publications-eddie/eddie-interviews

Name: "Smart workforce for a smarter energy age: Nigel Blackaby talks to Roberto Zangrandi, Secretary-General, EDSO"

Organizers: Enlit Europe

Date: September 30, 2020

Estimated audience: 100-200 registered participants

Event type: international videoconference

Website: https://www.enlit-europe.com/industry-news/smart-workforce-for-a-smarter-energy-age-nigel-blackaby-talks-to-roberto-zangrandi-secretary-general-edso

2.8.3. Policy Briefs

The EDDIE Project is publishing and will be publishing under **NEWS** section on its website press releases addressing relevant policy briefs for the energy sector. The main objective consists in informing the interested audience about critical subjects regarding energy, digitalization, skills and competences, etc., under the format of a summary. Some examples of such documents include: “European Skills Agenda Employment, Social Affairs & Inclusion”, ”BIM-based EU-wide Standardized Qualification Framework for achieving Energy Efficiency Training”, ”Education close to zero energy constructions: “Energy lift” (“Energilyftet”)”, and ” Council Recommendation on Vocational Education and Training”.

Name: *“A European Strategy for Universities”*

Topic: In October 2019, the European Commission (EC) published a report on a comprehensive assessment of digital transformation in the energy sector, focusing on an overview of the EC's digitalisation policies. The study aims to first analyse whether digitisation is necessary by examining the extent to which digital solutions impact the energy system, whether it is worth paying for, and who should pay for it.

Type of Publication: Policy Brief

Date: March 2022

Website: https://www.eddie-erasmus.eu/wp-content/uploads/2022/03/Policy-Brief_Nr.1.1_POLIMI_A-European-Strategy-for-Universities.pdf

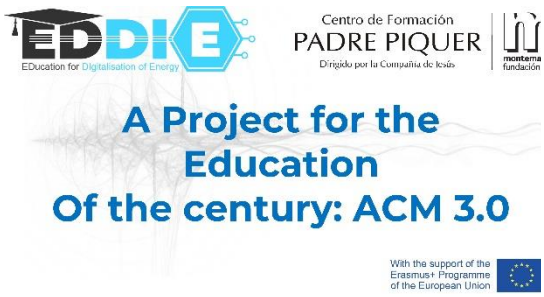
Name: *“A Project for the Education Of the century: ACM 3.0”*

Topic: The Padre Piquer Training Center is one of the pioneering centers in educational innovation in the classroom in Spain. To combat some of the problems of today's education such as school absenteeism or early school leaving, the school has embarked for some years on a deep process of digitalization of its classrooms. In the training center, 100% of the students from secondary, high and Vocational Educational Training Programmes have an electronic device (iPAD or Hp) to work in the classroom.

Type of Publication: Policy Brief

Date: March 2022

Website: https://www.eddie-erasmus.eu/wp-content/uploads/2022/03/Policy-Brief_Nr.1.2_PIQUER_A-Project-for-the-Education-of-the-century-ACM-3.pdf



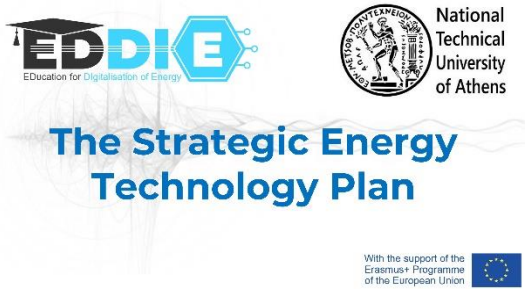
Name: *“The Strategic Energy Technology Plan”*

Topic: The SET (Strategic Energy Technology) Plan was launched in January 2007 after acknowledging the need to reshape the European energy sector in order to make it possible to face the important challenges that come with the climate change. Its main objectives are to lower the cost of clean energy and to allow Europe to play a key role in the low-carbon technology scenario..

Type of Publication: Policy Brief

Date: March 2022

Website: https://www.eddie-erasmus.eu/wp-content/uploads/2022/03/Policy-Brief_Nr.1.3_NTUA_SET-Plan.pdf



Name: *"The European Pillar of Social Rights Action Plan includes Education, training and life-long learning"*

Topic: The European Commission launched in 2021 The European Pillar of Social Rights Action Plan with the intension to repeat the successful strong national and EU-level policy response to the COVID-19 pandemic in limiting its employment and social consequences.

Type of Publication: Policy Brief

Date: March 2022

Website: https://www.eddie-erasmus.eu/wp-content/uploads/2022/04/Policy-Brief_Nr.1.5_FOSS_The-European-Pillar-of-Social-Rights-Action-Plan.pdf

Name: *"The European Union´s Digital Single Market Strategy"*

Topic: As a digitally empowered European Union is one of the European Commission´s six political priorities, the European Union´s Digital Single Market Strategy focuses on meeting the requirements of the digital age and removing unnecessary regulatory barriers.

Type of Publication: Policy Brief

Date: April 2022

Website: https://www.eddie-erasmus.eu/wp-content/uploads/2022/04/Policy-Brief_Nr.1.6_KTH_EU-Digital-Single-Market-Strategy.pdf

Name: *"Near Zero-Energy Buildings (NZEB) Training in the Southern EU Countries (EL)"*

Topic: The most Southern European countries still lag behind the advances made in the northern European countries in the retrofitting and construction of Nearly Zero Energy Buildings (NZEB), this due to the knowledge gap that encompasses various sectors of society on energy efficiency.

Type of Publication: Policy Brief

Date: April 2022

Website: https://www.eddie-erasmus.eu/wp-content/uploads/2022/04/Policy-Brief_Nr.1.8_IBERDROLA_Near-Zero-Energy-Buildings-training.pdf

Name: *"European Energy Research Alliance"*

Topic: The European Energy Research Alliance is the largest energy research community in Europe, which brings together 250 universities and public research centers in 30 countries. EERA's joint research programs cover the whole range of low-carbon technologies as well as systemic and cross-cutting topics.

Type of Publication: Policy Brief

Date: May 2022

Website: https://www.eddie-erasmus.eu/wp-content/uploads/2022/06/Policy-Brief_Nr.1.7_CRE_EERA_v1.pdf

Name: *"COUNCIL RECOMMENDATION ON VOCATIONAL EDUCATION AND TRAINING"*

Topic: In November 2020, the Council of the European Union published a Council Recommendation comprehensively setting out how vocational education and training (VET) can ensure sustainable competitiveness, social equity and resilience by proposing a recommendation for a specific VET policy.

Type of Publication: Policy Brief

Date: May 2022

Website: https://www.eddie-erasmus.eu/wp-content/uploads/2022/06/Policy-Brief_Nr.1.9_EWI_RECOM-on-VET-for-sustainable-competitiveness-social-fairness-and-resilience.pdf

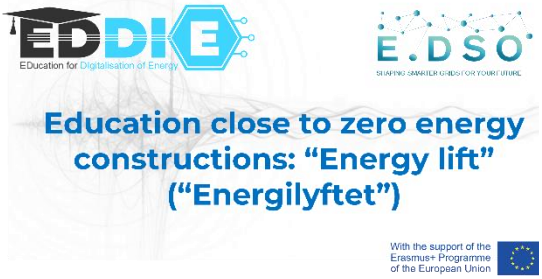
Name: *"Education close to zero energy constructions: "Energy lift" ("Energilyftet")"*

Topic: The Education close to zero energy constructions: Energy Lift, is an effort, taking the form of webinars, seminars and courses from the Swedish Energy Agency to prepare the construction sector for future requirements for near-zero energy buildings.

Type of Publication: Policy Brief

Date: June 2022

Website: https://www.eddie-erasmus.eu/wp-content/uploads/2022/08/Policy-Brief_Nr.1.11_E.DSO_Education-close-to-zero-energy-constructions-Energy-lift.pdf



Name: *"BIM-based EU-wide Standardized Qualification Framework for achieving Energy Efficiency Training"*

Topic: Funded by the European Union's Horizon 2020 research and innovation programme, the BIMEET project addresses the challenges faced by the European construction sector in an increasingly digitized environment. The objectives of the project were to identify skills and training needs, as well as provide training to construction professionals and workers in order to prepare the market to adopt Building Information Modeling (BIM).

Type of Publication: Policy Brief

Date: July 2022

Website: https://www.eddie-erasmus.eu/wp-content/uploads/2022/08/Policy-Brief_Nr.1.12_NOVEL_BIMEET-project.pdf

Name: *"European Skills Agenda Employment, Social Affairs & Inclusion"*

Topic: The European Skills Agenda is a five-year program to support individuals and businesses in learning and using more but also improved skills. The program started 2020 to drive the twin green and digital transition and to ensure recovery from the socio-economic impact of the COVID-19 pandemic.

Type of Publication: Policy Brief

Date: August 2022

Website: https://www.eddie-erasmus.eu/wp-content/uploads/2022/08/Policy-Brief_Nr.1.10_RWTH_European-Skills-Agenda.pdf

3. EDDIE Exploitation framework

3.1. EDDIE sector skills strategy for training and certification

The long-term objective of EDDIE is to help create (and continuously maintain in a sustainable way) a highly skilled workforce available for:

- The improvement of the competitiveness of the European Energy Sector, within its transition as established in the framework of the European programs Fit for 55[1] and RePower Europe[2].
- The harmonization of processes for an accurate and successful digitalization
- A smart, inclusive and sustainable growth

During this year WP5 has been focused on:

- Defining a strategy to foster the digitalisation in energy systems
- Developing a syllabus, as the basic building block around the different components of the strategy
- Create a database of stakeholders to build a strategic network alliance in this field
- Initiate the discussions and seek partner support towards creating an Entity that continues the works initiated in EDDIE, to ensure the long-term sustainability of the Blueprint
- Initiate the analysis of several business models related to research and dissemination, jobs, tools, and training marketplaces, as potential services that could be provided by the Entity
- Create and fine-tune a template for education templates that can be used to describe the programs and offer them to students. This has also been the basis for the definition of pilots in WP6, which cover all EQF levels (1-8) and illustrate good practices in the context of the digitalization of energy systems.
- Their relation and the references to ECTS, ECVET, EQF, EQAVET, and ESCO are being analysed in WP4.

The BSDE (Blueprint Strategy for Digitalisation of Energy value chain) includes a long-term strategy, a business model to sustain it, and a roadmap to implement them in a progressive way.

The definition of the BSDE comprises a systematic analysis of the following issues:

- What to do? The tasks, and the purposes of those tasks (products, results).
- Who may do the tasks? The identification of the different stakeholders and their roles.
- Why would they do the tasks? The cost/benefit analysis to drive the diverse stakeholders to participate.
- How to manage, promote and coordinate the strategy? The definition of the Entity.

The definition and creation of the Entity, maybe just a prototype, is one of the main results expected from EDDIE-WP5. Some characteristics to be defined are: type of organization (association, foundation, institute, chair), structure (regional, sectorial), funding strategy (membership, access fees), membership rules if any, services provided (roles-tasks), contributions, etc.

During EDDIE, the objective is to define tasks and roles, propose systematic procedures to perform them, and propose a business model for the future Entity (such that the initiative can be self-sustainable). To prove the feasibility and consistency of the concept, some of those tasks are being partially performed within the EDDIE project scope:

- analysis of skill needs and gaps (WP2)
- analysis of stakeholders (WP3 and WP5)
- analysis of the current education context (WP2 and WP4)
- definition of program templates and examples (WP5)
- development of program examples in depth (WP6)
- suggestions of policies and action plans (WP4 and WP5)

[1] https://www.consilium.europa.eu/en/policies/green-deal/fit-for-55-the-eu-plan-for-a-green-transition/#package
[2] https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en

- dissemination actions (WP7)

The identified potential tasks to be carried out by the entity are summarized in **Table 3-1**.

Table 3-1. Potential tasks to be carried out by the Entity

Internal tasks	Enabler tasks
• Research, elaboration of reports	• Research, about jobs, skills, trends, best training practices, etc.
• Compilation, dissemination and networking	• Training activities
• Validation, certification and monitoring	• Consulting, conceived as applied research tailored for specific companies and businesses.
• Design of specific training contents	• Design of different elements (templates, taxonomies, databases, trainning programmes, .etc.)
	• Supply or demand resources

Concerning statutes and organization, the participation of key stakeholders will play a critical role. The core of the platform will be a database to create a Strategic Network Alliance, built in the project which now is managed by Comillas, as EDDIE Coordinator, and to be transferred to the Entity. Types of participation/involvement should be hierarchical, such as (1) Founders, (2) Members, (3) Partners, and (4) Users and Associates.

Regarding the impact that the Entity will have it is clear that

- There is an excellent opportunity to define the Strategy and frame the Entity within the Pact for Skills, becoming the reference to address the skill gaps in the digitalization of the energy system.
- The Entity will manage a WEB platform, provide the intended services and foster dissemination, including the organization of events and the elaboration of reports.
- The Entity will serve as a showcase or marketplace and will allow to connect stakeholders and dissemination useful information with dedicated WEB portals.
- The entity will host the platform, but its level of responsibility will be low, each stakeholder being in charge or uploading or updated the respective content.
- Based on the cost-benefit analysis, different prototype of services can be provided, and additional services can be identified and deployed.

A roadmap for the implementation of these services will be produced as part of the EDDIE strategy.

During this year, WP5 has been focused in analyzing and drafting the role, the tasks and the principles of the Entity, as briefly summarized above. In addition, the strategy has been communicated with stakeholders to create a Strategic Network Alliance in this field, and as a first step, the discussions and the preparation has been focused on engaging the main partners to from a core group around which to stablish the larger alliance. The expectations are working during next year towards materializing the long-term strategy through the creation of the Entity.

3.2. Skills gaps and needs assessment

To improve the quality of the produced results regarding the assessment of skill needs and the identification of skill gaps, and to expand them in terms of geographical and sectoral representation, a new survey was designed, targeting both industrial and educational stakeholders.

The formation of the questions for the follow-up survey was based on the outputs of the analysis presented in deliverables D2.2. ”Current and future skill needs in the Energy sector”, extracting the major findings, and placing them against the judgement of experts in the energy sector. A Likert scale type of questions was used, requiring the participants to rate on a 5-scale basis, how significant they consider each skill gap presented. A total of 49 answers were collected for this analysis.

The 5-point Likert scale used in the questionnaire rendered possible to assess the level of significance the participants considered each skill gap. Scores above 3 indicate that the respondent considers significant enough the skill gap under question.

As depicted in Figure 3-1 and Figure 3-2 more than 50% of all participants have rated the skill gaps with at least a score of 3, indicating that the majority of the stakeholders have identified these gaps in their area of operation, yet, some of them do not have significant impact at this point. Nevertheless, in most of the skill gaps presented, there are several participants that have attributed scores of 4 and 5, highlighting the importance of these gaps for a few stakeholders in the energy value chain. Data related skill gaps and cybersecurity are amongst the ones that seem to be the most impactful.

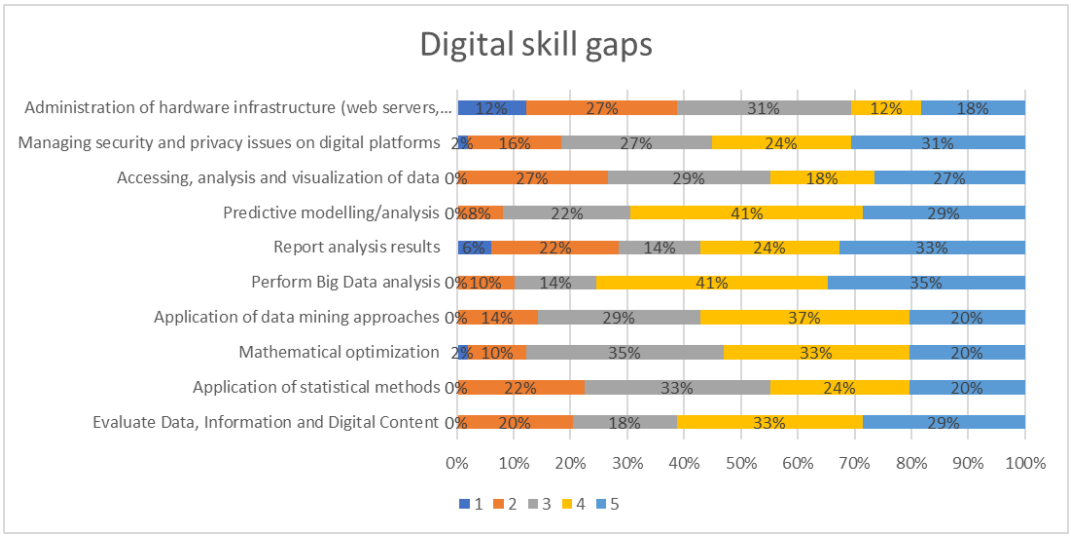


Figure 3-1 Skill gaps 1

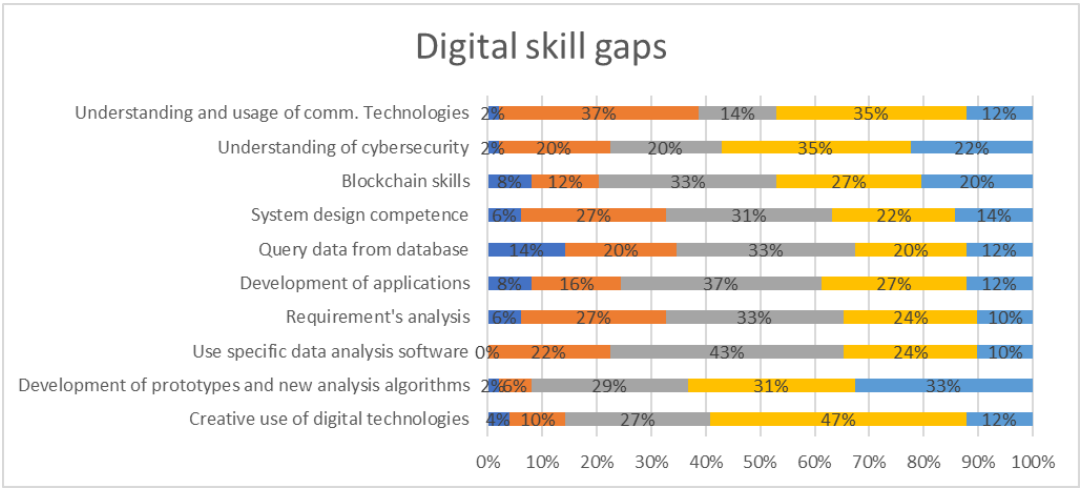


Figure 3-2 Skill gaps 2

Similarly, as with the skill gaps, the participants were asked to rate the gaps of knowledge in a list of digital technologies, where each technology represents a set of skills and they easier for the respondents to assess. The results are presented in the figure below, and it is evident that the outcomes from the previous skills become more concrete. **Big Data/Data Analytics, Cybersecurity and Artificial Intelligence** are the rated as the most significant gaps by the participants. Blockchain and IoT are also among the top-rated gaps in the list.

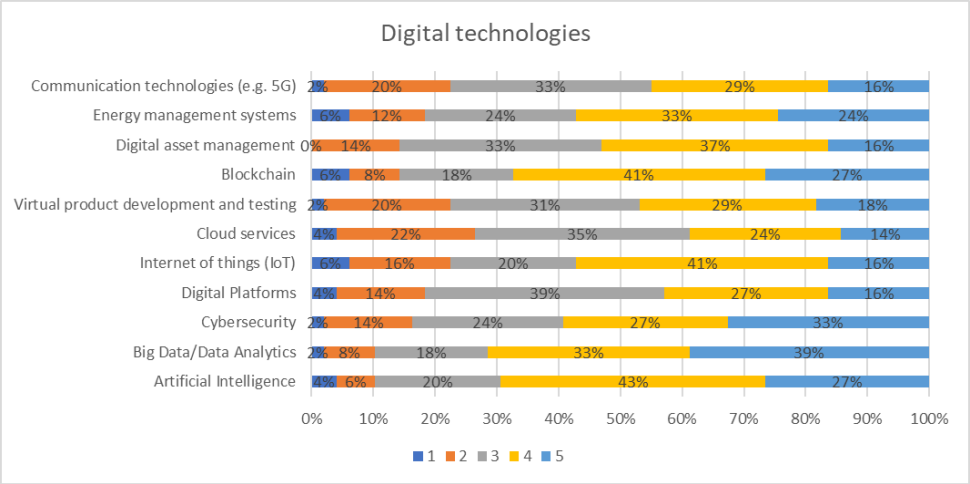


Figure 3-3 Gaps in digital technologies knowledge

All the results and assessments summarized above were posted on EDDIE website (on the dedicated section – presented on the website structure) and shared on all social media channels. In Figure 3-4 below, we can see some examples

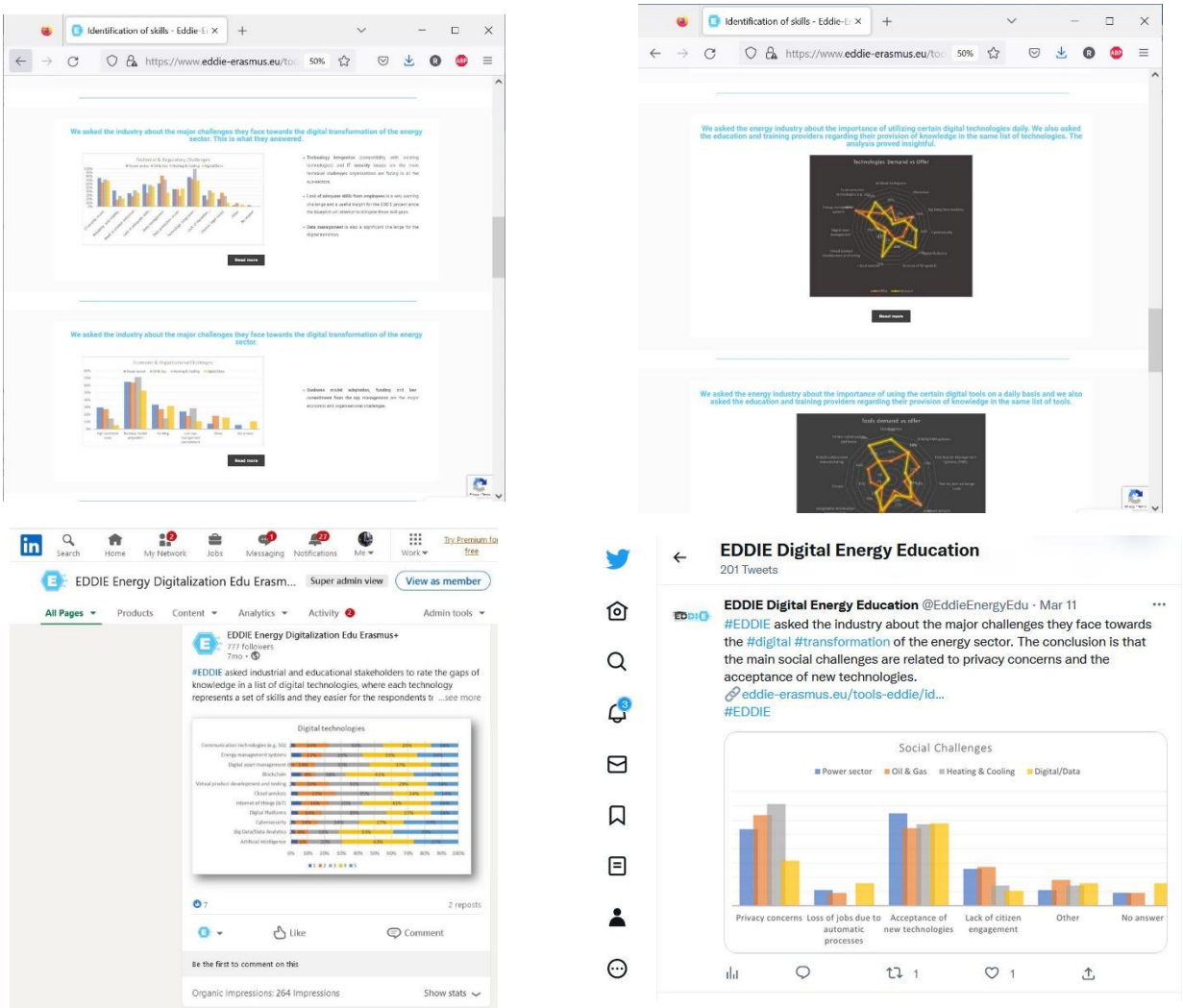


Figure 3-4. Examples of posts and shares of results as part of the WP2 work

3.3. Stakeholders Map and Strategic Network.

The EDDIE Database was set up as part of Work Package 3 which aimed to map stakeholders to identify, describe and indicate priorities for the improvement or the establishment of new qualifications (job profiles and skills needed) and strategic network building. The database which encapsulates the different stakeholders identified in WP3, aims to assist in identifying needs in occupations and job profiles, eventually leading to the interaction of stakeholders, along with skills content analysis and set the ground for a strategic sectoral cooperation. Through the creation of the EDDIE database, the aim is to have a flourishing network with different stakeholders, possessing various skill and job profiles, all engaging and contributing to the EDDIE project. An important point that needs to be kept in mind is to ensure engagement with the relevant stakeholders in order to assure the future success and sustainability of EDDIE. Stakeholders registered to the database can either be an individual person OR an entity in general (company, institution, association, etc.).
At the moment, stakeholders are being encouraged to register to the EDDIE database so that this network can start being formed, however given that the database is at its conception, the different portals envisaged for the EDDIE platform have not yet been formulated. To further explain the latter one needs to think of the database as a registration page for the future EDDIE portals, so in order for one to make use of the portals, one needs to use the database to form part of the platform. The portals that are currently being explored are the "Research and Dissemination Portal", the "Jobs Marketplace", the Training Marketplace" and the "Tools and Systems Marketplace." The roles that Stakeholders will eventually adopt, are dependent on the stakeholder group, the said stakeholder forms part of, and most importantly the different portals that will be developed. This concept has been further explored and explained in Work Package 5, more specifically tasks 5.1 – 5.5, however, a brief description of what the different platforms will entail can be found below.

- ***Research and Dissemination portal:***

The idea behind the Research and Dissemination portal is two-fold as the name of the portal implies. Stakeholders will have the opportunity to on one hand perform research and on the other hand disseminate their work – all on the EDDIE platform. Stakeholders that register to the EDDIE database will have access to an *EDDIE Library* and an *EDDIE Feed.* Starting with the EDDIE Library, one will be able to upload their personal works including theses, research papers, dissertations, books etc – hence using it as a platform to disseminate their work. On the other end of the spectrum, stakeholders will be able to access the library, and hence the different works uploaded to it, and make use of the materials as part of their research. Moving on to the EDDIE Feed, this will consist of a more active and 'live' function whereby stakeholders can post achievements, photos, events, videos and anything else that they think would be relevant to share and disseminate with other members of their network, present on the database. What is important to keep in mind is that both the EDDIE Library and the EDDIE Feed are there in order to enhance the energy sector, thus all the materials posted must be connected as such.

- ***Jobs Marketplace:***

The idea behind the Jobs Marketplace is to facilitate job hunting and job recruiting within the energy sector as impacted by digitalization. Recruiters registered to the EDDIE database will have the opportunity to post vacancies on the platform whilst also reaching out to individuals that catch their eye, whom they think might be a fit to the vacancy. On the other hand job hunters will have the opportunity to go through all the available vacancies, and apply to those that they think they would be a fit. Recruiters and Job Hunters will have the opportunity to interact with each other including asking and answering questions.

- ***Training Marketplace:***

This platform aims to act as a hub for individuals looking to further enhance their profile within the energy sector. One will have the opportunity to access this marketplace and browse various courses being advertised that might spark an interest, and then apply to them. On the other hand, entities offering the courses will be able to advertise them on the EDDIE Training Marketplace in order to attract more applicants.

- ***Tools and Systems Marketplace:***

The mission of the Tools and system Marketplace is the creation of an online platform for the exchange of tools and systems that are in the energy sector, with a special focus on the tools and systems that highlight the digitalisation of the sector. In order to achieve this, the platform will be implemented with the tools and systems offered by different providers and will offer the customers who are actively looking for the best solution over certain topics, the opportunity to find quality and specific tools or systems to help them achieve their goal.

The invitation for joining the database of EDDIE, as a first step towards the future platform, was shared in several posts on social media, included as a dedicated section on the newsletter and also sent via email by all the partners in EDDIE consortium to their relevant contacts. The dedicated section on EDDIE website was presented in the chapter above. Examples of some actions towards fostering support for EDDIE database can be found below in Figure 3-5.

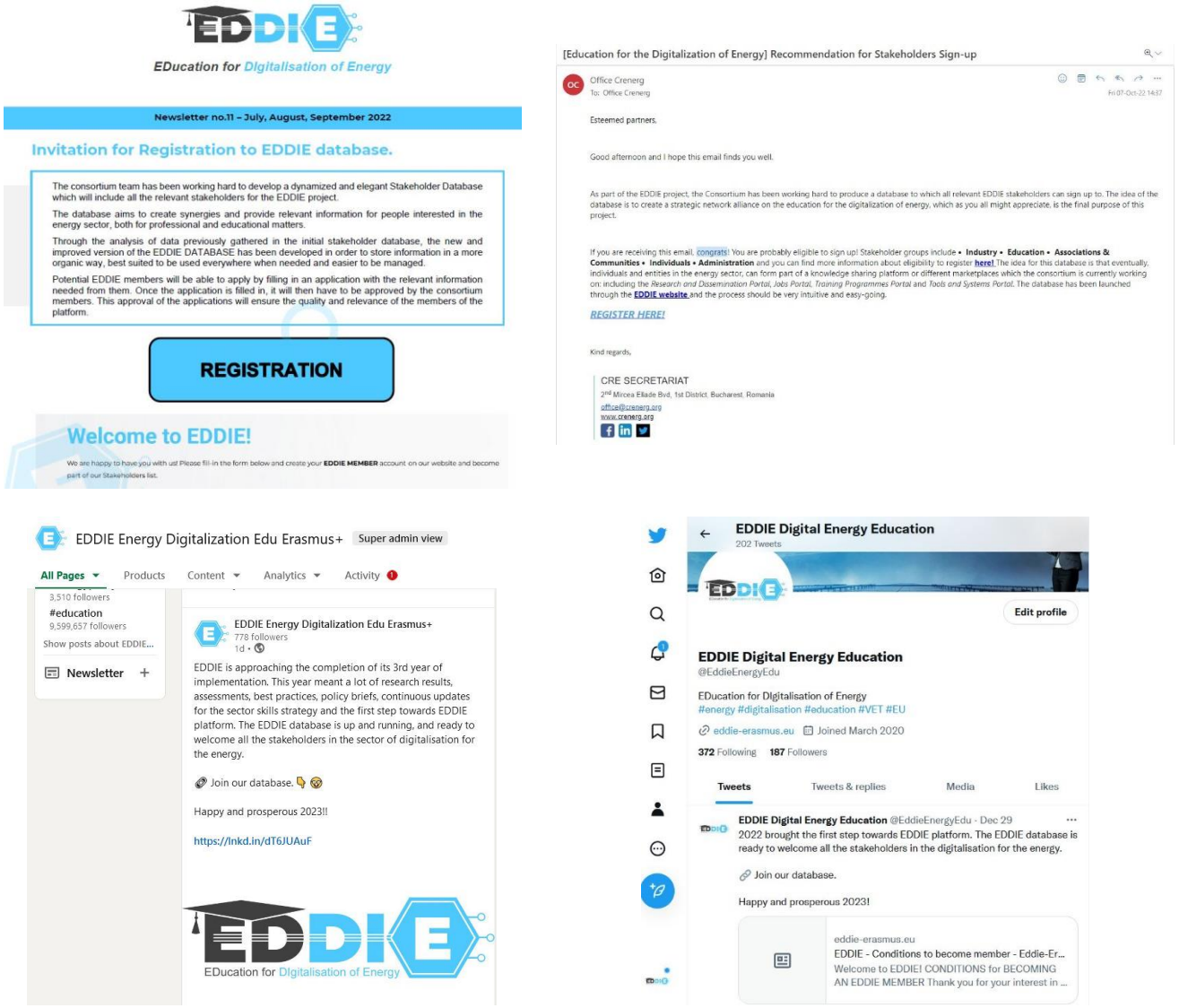


Figure 3-5. Examples of EDDIE database invitation to join for the stakeholders.

3.4. Skills delivery and best practices for university, lifelong learning, and VET education.

3.4.1. Identification and assessment of skill delivery and professional knowledge to address digitalisation

The deliverable D4.3 describes how across Europe substantial differences exist in the national policy, regulations/standards and organization of Vocational Education and Training (VET). Currently, the European VET system still fails to provide effective and equitable employability to learners in relation to the knowledge and skills demanded by the ongoing digital transformation of the Energy sector. Alignment of the VET system with the technological advancement, economy, labor market and the society is needed to prepare the learners both

theoretically and practically, and to deliver technical, green and soft skills that could be directly used in the new occupations associated with the energy transition and digitalization. In this direction, exemplary efforts are ongoing already in some European countries and vocational training systems, New digital technologies, subjects and equipment appear to be more and more present in several vocational training programs. However, the progress is not harmonic across Europe, and this is mainly due to the wide diversity in national systems of education and VET. VET systems in particular are caught in their national contexts of legislation, culture, regulation, society and economy, and in some EU member states there is even variation within the state, (such as in Germany - with its sixteen Bundesländer -,the United Kingdom - with England, Wales, Scotland and Northern-Ireland -, and Belgium - with its three language communities).

In an economy where the quality of the workforce is essential - for the success of an organization - as much as the alignment with technological progress and market changes, now more than ever adapting the development of training and competences with the business needs has become a challenge not only for education centers but also for in-company training providers. This is true especially for small and medium sized enterprises (SMEs) that often do not have the instruments to offer specialized education and training to their workers. Thus, in some European countries (e.g., Germany) special schemes (such as inter-company vocational training) were introduced by the government to guarantee full coverage of all VET elements, and with the threefold aim of creating competitiveness for the SMEs, increasing the attractiveness and accessibility of vocational training, and – as a consequence – improving the employability of people.

The introduction of digital equipment and online learning & training into the VET programs is another action supported quite extensively by the EU member States, and we can expect this to increase dramatically in the near future, as a consequence of the Covid-19 crisis. The pandemic, in fact, has revealed that digitalization is essential not only in a number of occupations (also beyond the digital and energy sectors) but also to provide seamless education and training. At the same time, the pandemic is increasingly revealing the flaws that need to be resolved in order to bring digitalization into the education and training system.

Overall, the most significant challenges to building knowledge, skills and competences in adult education and training for the digitalization of the energy sector, are related to

- The lack of European standardization (at regulatory and organization level) on specialized education and training for occupations in areas that demand highly advanced competences (such as data analytics and management, resource management, machine learning and artificial intelligence, cybersecurity, software development).
- The lack of enough measures that can support participation in adult learning (those that make material conditions for learning easier, such as financial incentives, support with childcare and other caring responsibilities, flexible working hours; and also those that improve the process such as better information and guidance, better quality of training, certification of learning).
- The heterogeneity of national situations (at political, economic and societal level), and the discrepancies among the national targets and corresponding development paths, which however contrast with a general positive opinion of the people on VET benefits

The European Commission (EC) has set a defined Action Plan for the digitalization of education, and several significant initiatives related to energy and digital transition have been set by the EU member States. Both the EC Action Plan and the national initiatives aim at fostering a coherent integration of the VET curricula in order to include specialized training and professional education also in the areas of IT and Modern Energy systems. Nevertheless, the process of transformation of the education has just started and meaningful results are yet to be seen. It will be important to consider and overcome the different territorial situations of the EU member States, in order to facilitate a harmonic and homogeneous development of the respective VET systems in the direction demanded by the transformation of the industry and the labor market.

Five countries have been originally selected in the EDDIE project to provide samples of different levels of structure and organization, with synergies and differences: Germany, Spain, Romania, Greece, and Sweden. These countries have also a well-established Energy industry that is undergoing a dramatic transformation due to the EU policy, the green economy and the digitalization.

A complementary survey to VET providers about their perceptions for the VET sector in their country was conducted through questionnaires and interviews prepared by EDDIE Consortium and the Cedefop's ReferNet network, and not limited to the above four countries. The results provide information completing to some extent the mapping of VET assessment at European level through the analysis of how VET organization and governance are perceived

across the different Member States by a sample of VET providers and by samples of adult population. VET providers and adults represent the existing or prospective workforce in need of training and skilling as of now.

3.4.1.1. VET System in Germany

The dual model represents the pillar of the VET system in Germany, and it can be framed in the context of efforts to create a qualified workforce for different industry sectors, with the threefold aim of a) supporting workforce mobility; b) improving qualifications for young people in a globalised world; and c) reduce unemployment, especially among the most vulnerable groups.

The German dual model is not easily reproducible across all Europe for a number of reason, the main two of which being:

- Many European countries do not have the institutional prerequisites, the demographics or the labor market conditions for this form of collective skill formation.
- The dual German system gives companies the autonomy to decide on the training content, which constitutes a big limitation to its transferability.

As for the alignment of the German VET system to the EU pathway towards Digitalization in the Energy sector and all other sectors of the industry, in terms of projections until 2035, three are the key trends for the labor market and VET in general:

1. Digitalization will enforce structural changes of the labor market.
2. The mismatch between job/skills offer and job/skills demand is continually rising.
3. The trend towards academization continues to grow in parallel to a decrease of the number of people opting for vocational education.

3.4.1.2. VET System in Spain

Spanish VET provides little training offer, and no offer at the post-secondary education level. This could be the consequence of various factors. On the one hand, historically in Spain little attention has been paid to the VET system. Thus, government investment in these studies has been very precarious. Moreover, until very recently, there are no policies that allow the design of a more attractive VET training offer for students.

In Spain, pilot programs of dual VET were launched around the country in 2011, but since then there have been difficulties in the efficient implementation of this model. In fact:

- An incentive system has not yet been implemented for companies to decide to hire under the training and learning model.
- Generalized consensus on educational matters has not been implemented among social agents (government, employers and unions).
- Investment in education and salaries for apprentices is lower than in other European countries.

On the other hand, the VET system in Spain has tried to modernize itself since the 2000s following the guidelines established by the EU. The VET Modernization Plan establishes 11 areas of action, among which are the recognition and accreditation of basic and professional competencies acquired through work experience; the flexibility and accessibility of training for a single system of Vocational Training; digitalization, innovation and entrepreneurship or the promotion of dual vocational training, among others.

The Spanish society is not on the top in the list of the digitalized in Europe and, consequently, its VET education as well. Nevertheless, based on government plans, the different Spanish regions have developed initiatives to promote the digitalization of VET studies adapting them to the characteristics of each region.

3.4.1.3. VET System in Romania

In Romania, VET is not an independent system, but a constituent part of the Education system. From this perspective, the quality of VET depends not only on the specific measures taken, but also the quality of the human resource that feeds the VET system (graduates of primary and secondary education).

National statistics show a growing concern over the last decade for professional training. Thus, according to national data, the number of adult learners who have participated in authorized training programs has increased in the last decade. The report also highlights an increasing trend in adult participation training courses provided by their employers (since 2015, participation in continuing education in enterprises has increased by 27% for the male

population and by 40% for the female population). Although the number of apprenticeship contracts is increasing, employers often perceive training as an additional cost, rather than an investment.

The National Employment Agency offers training programs based on the analysis of job vacancy data and job applications, which are formulated in the Annual National Vocational Training Plan. Thus, there are training opportunities for adults who have left education early or for other reasons. However, participation in lifelong learning is the lowest in the EU, with a slightly downward trend compared to the upward trend in the EU.

Another relevant mention that can be added here is the confirmation from the Strategy for digitalization of education for the years 2021-2027 that the development of digital competences at all levels in cross-curricular education, through specialty disciplines, formal and non-formal activities is one of the directions and initiatives for new opportunities in education and VET for a digital society.

3.4.1.4. VET System in Greece

There are clear signs that in Greece there is a disharmony between skills needed and their availability. It should be noted, though, that the country's major problem is creating the suitable growth conditions that will lead to job creation that would in turn contribute to direct, or at least faster, matching between skills offer and demand. This is quite crucial for the Energy sector as well, as it will be one of the driving forces of Greece's economy.

VET courses and specializations offered should reflect the needs of the economy, in order to be more attractive to young people and actually contribute to the country's progress. They should, also, be consistent with recommendations of relevant policy makers.

Except for the overall need of upgrading VET to meet the needs of the market, a wider change in society's perceptions about VET should be pursued. VET should not be considered an option for underachievers, but to do so it has to be appealing for other students too. Providing the necessary skills and competences to access the labor market, especially in accelerating sectors such as the energy one, can be a key criterion for students' choices.

It is quite crucial for Greece to progress accordingly in issues related to the digitalization of the VET education in order not only to provide to the students the necessary qualification but to also fill the gap that has been created in terms related to the use of ICTs a crucial point in the digital era. Therefore, digital skills in the energy sector should be further promoted, enhanced and finally became an integral part of it.

3.4.1.5. VET System in Sweden

VET in Sweden is characterized by a modular and flexible structure of upper secondary education. Trainees can easily change study path, and the flexible system permit students to continue working while studying and adults to even restart their studies to upgrade their competences.

Validation in adult education is one of the key characteristics of the VET Swedish System. Education providers are in charge for the validation process. Validation of Knowledge, skills and competences acquired through different experiences is possible in all municipal adult education courses at upper secondary level and in higher vocational education. The direct effect is that participation in lifelong learning experiences is above 30% in 2017, the highest rate in the EU.

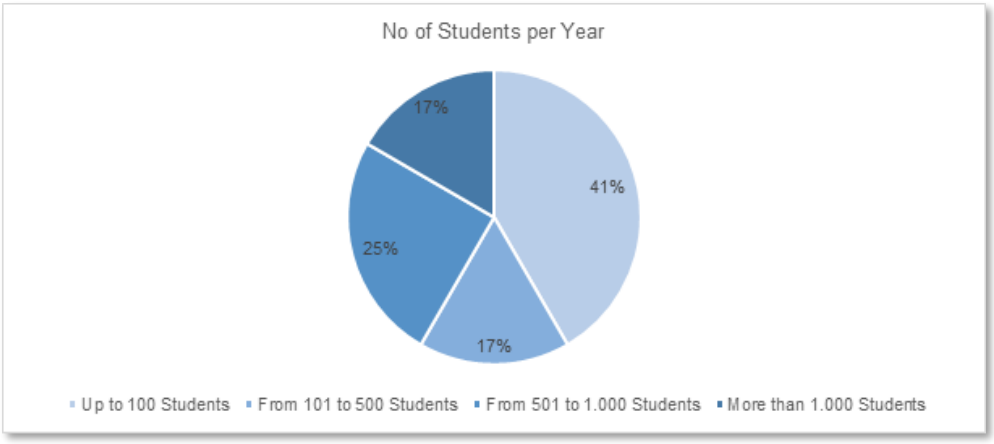
Validation of non-formal and informal learning is defined by a National Strategy for Validation (2017). Different actions have been put in place to foster cooperation between education and the world of work. National program councils include social partners for each of the national vocational programs in upper secondary schools and guarantee the discussion about content, organization, and quality of VET between national agencies and stakeholders. Upper secondary apprenticeship education is part of the reform created in the last years. The number of upper secondary VET learners enrolled in an apprenticeship program has grown steadily but apprenticeship participation remains below expectations. Thought the involvement of social partners involved in the design and delivery of apprenticeships has increased in Sweden in the recent years, its rate is lower than in many apprenticeship countries. While offering apprenticeships, Swedish employers have fewer responsibilities and less influence.

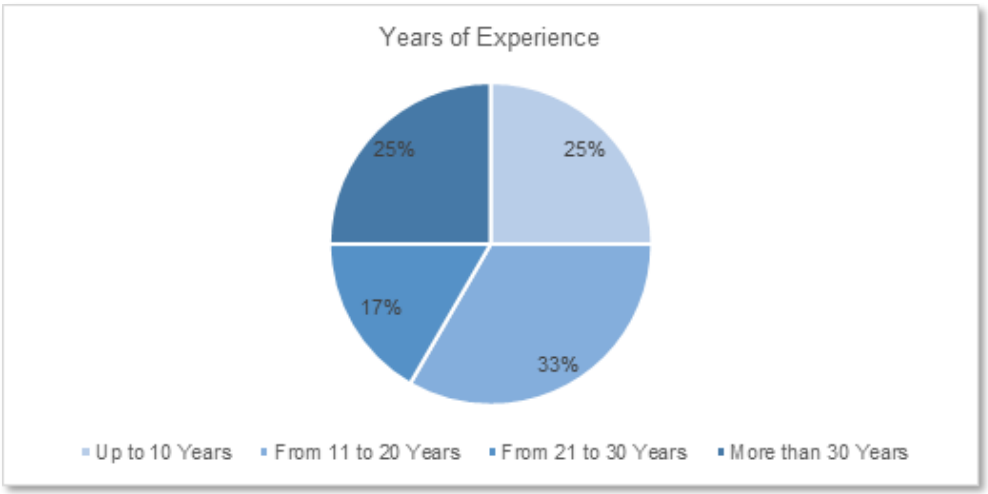
3.4.1.6. Survey Results

Following the competition of the desk-based research, the EDDIE project partners conducted an online survey addressed to VET organizations to analyze their opinion about the situation of the VET system. The survey used the snow-ball sampling procedure, while the methodological approach was based on targeting key-informants (VET

providers and or/experts) across Europe, to sketch the situation in several EU countries beside the focus countries within the EDDIE project.
An on-line questionnaire was selected as a research tool, so that the selection of information would be easy and that restrictions (e.g. of time for arranging an interview) would be avoided. The questionnaire was opinion focused and included closed questions, scaling questions and open-ended questions. The scale was from 1 to 5 (1: I strongly disagree, 2: I disagree, 3: I neither agree or disagree, 4: I agree, 5: I strongly agree) and a no answer option was available as well.
The survey's focus, and the topics that it aimed to address, were defined after examining the findings that derived from the research that had taken place for the EDDIE focus countries. The findings were extracted, grouped into groups and the related topics to be addressed were defined. Later on, related questions were formulated, so that the different aspects of each topic are addressed. The drafted questions were finalized, pilot tested, refined, and updated, in order to be operational, clear and without ambiguous meanings.
The survey addressed topics such as (a) respondent's profile; (b) VET sector organisation, structure and context in their country; (c) VET participation, attendance and the perception of society in each country; (d) the role of VET in economy and the linkages with social and economic actors; (e) the labour market needs and the skills offered; (f) the digitalization status in each country and the related structural changes and (g) an additional section for further remarks, comments and information that the respondents might wish to share.
All in all, sixteen (16) key-informants responded to the survey and, as shown below, in order to ensure interrater reliability, the sample represented:

1. geographically different EU member states with different size and population,
2. different capacity in terms of students and years of experience and
3. different roles within the VET.





The topics that were analyzed in the questionnaire, are:

- ✓ Opinions related to the VET system, funding allocation and in their country

- ✓ VET participation and public opinion perceptions
- ✓ VET and social, public, and economic stakeholders
- ✓ The labor market needs and the skills offered through VET
- ✓ The digitalization status in the respondent's country

After analyzing the results of the survey, it deserves highlighting that according to the empirical findings there is a diverse educational landscape across Europe where the position of the VET sector ranges from the formal aspect to the informal one of the educational systems. One thing is common though that the funds allocated are not sufficient and extra financial support is needed. When it comes to the role of validation schemes the opinions differ and, in some countries, while it is considered important, in others it doesn't to play a defining role for the respondents.
When it comes to the attendance of students in VET, most of the respondents share a quite positive opinion and describe it as satisfactory. However, a quite important percentage perceives the satisfaction rates related to the student attendance either as neutral or expresses an opposite stance. This could be also linked to the fact that the VET providers agree with the opinion that Higher Education is an option, which is more frequently chosen than VET in their country.
Finally, once the interaction of VET with public, social and economic actors is on the table of discussion the perception of the respondents varies. As it is quite expected, the same applies with the incentives for companies to hire employees when the training and learning schemes of VET is raised. The same trends are apparent in relation to the participation of interested parties in the training and learning scheme of VET. However, despite the different shades on the canvas, most of the respondents highlighted that the VET sector in their country meets the market needs. If we take into consideration that in the era of digitalization, where the challenges within education, economy and society are growing in a different pace among the different countries, VET could be catalyst for avoiding a future gap in skills needed and skills offered within the educational schemes of all levels.

3.4.2. Best Practice for VET education

Digitalisation is affecting all areas of the economy and society, and the energy sector is subject to a deep transformation due to its critical importance in achieving sustainability. Digital technologies are key to integrating renewables, improving reliability, and reducing the cots of energy systems. Based on the results of the survey carried out in the context of WP2, the most important and highlighted lack of skills was identified to be "Analytical Methods" and "Programming development and technology related" skills set. Another finding of the research, demonstrated that the education & training providers failed to offer skills related to Analytical Methods, Computing tools & Platforms and Programming & development.

Thus, deliverable D4.2 aims at the presentation of good examples and best practices developed and implemented in VET provision in the fields related to digitalization of energy. The overall objective is to set the basis on what can be recognized as a good practice and under which conditions in the topics addressed by the EDDIE project. In order to map and select the most successful VET training programmes, the desk research focused on recent projects and the latest EU directives across the EU, as well as the skills needs, and a bottom-up approach, developed for the purposes of the EDDIE project.

For the compilation of the report, the research team of the EDDIE project focused on the identification of practices on the following principles:

1. VET programmes that were effectively combined with work-based learning
2. VET programmes which were ICT facilitated and in the context of digital transformation challenge
3. VET programmes that effectively addressed skills mismatches and led to certification schemes and/ or concrete occupational profiles
4. VET programmes, which successfully engaged the local stakeholders in order to provide a holistic training approach for the beneficiaries.

The document starts with an analytical presentation of all EU strategies, action plans and roadmaps that are related to VET Policy, elements of digital transformation and the incorporation of digital tools in VET provision and, finally, the regulatory framework on energy efficiency, as defined for EU Members States. In order to highlight the need for incorporating emerging technologies in VET and the needs that EU frameworks aspire to cover, the following were presented and analysed:

- EU VET Policy
- Digital Education Action Plan (2021-2027)

- European Strategic Energy Technology Plan (SET Plan)
- Advanced Technologies for Industry (ATI) project
- The European Energy Research Alliance and its Progamme on the Digitalization of the energy sector.
- The European digital strategy and digital roadmap
- The Digital Services Act (DSA)
- Existing policies on Digitalization in Energy (and energy education)
- Skills mismatches as described in WP2 and the needs that the practices identified came to address

The next section of the document describes the logic and methodology behind the criteria set for the identification of the best practices presented in this deliverable. Overall, the best practices selected are targeted to

- The VET sector and focus on the development of a training offer based on an identified need regarding energy transition
- The introduction of digital tools and solutions to ensure high quality of training provision;
- The effective collaboration of different stakeholders with VET providers to offer a unique and targeted solution, both in terms of the needs of the professionals, as well as of those of the industry and, finally;
- The increased impact of the intervention presented in terms of number of beneficiaries reached and/ or added value incurred at local/ national/ EU level.

As for the identification of the best practices the consortium based the criteria on the following principles:

1. The practice was developed following a bottom-up approach, addressing a need identified from the industry and/ or labour market sector.
2. In the context of the EDDIE ecosystem, the industry and/ or labour market are represented by the network of industrial stakeholders and which are presented in the project website.
3. The current EU policies and strategies related to or affect energy digitalisation in the Member States (such as Energy Transition, EU Digital Strategy, Digital Education in EU etc.)

In total, there are 8 good examples and 3 success stories throughout Europe presented in the report, which are analysed based on their aims and objectives, structure and organization, impact and evaluation, critical success factors, and transferability. After reviewing the collected best practices, the following can be concluded:

- ✓ It is imperative to take all the necessary steps to redesign VET training programmes in order to be aligned with the new EC Directives published;
- ✓ VET provision only focuses on the needs of the learners, based on somewhat outdated curricula, which do not cater for the incorporation of work-based learning and/ or the actual needs of the sectors addressed;
- ✓ In this context, reskilling professionals of the sector is of equal importance to ensure that there are no knowledge gaps, and all professionals possess the necessary knowledge and skills to work together in the achievement of a greater objective;
- ✓ The digitalisation of VET provision is an aspect that has been somewhat neglected, but needs to be revisited, better planned and be conceived outside of the strict context of online or blended teaching approaches;
- ✓ The effective and consistent collaboration of all stakeholders is imperative, not just for the enhancement of work-based learning (which prepares market-ready workforce), but most importantly because the work that needs to be undertaken towards energy sustainability should be undertaken by all stakeholders involved.

The good examples selected and presented in this deliverable demonstrate a good indication on the work carried out, mainly from the private sector towards environmental sustainability. Moreover, most of them take well into consideration the context of digital transformation, even before it became a necessity following the pandemic outbreak. Finally, the solutions that are presented are very well designed and implemented as efforts to address the skills mismatches in the energy sector. In the future revised version of this deliverable, these good examples will be further assessed based on additional requirements and analysis, to document and present the final collection of Best Practices of VET in the field of energy digitalization.

It can safely be concluded that up to this date, the effective combination of digital tools with VET provision in the field of energy digitalization is not quite developed yet. In this context, the overarching objective of the EDDIE project appears to be more valid than ever, also considering the EC strategies towards digital transformation as a horizontal need even further pronounced following the impact of the pandemic.

All in all, the EDDIE project can bring about the needed change, given that its main objective is the promotion of sustainable cooperation among all stakeholders involved in those fields. The practices presented in this deliverable, apart from the gaps of VET provision in terms of practical skills and competencies that the workforce has, also demonstrates that it lags behind in introducing the appropriate digital tools in the sector. The consortium believes that the change that needs to be brought about can be achieved through the implementation of this project in an effective and sustainable way.

3.4.3. Best Practice for university education

Deliverable D4.3 gives an overview of current guidelines, emerging strategies, and existing examples of good practice with a focus on redesigning the teaching and learning procedures in university to align them to the requirements of the new digital world and energy sector. In addition, it lays out upcoming trends and opportunities for the identification of new recommendations and procedures that could redesign the academic offer.

The Best Practice (BP) is intended to be any process defined by a set of procedures (i.e., recommendations, lessons learned, examples of existing good practices, new practices that advance them, practical tools) for the redesign and methodological validation of teaching and learning, directed to the Energy sector and the delivery of the skillset demanded by its digitalization and transformation. For the design and development of a BP, a bottom-up approach is proposed: the BP is the result of an analysis and evaluation of the current labor market, market and industry specifics as well as of the EU strategy set to achieve a digital transformation of the energy sector. Inputs from market, stakeholders involved in the energy sector, public authorities (to define the demand, as it is seen in the EDDIE ecosystem) but also other inputs on the current offer from university are considered. From this information, it can be defined WHAT has to been done in terms of BP (procedures) and HOW this should be achieved.

Existing policy work, recommendations and industrial strategies are “the reference point” for universities across Europe to digitalize the teaching and learning experience, and to deliver the technical and soft skills that are nowadays needed in the profession and social integration. Hence, these policies, recommendations and strategies represent the core information, which the BPs of EDDIE should build upon. Here, the assessment of the Digital Education Action Plan (DEAP) in the report aimed at identifying the Actions that seem particularly relevant for the redesign of academic education (and training in general), in line with the upskilling and reskilling requirements that are following the changes of labour market and industry. The critical review of the DEAP performed in the report has revealed, to a certain extent, the accuracy of the BP and BSDE design to attain its objectives. In this line, reviewing policies and stakeholders’ strategies comes as essential when observing the large number of initiatives fostered by the EU. Similarly important is the cooperation between the large numbers of actors in the Energy scenario to meet the goals set by EU.

The actions formulated in DEAP that seem particularly interesting for the EDDIE project at University context are the following:

- Launch a strategic dialogue with Member States in order to prepare a possible proposal for a Council Recommendation on the enabling factors for successful digital education by 2022.
- Develop a European Digital Education Content Framework by 2023 and launch a feasibility study on the creation of a European exchange platform by the end of 2021.
- Use Erasmus cooperation projects to support the digital transformation plans of primary, secondary, vocational education and training (VET), higher, and adult-education institutions, as well as support digital pedagogy and expertise in the use of digital tools.
- Update the European Digital Content Framework to include AI and data-related skills.
- Develop a European Digital Skills Certificate (EDSC) that may be recognised and accepted by governments, employers and other stakeholders across Europe, by 2023.
- Encourage women’s participation in STEM.
- European Digital Education Hub: The Commission will establish a European Digital Education Hub by 2022, to improve cooperation on digital education at the EU level.

With respect to fostering the development of a high-performing digital education system, we can extract three points where Universities must actively contribute: procedures, contents, connectivity and competences. More concretely, the list of actions in the DEAP shows that there is a process of review and definition of the factors that could optimize the transition of the education system to a new digital one.

The European Framework for Digital Education Content is very relevant in regards to structuring the new digital learning and teaching technologies. This framework could support the EDDIE project in evaluating its outputs in

terms of contents, and in setting new goals and processes to produce digital contents. Furthermore, the European Exchange Platform could be used by the entity to share the education resources and platforms produced by the project itself.

Currently we are in a moment of re-design of the education system. Therefore, we have a good opportunity to prevent the new system from exhibiting some of its current biases. Depending on the bias Universities can play a fundamental role in the correction bias and in guiding the Ethics dialogue for inclusion of technologies in society to be person-centric.

The DEAP encourages leveraging the current cooperation projects (mainly the Erasmus ones) to optimize the digital transformation plans. Europe may harmonize the resources placed in the digital transition of the Education system both by preventing us from redundant actions and by optimizing knowledge and good-practice sharing, which will eventually lead to an optimized digital transformation pipeline. In this point, the Digital Energy stakeholder map, which is being created in the EDDIE project, may well be an important asset, and the BSDE entity design must leverage it to foster collaboration.

With respect to enhancing digital skills and competences for the digital transformation, it seems straightforward that Universities must play a pivotal role. It is extremely important to make updated standards like the Digital Competence Framework (DCF) or the European Digital Skills Certificate (EDSC) be recognized by all stakeholders as references to structuring skills and competences and to assess the digital maturity of individuals. Only having an efficient mechanism for measuring digital maturity in a massive way (like the EDSC) can we be proficient in making the European society transition to the desired digital to be scenario. Regarding the DCF, the EDDIE project can contribute in different dimensions, especially by enriching the competence framework with its findings from WP2.

The recommendation of promoting hands-on experience in fields demanded by the labour market is definitely at the core of the EDDIE's BSDE approach. The marketplace approach that is tentatively proposed in the current version of the BSDE entity can make it easy for industry to efficiently convey these demand signals to all education providers.

The DEAP promotes the Digital Education Hub (DEH) to improve cooperation. This is fundamental to enable properly scale initiatives. The EDDIE project can clearly find synergies with this DEH that, indeed, may play a pivotal role in making the entity resulting from the BSDE design be sustainable.

Finally, a set of good practices in the European context is presented in the report. These good practices have been selected taking into account how the use of digital technologies has improved the teaching-learning process or the employability skills of those students, workers or teachers working in the energy sector.

Most of the examples of good practice found in the current deliverable are in the VET system and in specific regions (mainly, Spain and Italy). The dual VET approach appears to be a common feature of most good programs found, which somehow reflects the need for bringing closer the Education system and industry in southern European latitudes. We have found few proficient examples of good practices at University level, which is something certainly required. The good example collection of the deliverable has been extended in an additional research approach. The results of this research will be documented in a revised version of the deliverable D4.3. In particular, this version will contain the final Best Practices and Good Examples based on the application of the methodology in the current version of D4.3 and additional requirements.

3.4.4. Best Practice for continuous learning

It is a fact that green skills in general have been integrated as a horizontal priority for the new Programming period (2021-2027) and promoting the enhancement of green skills to young people and adults is the only way to a sustainable future. Thus, following the same methodology and structure as deliverable 4.2, the deliverable 4.4 has been drafted with the intention of mapping good examples and best practices designed and implemented for lifelong learning provision, in an attempt to tackle skills mismatches in the Energy Sector.

The first section of the document provides an analytical presentation of all EU strategies, action plans and roadmaps that relate to Lifelong Learning Policy (LLP), elements of digital transformation and the incorporation of digital tools in Lifelong Learning provision and, finally, the regulatory framework on energy efficiency, as defined for EU Members States.

All in all, the background, the methodology, and the criteria for the design of good examples are similar with the ones in deliverable 4.2. Specifically for deliverable 4.4, for the compilation of the report, the Researchers focused on the identification of practices on the following principles:

1. Lifelong learning programmes that were effectively combined with work-based learning
2. Lifelong learning programmes which were ICT facilitated and in the context of digital transformation challenge
3. Lifelong learning programmes that aimed at the engagement of the individuals and the change of mind set in what relates to the critical issue of energy sustainability.

Moreover, the examples and practices selected are targeted to:

- The lifelong learning sector and focus on the development of a training offer based on an identified need regarding energy transition
- The introduction of digital tools and solutions to ensure high quality of training provision;
- The effective collaboration of different stakeholders with lifelong learning providers to offer a unique and targeted solution, both in terms of the needs of the professionals, as well as of those of the industry and, finally.
- The increased impact of the intervention presented in terms of number of beneficiaries reached and/ or added value incurred at local/ national/ EU level.

In total, there are 6 good examples and 3 success stories throughout Europe presented in the report. Similarly, to the other BP in WP4, in the future revised version of this deliverable, these good examples will be further assessed based on additional requirements and analysis, in order to document and present the final collection of Best Practices of Lifelong Learning in the field of energy digitalization. The desk research that was carried out to identify these examples in lifelong learning programmes designed and implemented to address energy efficiency and sustainability, demonstrated the following elements:

- ✓ Lifelong learning provision focused on the development and/ or enhancement of knowledge and skills in the energy efficiency sector, a need which arose mainly due to the EC policy documents and strategies and the need to adopt these changes on a practical level.
- ✓ There is a pronounced need to enhance the capacities of the trainers and contribute to their upskilling as a means to drive the overall change towards energy efficiency through training provision across the different target groups (from managers to government representatives, to households).
- ✓ The establishment of cooperation mechanisms among the stakeholders involved, should be considered as a priority, given that energy efficiency is not a matter that concerns a single professional group or just the consumers, but should be considered and undertaken as a community effort for environmental sustainability.
- ✓ The urgency to ensure that the tools, mechanisms, and content is available for the professional development of all related categories, even if it's undertaken through informal learning structures, given the importance of the overall matter at hand.
- ✓ The creation of a feeling of responsibility/ownership within the households should not be overlooked. As presented above, two of the practices selected aimed exactly at engaging consumers in actions that foster energy saving practices. Awareness on what can each one of us do to foster energy efficiency should be streamlined from both the industry as well as the governments, to highlight both the benefits arising from it, but most importantly the need to work together towards environmental sustainability.

From the review of the practices identified, it was established that overall, priority has been placed on raising awareness on both the reskilling of professionals, starting from management level and reaching out to front-line staff that works with vulnerable households on the poverty margin. In addition, the provision of holistic approaches to build the capacities of the relevant stakeholders was also a priority for the practices presented, highlighting the importance of establishing efficient cooperation structures among companies, local authorities and energy companies and line ministries.
It can, also, easily be demonstrated that digital tools, apart from the online provision of the courses, were not incorporated in the practices, which renders the necessity of the EDDIE results still in valid and up to date. It can safely be concluded that to date, the effective combination of digital tools with lifelong learning programmes provision in the field of energy efficiency is not quite developed yet. In this context, the overarching objective of the EDDIE project appears to be more valid than ever, considering also the EC strategies towards digital transformation as a horizontal need even further pronounced following the impact of the pandemic. Finally, it becomes evident that LLP provision should continue to work towards strengthening its links to the labour market, to ensure its consistency with the changing requirements and enhance its attractiveness in the economies of the Member States.

All the desk research, results, assessments, survey results, deliverables completed, summaries etc. are continuously (until the work is completed within WP4) shared with EDDIE stakeholders using the dedicated section

in the website (as described above), social media, newsletter and events hosted and organized by the consortium. Some examples of dissemination actions of WP4 work and results can be found in Figure 3-6.

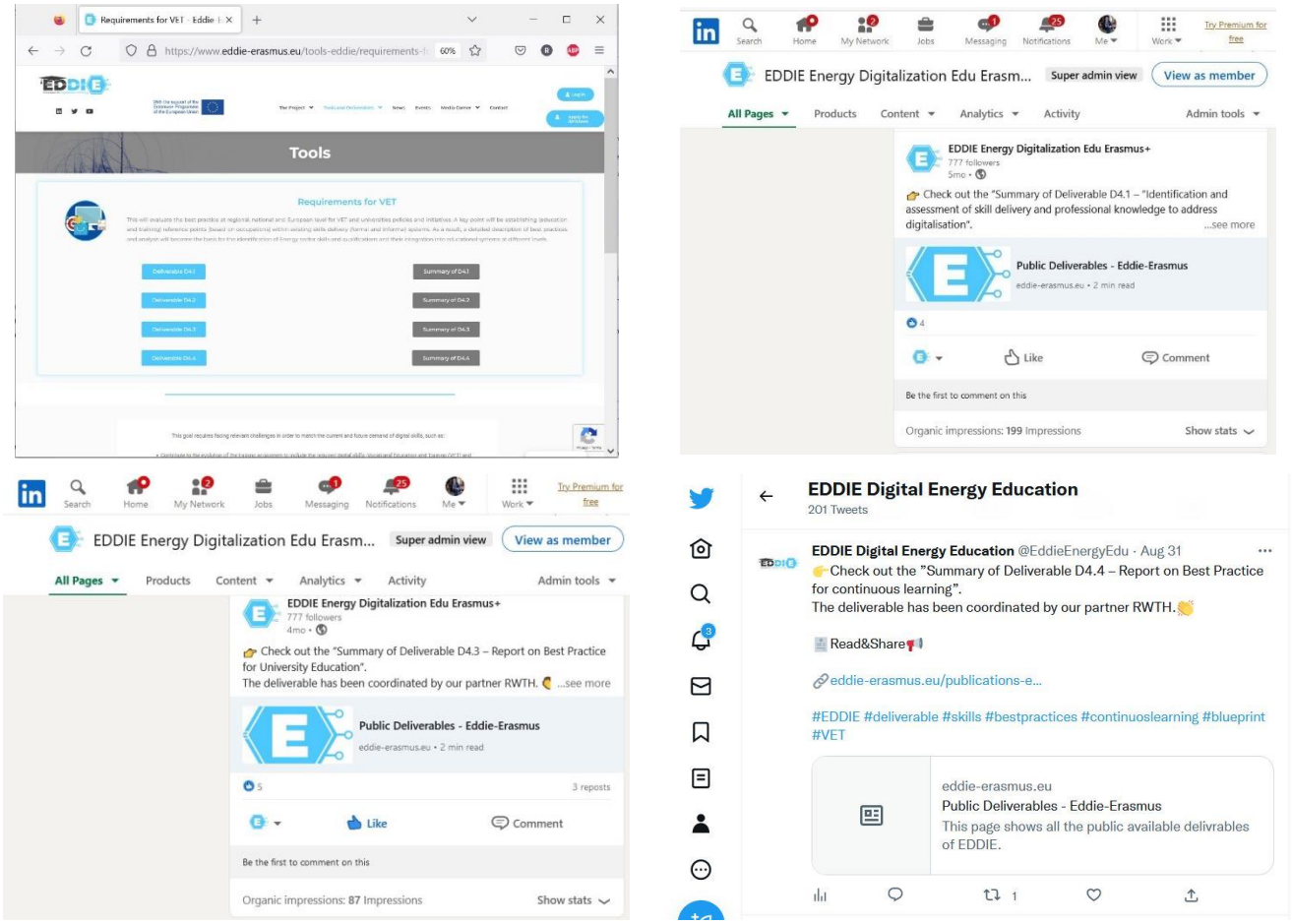


Figure 3-6. Examples of dissemination actions for WP4 assessments and results.

3.5. EDDIE trail site demonstration

Stemming from the development of the Sector Skill Strategy of the EDDIE project and its different elements, the trail site demonstrations are being designed to test the applicability and relevance of the results. As part of the WP6 work, five different pilot sites in Aachen, Athens, Milan, Cologne, and Madrid are set up with 17 different piloting activities. Overall, a broad target audience is addressed, and different program types are tested with the pilot sites to investigate a wide range of BSDE parts. An overview of the different piloting sites is in the table below. In addition, each piloting activity is briefly described in the following subchapters. For each of the trial sites, for the next year of implementation, videos will be produced, press releases, summary documents, and dedicated events to promote the trial sites. More detailed information can be found in the deliverables D6.1, D6.2 and D6.4.

Table 3-2: Overview of piloting activities

Site	Partner	EQF Levels	Piloting activities	Piloting activities with E-Learning Platform
Aachen, Germany	RWTH	1-8	8 (3 in implementation)	2
Athens, Greece	NTUA	6-7	4	3
Milan, Italy	POLIMI	5-6	1	1
Cologne, Germany	EWI	4-6	3	1
Madrid, Spain	PIQUER	4-5	1	0
			Total 17	Total 6

3.5.1. Field Test Aachen

The main pilot site is in Aachen with eight different piloting activities. The design and implementation is being tailored to the needs of education and of the community (both governing bodies and citizens) in terms of (re)building knowledge, competence and skills, as identified in WP2 and related deliverables. The design and implementation do also consider the rationale and the objectives of the Blueprint Strategy that is being developed in WP5. Consequently, several piloting activities have been conceived and planned, each addressing (and “testing”) one or more components and aspects of the BSDE value chain. . One part of the activities with an EQF level of 1-3 is focusing on the young generation, as well as on the border audience to raise awareness and educate on the digitalization of the energy grid. The other part of the activities in Aachen include different lectures and a summer school at RWTH about modern power systems and digitalization. Lastly, in partnership with other stakeholders there will be a workshop, based on smart city initiatives, in order to achieve dissemination of EDDIE scope to wider audience, focusing on energy applications.

3.5.1.1. Archimedischer Sandkasten with city of Aachen

The “Archimedean Sandbox” event is a 3-week summer vacation program for school children from 10-16 years old organized by the city of Aachen and supervised by the local educational institution Bleiberger Fabrik in Aachen. Children can sign up for the program on individual days, weeks or the full period. Topic of the program is the energy generation through wind power. The Institute for Automation of Complex Power Systems (ACS) is one of the technical supporters of the program next to other institutes of the RWTH. As a Kick-Off event, the children visit ACS on the first day and interact with a small wind park and energy grid model. This is a starting point for the children to design and build their own wind setup. ACS will consult the children in two meetings on their own wind setup project in the city center of Aachen. Furthermore, part of the program is an open fair for the public. At this event, ACS presents the same wind park and energy grid model to interested pedestrians.

3.5.1.2. Gymnasium Workshop

The Gymnasium Workshop is a workshop provided by the Institute for Automation of Complex Power Systems (ACS) to pupils of the lower secondary level. It is a two-day workshop in a STEM group. The aim is for the students to understand the challenge of the energy transition and to develop possible solutions offered by the digitalization of the energy sector. In the first part of the workshop, they acquire basic knowledge on the topics of the energy transition and digitalization in the form of interactive lectures. In the second part, participants have the opportunity

to visualize the effects of small changes in the power grid using the Lite Emulator of Grid Operations (LEGOS) platform developed by RWTH. LEGOS is a multi-layer learning platform for demonstrating use cases of smart energy services. By means of some simple tasks, the students independently learn about the basic interrelationships in the power grid. First, they reconstruct a simple power grid by connecting the individual nodes and branches. They learn how to recognize the relationship between voltage, current and resistance and how to determine the power generated and consumed. After this introduction, they gain an initial understanding of the stability in the power grid by simulating short circuits at different locations and working together to find the best solutions to ensure security of supply in the event of a short circuit. The last part deals with the integration of renewable energies as decentralized power plants.

3.5.1.3. Workshop on Data Platforms for the Energy Infrastructure

Together with the Institute for Electro Mobility of the Bochum University of Applied Sciences, the ACS will organize a workshop on open source data platform the energy infrastructure in the IDEASFORUM e.V. of the City of Herne. The workshop will give a general overview of the challenges of data management. The focus will be the presentation of smart city applications with FIWARE and Message Queue Telemetry Transport (MQTT) and the display of different functions with demonstrators. Part of the workshop will be a general introduction to FIWARE as well as MQTT, practical examples and demonstrations of smart city applications and the presentation of smart energy business models.

3.5.1.4. Summer School on smart electrical power systems

The RWTH International Academy offers a two-week Summer School called “Smart Electrical Power Systems” in July 2023. The content of this program is about the current challenges and new technologies with regard to future electric grids, renewables and Smart Electrical Power Systems. The students have the opportunity to learn about measurement techniques and distributed intelligence for power systems, discuss the future of electrical grids and microgrids, and discover real time simulations of power systems. This will be achieved thorough an understanding of the key challenges of future power systems.

3.5.1.5. Leonardo lecture on energy transition

The Leonardo lecture series “Energy Transition – Potential Tension between Economy, Politics and Science” at RWTH is an interdisciplinary teaching series of lectures open to all students. Lecturers from different scientific backgrounds and industry collectively offer this course to a broad audience by highlighting different parts of the energy transition. Depending on the study regulations and performance, 2 ECTS can be acquired through participation and a protocol with a critical analysis. In addition, a Certificate of Participation (0 CP, not graded) is possible. The main part of this pilot activity is the lecture “Digital Energy Revolution” by Prof. Monti from the Institute for Automation of Complex Power Systems highlighting the topic digitalization of the energy system and the lecture “Urban Electrical Energy Systems” by Prof. Ponci from the Teaching and Research Area Monitoring and Distributed Control for Power Systems. The presentation of these lectures are available below. To get access to the E-Learning Platform Moodle with all the material of the lecture series, contact the organizer listed on the Leonardo website.

3.5.1.6. ACS lecture on automation of complex systems

The course Automation of Complex Power System (ACS) teaches skills for designing a modern energy system. This includes the areas of control and automation of the energy system. It focuses in particular on frequency and voltage control as well as potential power quality problems and their solutions. Since modern energy systems are based on renewable energies, initial knowledge of renewable energy sources and alternative grid concepts, such as micro grids, is taught. This includes the power electronic interface as well as control structures for distributed energy sources and for the converters themselves. A large number of renewable energy sources either work with direct current (PV) or use a DC link (wind). Therefore, the concept of DC distribution grids is presented and possible control strategies and protection concepts are elaborated. The increasing share of volatile distributed energy sources requires not only a suitable measurement infrastructure for monitoring the system and appropriate communication standards, but also load management concepts for demand side management. The use of interactive Jupyter notebooks allows students hands-on experience in programming techniques and simulations.

3.5.1.7. Science Night at RWTH

The Science Night is an event organized by RWTH Aachen University to explain science in a way that is understandable and tangible for all generations. The Institute ACS offers an introduction to the topic of electricity grids by means of a presentation. The presentation entitled "Active customers for active grids" shows the changes in the distribution grid due to the increasing number of decentralized generation plants. Another focus is on grid

stability and the associated role of customers. The audience learns about the increasingly active role of customers in the electricity market through decentralized small power plants and solutions such as smart meters. The digitalization of the energy system serves as a key function for active customers. Some reference solutions such as the award-winning software platform SOGNO developed by RWTH Aachen enable the active integration of customers through digitalization in the energy sector. In a second part, participants have the opportunity to visually experience the effects of small changes in the power grid using the “Lite Emulator of Grid Operations” (LEGOS) developed by RWTH. The "Gymnasium Workshop" is based on the same LEGOS demonstrator.

3.5.1.8. Girl's Day at ACS

Girls' Day is a nationwide career and study orientation project for girls. On this annual day of action, female pupils learn about professions or fields of study in which the proportion of women is less than 40 percent. It is aimed at girls from grade 5 onwards.

The main component of this pilot activity is a seminar for secondary school girls at the Institute for Automation of Complex Energy Systems. The main teaching object is based on the wind farm and energy grid model already used in the "Archimedean sandbox" activity. After an extension, the model on Girls Day consists of individual modules. The modules themselves represent different areas of the energy system and can be connected with each other as desired. In addition to the previous onshore wind turbines, one module represents an offshore wind farm. LED lights representing the consumers are divided into different consumer groups. The solid capacitors representing an energy storage units and newly integrated PV systems are another part of the landscape.

Fans generate wind and direct it to the wind turbines. The PV systems respond to light sources. The generated wind and PV power switches on the LED lights. Depending on the number of wind turbines and the rotation speed as well as the emulated solar irradiation, the LED lights might fluctuate. This provides an understanding of the principle load equal to generation. The capacitors stabilize the fluctuations and explain the principle of energy storage. Above this, voltmeters measure and visualize the voltage.

3.5.2. Field Test Cologne

The field test in Cologne includes three mainly industry driven piloting activities, aiming to reduce skills gaps in energy sector. This includes a program to train employees on new trends in the energy sector, a certificate program for mastering the energy landscape of the future and a course connecting companies as teaching entities with students.

3.5.2.1. EWI Academy

The EWI Academy is a training program designed for companies that want to train their employees in the field of energy. The program consists of several modules on different contents of interest related to the digitization-driven transition of the energy sector. The addressees of the EWI Academy are companies, both on the supply- and demand-side, that are willing to offer training to their employees on different carrier stages. The programs' modules are offered online and in-person, combining input sessions with active parts, such as discussions. Besides lectures, the courses can be accompanied by interactive workshop sessions. The modularized structure allows adjusting each training program content- and process-wise to the needs of the companies. E.g., the training can be held on a single day or in multiple day sessions. The training's language is German or English. Participants receive a proof of certification.

So far, a one-day crash curse was held on about e-mobility, including an interactive workshop session, where participants evaluated business cases on e-mobility. A four-day course on energy management is planned for January and February 2023.

3.5.2.2. Certificate in Future Energy Business

Companies need qualified applicants to fill relevant open positions to cope with the transformation of energy systems. Addressing this by targeting to close the gap between academia and practice, the Future Energy Certificate is an extra curriculum education offer that focuses on specific preconditions for working in the energy sector. It seeks to reduce the mismatch between the needed qualifications in the energy sector and the ones applicants offer after graduating from university.

The program consists of several courses that EWI and participating companies offer. This approach ensures the practical relevance of the curriculum. Companies have the incentive to engage in teaching to position themselves as potential employers for the participants. By this approach, addressees of the program are students and companies from the energy sector. EWI is responsible for theoretical lectures on energy economics, for the

administration, the communication between participants and companies, and the quality of this educational program.

In general, there are two curriculum segments: lectures and projects. Lecture-wise, the program offers courses on energy economics, future energy perspective, and methods and skills (39 hours). Additionally, it consists of two projects organized by participating companies (60 hours).

3.5.2.3. Smart Energy Certificate Programme

The fast transition of the energy sector, combined with digitization, puts pressure on existing business models. However, at the same time, it brings new opportunities. Companies need new knowledge in management positions to leverage untapped business potentials. The Certificate targets employees of energy companies and industry who want to deepen their knowledge on digitalization and energy economics. Participants can choose from a wide-range of courses ranging from theoretical courses on energy economics, trading, design thinking, and modelling. In order to receive the certificate, participants have to obtain 39 credits (worth of 9 work of training).

3.5.3. Field Test Athens

The Greek pilot site focuses on lectures and courses to university students in the field of new tools and mechanisms that will play crucial role in the digitalisation of the energy system. To raise synergies, NTUA also plans to participate in a summer school and a MOOC, organized by the H2020 project ERIGrid 2.0, aiming to stress the necessity of the update of education programs, in the context of the transformation of the energy sector.

3.5.3.1. Lectures on Local energy markets, energy communities and Blockchain applications

The lectures on Local energy markets, energy communities and Blockchain applications will be part of the MSc program “Energy Production and Management” of the National Technical University of Athens (NTUA). The program aims to cover a wide range of scientific areas, from conventional & RES production, thermal production and electrical installations to energy economics, energy savings, sustainable environmental management, energy markets and digitalization of energy systems. The successful completion of the whole MSc program provides the students with 60 ECTS and the preparation and successful examination of the postgraduate thesis offers additional 30 ECTS. This pilot activity is presented as two lectures during the Digitalization of energy systems course at the second semester of the MSc program.

The lectures will focus on Local Energy Markets (LEM) and the role of Blockchain technology in securing the decentralized coordination of distribution grids. The content of the lectures is being developed with the aim to mitigate part of the skill gaps identified through the EDDIE project. on the skill gaps that these lectures are targeting, which are digital platforms, Blockchain, computing tools & platforms, mathematical optimization, and data analysis. The first lecture contains an overview on smart grids structure, basic components, and stakeholders in the flexibility market, followed by the basic structure of the Greek energy market and the relevant stakeholders, focusing on Energy Communities. This overview is followed by a further analysis of Local Energy Markets (LEM), trading methods inside them and some LEM formulation methods as examples, concluding to a case study of the operation of a LEM, to elaborate on the problem of optimization. The second lecture contains an overview of distributed computer network protocols and Blockchain technologies, followed by an analysis of Bitcoin and Ethereum examples. Ethereum example is then connected to smarts contracts and the definitions of transactive energy & decentralized energy markets. The lecture also includes two examples that connect LEM operation with decentralized applications, protocols, smart contracts and Ethereum based applications.

3.5.3.2. Lectures on AI applications on energy systems: Dynamic security and forecasting

The lectures on Local energy markets, energy communities and Blockchain applications will be part of the MSc program “Energy Production and Management” of the National Technical University of Athens (NTUA). The program aims to cover a wide range of scientific areas, from conventional & RES production, thermal production and electrical installations to energy economics, energy savings, sustainable environmental management, energy markets and digitalization of energy systems. The successful completion of the whole MSc program provides the students with 60 ECTS and the preparation and successful examination of the postgraduate thesis offers additional 30 ECTS. This pilot activity is presented as two lectures during the Digitalization of energy systems course at the second semester of the MSc program.

The lectures will focus on AI applications on energy systems and specifically on dynamic security and forecasting. The content of the lectures is developed based on artificial Intelligence, mathematical optimization, forecasting, data analysis, machine learning as identified skill gaps. The first lecture contains an overview of machine learning and

dynamic safety of power systems and the benefits that machine learning can offer in the power systems dynamic safety assessment. The lecture continuous with further analysis of machine learning, containing training sets, classifiers, decision trees and evaluation, ending with an example of classifiers application into a Greek island's power system. The second lecture contains an introduction to power predictions and mathematical formulation of forecasting, based on power conversion functions. Artificial neural networks, as a valuable tool for power forecasting, are described and their training process analyzed, complemented by an actual example. The model training process evaluation and the basic evaluation metrics are presented and elaborated through an example that applies various metrics for the evaluation into a power prediction application.

3.5.3.3. Introductory lecture into MOOC on advanced validation methods for smart grids

The MOOC will be hosted in the Moodle platform developed in the context of ERIGrid 2.0 project (H2020 project). It will be developed to act as a learning program on using advanced laboratory testing methods for the validation of electrical and multi-energy systems targeting students, researchers, and professionals. The MOOC will comprise of 4 core seminars, one introductory and will conclude with the industry's opinion. Each one of the seminars will consist of a 30-40 min video presentation and additionally, some of the core seminars will utilize tools developed in the frame of the project to include them as tutorials. EDDIE will participate in the MOOC with the introductory lecture presenting the main targets of EDDIE projects, the identified skill gaps, as well as the Blueprint Strategy for the mitigation of these skill gaps.

3.5.3.4. Participation in ERIGrid 2.0 Summer School

The summer school is organized in the context of ERIGrid 2.0 project (H2020 project) and will take place during summer '23, lasting 3-4 days. The summer school aims to reach a wide range of EQF level participants, focusing on modern power systems and smart grids. Tentative to be covered during summer school are microgrids, real-time simulation of modern power systems, control and power hardware-in-the-loop simulation setups, adaptive power system protection, ancillary services provision by DERs, operation and control of distribution networks, power system / smart grids resilience, small wind turbines construction. EDDIE will take part in summer school with a presentation, focusing on the dissemination of the targets and outcomes of the project, and especially on the skill gaps identified at the digitalization procedure of the energy sector.

3.5.4. Field Test Milan

In Italy, Politecnico di Milano will develop a MOOC targeted to digital energy management for real estates, aiming to match green skills with the real estate sector.

3.5.4.1. MOOC "Energy management for real estates"

The course "Energy management for real estates - Fundamentals, methods and digital tools", delivered through the **POK - Polimi Open Knowledge**, defines the role of the energy manager and explores, through a guided path, the skills and competencies needed to cover this professional role. Hence, it will be targeted at real estate professionals, but will be open to anyone interested in the field.

The energy manager is the professional who handles energy within a company, a public entity, or more generally a facility, checking energy consumption, optimizing it, and promoting interventions aimed at energy efficiency and the use of renewable sources.

In such respect, the course will provide the necessary information to:

- verify consumption, through ad hoc audits or, if available, through digital models or reports produced by remote management.
- optimize consumption through the correct regulation of systems and their appropriate use from an energy point of view.
- promote energy-aware behaviour by employees and/or occupants of the facility.
- propose improvement investments, possibly improving production processes or the performance of related services.

The course will be fully designed, produced and monitored by POLIMI; it will be structured in four Weeks (or sections) and it will mainly consist of video lectures, textual contents and assessment quizzes. Learners who successfully pass the course will receive a certificate of attendance.

3.5.5. Field Test Madrid

The field test in Madrid focuses on VET education in energy efficient homes. In particular, this activity addresses within the EDDIE Blueprint the adoption of new technologies in the context of domotic systems and smart homes. Consumers and their home installations are directly targeted to set the grounds towards transforming their households to more advance functionalities.

3.5.5.1. Home Energy Efficiency and Electrical Installations

The aim of this training is to establish a complementary training module to the educational offer in Vocational Education Training (VET) at ESCUELAS PROFESIONALES PADRE PIQUER, which explicitly includes the possible restructuring of the electrical installation of a home, and the use of automation to improve energy efficiency and manage the energy consumption. The knowledge acquired can be applied throughout the national territory as it is based on the state regulations for the electrification of housing, and the training, as well as the model can be exported to any member country of the European Union.

This training develops a complementary training module to the VET offer of electrical installators, addressing the restructuring of the electrical installation of a home, the application of energy efficiency measures, and the adoption of energy management. The training aims to fill in the current gap in the official training of general electrical installers, as tend to be mainly based on domotic systems for reducing energy consumption in air conditioning and lighting equipment, leaving aside the possible adaptation of the installation of the dwelling to improve energy consumption, the use of smart devices for continuous monitoring and control, and the training in the use of applications to allow such smart operation by both the installer and the user.

The program consist of seven modules starting with the basis of the electrical installations in a house and the regulations, addressing the phantom or idle consumption, the tariffs applicable, the domotic systems, the generation technologies in buildings, the adaptation of the electrical installations, and the consumption management. Special attention is given to the domotic systems, the adaptations of the electrical installations, and the telecommunication and computer applications for energy management.

Within the EDDIE Blueprint, this pilot specifically addresses VET education (EQF 4 & 5), and in particular the adoption of new technologies in the context of domotic systems and smart homes, building new skills for electrical installers, aiming at the digitalization of energy systems, starting with the consumers (and their installations), as the central target that has to drive this transition, and setting the grounds towards transforming their households to more advance functionalities.

4. EDDIE contributions to EU context

4.1. EDDIE part of the Pact for Skills.

EDDIE Project joined the Pact (Figure 4-1) with the aim of promoting concrete actions and contribute through the project results.

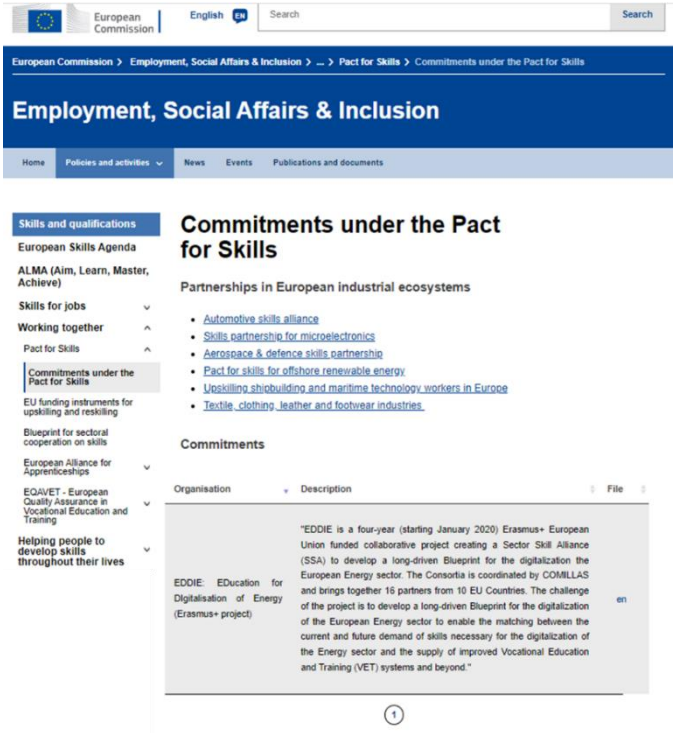


Figure 4-1. EDDIE project - commitment for Pact for Skills

To promote the connection between the Pact for Skills and EDDIE project and to provide more information on the EU “Pact for Skills” initiative, EDDIE consortium created a dedicated document as a press release that was posted on the website and shared on the social media channels. The document is listed under the **NEWS** section on the website and can be found **here** as well. A print screen of this document is in Figure 4-2.

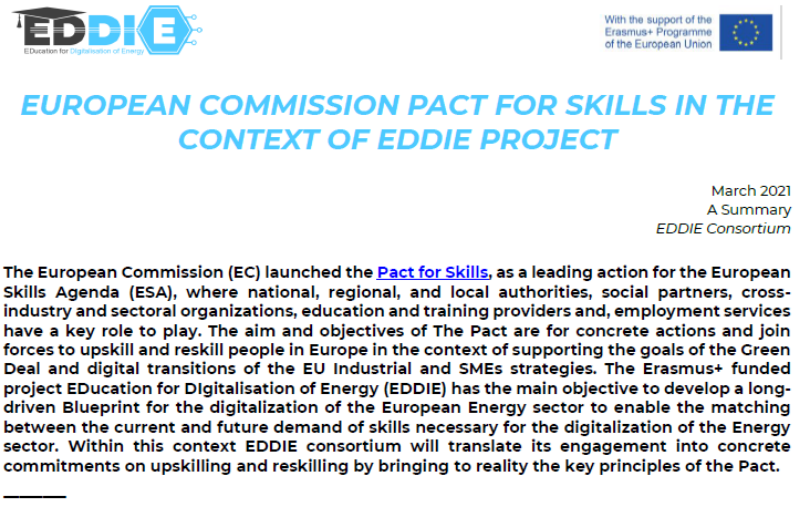
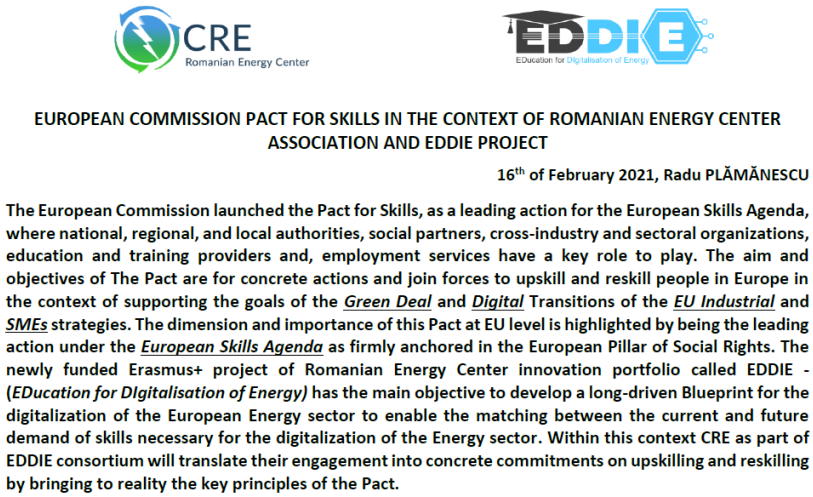


Figure 4-2. EDDIE's Press release for Pact for Skills

In the same context, CRE disseminated among its members a press release with more information via email and posted on their website and social media. A print-screen of this press release can be seen in Figure 4-3 and the document can be found in the **Press Release** section on CRE website but also **here**.



EUROPEAN COMMISSION PACT FOR SKILLS IN THE CONTEXT OF ROMANIAN ENERGY CENTER ASSOCIATION AND EDDIE PROJECT

16th of February 2021, Radu PLĂMĂNESCU

The European Commission launched the Pact for Skills, as a leading action for the European Skills Agenda, where national, regional, and local authorities, social partners, cross-industry and sectoral organizations, education and training providers and, employment services have a key role to play. The aim and objectives of The Pact are for concrete actions and join forces to upskill and reskill people in Europe in the context of supporting the goals of the *Green Deal* and *Digital* Transitions of the *EU Industrial* and *SMEs* strategies. The dimension and importance of this Pact at EU level is highlighted by being the leading action under the *European Skills Agenda* as firmly anchored in the European Pillar of Social Rights. The newly funded Erasmus+ project of Romanian Energy Center innovation portfolio called EDDIE - (*EDucation for DIgitalisation of Energy)* has the main objective to develop a long-driven Blueprint for the digitalization of the European Energy sector to enable the matching between the current and future demand of skills necessary for the digitalization of the Energy sector. Within this context CRE as part of EDDIE consortium will translate their engagement into concrete commitments on upskilling and reskilling by bringing to reality the key principles of the Pact.

Figure 4-3. CRE's press release on Pact for Skills

Another action undertaken by the consortium in the context of the Pact for Skills, is the inclusion as part of an online paper produced by the European Commission, in which EDDIE contributed with inputs. Some print-screens of EDDIE contribution can be found in Figure 4-4.

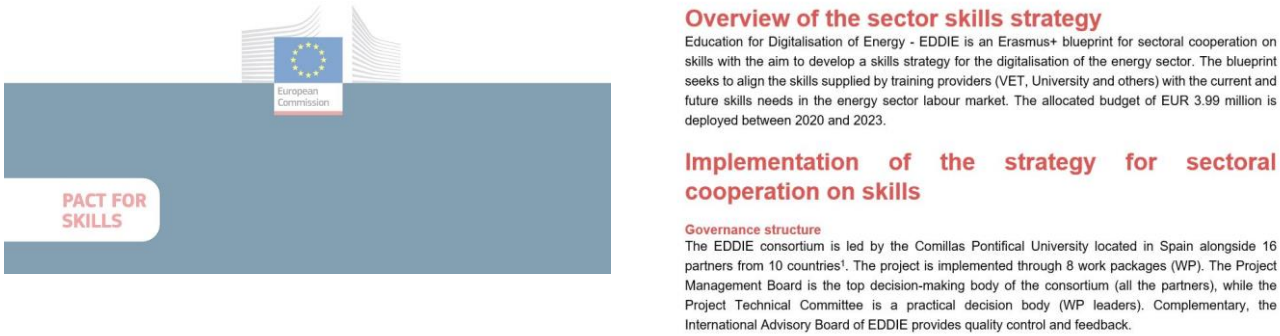


Figure 4-4. EDDIE contribution to Pact for Skills online paper on Sector Skills Strategies.

4.2. EDDIE and CEDEFOP skills portal

On the 21st of July 2022, EDDIE participated at a first meeting with CEDEFOP representatives with the final goal of sector skills strategy projects to be included in the CEDEFOP Skills Intelligence Web portal.

The agenda of the meeting highlighted valuable information regarding the participation of sector skills strategy projects, including EDDIE within the CEDEFOP Web portal. In this context, on the tools section of the CEDEFOP website will be created a landing page for Skills Intelligence - Sectors in the form of an catalogue page. The page will include description of the content – European Union (EU) funded projects working on identifying sectoral skill needs, sectoral skill strategies; list of sectors or projects with a brief description of the project, the key findings, objectives; and results from the projects. The aim is to give the opportunity to stakeholders to search for more detailed information about the blueprint projects and to facilitate readers and allow for possible improvements in the future. This approach means that users will be offered the possibility to access sectoral skills intelligence through brief description in CEDEFOP portal and by visiting the sector skills strategy and other project websites. In December 2015, CEDEFOP started powering the Skills Panorama, an interactive website offering skills intelligence on countries, occupations and sectors in the European Union. After six years, hundreds of reports, blog articles and

thousands of dashboards and visualizations, the Skills Panorama journey as a standalone website has concluded. Skills Panorama's content, from quantitative data to qualitative information, is now hosted in the Cedefop website under the new Skills intelligence tool. Skills intelligence reflects Cedefop's goal to bring together and meaningfully combine components of its research work on skills and labor markets into one overarching narrative to better meet the information needs of its stakeholders. CEDEFOP Skills Intelligence tool brings together their analytical and research work to provide better and more synthetic evidence on current and future skills and labor market trends. There are used narrative-driven visualizations to help policy makers and other skills intelligence users understand what is trending in occupations, sectors, countries, and skills. The focus is on topics such as digitalisation, the green transition, matching of skills and jobs, workplace learning and other areas. Moreover, data are provided across 56 indicators, 23 sectors, 48 occupations and 28 countries. Currently, there are also 26 skills dashboards and 89 curated data insights.

In the regard of promoting this action, the consortium produced a press release on the subject and share it with the relevant stakeholders. Some print-screens can be found in Figure 4-5.

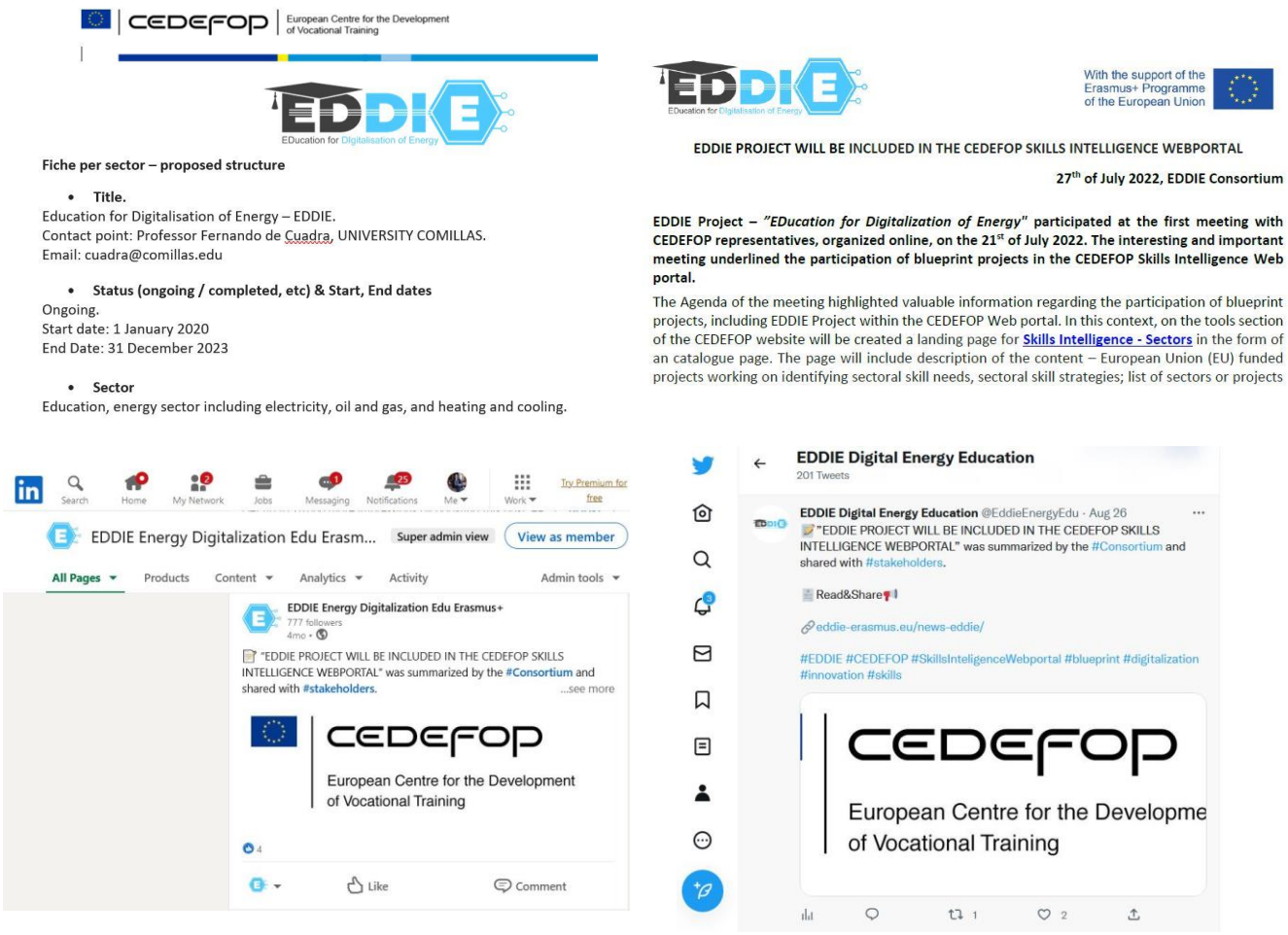


Figure 4-5. EDDIE will be part of CEDEFOP portal.

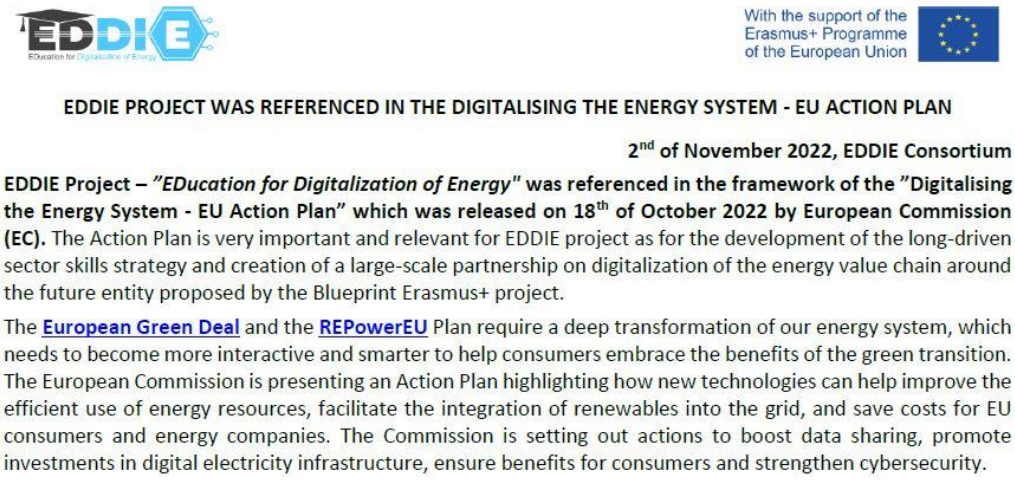
4.3. EDDIE referenced in Digitalising the Energy System – EU Action Plan

EDDIE Project was referenced in the framework of the "Digitalising the Energy System - EU Action Plan" which was released on 18th of October 2022 by the European Commission (EC). The Action Plan is very important and relevant for the EDDIE project for the development of the long-driven sector skills strategy and the creation of a large-scale partnership on digitalization of the energy value chain strongly linked with the future entity, proposed by the Blueprint Erasmus+ project.

The European Green Deal and the REPowerEU Plan require a deep transformation of our energy system, which needs to become more interactive and smarter to help consumers embrace the benefits of the green transition. The European Commission is presenting an Action Plan highlighting how new technologies can help improve the efficient use of energy resources, facilitate the integration of renewables into the grid, and save costs for EU consumers and energy companies. The Commission is setting out actions to boost data sharing, promote investments in digital electricity infrastructure, ensure benefits for consumers and strengthen cybersecurity.

In the coming months and years, the European Commission intends to take key actions to boost digital energy services while ensuring an energy-efficient ICT sector. Firstly, will help consumers increase control over their energy use and bills through new digital tools and services, with a strong governance framework for a common European energy data space. Moreover, for controlling the energy consumption of the ICT sector including through an environmental labelling scheme for data centres, an energy label for computers, measures to increase transparency on the energy consumption of telecommunication services and an energy efficiency label for blockchains and strengthening the cybersecurity of energy networks through new legislation. Moreover, the twin green and digital transitions require new and emerging green and digital skills to be integrated into existing jobs and professionals to be enabled to acquire new and specialized skills so that they can adapt to the fast-changing data-driven service market. Innovative technology solutions rely on there being enough skilled workers and trained professionals to apply them on a wide scale in our daily lives. The European Green Deal made this very clear, acknowledging the urgent need for proactive upskilling and reskilling schemes at all levels.

In this regard a press release was produced by the consortium and will soon be shared will all the stakeholders, on the website, social media and the newsletter. A print screen of the press release can be found in Figure 4-6.



With the support of the Erasmus+ Programme of the European Union

EDDIE PROJECT WAS REFERENCED IN THE DIGITALISING THE ENERGY SYSTEM - EU ACTION PLAN

2nd of November 2022, EDDIE Consortium

EDDIE Project – *"EDucation for Digitalization of Energy"* was referenced in the framework of the "Digitalising the Energy System - EU Action Plan" which was released on 18th of October 2022 by European Commission (EC). The Action Plan is very important and relevant for EDDIE project as for the development of the long-driven sector skills strategy and creation of a large-scale partnership on digitalization of the energy value chain around the future entity proposed by the Blueprint Erasmus+ project.

The European Green Deal and the REPowerEU Plan require a deep transformation of our energy system, which needs to become more interactive and smarter to help consumers embrace the benefits of the green transition. The European Commission is presenting an Action Plan highlighting how new technologies can help improve the efficient use of energy resources, facilitate the integration of renewables into the grid, and save costs for EU consumers and energy companies. The Commission is setting out actions to boost data sharing, promote investments in digital electricity infrastructure, ensure benefits for consumers and strengthen cybersecurity.

Figure 4-6. EDDIE part of the digitalising the energy system - EU action plan

5. EDDIE Events

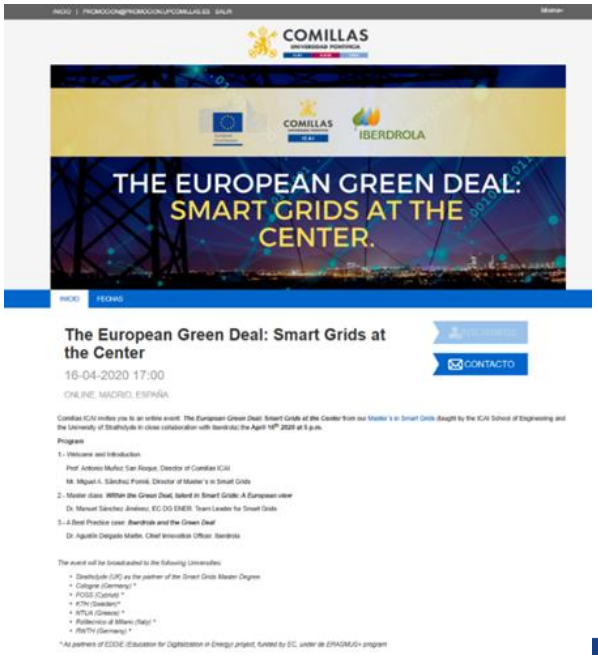
5.1. Events where EDDIE project has been presented

This section highlights and reviews the participation and organization of scientific and industrial events. The selected events include very well-known international fairs and conferences such as the European Vocational Skills Week, IEEE conferences, Innogrid etc.

5.1.1. THE EUROPEAN GREEN DEAL: SMART GRIDS AT THE CENTER (webinar)

- **Date**: 16 April 2020
- **Location**: online
- **Type of activity**: Organization of an Event
- **Organisers**: Comillas University
- **Estimated participants**: 120

- **EDDIE participants**: Comillas, NTUA, CRE
- **Type of participation**: Presentations, master classes, attendance
- **Presentation/Speech/ title**: The European Green Deal: Smart Grids at the Center.
- **Relation to EDDIE**: The event, programmed to be presential, became online as the COVID19 impact in all over Europe was around that time. Registered 121 people. The event was chaired by the principal of COMILLAS ICAI School of Engineering, Dr. Antonio Muñoz. In the Introduction, Miguel A. Sanchez-Fornie mentioned very specially EDDIE project as the best opportunity to align the needed education in energy as impacted by digitalization with the real request from the Industry. Master classes were given by Dr. Manuel Sanchez Jimenez, head of Smart Grids in DG Energy European Commission and Dr. Agustin Delgado Martin, Chief Innovation Officer if IBERDROLA. Both confirmed the importance of Education for the future European Energy System and the clear opportunity of EDDIE project. Their presentations are available, registering to EDDIE's Newsletter
- **Number of participants**: 150 – 200.
- **Photo for the event**: Figure 5-1 and Figure 5-1.



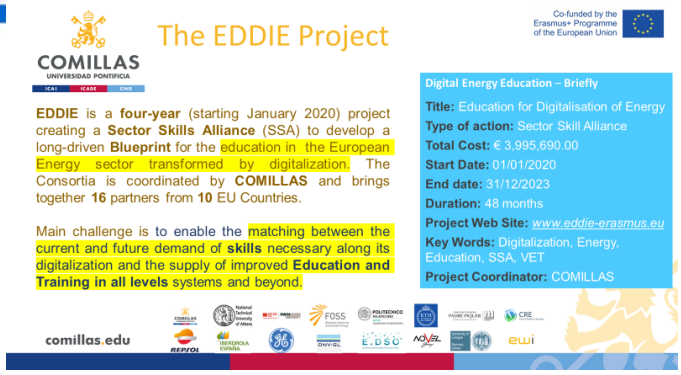


Figure 5-1. EDDIE at the webinar "The European Green Deal: Smart Grids at the Center" organized by COMILLAS

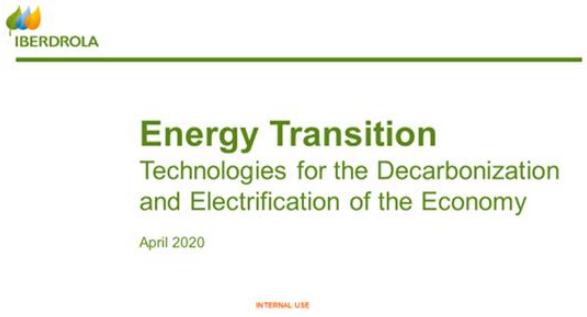


Figure 5-2. Master Classes given by Manuel Sanchez Jimenez (left) and Agustin Delgado (right).

5.1.2. EDDIE at The First International Online Video-Conference On Energy T&D Networks

- **Title**: Integrated Approach in the Management and Operation of Electricity Transmission and Distribution Networks
- **Date**: 30 April 2020
- **Location**: Online Event
- **Type of activity**: Scientific Conference, International Stakeholders Consultation
- **Organizers**: Romanian Energy Center (CRE)
- **Estimated participants**: 220
- **Website**: https://www.crenerg.org/web-conference-sogno-eu-projects/
- **EDDIE participant**: EDDIE Consortium
- **Type of participation**: Presentation, Panelists, Speakers, Participation to a Conference
- **Relation to EDDIE and Feedback**: Romanian Energy Center (CRE) organized on the 30th of April 2020 the first International online video conference „*Integrated Approach in the Management and Operation of Electricity Transmission and Distribution Networks*". The format of the Event was an International Stakeholders Consultation focusing on the preliminary results and synergies within six EU funded projects: SOGNO, WISEGRID, PHOENIX, CROSSBOW, EDDIE and DEFENDER.

  The highlights of the conference: The future look of the Energy and the European Green Deal enabled by a Stable and Smart Grid with high RES were two of the main topics addressed by the two distinguished keynote speakers in the Opening Part of the conference.

  The first session "*Innovative T&D Solutions and ICT Services for Grid Operators*", started with the SOGNO project achievements (deploying more automated services in the MV and LV grids and Open Platform and Modular Services) demonstrations.

  WISEGRID focused on the nine tools developed, standardization cooperation and citizen engagement for the EU Smart Grid of the future. *PHOENIX* project highlighted a self-learning and centralized ecosystem, to protect existing and new EPES components, from known and un-known cyber-threats, while ensuring data-privacy.

  EDDIE project was introduced by the coordinator, prof. Miguel Ángel Sánchez Fornié who underlined the strategic approach for Education in the EU Energy sector as an industry-driven movement, where the skills emerge as a need of the real application. The session ended with a panel discussion underlining the expanded responsibilities of the DSO due to large penetration of renewables and specifically of the distributed generation for securing the Smart grids towards up to 100% Renewables.

  Second session "*Developments in the Standardization for the Power Sector*" highlighted through its speakers that the current paradigm and goal of energy self-sufficiency is too expensive and the best way for the future being cooperation, the blockchain technology can democratize the energy markets and can support the production and consumption of green energy while improving the efficiency of energy exchanges. The conference ended with a panel discussion with the focus on the issues of software products and implementation at national and regional levels, regulatory implications, the impact of digitalization on standardization and standardizing cyber security products and services.

  EDDIE was firstly ever introduced to the potential stakeholders and general public during an international event with participants from 35 countries. (as can be seen in Figure 5-3).

Figure 5-3. Statistics for the first international online conference organized by CRE

- **Number of participants**: 150 – 200.
- **Photo for promoting the event**: In Figure 5-4 it can be seen some of the highlights related to EDDIE also during the panel session dedicated to the role of TSOs and DSOs for securing the Smart Grid towards up to 100% Renewables. For dissemination purposes, the association CRE shared a lot of information, documents and press releases for its members and participants via email and social media (shared by all the involved parties and projects including EDDIE). An example of such document is in Figure 5-5, but more information can be found on the dedicated webpage on CRE website, **here**.

Figure 5-4. Integrated Approach in the Management and Operation of Electricity Transmission and Distribution Networks event

CRE
Romanian Energy Center

ROMANIAN ENERGY CENTER – CRE ORGANIZES THE FIRST INTERNATIONAL ONLINE VIDEO-CONFERENCE ON ELECTRICITY TRANSMISSION AND DISTRIBUTION

27 April 2020, Mihai PAUN

Romanian Energy Center (CRE) is organizing the first International Online Video Conference under the title *„Integrated Approach in the Management and Operation of Electricity Transmission and Distribution Networks"* on 30 April. The format of the Event is an International Stakeholders Consultation focusing on the preliminary results and the synergies within the European H2020 Projects SOGNO, WISEGRID, PHOENIX, CROSSBOW, EDDIE and DEFENDER.

More than 180 registrations of participants representing more than 120 organizations from over 35 countries are counted to date.

The main objectives of the event are: **Consultation with Stakeholders** on the Preliminary Results on Electricity T&D grid operation, regulation, standardization, as well as on New Solutions and Services proposed to TSOs and DSOs for improving the operation and security of the electricity grid trough Digitalisation and Education; **Dissemination of the Projects Solutions** for the Management of Variable Renewable Energies and Storage Units enabling more Secure Smart Grid; **Presentation of integrated solutions and Business Models** for the integration of more RES into the European Smart Grid with increased protection and fast mitigation of the Cyber-Attacks against assets and the Networks of the Future; **Identify synergies within EU H2020 Projects** on Electricity T&D; **Consolidating** the European dimension of **Innovation and Development** in the Energy Sector.

Figure 5-5. CRE's press release for the first international online videoconference

5.1.3. #ERASMUS DAYS – OCTOBER 2020

- **Date**: 15, 16 & 17 October 2020

- **Location**: Online Event
- **Type of activity**: Participation
- **Organizers**: European Commission
- **Estimated participants**: 300
- **Website**: https://www.erasmusdays.eu/
- **EDDIE participant**: Romanian Energy Center (CRE)
- **Type of participation:** Presentation
- **Relation to EDDIE:** Launched in 2017 for the 30th anniversary of the programme, the ErasmusDays have become in four editions an unmissable European celebration for citizens and stakeholders of European projects. A new opportunity for EDDIE to increase its visibility among external stakeholders is the event ErasmusDays. It was a great moment to spread the word about our project, share our experience and showcase the impact of EDDIE work. For this year, all the activities were hosted online, and EDDIE took this opportunity to share all its dissemination activities under the hashtag #ErasmusDays. ErasmusDays is an initiative of the Erasmus+ French National Agency on the 30th anniversary of Erasmus+ and consists of a series of bottom-up events organized by various Erasmus+ programme players.

  An example of activity within the ErasmusDays is the newsletter #3 (Figure 5-6) that was disseminated and exhibited using the logo of the event. On social media, the consortium used #ErasmusDays to share content.

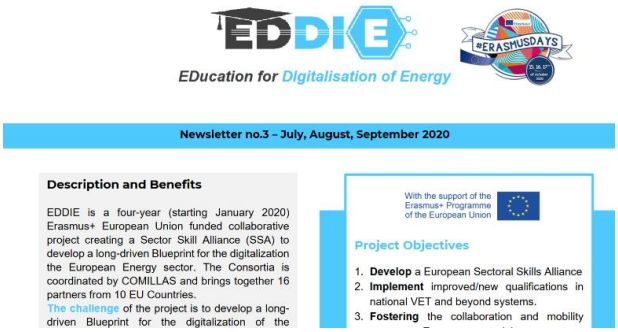


Figure 5-6. EDDIE's Newsletter #3 with ErasmusDays logo

- **Number of participants**: N/A.
- **Logo and Photo of the event**: Figure 5-7

Figure 5-7. ErasmusDays logo 2020

5.1.4. Strengthening Education for Sustainable Energy Transition & Digitalization (Stakeholders Consultation Webinar)

- **Date:** November 17, 2020
- **Location**: online
- **Type of activity**: Organization of an event (webinar)
- **Organizers**: CRE
- **Estimated participants**: 200
- **Website**: https://www.eddie-erasmus.eu/events-eddie/eddie-webinar-evsw-2020/
- **EDDIE participant**: EDDIE Consortium.

- **Type of participation**: Moderator, Speaker, Panelist
- **Relation to EDDIE and Feedback:** Opening the EDDIE International Online Conference, Mihai PAUN, Vice President of Romanian Energy Center, pointed out the aim of the open conference of bringing together industry representatives, policy and decision makers, researchers, practitioners as well as key representatives from the education sector to discuss challenges relating to digitalization, education and their role for the future of the Energy Sector. “Building out a digital world – Digitalisation – will in due course affect, and likely transform, all levels of society.” highlighted Mihai PAUN. “It must be stressed that Digitalisation comes hand-in-hand with the expectation of, and growing demand for, immediacy: the need for "now". That means shorter response times, faster transaction completion and payment. Speed matters most. Meeting such expectation and demand has, and will continue to have, a deep impact far beyond the systems and firms striving to provide always on, real-time results. In parallel, Digitalisation – mainly due to the spread of mobile devices – boosts participation by all, both at political and economic levels. That means people are more connected, engaged in the world around them – from expressing their choice at election time to what services and products they will buy. CRE promotes exploiting Synergies amongst the Telecoms, Energy and Transport sectors in terms of ICT, digitalization and infrastructures.” the Vice President continued.

  The Introduction Session and Keynote Speeches on Energy and Digitalization was moderated by Cristian COLTEANU, Director Strategy and International Affairs at CRE, who mentioned that „the EDDIE project will create an innovative approach for the Education system in relation with the Energy sector (at an EU level) as an industry-driven movement, where the skills emerge as a need of the real application instead of the classic approach that starts from fundamentals to reach application.”

  H.E. Luminita ODOBESCU - Ambassador Extraordinary and Plenipotentiary, Permanent Representative of Romania to the European Union expressed her views on the education and training topics in the process of digitalization of energy area. According to the Ambassador the pandemic put at risk not only the health sector but also the whole economy and energy sector as well. Luminita ODOBESCU invited us to see the current situation as an opportunity. „Romania has a huge opportunity to modernize its energy sector by adopting measures to boost green & digital transitions. EU provides necessary financial tools, but strong involvement of authorities, business and citizens is needed.”, said the Permanent Representative of Romania to the EU.

  Further on, Manuel SANCHEZ JIMENEZ - Team Leader Smart Grids - European Commission DG Energy, recalled the previous words of Luminita ODOBESCU by mentioning once again the importance of the green and digital objectives for a green and carbon neutral continent. One important aspect, he said, is to train the people in achieving the right skills for the right objectives. Therefore, „the EU is expecting from EDDIE and projects like EDDIE to find out these right skills”.

  Manuel SANCHEZ underlined that „The reconciliation with our planet starts with the reconciliation with our country, with our continent.”

  Sabin SARMAS - President - The Authority for the Digitalization of Romania – ADR pointed out that “The transition towards a highly connected and digital society is a complex process.” According to Sabin SARMAS the most important lesson of this year is that digitalization saves lives and the economy. Furthermore, the citizens must be prepared for the future with basic and advanced digital skills and high-level education. Upskilling and reskilling should be daily words for all of us, the president said while referring to the Pact for skills of the EU. ADR aims to become the fastest growing digital economy in the EU.

  Roberto ZANGRANDI - Secretary General - E.DSO for Smart Grids recalled the words of Dr. Mihai PAUN, “Data is the new oil, but the also the new plutonium.” and mentioned that one important aspect in the digitalization of the energy sector is the possibility to transfer professions and human resources among the sectors, up and down, across the countries. „This is impossible without a shared basic set of competences.”, said ZANGRANDI. In conclusion, the Secretary General highlighted that such a drastic energy transition cannot happen without education sector.

  The moderator of the first session of the event, Mihai MLADIN – Projects Manager and Advisor at CRE, presented the speakers and led the panel discussion. Miguel Angel SANCHEZ FORNIE - EDDIE Consortium Coordinator, Comillas University presented the EDDIE Project, an initiative of the EC that will ensure the collaboration between all the stakeholders, through a Sectorial Skill Alliance. The final objective is to develop a long-driven Blueprint for the digitalization of the European energy sector to enable the

matching between the current and future demand of skills necessary for the digitalization of the energy sector and the supply of the improved vocational Education and Training systems and beyond. “It will be a way to ensure the replicability and scalability for the EU.”, said the coordinator.

Panos KOTSAMPOPOULOS - Senior Researcher, National Technical University of Athens, presented the identification and industrial challenges and skill needs in the energy sector within EDDIE framework. Panos KOTSAMPOPOULOS presented the main challenges of sectors related to digitalization of energy: technology integration; IT security issues; and lack of adequate skills from employees and data management. The economic, organizational, social challenges are business models adaptation, privacy concerns, and acceptance of new technologies. One if its conclusions was that “Power” sector showcases the biggest skill gaps.

After the presentations, the Panel Discussion on the identification of industrial challenges and skill needs in the energy sector followed.

Alexandre JUNCKER – Technology Manager, ALPIQ Switzerland specified that the industrial company he is representing is interested in skilled developers and skilled technicians. In terms of challenges, the company will want to have people prepared to contribute to solving the issues for meeting the green objectives. In the context of making the energy more green, Alexandre Juncker mentioned that the two main ways in which the energy sector objectives can be address are by limiting the consumption of energy and by decarbonizing, the former not being achievable by renewables. “The solution can be found in nuclear power”, said the manager. Further on Lorenzo PERETTO – Professor, University of Bologna mentioned that nowadays there is a need to optimize students’ academic schedule to face an increasingly volume of information. The educational institutions need to present the RIGHT information and the continuous daily contact with the industry helps identifying what is relevant and what is no. Another topic address by the professor is the safety concepts of energy sector and the fact that the students should learn also new safety skills. Mihai SANDULEAC – Professor, University Politehnica of Bucharest, mentioned that in UPB university the professors are working for more modern, future oriented teaching courses. According to him it is a challenge because the students need to understand more IT knowledge or cross-university types of knowledge which lead to a selection problem. Mihai SANDULEAC concluded that collaboration is the key on this complex road for finding the right solutions. At the end of the debate, Adrian FLOREA – Managing Partner at Trend Consult, VET Provider starting by asking “Where is the leadership in this discussion?” and by mentioning that many times, in the context of digitalization, people end up by accepting that this is a cultural problem, therefore a matter of habits. From his point of view „Many organizations accept the fact that they need to change, to embrace digitalization, but their habits remain the same. If the leaders of the organizations are not willing to accept new habits all is equal with zero. So, the management must change for the organization to change as well”, ended Adrian FLOREA.

The moderator of the session 2.1 was Dan PREOTESCU – Projects Manager and Advisor at CRE, who introduced the speakers and led the panel discussion.
Gianluca LIPARI – Postdoctoral Research Associate, RWTH Aachen University presented the findings of EdgeFLEX Project in the context of the distributed generation. EdgeFFLEX aims at involving Virtual Power Plants and Energy Communities in the grid management helping the DSOs. In terms of implementing the approach proposed by the project, Gianluca LIPARI enumerated the following skillset for the young professionals: measurement techniques, skills on the cloud, connection with new generation wireless communication (5G), understanding and vision of the market and energy trading.

Then, panel discussion: Synergies with EDDIE project, flexibility, and regulatory framework assessment started.
Antonello MONTI – Professor and Institute Director, RWTH Aachen University gave EdgeFLEX as an example of what the complexity of digitalization means and what are the new requirements in terms of education. According to him the original interpretation of digitalization as combining energy with ICT it is a very incomplete and unclear definition. In the basic level digitalization means power electronics but increasing the level we are founding platforms, business models and the main market. So, “the challenge of education is particularly high”, said Professor MONTI. Further on, Ronnie BELMANS – CEO of EnergyVille, full professor at the KULeven, and Chairman of the board of directors of the Flemish regulator VREG mentioned that the TSOs and DSOs will need a common platform. In his view the digitalization will bring a huge amount of data, and in this context, the professor raised a set of questions: “Who will regulate that data from energy? Energy regulators or communication regulation? How to follow the data and its source? How to get the correct green level of that data? How to bring the data together in the platform for

using it as part of the service?" Then, Mirela DIMA – Director Regulatory Affairs, CEZ Romania mentioned the need for skilled people. The director shared her own gaps identified: between new graduates and experienced people; between the people involved in the daily operations and the people in the research; between what companies are doing by introducing digitalization and what the consumer and the public understands from their effort. "The consumer and the public must know why we are taking certain decision and making certain efforts and their benefits." concluded the director. After this, Valeriu BINIG – Regulatory Director, ENEL Romania mentioned that we must identify the responsible or the most appropriate entity for each action before demanding solutions from the education institutions. „In the context of EdgeFLEX we needed VPP applications for the energy communities and a very effective solution would be through Robotic Process Automation and the role of the regulator should not be necessarily on facilitating it, but on taking care of minimizing the risks which may occur in the process of data handling", concluded Valeriu BINIG. Zoltan NAGY-BEGE – Vice-president of Romanian Energy Regulatory Authority ANRE added that the initially required step on the way to Flexibility is the support towards digitalization on the DSOs side. According to him in 2020 it was updated the secondary legislation on VPP, and it was specifically defined the Aggregator as a key actor in the process of supporting Flexibility. The Vice-President said that "it is expected a huge impact on the Balancing market as well, aiming to eliminate any measures and having a single price rule". Further on, Laurent SCHMITT – Secretary General, ENTSO-E mentioned that the need of flexibility at the end of the system is crucial. ENTSO.E is focusing not on a perspective based on technology, but on a perspective of use-cases and the use of flexibility at the end of the system is appearing in company' various flagships. The Secretary General expressed the need for all the researchers and the community to think for one consistent interconnected system – system of systems, that will expend in ICT. In the higher levels, "DSOs and TSOs, should work together for new models", concluded Laurent SCHMITT. At the end of the conversation, Adrian GOICEA – Chair of the Supervisory Board, TRANSELECTRICA reassured the audience that the Romanian transport and system operator is very much dedicated to implementing the mechanisms of the European Green Deal, considered to be the backbone of the energy sector's development. Furthermore, TRANSELECTRICA's vision is to become the technical and operational authority of the regional power system, together with achieving balancing through storage.

EDDIE Webinar wanted to respond to key questions raised by the 4th Revolution, addressing the main forces of change in ENERGY Transition: Low Carbon Objectives & Digitalization. Using EDUCATION lenses, we will look at the ENERGY Sector to find solutions for the LEARNING Transition, as well. Synergies with EdgeFLEX and PHOENIX H2020 research projects in the digitalization of energy allowed a better understanding of the landmarks for the mandatory transformation in education as a sustainable response to the new and future requirements.

The event brought together industry representatives, policy and decision makers, researchers, practitioners as well as key representatives from the education sector to discuss challenges relating to digitalization, education, and their role for the future of the Energy Sector. For the energy sector there is a number of occupations defined according to the European ESCO classification, and several skills are associated to each occupation, according to the current provisions. These are not very well correlated with the new realities of digitalization, and curricula and training programs in both academia and VET (Vocational Education and Training) also have gaps in what the industry requires. Therefore, during the event, EDDIE project addressed these challenges to identify the skills relevant to the context of digitalization in the field of energy, the expert profiles participating in the panel allowing us to have a broad perspective on the subject, coming from academia, industry, and VET.

As for the conclusions and final remarks, from Session 1, the moderator Mihai MLADIN, highlighted that the digitalisation of the energy sector is a fact and that the preliminary results in EDDIE confirmed what the speakers presented. According with Mihai MLADIN, „the synergies between the academia and the industry are working. We need to further look for opinions from the vocational educational trainers, because their perspective is not completely aligned with today' findings".

Session 2.1 moderator, Dan PREOTESCU, pointed out the regulatory area is moving forward and that there is a need for better cooperation between TSOs and DSOs. „For sure, there is a gap among the academia and the industry, so we should adapt our teaching system to the reality, and to the digital reality of today", concluded Dan PREOTESCU.

In his final remarks, CRE's Vice President, Mihai PAUN recalled the previous words of Miguel Angel SANCHEZ FORNIE and mentioned that „Energy Transition is a must". „Education and training are keys for the involvement of the energy sector", he continued. According to Mihai PAUN, „Challenges like including technology, integration of the new technology, IT security issues, could be easily transformed in opportunities. Digitalization is increasingly adopted in the energy sector, by Member States and there is

place for improvements, for more dedicated education and training." said the CRE's Vice President. In conclusion, Mihai PAUN added: "We are looking forward to continue our cooperation with all of you. We are looking forward to consolidating the role of the digitalization, the role of innovation in the power sector. I want to thank all the speakers and panelists for their contribution, and to all participants for their interest and patience."

For this event, a page was created on EDDIE website to disseminate the relevant information to all the stakeholders groups. The page can be found **here**. After the event a lot of activities regarding dissemination and communication were carried out such as a press release on behalf of EDDIE consortium with the webinar highlights. A print-screen of this press release can be seen in Figure 5-8. All the activities were shared on the social media channel as well. In addition, CRE created a dedicated page on its website and shared a lot of content among its members via email and social media. (more information can be found **here**). An example of a press release on behalf of CRE disseminated among its members but also on social media can be seen in Figure 5-9.

Strengthening Education for Sustainable Energy Transition and Digitalization – EDDIE Project

Summary and Statements – Keynote Speeches and Confertence Highlights

25th of November 2020, Marta STURZEANU & Carina ZIDARU

THE ROMANIAN ENERGY CENTER - CRE and the Partners of the European Consortium which implements the EDDIE Project - EDucation for DIgitalization of Energy, organized on Tuesday, 17th November 2020, the first International Online Conference, dedicated to the role of Strengthening Education for Sustainable Energy Transition and Digitalization. The addressed topics like the role of education in the new age of digitalization and the development of synergies with innovation projects funded by the European Commission (EC) through the Horizon2020 program - EDGEFLEX and PHOENIX, projects in which CRE is partner, contribute to decisions in the process of digitization of the European energy sector.

Figure 5-8. EDDIE Webinar Highlights

THE ROLE OF EDUCATION IN THE EVOLUTION AND DIGITALIZATION OF THE EUROPEAN ENERGY SECTOR HIGHLIGHTED IN THE FIRST EVENT ORGANIZED BY THE ROMANIAN ENERGY CENTER AND THE EDDIE PROJECT CONSORTIUM

23th November 2020, Carina-Ioana ZIDARU

THE ROMANIAN ENERGY CENTER - CRE and the Partners of the European Consortium which implements the *EDDIE* Project - *EDucation for DIgitalization of Energy*, organized on Tuesday, 17th November 2020, the first International Online Conference, dedicated to the role of Strengthening Education for Sustainable Energy Transition and Digitalization. The addressed topics like the role of education in the new age of digitalization and the development of synergies with innovation projects funded by the European Commission (EC) through the Horizon2020 program - EDGEFLEX and PHOENIX, projects in which CRE is partner, contribute to decisions in the process of digitization of the European energy sector.

Figure 5-9. Example of a press release on behalf of CRE

- **Number of participants**: 150 – 200.
- **Photos of the event**: Figure 5-8, Figure 5-9, Figure 5-10.

Figure 5-10. Strengthening Education for Sustainable Energy Transition & Digitalization – Dissemination

5.1.5. 2021 IEEE International Forum on Smart Grids for Smart Cities (Virtual Forum)

- **Date**: March 17-23, 2021
- **Location**: online
- **Type of activity**: Participation to a Virtual Forum, Scientific Conference, Fair
- **Organizers**: IEEE
- **Estimated participants**: 200
- **Website**: https://ieeesg4sc.org/ and https://www.eddie-erasmus.eu/events-eddie/eddie-at-ieee-sg4sc-2021/
- **EDDIE participant**: EDDIE Consortium
- **Type of participation**: Moderator, Speaker, Panelists, Participants, Audience
- **Presentation/Speech/ title**: Education in the digital within the energy sector: the EDDIE project (Professor Miguel Angel Sanchez Fornie); Emerging skill needs of the industry and skill offer of education providers on the digitalization of the energy sector (dr. Panos Kotsampopoulos).
- **Presentation abstract**: Miguel Angel SANCHEZ FORNIE - EDDIE Consortium Coordinator, Comillas University addressed during his presentation the European context of the Digitalization of Energy Sector, underlining the EC initiatives in this regard, key information about the EDDIE project like the methodology to review national systems defined by three main stages: review legal framework of VET, review structuring and functioning of VET, review position of vocational training in relation to energy transition and digitalization. All of these will help the identification of legislation-related, territorial, or organizational challenges for future skills delivery required by energy transition and digitalization.

  Panos KOTSAMPOPOULOS - Senior Researcher, NTUA underlined in his presentation important aspects extracted from the Industry Survey and the Survey on Education and Training Providers conducted inside the EDDIE project. Challenges by sector were presented and the assessment of skill needs for the digital transformation by the industry and the skill offer by education and training providers led to the identification of skill gaps. It was found that the lack of adequate skills of employees is a very warning challenge and a useful insight for the EDDIE Project since the blueprint will attempt to mitigate those skill gaps. It also resulted that data management is also a significant challenge for the digital transformation. Some photos during the presentations can be found in the Figure 5-11.

Figure 5-11. Photos during the presentations of EDDIE Representatives during 2021 IEEE SG4SC

- **Relation to EDDIE and Feedback**: EDDIE project participated and was part of the Project Zone in the Online Videoconference organized by IEEE Smart Grid in collaboration with RWTH Aachen University. During the Conference, EDDIE Project – „EDucation for Digitalization of Energy", created the context for the interventions in Tech Session 8 „Education in the Digital Era for Digitalization" on Tuesday, 23rd of March 2021, from 17:00 – 18:30 CET, within a lineup secured by distinguished professors and researchers from high ranked universities. The role of Education in the Digital Era for Digitalization and the Development of synergies with other innovation projects funded by the European Commission (EC) through the ERASMUS+ and H2020 program will create the framework for EDDIE Project to actively contribute to decisions in the process of Digitalization of the European Energy Sector (DEES).
  "2021 IEEE International Forum on Smart Grids for Smart Cities" ended its 3rd edition, a five-day Event, on the 23rd of March. In the session „Education in the Digital Era for Digitalization" organized by the IEEE PES Task Force on "Innovative teaching methods for modern power and energy systems" different angles of the topic were addressed like New Trends in Education and Training in Engineering, Educational Services in

Energy Transition and Education at the Nexus of Smart Grids and Smart Cities. EDDIE representatives, Miguel SANCHEZ-FORNIE and Panos KOTSAMPOPOULOS, covered the general context for the important role of Education for Digitalization within the Energy Sector presenting core insights about the project development supported by data results regarding Emerging Skill Needs of the Industry and Skill Offer of Education Providers.

Opening and moderating Tech Session 8 „Education in the Digital Era for Digitalization", Panos KOTSAMPOPOULOS - Senior Researcher, National Technical University of Athens (NTUA) invited speakers, professors, and researchers to discuss challenges related to Education in the Digital Era for Digitalization to identify the essential areas where action is needed and to shape several directions on addressing the challenges of the present subject.

The speakers that contributed with their ideas and visions to the important and pragmatic discussions within this session were: Carlo Alberto NUCCI - Professor at University of Bologna; Ferdinanda PONCI - Professor at RWTH Aachen University; Miguel Angel SANCHEZ FORNIE - EDDIE Consortium Coordinator, Comillas University; Panos KOTSAMPOPOULOS – Senior Researcher at NTUA; Anil PAHWA – Professor at Kansas State University.

Carlo Alberto NUCCI - Professor at University of Bologna pointed out during his presentation the high impact of the pandemic on the delivering format of the lectures and its effect of accelerating the ongoing transition, despite the negative effects and if adequately accomplished, the remote teaching shall become an unvaluable asset. Also, Carlo Alberto NUCCI highlighted the importance of revising Electrical Engineering Programs, as the multidisciplinary skills are required now even more than they were in the past such as smart grids are enablers for Smart Cities.

Ferdinanda PONCI - Professor at RWTH Aachen University presented the overview of the ASSET Project, funded by the EC under the H2020 Research and Innovation Programme, that aims at delivering a framework and tools to create and share knowledge and competences needed for the energy transition. In this regard, Ferdinanda PONCI underlined the motivation - Europe is transitioning towards a low carbon society - but also the challenges faced during the process like upskilling staff with multidisciplinary competencies, intensifying research (liaised with industry), strengthening the industry-academia relationship etc.

Miguel Angel SANCHEZ FORNIE - EDDIE Consortium Coordinator, Comillas University addressed during his presentation the European context of the Digitalization of Energy Sector, underlining the EC initiatives in this regard. Then, the coordinator presented the EDDIE Project. „Energy Transition is a must and digitalization shall accelerate it. Sustainability and the human life on our planet require a fundamental modification of all the parts of the whole value chain in the Energy Sector. Digitalization is and will be affecting the energy and other economic sectors of our society. This is a concept based on the technology whose main elements are: data which also means connectivity, telecommunications, and information processing", said Miguel Angel SANCHEZ-FORNIE. Further on, he presented key information about the EDDIE project like the methodology to review national systems defined by three main stages: review legal framework of VET, review structuring and functioning of VET, review position of vocational training in relation to energy transition and digitalization. All of these will help the identification of legislation-related, territorial, or organizational challenges for future skills delivery required by energy transition and digitalization. Considering all the above aspects the „EDDIE Project has to be fully seen as an initiative of the EC and the actual policy context very much conducted to the area of the Green Deal and the Digital Europe Programmes", said the Consortium Coordinator.

Panos KOTSAMPOPOULOS - Senior Researcher, NTUA underlined in his presentation important aspects extracted from the Industry Survey and the Survey on Education and Training Providers conducted inside the EDDIE project. Challenges by sector were presented and the assessment of skill needs for the digital transformation by the industry and the skill offer by education and training providers led to the identification of skill gaps. It was found that the lack of adequate skills of employees is a very warning challenge and a useful insight for the EDDIE Project since the blueprint will attempt to mitigate those skill gaps. It also resulted that data management is also a significant challenge for the digital transformation. „The work performed by EDDIE Partners to identify skill gaps, points out that the key areas towards digitalization, as reflected by different analyses in this work, targets data management and analysis, big data, cybersecurity, programming and development competences", mentioned Panos KOTSAMPOPOULOS. Furthermore, he added that even though the university curricula, online training platforms as well as industrial training

programmes cover several aspects of digitalization, there is yet plenty of room for improvement to foster the digital transformation.

Anil PAHWA – Professor at Kansas State University pointed out that the concept of the Grid of the Future implies a high penetration of Renewable Energy Sources (RES) – wind and solar, the flexible changing demand profiles and consumers' engagement, a strong cybersecurity of power grid and the integration of power electronics for power system operation. In this regard, Anil PAHWA underlined that the Smart Cities' management includes the following: data driven models, privacy and cyber security, human behavior modeling and co-optimization of resources. In terms of Educational Opportunities, he pointed out the convergence of engineering, computer, and social sciences and highlighted the need for educational programs covering different disciplines like electrical engineering, civil engineering, and computer science.

Further on, the addressed topics were discussed during the Q&A session.

The first question addressed by Panos KOTSAMPOPOULOS to Professor Carlo Alberto NUCCI, was about if and how we can exploit the pandemic experience for the benefit of education. Professor Nucci pointed out that the main conclusion to be drawn is that the big mistake the education providers can make is to use the same type of lecture for both face-to-face classroom and online teaching. Also, in the case of a hybrid teaching option [part online and part offline] it is very difficult to provide an effective lecture in these conditions.

On the same topic, Professor Anil PAHWA also mentioned his experience in the USA with both online teaching – in the initial months of the pandemic, and hybrid teaching - later in the fall, concluding that the fully remote learning process was required only in critical situation.

Also, a question from the audience came up regarding the way in which someone can get involved in the ASSET project. Professor PONCI pointed out that by joining the community, access will be available for the structure of the courses with examples of the topics and related outcomes description. The same things are available for the MOOCs. By becoming a member, you can create your own learning graph for your own course with your own learning objectives. Afterwards, it can be developed and put in the marketplace.

Additionally, EDDIE Project was part of the Project Zone of IEEE International Forum on Smart Grid for Smart Cities, by setting up a Virtual Booth. There, participants of the Smart Grid for Smart Cities event were able to interact with consortium representatives of the project and discover information about the project's overview, objectives, ongoing work and more other interesting details. The first-year brochure, the EDDIE project presentation video and relevant material have been uploaded on the platform for users to access them. For this event, a page was created on EDDIE website to disseminate the relevant information to all the stakeholders groups. The page can be found **here**. After the event a lot of activities regarding dissemination and communication were carried out such as a press release on behalf of EDDIE consortium with the webinar highlights. A print-screen of this press release can be seen in Figure 5-12. All the activities were shared on the social media channels as well.
In addition, CRE created a dedicated page on its website and shared a lot of content among its members via email and social media. (more information can be found **here**). An example of a press release on behalf of CRE disseminated among its members can be found **here**. All the dissemination activities were carried out via email and social media. A print-screen of the document can be seen in Figure 5-13.

EDUCATION IN THE DIGITAL ERA FOR DIGITALIZATION - "2021 IEEE INTERNATIONAL FORUM ON SMART GRID FOR SMART CITIES"

CONFERENCE HIGHLIGHTS

EDDIE project participated and was part of the Project Zone in the Online Video-Conference organized by IEEE Smart Grid in collaboration with RWTH Aachen University. During the Conference, EDDIE Project – *„EDucation for Digitalization of Energy"*, created the context for the interventions in Tech Session 8 *„Education in the Digital Era for Digitalization"* on Tuesday, 23rd of March 2021, from 17:00 – 18:30 CET, within a lineup secured by distinguished professors and researchers from high ranked universities. The role of Education in the Digital Era for Digitalization and the Development of synergies with other innovation projects funded by the European Commission (EC) through the ERASMUS+ and H2020 program will create the framework for EDDIE Project to actively contribute to decisions in the process of Digitalization of the European Energy Sector (DEES).

Figure 5-12. 2021 IEEE SG4SC event highlights

CRE
Centrul Român al Energiei

EDDIE
EDucation for Digitalisation of Energy

EDUCATION IN THE DIGITAL ERA FOR DIGITALIZATION - "2021 IEEE INTERNATIONAL FORUM ON SMART GRID FOR SMART CITIES"

CONFERENCE HIGHLIGHTS

1st of April 2021, Carina Ioana ZIDARU & Marta STURZEANU

The representatives of the Romanian Energy Center (CRE) Association participated in the Online Video-Conference organized by IEEE Smart Grid in collaboration with RWTH Aachen University. During the Conference, EDDIE Project – „EDucation for Digitalization of Energy", created the context for the interventions in Tech Session 8 - „Education in the Digital Era for Digitalization" on Tuesday, 23rd of March 2021, from 17:00 – 18:30 CET (18:00 – 19:30 RO), within a lineup secured by distinguished professors and researchers from high ranked universities. The role of Education in the Digital Era for Digitalization and the Development of synergies with other innovation projects funded by the European Commission (EC) through the ERASMUS+ program will create the framework for EDDIE Project to actively contribute to decisions in the process of Digitalization of the European Energy Sector (DEES).

"2021 IEEE International Forum on Smart Grids for Smart Cities" ended its 3rd edition, a five-day Event, on the 23rd of March. In the session „Education in the Digital Era for Digitalization" were addressed different angles of the topic like New Trends in Education and Training in Engineering, Educational Services in Energy Transition, Education at the Nexus of Smart Grids and Smart Cities. EDDIE representatives, Miguel SANCHEZ-FORNIE and Panos KOTSAMPOPOULOS, covered the general context for the important role of Education for Digitalization within the Energy Sector presenting core insights about the project development supported by data results regarding Emerging Skill Needs of the Industry and Skill Offer of Education Providers during DEES.

Figure 5-13. CRE's press release to its members for 2021 IEEE SG4SC events

During the event, EDDIE project was also represented by a virtual booth, where all the stakeholders could interact with the project and exchange knowledge. A photo of this virtual booth is in Figure 5-14.

Figure 5-14. EDDIE's Virtual Booth during 2021 IEEE SG4SC event

- **Number of participants**: 150 – 200.

5.1.6. IEEE PES PowerTech 2021

- **Date**: 28 June -2 July 2021
- **Location**: online
- **Type of activity**: Organization of an Event
- **Organisers**: IEEE PES with the support of Comillas University
- **Estimated participants**: 300

- **Website**: https://www.powertech2021.com/
- **EDDIE participants**: Comillas, NTUA, CRE
- **Type of participation**: Two presentations, within an special session panel
- **Presentation/Speech/ title**: Title EDUCATING FUTURE POWER ENGINEERS
  IEEE POWER TECH ANNUAL CONFERENCE was held mainly online in spite that it was programmed to take place in Madrid, Spain. This highly respected international event had this year the umbrella title " Power for the sustainable development goals". Within it, there was an special session in the form of a panel, moderated by professor Carlo Alberto Nucci (University of Bolonia), entitled "Educating Future Power Engineers" where professors Panos Kotsampopoulos (NTUA) and Miguel A. Sanchez-Fornie (COMILLAS) gave presentations very much related to EDDIE, respectively, as follows:
  - "Emerging Needs and Tools in Power System Education". The presentation mainly focused on the new educational and training needs, the results of EDDIE's industry and education surveys on the digitalization of energy, and the new technical tools for education and training. If we examine the latest educational and training needs, we come to the conclusion that there is a demand for new skills and expertise to foster the energy transition, a broader understanding of topics of different domains is necessary (i.e. electric power, heat, markets and definitely ICT where a holistic understanding is needed) as well as interdisciplinary approach and understanding of interactions. Finally, new educational approaches like lectures combined with simulations, e-learning, laboratories etc. are necessary. Regarding the skill gap surveys on industry and education we conclude that there is lack of adequate skills of employees which is a challenge for the industry and skill gaps converge towards data management and analysis, big data, cybersecurity, and programming & development competences
  - "Education for Digitalization in Energy" with a detailed description of the Energy EU policy framework, objectives, content and achievements of EDDIE project.
- **Number of participants**: 200 – 250.
- **Photo for the event:** Figure 5-15

Figure 5-15. PES PowerTech 2021 banner and presentation of EDDIE.

5.1.7. Erasmus Days

- **Date**: October 14, 15, 16, 2021
- **Location**: online
- **Type of activity**: Participation to a Programme
- **Organizers**: EC
- **Estimated participants**: 2000
- **Website**: https://www.erasmusdays.eu/
- **EDDIE participant**: EDDIE Consortium
- **Type of participation**: Participant
- **Relation to EDDIE**: Since #ErasmusDays is an initiative of the Erasmus+ French National Agency on the 30th anniversary of Erasmus+ and EDDIE Project is part of the Erasmus+ funded projects, we celebrated on 14, 15, 16 October the programme success and the benefits of the life-changing learning experience that offers. Institutions, organizations and individuals who have benefitted from an Erasmus+ funding could organize their events and share their project results. The options for these events were endless: from

exhibitions, conferences and discussion panels to poetry slams or digital events like e-tournaments, webinars or podcasts, EDDIE consortium decided to share all its dissemination activities under the hashtag #ErasmusDays. It was a great moment to spread the word about our project, share our experience and showcase the impact of EDDIE work.

- **Number of participants**: N/A.
- **Logo of the event**: Figure 5-16

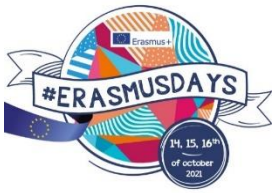


Figure 5-16 – Erasmus Days logo 2021

5.1.8. ENLIT EUROPE 2021

- **Date**: 30th of November – 3rd of December 2021
- **Location**: Hybrid Event
- **Type of activity**: Participation, Presentation, Fair.
- **Organizers**: Clarion Energy
- **Website**: **https://www.enlit-europe.com/365**
  https://www.enlit-europe.com/live
- **EDDIE participant**: EDDIE Consortium
- **Type of participation**: Presentations, Participation to a Conference
- **Relation to EDDIE and Feedback**: Enlit is a series of energy events and a community that for 365-days a year will collaborate and innovate to solve the most pressing energy-related issues. At the European edition, the Enlit community participated on the online platform and In-Person, in Milan from 30th of November through to 2nd of December, to meet and inspire each other and to develop their discussions and actions to take steps forward in the energy transition. Enlit Europe, the new unifying brand for European Utility Week and POWERGEN Europe, brought the best thought-leaders, innovators in the energy sector and beyond representing power generators, utilities, grid operators, energy companies, retailers, energy markets and energy traders to seize current opportunities, spotlight future ones, and inspire the next generation to participate in the journey.

  Enlit Europe offers a dedicated platform to numerous EU Funded Projects contributing to the digitalization of energy. During the Exhibition within the EU Projects Zone, dedicated presentations from CRE Representatives regarding the H2020 EU Funded Projects were addressed.

  In the context of Enlit Europe, EDDIE Project was part of the EU Project Zone in the Online Environment, within Enlit 365 Platform and Community, together with other successful projects. This was an important opportunity to get in touch with the consortium, stakeholders and community members. EDDIE Project was also part of the EU Project Zone in Milan. CRE Representatives interacted with stakeholders and presented the overview, the objectives and mission of the EDDIE Project.

  The representatives of the Romanian Energy Center Association (CRE) participated at Enlit Europe 2021 Event which took place on 30th of November – 2nd of December 2021. The Enlit Europe Event was organized In-Person in Milan, Italy and Online on Enlit Europe 365 Platform. The Romanian Energy Center Association was present at the EU Projects Zone pavilion, representing more European H2020 Funded Projects, in which CRE is a consortium member ”CROSSBOW” – ”CROSS BOrder management of variable renewable energies and storage units enabling a transnational Wholesale market”, ”PHOENIX” – ”Electrical Power System’s Shield against complex incidents and extensive cyber and privacy attacks”; ”EDGEFLEX” – ”Providing flexibility to the grid by enabling VPPs to offer both fast and slow dynamics control services”, ”TRINITY” – ”Transmission System Enhancement of Regional Borders by Means of Intelligent Market Technology”.

For this event, on EDDIE website were posted relevant information under **Events** and **News** to disseminate it to all the stakeholders groups. After the event a lot of activities regarding dissemination and communication were carried out such as a press release on behalf of EDDIE consortium with the webinar highlights. A print-screen of this press release can be seen in Figure 5-17. All the activities were shared on the social media channels as well.

In addition, CRE shared a lot of content among its members via email and social media. An example of a press release on behalf of CRE disseminated among its members can be found **here**. All the dissemination activities were carried out via email and social media. A print-screen of the document can be seen in Figure 5-18.

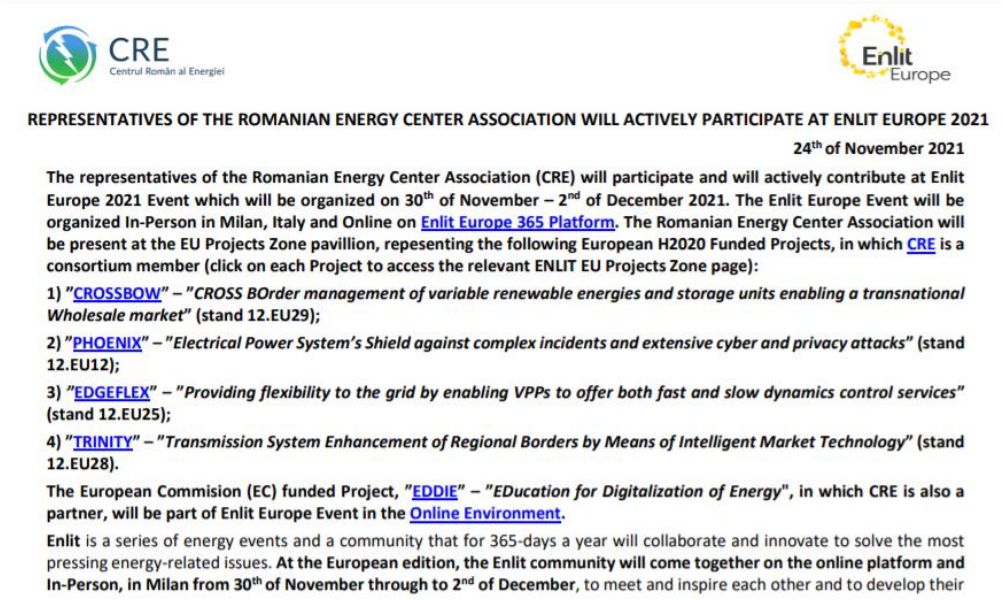
EDDIE Project at ENLIT EUROPE 2021

8th of December 2021

EDDIE project representatives participated and contributed at Enlit Europe 2021 Event which took place between 30th of November and 2nd of December 2021. The Enlit Europe Event was organized In-Person in Milan, Italy and Online on Enlit Europe 365 Platform. CRE, COMILLAS and EDSO were at the EU Projects Zone pavilion, representing the European Commision (EC) Erasmus+ funded Project, "EDDIE" – *"EDucation for Digitalization of Energy"*, that was part of Enlit Europe Event in the Online Environment, but also part of the EU Project Zone, in Milan. Project representatives interacted with stakeholders and presented the overview, the objectives and mission of EDDIE. The partners also highlighted some of the project in their portofolios of implementation such as: "CROSSBOW" – *"CROSS BOrder management of variable renewable energies and storage units enabling a transnational Wholesale market"*; "PHOENIX" – *"Electrical Power System's Shield against complex incidents and extensive cyber and privacy attacks"*; EDGEFLEX" – *"Providing flexibility to the grid by enabling VPPs to offer both fast and slow dynamics control services"*, and "TRINITY" – *"Transmission System Enhancement of Regional Borders by Means of Intelligent Market Technology"*.

Enlit Europe, the new unifying brand for European Utility Week and POWERGEN Europe, brought the best thought-leaders, innovators in the energy sector representing power generators, utilities, grid operators, energy companies, retailers, energy markets and energy traders to seize current opportunities, spotlight future ones, and inspire the next generation to participate in this journey.

Figure 5-17. EDDIE's press release for ENLIT Europe 2021



REPRESENTATIVES OF THE ROMANIAN ENERGY CENTER ASSOCIATION WILL ACTIVELY PARTICIPATE AT ENLIT EUROPE 2021

24th of November 2021

The representatives of the Romanian Energy Center Association (CRE) will participate and will actively contribute at Enlit Europe 2021 Event which will be organized on 30th of November – 2nd of December 2021. The Enlit Europe Event will be organized In-Person in Milan, Italy and Online on Enlit Europe 365 Platform. The Romanian Energy Center Association will be present at the EU Projects Zone pavillion, repesenting the following European H2020 Funded Projects, in which CRE is a consortium member (click on each Project to access the relevant ENLIT EU Projects Zone page):

1) "CROSSBOW" – *"CROSS BOrder management of variable renewable energies and storage units enabling a transnational Wholesale market"* (stand 12.EU29);

2) "PHOENIX" – *"Electrical Power System's Shield against complex incidents and extensive cyber and privacy attacks"* (stand 12.EU12);

3) "EDGEFLEX" – *"Providing flexibility to the grid by enabling VPPs to offer both fast and slow dynamics control services"* (stand 12.EU25);

4) "TRINITY" – *"Transmission System Enhancement of Regional Borders by Means of Intelligent Market Technology"* (stand 12.EU28).

The European Commision (EC) funded Project, "EDDIE" – *"EDucation for Digitalization of Energy"*, in which CRE is also a partner, will be part of Enlit Europe Event in the Online Environment.

Enlit is a series of energy events and a community that for 365-days a year will collaborate and innovate to solve the most pressing energy-related issues. **At the European edition, the Enlit community will come together on the online platform and In-Person, in Milan from 30th of November through to 2nd of December**, to meet and inspire each other and to develop their

Figure 5-18. CRE's press release on ENLIT Europe 2021

- **Estimated participants**: 300
- **Photo from the event**: Some photos from the live event in Milan can be seen in Figure 5-19.

Figure 5-19. EDDIE at ENLIT Europe 2021

In addition, the EDDIE was part of the online platform, included in the EU project zone marketplace where the stakeholders and general public could interact with the project representatives, via char or via email. (a print-screen of EDDIE virtual booth can be seen in Figure 5-20.)

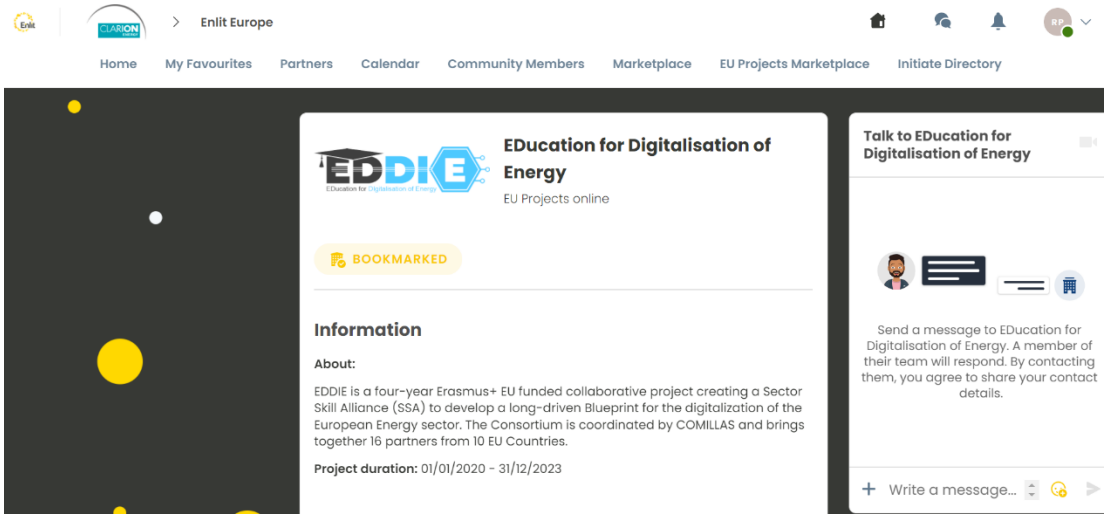


Figure 5-20. EDDIE's virtual booth at Enlit Europe 2021

5.1.9. PROMOTING COOPERATION BETWEEN DIGITALISATION OF ENERGY CENTRES OF EXPERTISE AND DIGITAL INNOVATION HUBS" WORKSHOP

- **Date**: 25 February 2022
- **Location**: Online
- **Type of activity**: Participation, Presentation, workshop.
- **Organizers**: European Commission, DG ENER, DG CONNECT
- **Estimated participants**: 150 – 200 participants.
- **Website**:N/A
- **EDDIE participant**: EDDIE consortium
- **Type of participation**: Presentation
- **Relation to EDDIE and Feedback**: The representatives of EDDIE Project participated and contributed at the Online Workshop „PROMOTING COOPERATION BETWEEN DIGITALISATION OF ENERGY CENTRES OF EXPERTISE AND DIGITAL INNOVATION HUBS", organized by the European Commission, on Friday, 25th of February 2022. The European Commission, namely DG ENERGY and DG CONNECT

organized this dedicated Workshop as the first step towards the creation of a platform to support innovation ecosystems - gathering national, regional, local, European institutions and energy and digital players to support investments, skills and expertise of strategic digital technologies in the energy system, from innovation to deployment.

The Workshop who aimed at collecting further input from stakeholders and other relevant Commission services, was structured in two Sessions: "The digitalisation of energy: Opportunities, challenges and needed actions for a EU-Local Innovation ecosystem" and "The way towards a European digital energy platform". During the Workshop, EDDIE Project has been represented by Dr. Claudia BATISTELLI - Institute for Automation of Complex Power Systems of RWTH Aachen University. Ms. BATISTELLI addressed the important role of the Digitalization of the Energy Sector by sharing core insights about the digital energy technical topics, people's needs in terms of digital skills, as well as digital and energy local/regional innovation ecosystems.

Furthermore, opening Session 1 – "The digitalisation of energy: Opportunities, challenges and needed actions for a EU-Local Innovation ecosystem", Vincent BERRUTTO - Head of Unit, Research, Innovation, Digitalization, Competitiveness, DG ENERGY, presented in its introduction the main five areas of the Digitalization of the Energy Action Plan, namely Data Exchange Framework, Benefits for Consumers, Literacy, Skills and Digital Tools to Empower Citizens, Cybersecurity and Climate Neutrality of the ICT Sector. During the first panel, the assessments was for the need of horizontal and vertical sharing of best practices, the need for use-cases to be implemented into the real world, the need to coordinate the local realities and scale-up solutions that are developed at local and regional level.

The digitalization of the energy system can boost the European Union (EU) competitiveness, drive innovative solutions, and even open new global markets for components and services. Meanwhile, the digital transformation should be an enabler for citizens, prosumers, and energy communities to play an active role in the energy markets. Digital solutions shall be seen as key enablers to accelerate the energy transition but also having an approach that is citizen and consumers centric. The main drivers shall be commitment, engagement, consensus, and awareness, not only when it comes to research and innovation or specific solutions but also on the need to integrate them in the energy system. The Digitalisation of Energy Action Plan, which will be adopted in June 2022, is therefore exploring actions to design an investment pathway targeting the entire energy value chain without neglecting the central role of citizens, prosumers, and energy communities.

„When it comes to local digital ecosystems, skills are very important. One of the top priorities for local digital ecosystems to be successful is to produce awareness of the opportunities that digital technologies offer and to ensure that the technological talent needed to cope with technological change is added to the local ecosystem. This means adding the required skills to the local labour market, but also beyond, to the society, to improve the lives of citizens. Another equally important thing is the capacity to attract talent and expertise, open talent networks to facilitate its awareness and also improve the quality of life for people, and in the end the customers' quality of life" highlighted EDDIE representative – Dr. Claudia BATISTELLI.

Moreover, during the discussions in Panel 2 – „The Way Towards a European Digital Energy Platform", the exchange of information was towards the features and characteristics of such platform, how to create synergies, how to create added value on top of existing solutions and what stakeholders to be involved. The main outcome was identified as the platform shall integrate other sector of activity, not only energy and digital sectors, but the platform would also help integrating multiple ecosystems, interaction with other platforms with the focus on creating an open environment for new players, new business models can emerge. The assessment was that the platform shall create a common language between energy, digital players, between different sectors and also involve small realities with the goal of accelerating innovation cycle and bringing digital solution into the energy sector. Professor Antonello Monti, Coordinator of OneNet and Platone projects, pointed out a long-term vision for engagement in digitalization: to create European-wide digital solutions, to create consensus from the beginning to establish a common way to keep solutions alive and locally engaged.

The role of Education in the Digital Era for Digitalization and the Development of synergies with other innovation projects funded by the European Commission (EC) through the ERASMUS+ program will create the framework for EDDIE Project to actively contribute to decisions in the process of Digitalization of the European Energy Sector (DEES).

For this event, on EDDIE website were posted relevant information under **Events** and **News** to disseminate it to all the stakeholders groups. A dedicated page for this event can be found **here**. After the event a lot of activities regarding dissemination and communication were carried out such as a press release on behalf of EDDIE consortium with the workshop highlights. A print-screen of this press release can be seen in Figure 5-21. All the activities were shared on the social media channels as well.
In addition, CRE shared a lot of content among its members via email and social media. An example of a press release on behalf of CRE disseminated among its members can be found **here**. All the dissemination activities were carried out via email and social media. A print-screen of the document can be seen in Figure 5-22.

EDDIE PROJECT CONTRIBUTED AT "PROMOTING COOPERATION BETWEEN DIGITALISATION OF ENERGY CENTRES OF EXPERTISE AND DIGITAL INNOVATION HUBS" WORKSHOP

28th of February 2022, EDDIE Consortium

The representatives of EDDIE Project – „EDucation for Digitalization of Energy" participated and contributed at the Online Workshop *„PROMOTING COOPERATION BETWEEN DIGITALISATION OF ENERGY CENTRES OF EXPERTISE AND DIGITAL INNOVATION HUBS"*, organized by the European Commission, on Friday, 25th of February 2022. The European Commission, namely DG ENERGY and DG CONNECT organized this dedicated Workshop as the first step towards the creation of a platform to support innovation ecosystems - gathering national, regional, local, European institutions and energy and digital players to support investments, skills and expertise of strategic digital technologies in the energy system, from innovation to deployment.

Figure 5-21. EDDIE at the "Promoting cooperation between digitalisation of energy centres of expertise and digital innovation hubs"

THE REPRESENTATIVES OF ROMANIAN ENERGY CENTER ASSOCIATION PARTCIPATED AT "PROMOTING COOPERATION BETWEEN DIGITALISATION OF ENERGY CENTRES OF EXPERTISE AND DIGITAL INNOVATION HUBS" WORKSHOP

2nd of March 2022, Carina Ioana ZIDARU

The representatives of the Romanian Energy Center (CRE) Association participated at the Online Workshop entitled: *„PROMOTING COOPERATION BETWEEN DIGITALISATION OF ENERGY CENTRES OF EXPERTISE AND DIGITAL INNOVATION HUBS"*, organized by the European Commission, on Friday, 25th of February 2022. During the Workshop, EDDIE Project – „EDucation for Digitalization of Energy", created the context for the interventions in Session 1 - *„The digitalisation of energy: Opportunities, challenges and needed actions for a EU-Local Innovation ecosystem"*. The European Commission, namely DG ENERGY and DG CONNECT organized this dedicated Workshop as the first step towards the creation of a platform to support innovation ecosystems - gathering national, regional, local, European institutions and energy and digital players in order to support investments, skills and expertise of strategic digital technologies in the energy system, from innovation to deployment.

Figure 5-22. CRE press release on EDDIE participation at the workshop

5.1.10. Skills for the twin green and digital transition. – EUSEW 2022 Extended Program

- **Date**: 22 September 2022
- **Location**: Online
- **Type of activity**: Organization of a policy session.

- **Organizers**: EDDIE Consortium, EdgeFLEX Project - Providing flexibility to the grid by enabling VPPs to offer fast dynamics control services, IEEE PES Task Force on Innovative Teaching Methods for Modern Power and Energy Systems, DG EMPL.B2.
- **Estimated participants**: 50 – 100 participants.
- **Website**: https://european-sustainable-energy-week.b2match.io/agenda?track_id=21187
- **EDDIE participant**: EDDIE consortium
- **Type of participation**: Presentation
- **Relation to EDDIE and Feedback**: To support the adoption and implementation of innovative solutions proposed by several research projects, the emerging occupations and industry-driven skills, regulatory framework and policies play an important role. Thus, the European education system must adapt and align with the requirements of green technologies and sustainable business solutions, for the increasing share of RES-based generation, digitalization and flexibility in operation, by mitigating the mismatch of skills between the industry and education.

  The focus of the proposed session was to discuss and highlight some of the most significant skill gaps, the necessary curricula changes, and the most appropriate regulatory and policy measures required for the adaptation of technologies in the emerging digital era of the energy sector. All these challenges require specific knowledge and skills, not always present in the current work streams. Furthermore, another objective of the proposed session is to pave the way towards building a large-scale partnership under the Pact for Skills taking benefit from the Sectorial Skills Strategy that will be developed by EDDIE project.

  The proposed interactive session combined the efforts of two project consortia, one (EdgeFLEX) promoting smart energy and cybersecurity solutions, which will trigger discussions on emerging technologies and associated skills needs and occupations. EDDIE (Erasmus+ funded project) will bring the perspective on education and the design of an industry-driven sector skills strategy on how to address the skills gaps and needs. This will be enhanced by the participation of the IEEE PES Task Force on Innovative Teaching Methods for Modern Power and Energy Systems, which investigates, creates, and promotes the use of innovative teaching methods and material in modern power and energy systems. The interaction with the audience during the session will be facilitated by using Slido.

  The objective of the session was to identify and assess skills gaps, needs, high-impact policies and regulations in the Energy Sector, for energy transition through digitalization. The focus of the ”Skills for the twin green and digital transition” highlighted some of the most significant skills gap, the necessary curricula changes, and the most appropriate regulatory and policy measures required for the adaptation of technologies in the emerging digital era of the energy sector. Furthermore, another objective of the session was to pave the way towards building a large-scale partnership under the Pact for Skills taking benefit from the Sectorial Skills Strategy that will be developed by EDDIE project.

  Addressing skills gaps and need for the energy transition through digitalization and investigating the possibility of creation of a large-scale partnership for digitalization of the energy sector, the session was attended by more than 60 specialists from various organizations representing the education system, industry-energy companies, stakeholders from the administration domain, industry-ICT technologies and industry-engineering and services.

  The proposed interactive session was moderated by Cristiana Marchitelli, on behalf of DG ENERG that created the context of skills and required actions also from the point of view of the soon to be published Digitalization of the Energy Action Plan. The session combined the efforts of two project consortia, one EdgeFLEX promoting smart energy and cybersecurity solutions, which triggered discussions on emerging technologies and associated skills needs and occupations. EDDIE underlined the perspective on education and the design of an industry-driven sector skills strategy on how to address the skills gaps and needs. Moreover, the discussion were complemented by the participation of the IEEE PES Task Force on Innovative Teaching Methods for Modern Power and Energy Systems, which investigates, creates, and promotes the use of innovative teaching methods and material in modern power and energy systems.

  During the discussions, Miguel Ángel Sánchez FORNIÉ – EDDIE Project Coordinator, COMILLAS highlighted interesting aspects: ”Energy transition is a must and digitalization accelerates it. The result is a deep transformation of the energy sector. In terms of the Digital Education Action Plan there are two strategic priorities: fostering the development of a high-performing digital ecosystem and enhancing digital skills and competences for the digital transformation. With regards to the EDDIE project let me underline

the importance of using European system for classification of jobs and skills such as CEDEFOP and the needed link with other European projects in the area of energy where education is a matter of interest".

"The energy transition has two main triggers related to High Renewable Penetration and Distributed generation, and the second one is about digitalization of energy. EDDIE Project put us in position to assess how the learning and education should be properly adapted to the new technologies and the new realities coming from the digitalization of the energy sector. Within the EDGEFLEX project, we have a cloud-based ICT solution containing a set of grid services referring to voltage control, inertia estimation, frequency control and VPP optimization and we are counting on several technology enablers such as policy-based grid control, edgePMU, edgeFLEX architecture and 5G communication", pointed out Mihai MLADIN – Romanian Energy Center (CRE).

Panos KOTSAMPOPOULOS - IEEE PES Task Force on Innovative Teaching Methods for Modern Power and Energy Systems mentioned that "This Task Force is responding to the emerging industrial needs in a complex multi-domain environment such as decentralization of energy production, multi-energy systems, new market models and digitalization. There is clearly a need for new skills and expertise in the power and energy sector and we have identified the needs of data analytics and machine learning training and tools for cyber-physical power systems, the needs for interdisciplinary approach for power systems cybersecurity and social, leadership and communication skills".

The new era of the energy system requires re-skilling and up-skilling across all levels to develop clean energy technologies and solutions. In the context of the Pact for Skills launched in 2020, Felix ROHN – DG EMPL pointed out key aspects: "The Pact for Skills aims to mobilise private and public stakeholders to take concreate actions. Skills partnerships allow to pool expertise and resources and make concerted efforts for up-skilling and re-skilling actions. There is a strong need to increase and maximise the impact of public and private skills investments. Investments in skills needs a joint effort".

During the panel discussions, Bianca DE VIVO – DG GROW underlined interesting aspects regarding the New Pact for Skills partnership to boost digital skills: "The digital ecosystem is very important and produce the need to bring new digital skills that needs to be implemented also in the ecosystem. It is an interesting ecosystem with a lot of challenges that have an impact in all the other ecosystems".

"The digital ecosystem does have the responsibility to re-skill and up-skill the people that work in the ecosystem itself but also to reach out the certain ecosystems", pointed out Joachim SCHWERIN – DG GROW.

In terms of cybersecurity solutions, Tero VARTIAINEN – CC-RSG, University of Vaasa mentioned that "The main idea of our project is to develop education and training in smart grid area from the point of view of cybersecurity. The technical and social aspects should interact. The other point of view in our project is real time simulation, how to model parts of smart grids to stand for inevitable attacks that occur in real time and how to learn from those attacks".

Regarding the regulatory framework, Charles ESSER – CEER pointed out that: "Indeed cybersecurity is very important. The network code should give a change to clean energy packages directives to be implemented in large scale areas. We need to stimulate demand side flexibility across Europe. From the regulators point of view there is a need to connect to society and our strategy is to empower consumers for the energy transition".

"ETIP SNET is the place where we can anchor also the skills dimension. We have a specific group looking at the digital technologies, digitalization and customers. The energy sector also faces a lot of issues regarding cyber security because we have these devices which are full of sensors, so we have many gateways, and we need to pay attention. I will mention the dimension of skills in the architecture, the need to have these types of skills that are looking at architecture of the different sectors which are able to create these interfaces and to integrate at the end. Real time is very important, as Tero said, because this requires acting immediately", pointed out Norela CONSTANTINESCU – ENTSO -E.

For this event, on EDDIE website were posted relevant information under **Events** and **News** to disseminate it to all the stakeholders groups. A dedicated page for this event can be found **here**. Before and after the event a lot of activities regarding dissemination and communication were carried out such as a press release on behalf of EDDIE consortium with the workshop highlights. A print-screen of this press release can be seen in Figure 5-23. All the activities were shared on the social media channels as well.

EDDIE PROJECT PARTICIPATED AT THE EUROPEAN SUSTAINABLE ENERGY WEEK 2022

29th of September 2022, EDDIE Consortium

EDDIE Project participated to a policy session within European Sustainable Energy Week – EUSEW 2022, on 22nd of September 2022, 13:30 – 15:00 CET, hosted Online. The session *"Skills for the twin green and digital transition"* was part of the European Sustainable Energy Week 2022 Extended Programme, jointly organized by the EDDIE Project – Education for Digitalisation of Energy, EdgeFLEX Project – Providing flexibility to the grid by enabling VPPs to offer fast dynamics control services, IEEE PES Task Force on Innovative Teaching Methods for Modern Power and Energy Systems, DG EMPL.B2, and DG ENER.

The objective of the session was to identify and assess skills gaps, needs, high-impact policies and regulations in the Energy Sector, for energy transition through digitalization. The focus of the ***"Skills for the twin green and digital transition"*** highlighted some of the most significant skills gap, the necessary curricula changes, and the most appropriate regulatory and policy measures required for the adaptation of technologies in the emerging digital era of the energy sector. Furthermore, another objective of the session was to pave the way towards building a large-scale partnership under the Pact for Skills taking benefit from the Sectorial Skills Strategy that will be developed by EDDIE project.

EDDIE PROJECT WILL PARTICIPATE AT THE EUROPEAN SUSTAINABLE ENERGY WEEK 2022

13th of September 2022, EDDIE Consortium

EDDIE Project is pleased to invite its stakeholders to a policy session within European Sustainable Energy Week – EUSEW 2022, on 22 September 2022, 13:30 – 15:00 CET, hosted Online. The session *"Skills for the twin green and digital transition"* is part of the European Sustainable Energy Week 2022 Extended Programme, jointly organized by the EDDIE Project – Education for Digitalisation of Energy, EdgeFLEX Project – Providing flexibility to the grid by enabling VPPs to offer fast dynamics control services, IEEE PES Task Force on Innovative Teaching Methods for Modern Power and Energy Systems, DG EMPL.B2, and DG ENER.

The goal of the session is to identify and assess skills gaps, needs, high-impact policies and regulations in the Energy Sector, for energy transition through digitalization.

The focus of the ***"Skills for the twin green and digital transition"*** Session is to discuss and highlight some of the most significant skills gap, the necessary curricula changes, and the most appropriate regulatory and policy measures required for the adaptation of technologies in the emerging digital era of the energy sector. Furthermore, another objective of the session is to pave the way towards building a large-scale partnership under the Pact for Skills taking benefit from the Sectorial Skills Strategy that will be developed by EDDIE project.

Figure 5-23. Press releases before and after EDDIE policy session at EUSEW 2022.

- **Visual identity of the policy session:** Figure 5-24

Figure 5-24. Visual identity of EDDIE policy session.

- **Picture form the event:** Figure 5-25.

Figure 5-25. Speakers at "Skills for the Twin Green and Digital Transition" Policy Session within EUSEW 2022

5.1.11. European Sustainable Energy Week (EUSEW) 2022 – In-person

- **Date**: 26th – 30th September 2022
- **Location**: Brussels Charlemagne Building and Online
- **Type of activity**: Participation, Presentation, Fair.
- **Organizers**: European Commission
- **Estimated participants**: 1,500 in person delegates and 5000 online participants
- **Website**: https://european-sustainable-energy-week.b2match.io/
- **EDDIE participant**: E.DSO
- **Type of participation**: Presentation
- **Relation to EDDIE and Feedback**: The European Sustainable Energy Week (EUSEW) is the biggest annual event dedicated to renewables and efficient energy use in Europe and comprises a series of activities aimed at building a secure and cleanenergy future for Europe.

  It brings together public authorities, private companies, NGOs, EU project partners, researchers and consumers to promote initiatives to go green and digital for Europe's energy transition.

  In the context of EUSEW, EDDIE Project was present on the European Distribution System Operator's (E.DSO) stand. This was an important opportunity to interact with various stakeholders and further disseminate the project.

  The representatives of E.DSO participated at EUSEW 2021 Event which took place on the 26th – 30th of September 2022. EUSEW was organized In-Person in Brussels, Belgium and Online. E.DSO was present at the fair, representing more EU Funded Projects, either Horizon Europe or Horizon 2020 in which E.DSO is a consortium member. The latter include '*Large scale campaigns to demonstrate how TSO-DSO shall act in a coordinated manner to procure grid services in the most reliable and efficient way'* (CoordiNet), *'PLATform for Operation of distribution Networks*' (Platone), '*Interoperable Solutions Connecting Smart Homes, Buildings and Grids*' (Interconnect), *'Boosting Engagement To Increase Flexibility'* (BeFlexible), *'Interoperability Network for the Energy Transition'* (IntNet) and *'One Network for Europe'* (OneNet).

  For this event, E.DSO had a stand whereby a presentation was played displaying all the projects including EDDIE. Different stakeholders approached the table to then further inquire about the projects. A picture from the event can be found below.

Figure 5-26. EDDIE being presented at EUSEW 2022

5.1.12. ENLIT Europe 2022

- **Date**: 29th of November – 1st of December 2022
- **Location**: In-person Frankfurt, Germany and Online
- **Type of activity**: Participation, Presentation, Fair.

- **Organizers**: Clarion Energy
- **Estimated participants**: 15,000 participants, 300+ Speakers, and 300+ exhibitors
- **Website**: **https://www.enlit-europe.com/365**
  https://www.enlit-europe.com/live
- **EDDIE participant**: EDDIE Consortium
- **Type of participation**: Presentations, Participation to a Conference
- **Relation to EDDIE**: Enlit is a series of energy events and a community that for 365-days a year will collaborate and innovate to solve the most pressing energy-related issues. At the European edition, the Enlit community participated on the online platform and In-Person, in Frankfurt from 29th of November through to 1st of December, to meet and inspire each other and to develop their discussions and actions to take steps forward in the energy transition. Enlit Europe, brought the best thought-leaders, innovators in the energy sector and beyond representing power generators, utilities, grid operators, energy companies, retailers, energy markets and energy traders to seize current opportunities, spotlight future ones, and inspire the next generation to participate in the journey.

  EDDIE Project participated in this year's ENLIT Europe event held between the 29th of November and the 1st of December in Frankfurt, Germany. Enlit is a constantly growing, inclusive and end-to-end forum that addresses every aspect of the energy agenda. Throughout the year, Enlit Europe tries to ensure collaborations and innovative discussions to solve the most pressing issues in energy. Enlit Europe brings one face-to-face with the best thought-leaders, innovators and disruptors in the energy sector and beyond. The various exhibitors present, represent power generators, IPPs, utilities, grid operators, energy companies, retailers, energy markets, energy traders and exchanges, plus commercial and industrial energy users. Apart from the latter, the Exhibition Floor doesn't only offer leading organisations showcasing their latest tech, solutions and strategic insights, but different Zones, Country Pavilions and Hub Sessions. EDDIE was present in two locations which were the 'EU Project Zone' and the 'Global Smart Grids Innovation Hub' powered by Iberdrola.

  Enlit Europe, in collaboration with the European Commission (EC) for the 5th consecutive year, offered a live platform where projects could introduce themselves to the public. The EU Projects Zone in Frankfurt was where the projects and their representatives came together for the 3 days and presented their projects either through the project stands, participation in the different sessions or both. This year, the programme of the EU Projects Zone focused on key topics and themes guiding the energy transition. Smart Grid, Energy Storage, Islands, Digitalisation, and RES (especially Wind and Solar) were the focus points of our programme. The project leaders and coordinators, representing the majority of EU countries, met in Frankfurt and discussed successes and lessons learnt. Representatives from the EU Commission and associations also joined the various panel discussions.

  In the context of Enlit Europe, EDDIE Project was part of the EU Project Zone in Frankfurt, together with other successful projects. This was an important opportunity to get in touch with the consortium, stakeholders and community members. E.DSO Representatives interacted with stakeholders and presented the overview, the objectives and mission of the EDDIE Project. Apart from the latter the EDDIE project was also present on the Iberdrola stand.

  EDDIE consortium prepared roll-ups and brochures which were sent to Frankfurt prior to the event. These were then on full display for the entirety of the 3 days, both in the 'EU Project Zone' and also in the 'Global Grids Innovation Hub.' The roll up and the brochures depicted the EDDIE project in a simplified manner whilst also attracting interested parties. Throughout the 3 days interested stakeholders approached the 'European Distribution System Operators' (E.DSO) representatives, which were there representing the EDDIE consortium, enquiring about the project whilst also offering ideas and inputs. Stakeholders visiting the stand were also walked through the idea of the EDDIE database and highly encouraged to sign up. Apart from the latter interested parties were also invited to get in touch with the consortium, after Enlit, for the possibility of further discussions.

  Enlit Europe offers a dedicated platform to numerous EU Funded Projects contributing to the digitalisation of energy. During the Exhibition within the EU Projects Zone, dedicated presentations from E.DSO Representatives regarding the H2020. Horizon Europe and Erasmus+ EU Funded Projects were addressed.

  For this event, on EDDIE website will be posted relevant information under **Events** and **News** to disseminate it to all the stakeholders groups. A dedicated page for this event can be found **here**. After the

event, dissemination activities are being prepared such as a press release on behalf of EDDIE consortium with the highlights of the participation and stakeholder impact. A print-screen of a first draft of the press release can be seen in Figure 5-27. All the activities will be shared on the social media channels as well.

With the support of the Erasmus+ Programme of the European Union

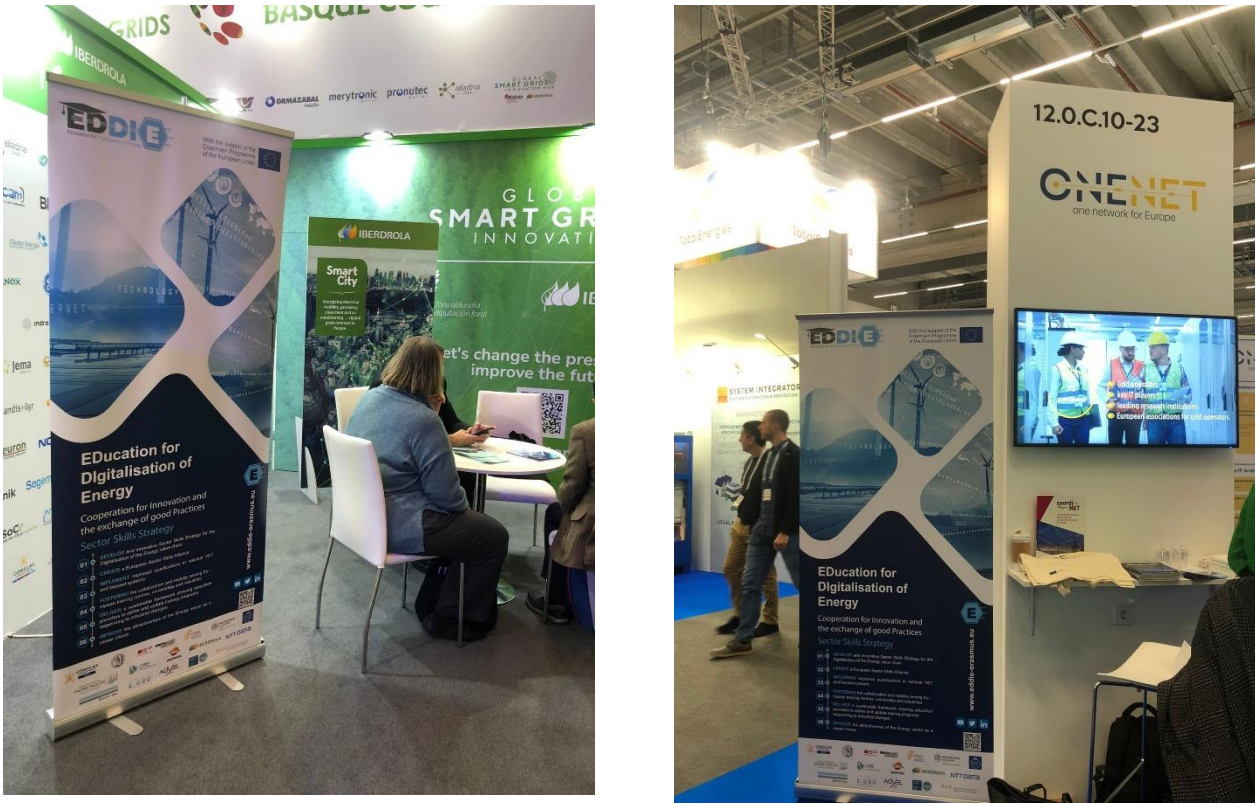
EDDIE PROJECT PARTICIPATION AT ENLIT EUROPE, 2022

23rd December 2022, EDDIE Consortium

EDDIE Project participated in this year's ENLIT Europe event held between the 29th of November and the 1st of December in Frankfurt, Germany. Enlit is a constantly growing, inclusive and end-to-end forum that addresses every aspect of the energy agenda. Throughout the year, Enlit Europe tries to ensure collaborations and innovative discussions to solve the most pressing issues in energy. Enlit Europe brings one face-to-face with the best thought-leaders, innovators and disruptors in the energy sector and beyond. The various exhibitors present, represent power generators, IPPs, utilities, grid operators, energy companies, retailers, energy markets, energy traders and exchanges, plus commercial and industrial energy users. Apart from the latter, the Exhibition Floor doesn't only offer leading organisations showcasing their latest tech, solutions and strategic insights, but different Zones, Country Pavilions and Hub Sessions. EDDIE was present in two locations which were the 'EU Project Zone' and the 'Global Smart Grids Innovation Hub' powered by Iberdrola.

Figure 5-27. EDDIE's press release for ENLIT Europe 2022

- **Photo from the event**: EDDIE participation at Enlit Europe can be seen in Figure 5-28.



- Figure 5-28. EDDIE part of the EU project zone (right side) and EDDIE Roll up on the Iberdrola, Global Smart Grid Innovation Stand (left side)

In addition, the EDDIE was part of the online platform, included in the EU project zone marketplace where the stakeholders and general public could interact with the project representatives, via char or via email. (a print-screen of EDDIE virtual booth can be seen in Figure 5-29.)

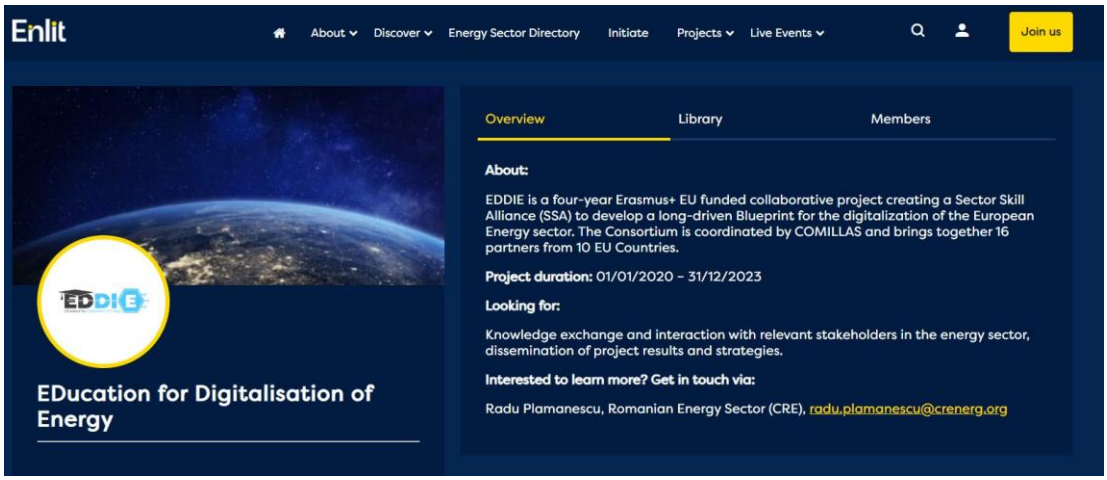


Figure 5-29. EDDIE's virtual booth at Enlit Europe 2022

5.2. Events where members of the EDDIE consortium took benefit of their attendance and mentioned EDDIE project.

5.2.1. University of Sevilla Department of Electrical Engineering Webinar

- **Date**: 6 November 2020
- **Location**: Online
- **Type of activity**: Webinar
- **Organisers**: University of Sevilla Department of Electrical Engineering
- **Website:** http://departamento.us.es/ielectrica/wp-content/uploads/2020/10/WEBINARS-Dr.-Panos-Kotsampopoulos.pdf
- **Participant**: NTUA
- **Type of participation**: Presentation by Panos Kotsampopoulos
- **Presentation/Speech/ title**: New trends in power system education: HIL simulation, remote/virtual labs, interactive notebooks, and advanced educational methods.
- **Presentation abstract**: The presentation mainly focused on the new and advanced educational methods while presenting the results of EDDIE's industry and education surveys on the digitalization of energy, and the new technical tools for education and training.
- **Relation to EDDIE**: Assessment of the new and advanced educational methods and identification of the skill gaps between education and training skills offer and the industry demands in order to achieve better education and training for the digitalisation of energy.
- **Photo from the event**: Figure 5-30.

Figure 5-30. Presentation during the Webinar hosted by the University of Seville

5.2.2. ENTSO-E and E.DSO first InnoGrid virtual session on key role of electricity networks in the energy transition

- **Date**: 18 June 2020
- **Location**: online
- **Type of activity**: Participation and organization of an Event
- **Organisers:** EDSO and ENTSO-E
- **Estimated participants**: 200
- **Website:** https://ec.europa.eu/social/vocational-skills-week/index_en
- **EDDIE participant**: EDDIE Consortium

- **Type of participation**: Audience, Participant
- **Relation to EDDIE**: The European Distribution System Operators' Association (E.DSO) and the European Network of Transmission System Operators for Electricity (ENTSO-E) organized this year's InnoGrid edition as two independent webinars. InnoGrid's objective has always been to highlight what is new on innovation and to feature some of the leading R&D projects in Europe. In the first webinar, on June 18th, thoughts and projects were presented to contribute in making the Green Deal a reality. Richard Vidlička, responsible for Innovation and International Grid Projects at CEZ Distribuce and Chair of E.DSO Projects Committee stressed once again the crucial rule of EU funded projects for the grids of the future and the fundamental importance of electricity networks playing as the "platform" for an effective climate neutral economy by 2050. While mentioning the important role of the EDDIE project, among others, in bringing the goal of a green Europe one step closer. The EDDIE project will bridge the gaps of digital skills and the energy transition by analysing major technology, economy, and social challenges. The Virtual Session showed that power network operators are committed to support the energy transition overcoming the pandemic crisis. Innovative resilience means continuing to support the creation, on top of an adequate physical infrastructure, of a technologically advanced environment with smart, digitalized, and integrated solutions. Cristobal Irazoqui, Energy Policy Officer at DG Energy, stressed the fact that the Green Deal is a roadmap of actions which needs innovations and initiatives to reach the climate and energy targets in allotted time. Only innovation in hand of hand with digitalization can render the Green Deal a reality.
- **The official logo of the event:**

Figure 5-31. INNOGRIG - Virtual Sessions

5.2.3. European Vocational Skills Week

- **Date**: November 9-13, 2020
- **Location**: online
- **Type of activity**: Participation and organization of an Event
- **Organisers:** European Commission
- **Estimated participants**: 500
- **Website:** https://ec.europa.eu/social/vocational-skills-week/index_en
- **EDDIE participant**: EDDIE Consortium
- **Type of participation**: Audience, Participant
- **Relation to EDDIE**: European Vocational Skills Week is an annual event where local, regional or national organisations showcase the very best of vocational education and training (VET). VET is a path to a more fulfilling personal and professional life. European Vocational Skills Week is a platform to make VET's potential more widely known, and an opportunity to exchange information and good practice across Europe and beyond. The focus of the 2020 edition has been on higher VET (post-upper secondary school level) and VET skills for green and digital transitions. Promoting digital learning platforms, establishing a culture of lifelong and continuous education, and implementing sustainable VET structures are key issues.
  EDDIE has been involved in the European Vocational Skills Week 2020 between 09 – 13 November as an associated event for dissemination project's results, lesson learned and conclusions from the needs identified in the professional environment regarding the knowledge and skills on digitalization, VET providers, and the education system, with the involvement of policy makers.
  As part of the European Vocational Skills Week 2020, local, regional, and national organisations from the EU and beyond hosted virtual events and activities, emphasising the benefits of VET and its crucial role in lifelong learning. They provided young learners with the initial skills they need for a fulfilling career and creating the means for adults to build on existing skills (upskill) and develop new skills (reskill) throughout

their lives. Over 781 associated events and activities registered in 38 countries, reaching more than 1.6 million people.
A set of social media posts and activities has been done by EDDIE project using the EVSW hashtags especially dedicated to this kind of actions.

- **The official logo of the event** can be found in Figure 5-32

Figure 5-32. European Vocational Skills Week

5.2.4. PLATform for Operation of distribution NEtworks (PLATONE) Project Midterm Conference – "GROWING THE ENERGY TRANSITION"

- **Date**: 14 – 15 September 2021
- **Location**: online
- **Type of activity**: Participation of an Event
- **Organizers**: PLATONE Project, E.DSO, RWTH
- **Estimated participants**: 180
- **Website**: **https://www.platone-h2020.eu/Events/1021/Growing-the-energy-transition--The-Platone-midterm-conference**
- **EDDIE participant**: CRE, E.DSO, RWTH, NTUA
- **Type of participation**: Audience
- **Relation to EDDIE**: CRE, EDSO and RWTH participated at the PLATform for Operation of distribution NEtworks (PLATONE) Project Midterm Conference "*GROWING THE ENERGY TRANSITION*", organized Online, on Tuesday, 14th of September 2021 and Wednesday, 15th of September 2021. The PLATform for Operation of distribution Networks Project is funded by the European Union (EU), through the Horizon 2020 Research and Innovation (R&I) Programme.

  The event aimed to boost knowledge sharing, know-how and expertise by discussing key topics of the present global transformation of the Energy Sector. *"Growing the Energy Transition"* highlighted the Future of Flexibility and Digitalization, created an interesting dialogue that enabled an active discussion between the Participants, Speakers and the Project itself and allowed to participants to interact with the Italian PLATONE Demonstration.

  Additionally, Day 2 Event underlined the "Strategies for Consumer and Citizen Engagement in the Energy Transition". Also, participants were able to interact with the German and Greek PLATONE demonstrations which gained insights into their unique local activities and set-ups. During the presentations of the trials, synergies with EDDIE were highlighted by the mutual partners participating in both projects (RWTH and NTUA). To manage the Energy Transition, Distribution System Operators (DSO) require innovative tools. Volatile Renewable Energy Sources in combination with less predictable consumption patterns call for higher levels of observability and exploitation of flexibility. While these two challenges are traditionally treated with separate means, PLATONE proposes an innovative approach to a joint data management for both. In this context, EDDIE Project gathered relevant information regarding the energy transition.

  For this event, CRE Association shared **content** and information for its members.

- **Photos from the event:** Figure 5-33

Platone
Growing the Energy Transition
Midterm conference
14–15 September 2021

Tue, 14.9.2021, 13:30 Uhr
Online conference
Organizer: Platone consortium

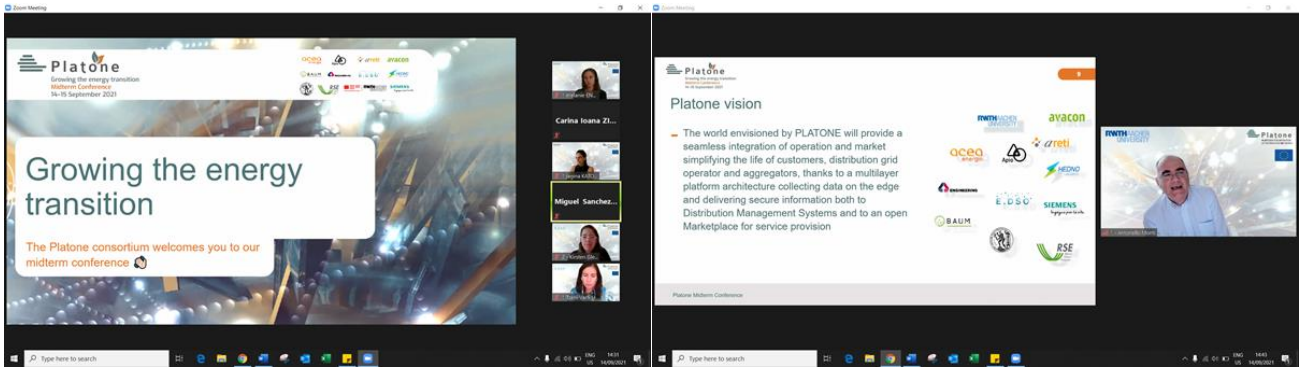


Figure 5-33. Growing the Energy Transition - Platone project synergies with EDDIE project

5.2.5. ICAE2021-13th International Conference on Applied Energy (Conference)- "Sustainable Energy Solutions for a Post-COVID Recovery towards a Better Future"

- **Date**: December 2nd, 2021
- **Location**: Bangkok, Thailand (Online)
- **Type of activity**: Participation to a Conference
- **Organizers**: ICAE (International Conference on Applied Energy)
- **Website**: **https://applied-energy.org/icae2021/wp-content/uploads/2021/12/Program-Book-V3.pdf**
- **Participant**: Comillas
- **Type of participation**: Panelist (Professor Fernando de Cuadra)
- **Presentation/Speech/ title:** The role of microgrids in electrification planning: an integrated distribution approach from the Universal Energy Access group.
- **Presentation abstract:** The role of microgrids in electrification planning will be presented from the perspective of the diverse activities of our research group (**https://universalaccess.mit.edu**). The software tools used by the group for large-scale electrification planning like REM, LREM and RNM will be presented, highlighting their relations with the microgrids design problem. The core of the presentation will be devoted to our current topics of research in microgrids, stressing challenges and motivations. Such topics include market models for energy management, under-the-grid microgrids, diverse customer types — with their cost/reliability trade-offs —, and hierarchical distribution based on spot prices. Finally, current activities and immediate challenges will be summarized, along with conclusions derived from the research.

- **Relation to EDDIE**: EDDIE was introduced in the self-presentation of the speaker, mentioned as Principal Investigator of EDDIE. It is also related because of the research topics introduced, all of them based in digital models for design, modelling and operation of microgrids.
- **Photo**: Figure 5-34

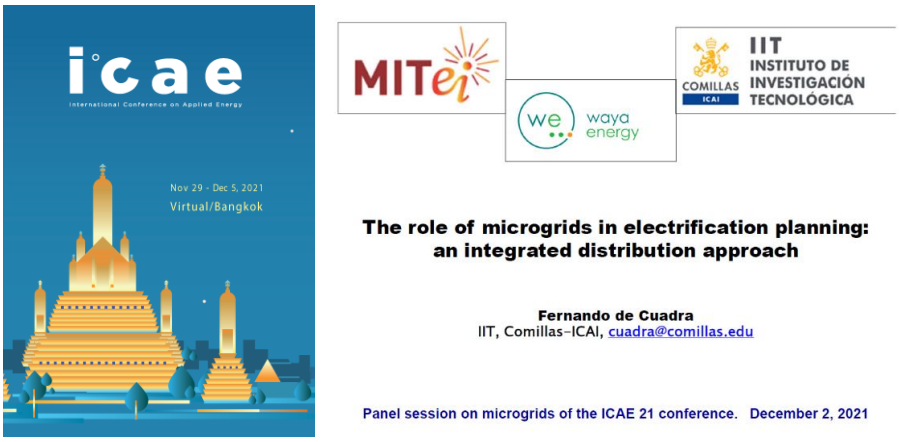


Figure 5-34. Icae event frontpage and presentation on microgrids and EDDIE role in education for digitalization of electrification planning.

5.2.6. Energy Education in the Future

- **Date**: December 6th, 2021
- **Location**: Doha, Qatar
- **Type of activity**: Event
- **Organizers**: Texas University at QATAR
- **Website**: **https://na.eventscloud.com/website/25091/home/**
- **Participant**: Universidad Pontificia Comillas (Miguel A. Sanchez-Fornie)
- **Type of participation**: Panelist
- **Presentation/Speech/ title:** Workshop: Energy Mentors-Building and Strengthening the Energy Talent Pipeline.
- **Presentation abstract**: This workshop aims to develop a robust career-spanning mentor program to diversify, expand, and enhance the energy talent pipeline. Such a mentoring program could start very early, such as high school, and offer 1) a professional mentor from their home country and 2) research experiences through a university. This workshop will convene a group of industry and academic energy professionals interested in developing and supporting such a pipeline mentoring program.
- **Relation to EDDIE**: Dissemination of EDDIE project and initial results.
- **Picture promoting the event**: Figure 5-35

Figure 5-35. Presentation during Energy Education in the Future event

5.2.7. Romanian Energy Day – 11th Edition – Repowering the European Energy Sector

- **Date**: June 21, 2022
- **Location**: Stanhope Hotel, Brussels, Belgium
- **Type of activity**: Event.
- **Organizers**: Romanian Energy Center
- **Estimated participants**: 70 in person and online participants
- **Website**: **https://www.crenerg.org/red2022/**
- **EDDIE participant**: CRE
- **Type of participation**: Speaker at the Event, Presentation, Audience
- **Relation to EDDIE:** Representing probably the most ambitious European projects since the inception of the EU, the goals of carbon neutrality by 2050 and the independence from Russian fossil fuels by the end of the decade will seriously test the cohesion among the Member States and the dynamics and adaptability of the 27 energy markets. Consequently, Romanian Energy Day (RED), at its 11th edition, builds upon the European commitment towards accelerating the Green Deal by ramping up renewables and boosting energy efficiency, whilst setting the stage to achieve the independence from certain energy imports. Moreover, RED 2022 highlights Romania's endeavour to strengthen the European energy security by actively diversifying energy sources, resources and transport routs, as well as achieve markets integration by creating an effective link between the South-Eastern and Central European regions. The role and impact of research projects in this context were brought to the fore, the holistic approach which on the one hand considers the digitalization of energy systems, and on the other hand, as a corresponding response to digitalization, the acquisition of new skills and abilities for energy employees.
- **Photo relevant for the event**:

5.2.8. Grid Service Market Symposium

- **Date**: 5 July 2022
- **Location**: KKL Auditorium, Lucerne, Switzerland
- **Type of activity**: Speaker at the Event
- **Organizers**: HSUL, Lucerne, Switzerland
- **Estimated participants**: 50 in person and online participants
- **Website**: **https://gridservicemarket.com/**
- **EDDIE participant**: CRE
- **Type of participation**: Presentation, Audience

- **Relation to EDDIE and Feedback**: The electricity market is changing, opening opportunities for more flexibility in generation, storage and consumption. The integration of a large amount of new renewable energy sources poses great challenges for the European electricity grids & markets. Network reinforcement, market harmonisation and integration are solutions and challenges for the various players in the electricity industry. New technologies such as Power to X, Batteries, Demand Side Response DSR, Water Electrolysers, Fuel Cells and others compete or complement each other in terms of technical capabilities and economic performance. The integration of such new technologies and methods, to provide grid services and optimise the use of existing infrastructure, is changing the face of the electricity industry in the long term. The 6th GSM-Symposium aims to outline recent developments in the European grid service markets, to highlight advancements and challenges in international cooperation and to reflect the technological progress. In addition, it reports on experiences and success stories, which support a rating of the performance, and future potential of new sustainable technologies. The 6th GSM-Symposium addresses grid and technology experts, scouts and managers from the electricity industry, administration bodies and researchers interested in the commercial aspects of grid services and new technologies. Experts present their contributions to technological advances and propulsive business solutions. The international audience will exchange on market logic, regulations and harmonization. In this context, CRE's contribution to the event highlighted the relevant regulatory aspects for the adoption of new technologies, and the EDDIE project was brought to the fore, highlighting the need to adapt the skills and abilities of energy employees for the use of new technologies.
- **Photo relevant for the event**: Figure 5-36

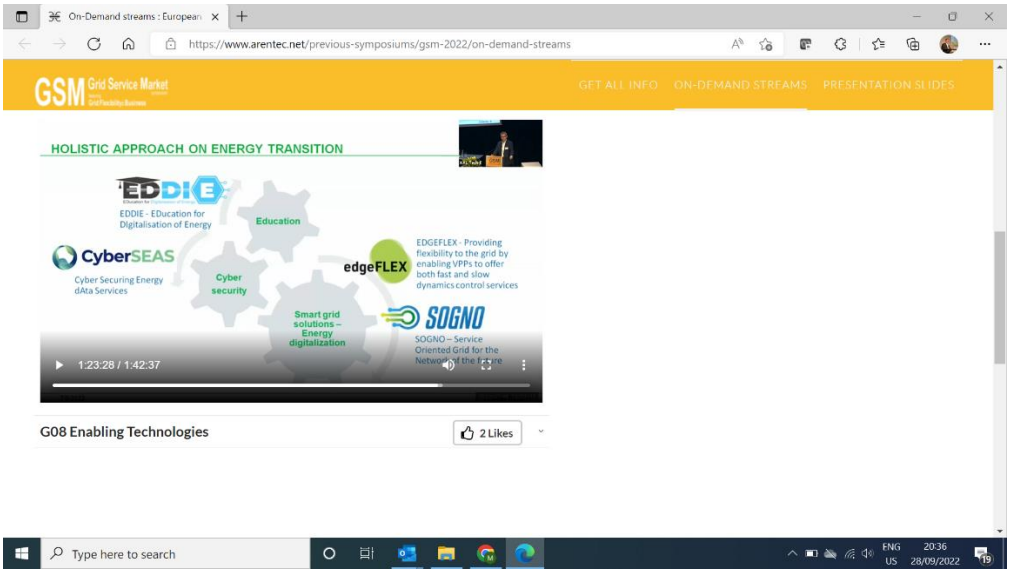


Figure 5-36. EDDIE project at Grid Service Market Symposium

5.2.9. Archimedean Sandbox program

- **Date**: 29 June 2022 – 08 August 2022
- **Location**: Aachen, Germany
- **Type of activity**: Summer vacation program on wind energy for children and dissemination event for the citizens
- **Organizers**: Future Lab Aachen and City of Aachen
- **Website**: https://futurelab-aachen.de/event/archimedischer-sandkasten-3/
- **Participant**: RWTH Aachen University (Berna Balci)
- **Type of participation**: Workshop for children (10-14 years) with energy grid model (see Figure 5-38), Stand at open-air dissemination event in the city center with energy grid model (see Figure 5-38)
- **Presentation/Speech/ title:** Energy grid model with wind turbines, storage units and consumer LED's

- **Presentation abstract**: Children from 10-14 year visit the Institute of Automation of Complex Power Systems (ACS) at RWTH for a workshop on an energy model with wind energy as part of a summer vacation program for children. This workshop is intended to give the children the tutors of the vacation program inspiration to build their own artistically inspired wind energy constructions. In another event as part of the Archimedean Sandbox program, the same energy grid model is shown to citizens in an open-air dissemination event.
- **Relation to EDDIE**: Piloting activity and dissemination of EDDIE project (see 3.5.1.1).
- **Estimated participants**: 200 – 250 participants.
- **Picture promoting the event**: Figure 5-37, Figure 5-38

Figure 5-37 – Opening of the “Archimedean” sandbox in the city centre of Aachen

Figure 5-38 – Model of an energy grid with wind turbines, storage units and consumer LED’s

5.2.10. Weeks of International Teaching – Inclusive and Digital

- **Date**: 16 – 19 September 2022
- **Location**: Luxembourg
- **Type of activity**: Event (Hybrid)

- **Organisers**: Novel Group Sarl
- **Website:** https://www.novelgroup.lu/2nd-workshop-on-innovative-interactive-and-digital-teaching/
- Participant: Novel Group Sarl
- **Type of participation**: Presentation by Thanasis Lakrintis
- **Presentation/Speech/ title**: Best Practices for Vocational Education & Training (VET)
- **Presentation abstract**: The presentation mainly focused on the Best Practices in VET in the field of energy digitalization, while presenting the findings of the EDDIE's research of all EU strategies, action plans and roadmaps that are related to VET Policy, elements of digital transformation and the incorporation of digital tools in VET provision.
- **Relation to EDDIE**: Sketching the Findings of the EDDIE Project Research and presenting the Best Practices that were identified in WP4.
- **Estimated participants**: 200 – 250 participants.
- **Photo from the event**: Figure 5-30.

Figure 5-39 Presentation of EDDIE

5.2.11. The Factory 4.0 Expo Conference – 3rd edition

- **Date**: November 09, 2022
- **Location**: Palace of Parliament, Bucharest, Romania
- **Type of activity**: Event.
- **Organizers**: Factory 4.0
- **Estimated participants**: 100 in person and online participants
- **Website**: https://factory40.ro/
- **EDDIE participant**: CRE
- **Type of participation**: Speaker at the Event, Presentation, Audience
- **Relation to EDDIE:** Large event dedicated to digital transformation with a special focus on digital skills and Industry 4.0. CRE intervention referred to the energy sector from this perspective of digitalization and the implicit need for digital skills. The EDDIE project as well as another project in the field of energy - Digital4Energy, a training project, were brought to the fore, as two initiatives that can act synergistically to adapt the workforce to the use of new technologies.
- **Photo relevant for the event**: Figure 5-40

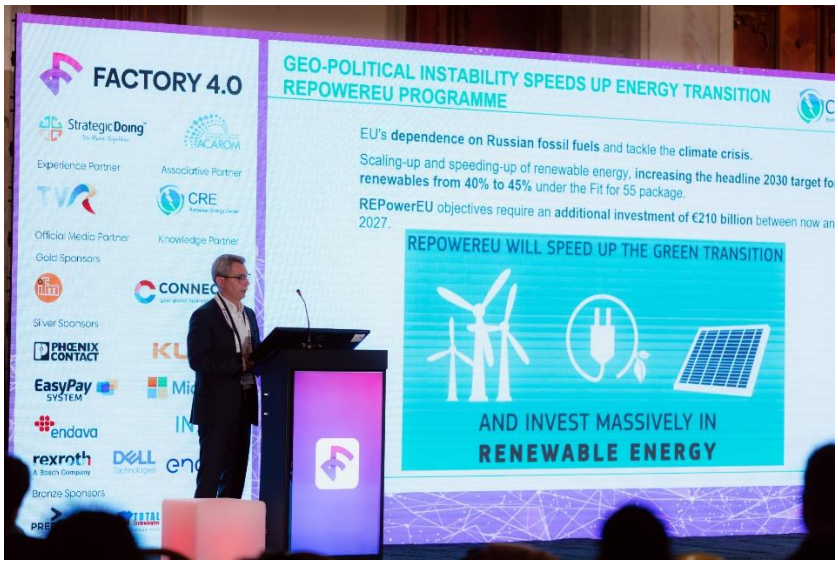


Figure 5-40. EDDIE at Factory 4.0

5.2.12. RWTH Science Night

- **Date**: December 11th, 2022
- **Location**: Aachen, Germany
- **Type of activity**: dissemination event
- **Organizers**: RWTH Aachen University
- **Website**: **https://www.rwth-aachen.de/cms/root/Die-RWTH/Aktuell/Veranstaltungen/~btgg/RWTH-Wissenschaftsnacht-5-vor-12-/?lidx=1**
- **Participant**: RWTH Aachen University (Berna Balci)
- **Type of participation**: Stand with energy grid model (see Figure 5-41), talk about prosumers in the energy grid
- **Presentation/Speech/ title:** Energy grid model with wind turbines, storage units and consumer LED's
- **Presentation abstract**: Prof. Monti from ACS gave a talk on active prosumers in a flexible energy grid. The presentation aimed to show the changes in the distribution grid due to the increasing number of decentralised generation plants. Another focus was on grid stability and the associated role of customers. The audience learned about the increasingly active role of customers in the electricity market through decentralised small power plants and solutions such as smart meters. The digitalisation of the energy system serves as a key function for active customers. Moreover, throughout the science night, was a stand with an energy grid model to show the effects of small changes in the grid.
- **Relation to EDDIE**: Piloting activity and dissemination of EDDIE project.
- **Estimated participants**: 200 – 250 participants.
- **Picture promoting the event**: Figure 5-41, Figure 5-42

Figure 5-41 Stand with energy grid model from ACS at the RWTH science night

Figure 5-42 Talk at RWTH science night

5.3. Events attended due to their importance and relevance and content to be considered within EDDIE.

5.3.1. Innovations for operating power systems with increasing shares of variable renewables (Webinar)

- **Date**: February 11, 2021
- **Location**: online
- **Type of activity**: Participation to a Webinar
- **Organisers**: International Renewable Energy Agency (IRENA) – TRANSNET BW – ICE
- **Estimated participants**: 100
- **Website**: **https://irena.org/events/2021/Feb/Innovations-for-operating-power-systems-with-increasing-shares-of-variable-renewables**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The joint webinar by the International Renewable Energy Agency (IRENA), TransnetBW GmbH, one of the TSOs in Germany and ICE, the Costa Rican Electricity Institute, aimed to discuss innovative solutions for operating power systems with increasing shares of variable renewable electricity. Combining innovations for renewable solutions has been proposed during the webinar by enabling technologies (internet of things, artificial intelligence and big data, blockchain), by addressing market design (regional markets, increasing time granularity in electricity markets, innovative ancillary services), by improving the system operation (advanced forecasting of variable renewable power generation, co-operation between transmission and distribution system operators, co-operation between transmission system operators). The innovative approach on the role of renewables helps the consortium in identifying the needs of this specific area of the energy sector in terms of education and digitalization.
- **Photo**: Figure 5-43

Figure 5-43. Innovations for operating power systems with increasing shares of variable renewables

5.3.2. Pact for Skills – support for upskilling and reskilling under Erasmus+. Seminar Pact for Skills. Blueprint Sector Skills Alliances 2017-2020.

- **Date**: February 17-18, 2021

- **Location**: online
- **Type of activity**: Participation to a Webinar
- **Organisers**: EC
- **Estimated participants**: 360
- **Website**: https://ec.europa.eu/social/main.jsp?catId=1517&langId=en
- **EDDIE participant**: CRE, COMILLAS, NTUA, E.DSO, DNV
- **Type of participation**: Audience
- **Relation to EDDIE**: The aim to participate in the webinar is to get e better knowledge about the Pact for Skills[3] **Error! Reference source not found.** as one of the main actions under the European Skills Agenda to get involved in this action and to integrate into EDDIE. The European Commission launched the Pact for Skills, as a leading action for the European Skills Agenda, where national, regional, and local authorities, social partners, cross-industry and sectoral organizations, education and training providers and employment services have a key role to play. The aim and objectives of The Pact are for concrete actions and join forces to upskill and reskill people in Europe in the context of supporting the goals of the Green Deal and Digital Transitions of the EU Industrial and SMEs strategies. The dimension and importance of this Pact at EU level is highlighted by being the leading action under the European Skills Agenda as firmly anchored in the European Pillar of Social Rights. The Pact promotes a culture of lifelong learning for all, building strong skills partnerships, monitoring skills demand, and anticipating skills needs but it also stands for working against discrimination and for gender equality and equal opportunities. The pact aims to mobilize and incentivize private and public stakeholders to actively contribute to the upskilling and reskilling of individuals and when appropriate and feasible using pool efforts in partnerships. Pathway to achieve sustainability in energy transition including societal decisions such as European Green Deal, digital economy of today and supporting industrial and SMEs strategies led to firmly believe that skills are key for both people and companies to unlock competitiveness, social fairness, and resilience. The European Skill Agenda underline the role of companies and social partners in cooperation and exchange at local and regional level but also the importance of social dialogue for a successful upskilling and reskilling in Europe. The Pact was created based on other EU initiatives for cooperation including the reinforced European Alliance for Apprenticeships but also on the Blueprint for Sectoral Cooperation of Skills.

  In the Pact for Skills context, EDDIE project participated on 17-18 February at the Webinar, discussing about the correlation between industrial ecosystems like Digital, Mobility, Transport and Automotive; Energy Intensive-Industries; Renewable Energy and the skills needs at each level. Furthermore, the main describing steps of the Pact were addressed. Demand driven commitments; Support from the EU and upskilling and reskilling for ALL are mandatory stages in the Pact for Skills landscape. EDDIE Project joined the Pact with the aim of promoting concrete actions and contribute through the project results.
- **Photo**: Figure 5-44.

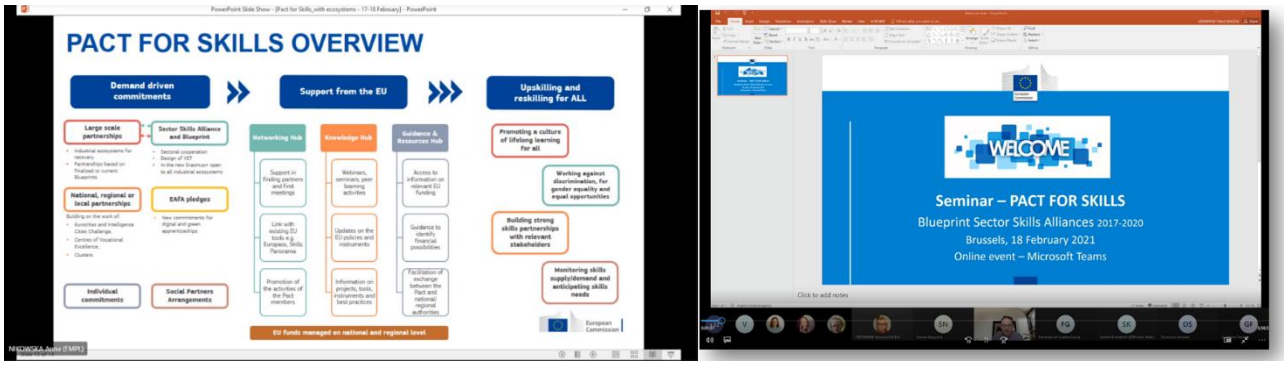


Figure 5-44. Skill Building for the Energy Transition - Presentation during the webinar

[3] https://ec.europa.eu/social/main.jsp?catId=1517&langId=en

5.3.3. "Skill Building for the Energy Transition"

- **Date**: February 23, 2021
- **Location**: online
- **Type of activity**: Participation to a Webinar
- **Organisers**: IRENA
- **Estimated participants**: 80
- **Website**: https://www.irena.org/-/media/Files/IRENA/Agency/Events/2020/Jun/IRENA-Insights/Skill-Building/IRENAinsights_Skills_final.pdf?la=en&hash=F34A1F96D2E9677972E7771BB174EF8F662C3DBF
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The solution proposed by the reports presented, focus on preparing students to work in many occupational areas, beside redesigning the curriculum by targeting schools, higher education, vocational training, professional or supplementary education and training.

  High attention has been directed towards the curriculum design at all the education levels. In the case of schools, the focus was on the need of the early exposure, on the requirement of the citizens to own knowledge and on the potential to integrate renewable energy into national curriculum frameworks. For higher education has been underlined the need for the curriculum to be updated to reflect competences and skills. The vocational training must reflect the industry need, to be delivered by TVET colleges and industry, and courses must cover the technical skills. In the case of professional or supplementary education and training, the webinar covered the continuing education and training, the need for upskilling and the specialized knowledge.
  As participant, EDDIE could not agree more with the conclusion that building the skill base necessary for achieving the energy transition requires the implementation of education and training policies and programs that address the need to reskill and upskill the existing energy workforce as well as educate a new generation of energy professionals." The webinar concluded that curriculums would need to address cross-disciplinary skills, emerging skills (storage, digitalisation, bioenergy, etc.) and innovation and entrepreneurship abilities.
- **Photo**: Figure 5-45

Figure 5-45 – " Skill Building for the Energy Transition"

5.3.4. "Remote Testing & EIRIE Platform"

- **Date**: March 8, 2021
- **Location**: online
- **Type of activity**: Participation to a Webinar
- **Organisers**: European Distributed Energy Resources Laboratories (DERLAB), ERIGRID 2.0 and PANTERA projects
- **Estimated participants**: 120

- **Website**: https://der-lab.net/remote-testing-eirie-platform-webinar-on-demand/
- **EDDIE participant**: Romanian Energy Center (CRE)
- **Type of participation**: Audience
- **Relation to EDDIE**: Pantera project has been working on developing an interactive multi-platform called EIRIE Platform (European Research Infrastructure supporting Smart Grid and Smart Energy Systems Research, Technology Development, Validation and Roll Out) that will build trustful cooperation with stakeholders, acting as the meeting point of all actors active in the field of energy Research and Innovation from all Europe.

  The experience with the Remote Lab Access Services on the Example VILLAS4ERIGRID, the Virtual Research Services in ERIGRID 2.0 were introduced. Lab Services from RWTH Aachen and the OpenAFPM Services from ICCS-NTUA presented their demo, concluding with the ERIE Platform description and functionalities.
  The presentation of the ERIGRID 2.0, Research Infrastructure for Smart Grids and Smart Energy Systems highlighted the project motivation – planning and operation of the energy infrastructure (large–scale integration of Renewable Sources, controllable loads like battery storage, electric vehicles). Its trends and future directions like the digitalization of energy infrastructure, a deeper involvement of consumers and market interaction, sector coupling for higher flexibility and resilience were part of the discussion as well. Regarding the Integrated Smart Energy Research Infrastructure, the ERIGRID Project stands for Research and Technology Development in Smart Grids and Smart Energy Systems, for the Digitalisation with Lab Interfacing and Data Exchange for physical and virtual access, and it develops simulation, co-simulation, ICT and Automation and Controls for Power and Energy Systems. The ERIGRID 2.0 Project provides engineers in power system testing, smart grids and energy systems free funding to access the best laboratories of Europe and perform their experimental research. Access to physical labs can be on-site or remote, depending on the conditions of specific laboratories.
  Regarding the education and training, during the event has been presented the importance and the possibility to offer education and training for energy professionals; physical and remote workshops, webinars, tutorials, and training schools; open access laboratory education; provision of e-learning tools and open access resources.
  Synergy with EDDIE Project are encouraged by the EIRIE Platform with the objective to enhancing future skills of professionals, technicians, trainees (all education levels) needed in the Smart Grid area. Moreover, the EIRIE Platform may support the sustainability of the Eddie within the SSA Blue Print of EDDIE project
  For this event, CRE Association shared **content** and information for its members. A print screen of this document is in Figure 5-46.

CRE
Centrul Român al Energiei

DERLAB WEBINAR "REMOTE TESTING & EIRIE PLATFORM" – POSSIBLE SYNERGIES WITH EDDIE PROJECT

10th of March, Carina Ioana ZIDARU

The representatives of the Romanian Energy Center Association (CRE) participated at a joint Webinar entitled "*Remote Testing & EIRIE Platform*", organized by European Distributed Energy Resources Laboratories (DERLAB) Working Group 4 "Strengthening the Integration of Laboratories & Researcher Exchange" in collaboration with the Horizon 2020 Projects, ERIGRID 2.0 and PANTERA, on Tuesday, 8th of March 2021. During this Webinar, ERIGRID 2.0 partners highlighted the project's infrastructure and presented their experiences using remote lab access. The participants could interact with the Virtual Access of infrastructure with demos of two virtual facilities, organized by ERIGRID 2.0. The representatives of PANTERA Project presented the interactive multi-functional platform EIRIE that will act as the meeting point of all actors active in the field of energy research and innovation from all Europe.

The *Remote Testing & EIRIE Platform* **Webinar** underlined the overview of the ERIGRID 2.0 Research Infrastructure for Smart Grids and Smart Energy Systems and introduced the ERIGRID 2.0 Lab Access Services. The experience with the Remote Lab Access Services on the Example VILLAS4ERIGRID, the Virtual Research Services in ERIGRID 2.0 were introduced. Lab Services from RWTH Aachen and the OpenAFPM Services from ICCS-NTUA presented their demo, concluding with the ERIE Platform description and functionalities.

Figure 5-46. CRE's press release on "Remote Testing & EIRIE Platform" webinar

- **Photos from the event**: Figure 5-47

Figure 5-47. "Remote Testing & EIRIE Platform" Webinar

5.3.5. Launch of the New Manifesto for Enhancing Digital Competences across Europe

- **Date**: May 6, 2021
- **Location**: online
- **Type of activity**: Participation to an Event
- **Organisers**: ALL DIGITAL
- **Estimated participants**: 150
- **Website**: https://all-digital.org/events/launch-of-the-new-manifesto/
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: ALL DIGITAL represents more than 25.000 digital competence centres across European Union. The manifesto sought to contribute to dialogue, implementation, and cooperation on the EU actions to deliver Europe's digital future. Through the building blocks of the manifesto, can be enumerated: the education and training offer, access to education and training, quality of education and training, a European approach to digital competences, sustainability and development. Each of these categories was presented in detail during the event. The education and training offer must be designed to reflect the needs of people, the labour market, and the society, while understanding the developing in combination with other key competences. It must be in line with the digital transformation and recognised as part of the lifelong learning pathways. In the case of access to education and training, there should be sufficient provision of education and training in the market to meet demand.

  The mission was to empower the member organizations representing non-formal education providers to support millions of Europeans to succeed in the digital transformation by providing them with training and advice.
- **Photo relevant for the event**: Figure 5-48

Figure 5-48 - Launch of the New Manifesto for Enhancing Digital Competences across Europe

5.3.6. EURASHE 30th Annual Conference - Professional Higher Education and sustainable development: creating a change that endures

- **Date**: May 20-21, 2021
- **Location**: online
- **Type of activity**: Participation to a Conference
- **Organisers**: European Association of Institutions in Higher Education (EURASHE), Portuguese Polytechnics Coordinating Council (CCISP), the Polytechnic of Porto and Portuguese Presidency of the Council of the EU.
- **Estimated participants**: 300
- **Website**: **https://www.eurashe.eu/events/annual-conferences/30th-annual-conference-online-20-21-may-2021/**
- **EDDIE participant:** Romanian Energy Center (CRE)
- **Type of participation**: Audience
- **Relation to EDDIE**: The main aim of the conference was to build up a set of Specific Recommendations and discuss a potential Action Plan for their implementation by professional higher education and its stakeholders over the next years. In this regard, EDDIE project has been part of the audience as an important pillar of education in energy sector. Panel discussion on „European Universities initiatives" and „Professional higher education for smart and sustainable recovery", were part of the programme.

  The concept of sustainable development, which is fundamental for the European Union, is based on a large holistic approach to a whole range of interlinked global challenges. The 17 Sustainable Development Goals (SDGs) plot out a route on how to overcome the challenges we face, and to improve our habitat, our economy and our lives. They shape all EU internal and external policies and steer the implementation of the seven-year EU budget. It is amply acknowledged that the achievement of the SDGs will not be possible without education, and not the latest Professional Higher education (hereafter –PHE), significant involvement in the cause. Thus, five years after the setting out of Agenda 2030, it is important to analyse the experience accumulated and to draw the way forward.
  EURASHE Annual Conferences attracts each year a diversity of delegates – heads of institutions, higher education practitioners, business representatives, policy-makers, academics and students – from the education community across Europe and beyond its borders. It is recognised as a communication platform for education experts and professionals, and is characterised by its practical, innovating and stimulating approach.
  Universities of applied sciences' leaders, the entire community of professional higher education, European businesses and public institutions and European students' representatives has been invited to attend the EURASHE event to share their experience and to learn about trends, models and inspiring practices.
- **Photo**: Figure 5-49

Figure 5-49 - Professional Higher Education and sustainable development: creating a change that endures

5.3.7. Power Summit 2021 – Electric Decade

- **Date**: May 25-28, 2021
- **Location**: online
- **Type of activity**: Participation to a Event
- **Organisers**: EURELECTRIC
- **Estimated participants**: 3000
- **Website**: **https://powersummit2021.eurelectric.org/**
- **EDDIE participant:** CRE, COMILLAS, EDSO
- **Type of participation**: Audience
- **Relation to EDDIE**: The Event highlighted important topics such as: Energy Transition, Renewable Heating Solutions, Hydrogen, Digital & Data, Innovation, Digital Jobs and Digitalisation. Europe's premier power sector event recognised as the "Electric Davos" is the leading forum where the European power sector ecosystem connects industry captains, politicians, business disrupters, investors and academics.

  Eddie project considers the evolution of the power systems an important source of identifying or predicting the future needs in terms of skills, abilities, and competences of the energy sector.
- **Photos from the event**: Figure 5-50

Figure 5-50 – Power Summit 2021 - Electric Decade

5.3.8. 4th E.DSO-ENCS-ENTSO-E Webinar on Cybersecurity "Enhancing our grid resilience"

- **Date**: 21 October 2021
- **Location**: online
- **Type of activity**: Participation as audience
- **Organizers**: Association of European Distribution System Operators (E.DSO), European Network for Cyber Security (ENCS), European Network of Transmission System Operators for Electricity (ENTSO-E)
- **Estimated participants**: 150
- **Website**: **https://www.edsoforsmartgrids.eu/save-the-date-4th-e-dso-encs-entso-e-event-on-cybersecurity-enhancing-our-grid-resilience/**
- **EDDIE participant**: Romanian Energy Center (CRE), E.DSO
- **Type of participation**: Audience
- **Relation to EDDIE**: This webinar focused on "enhancing our grid resilience", the conference brought together experts in the field of Cybersecurity to exchange on the latest industry knowledge and to present learnings from past threats with a solution-based approach. Since Eddie project is looking into the security of supply chain in times when cyber warfare hits the energy grids, network codes related to cybersecurity, as well as into abilities and competences in the cybersecurity fields, the webinar presented key information in the consortium research.

  The European Network for Cyber Security (ENCS), the Association of European Distribution System Operators (E.DSO), and the European Network of Transmission System Operators for Electricity (ENTSO-

E), together hosted a virtual event on 21st of October, discussing the challenges of increasing volume and sophistication of malicious acts towards the European energy grid and how the Network Code Cybersecurity will enhance our grid resilience.

- **Photo of the event**: Figure 5-51

Figure 5-51. 4th E.DSO-ENCS-ENTSO-E Webinar on Cybersecurity "Enhancing our grid resilience"

5.3.9. 10th INNOGRID EDITION - "Living the Transition"

- **Date**: Friday 4th and 11th of June 2021
- **Location**: online
- **Type of activity**: Participation to an Event
- **Organizers**: Association of the European Distribution System Operators (E.DSO) and the European Network of Transmission System Operators for Electricity (ENTSO-E)
- **Estimated participants**: 150
- **Website**: **https://www.innogrid.eu/**
- **EDDIE participant**: CRE, E.DSO
- **Type of participation**: Audience
- **Relation to EDDIE**: EDDIE representatives participated at the 10th InnoGrid Edition focused on "Living the Transition", jointly organized Online by the Association of the European Distribution System Operators (E.DSO) and the European Network of Transmission System Operators for Electricity (ENTSO-E), on Friday 4th and 11th of June 2021. The Event brought together experts from Transmission and Distribution System Operators (TSOs and DSOs), European Union (EU) Officials, Academics, Representatives of Civil Society and Industry.

  InnoGrid Conference on 4th of June highlighted the important role of networks in the energy transition and how they are enabling it today. During the Event, on 11th of June, the audience had the opportunity to learn more about leading EU funded Research and Development (R&D) projects that contribute to the transition by developing innovative solutions to digitalization, renewables integration, flexibility, and new market opportunities.

  Opening the 10th edition of InnoGrid, on 4th of June, European Energy Commissioner, Ms. Kadri SIMSON stressed the three major trends affecting Europe's energy system: decarbonization, decentralization, and digitalization. Ms. Kadri SIMSON pointed out the important role of transmission and distribution system operators in managing the impact of these trends on the power system. The InnoGrid first day showed that

TSO & DSO cooperation is very strong, regarding innovation, flexibility or sector integration, and that it will remain a key enabler in the years to come for reaching the objectives under the EU Green Deal[4].

Innogrid Day 2 - ”Beyond Sandboxes” focused on Innovation in Asset Management and Markets. Introduced by Mr. Uros SALOBIR - Vice-Chair of ENTSO-E Research, Development and Innovation Committee, and Mr. Richard VIDLIČKA - Chair of E.DSO Innovation & Research Committee, the second day of the 10th edition of InnoGrid gave the opportunity to participants to deep dive in some of the Horizon2020 Projects in the areas of asset management and markets.

With a long history on European innovation, InnoGrid 2021 event has been a source of information and inspiration, through the most pressing topic of the moment – energy transition. Having the opportunity to learn more about how other EU funded R&D projects work on innovative solutions related to digitalisation (and not only), helped the EDDIE team to refine its view on how to tackle the subject of education for digitalization of energy sector.

For the ”10th INNOGRID EDITION – "Living the Transition” Event, CRE Association shared **content** and information for its members. A print-screen of this press release can be found in Figure 5-52.

CRE
Centrul Român al Energiei

ROMANIAN ENERGY CENTER ASSOCIATION PARTICIPATED AT THE 10TH INNOGRID EDITION FOCUSING ON "LIVING THE TRANSITION"

17th of June 2021, Carina Ioana ZIDARU

The representatives of the Romanian Energy Center (CRE) Association participated at the 10th InnoGrid Edition focused on "Living *the Transition*", jointly organized Online by the Association of the European Distribution System Operators (E.DSO) and the European Network of Transmission System Operators for Electricity (ENTSO-E), on Friday 4th and 11th of June 2021. The Event brought together experts from Transmission and Distribution System Operators (TSOs and DSOs), European Union (EU) Officials, Academics, Representatives of Civil Society and Industry.

ENTSO-E represents 42 electricity Transmission System Operators (TSOs) from 35 countries across Europe. ENTSO-E was established and given legal mandates by the EU's Third Legislative Package for the Internal Energy Market in 2009, which aims at further liberalising the gas and electricity markets in the EU.

E.DSO promotes and enables customers empowerment and the increase in the use of clean energy sources through electrification, the development of smart and digital grid technologies in real-life situations, new market designs and regulation. E.DSO gathers 41 leading electricity Distribution System Operators (DSOs) in 24 countries, including two national associations, cooperating to ensure the reliability of Europe's electricity supply for consumers and enabling their active participation in our energy system.

InnoGrid Conference on 4th of June highlighted the important role of networks in the energy transition and how they are enabling it today. During the Event, on 11th of June, the audience had the opportunity to learn more about leading EU funded Research and Development (R&D) projects that contribute to the transition by developing innovative solutions to digitalization, renewables integration, flexibility, and new market opportunities.

Figure 5-52. CRE's press release on the ”10th INNOGRID EDITION – "Living the Transition” Event, CRE As

- **Photos from the event**: Figure 5-53.

Figure 5-53. 10th INNOGRID EDITION - "Living the Transition" - photos from the event

5.3.10. Workshop on Analyzing and Comparing VET Qualifications

- **Date**: June 18, 2021
- **Location**: online
- **Type of activity**: Participation to a Workshop
- **Organizers**: European Centre for the Development of Vocational Training (CEDEFOP)
- **Estimated participants**: 300
- **Website**: **https://www.cedefop.europa.eu/en/events/workshop-analysing-and-comparing-vet-qualifications**

[4] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: EDDIE Project participated at the Workshop on Analyzing and Comparing Vocational Education and Training (VET) Qualifications, organized by the European Centre for the Development of Vocational Training (CEDEFOP), on 18th of June 2021. The Workshop presented the final findings of the CEDEFOP Project - Comparing vocational education and training qualifications: towards a European Comparative methodology. This Event allowed for a discussion on how to strengthen the feed-back-loop between education and training and the labor market; and thus, provide a better link between the supply and demand of skills and qualifications. Moreover, the Workshop presented a series of use-cases where a systematic analysis and comparison of learning outcomes can support researchers, policy makers and practitioners involved in the development as well as review and renewal of skills and qualifications.

  The workshop gathered selected international experts and researchers working on comparative methodologies from different angles.
- **Photo**: Figure 5-54

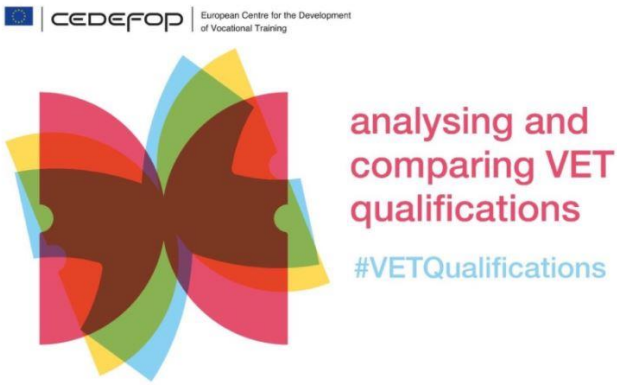


Figure 5-54. Workshop on Analyzing and Comparing VET Qualifications

5.3.11. SEFI Annual Conference 2021

- **Date**: September 13-16, 2021
- **Location**: Online
- **Type of activity**: Participation of a Conference
- **Organizers**: SEFI & Technische Universität Berlin (TUB)
- **Estimated participants**: 100
- **Website**: **https://sefi2021.eu/**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The year 2020 has challenged universities worldwide in an unprecedented way. On short notice, universities had to switch from on-site classroom teaching to online teaching formats. We all realize that this extensive online teaching will have a sustainable impact on the way we teach and learn. The conference will focus on the implications of this very special experience on Engineering Education in Europe and worldwide.

  Most universities will use this opportunity for extensive evaluations and supporting research to assess the pros and cons of this transition. During the discussions, topics such as the adapting teachers and learners to a new situation, which formats and methods have proven so successful that teachers would like to integrate them into their courses in the long term were addressed.
- **Photo as logo and presentation**: Figure 5-55.

Figure 5-55. SEFI annual conference

5.3.12. "The Truth about Sector Coupling"

- **Date**: September 20, 2021
- **Location**: online
- **Type of activity**: Organization of an Event
- **Organizers**: E.DSO, Gas Distributors for Sustainability (GD4S)
- **Estimated participants**: 130
- **Website**: **https://www.edsoforsmartgrids.eu/the-truth-about-sector-coupling/**
- **EDDIE participant**: CRE, E.DSO.
- **Type of participation**: Audience
- **Relation to EDDIE**: The representatives of the Romanian Energy Center (CRE) Association participated at " *THE TRUTH ABOUT SECTOR COUPLING*" Online Conference, jointly organized by the Association for European Distribution System Operators (E.DSO) and the Gas Distributors for Sustainability (GD4S), on Monday, 20th of September 2021.

  This webinar aimed to encourage and extend the debate on sector coupling and its challenges by exploring new and innovative ideas and technologies which could facilitate the coupling of the electricity and gas sectors. One main idea from the presentations of the workshop mention digitalisation as a mandatory enabler to a smarter system, in the context of a European Union framework that ease and incentivize interaction between the electricity, gas, buildings, transport, and industry through relevant technologies.
  "*THE TRUTH ABOUT SECTOR COUPLING*" Webinar gather experts from the private and public sector shared their knowledge about Sector Coupling and their vision on how to reach a fully decarbonised Energy System thanks to Gas and Electricity. The main topics of the Conference were the Electricity and Gas in Transport Sector, Sector Integration in Heating and Sector Integration at Local Level. To reach the ambitious targets, all the involved actors agreed on the fact that, in order to make the sector coupling something real and effective at the lower cost, for States, companies and consumers, European Energy Players will need to work very closely and think about comprehensive view with the goal to achieve the objectives set by the European Commission.
- **Photo relevant for the event**: Figure 5-56

Figure 5-56. "The Truth about Sector Coupling" - opening of the event

5.3.13. Conference - Flexibility: The enabler for a clean energy future?

- **Date:** November 10, 2021
- **Location:** Digital event
- **Type of activity**: Participation to a Conference
- **Organisers:** Euroelectric
- **Estimated participants:** 80
- **Website:** **https://www.eurelectric.org/events/flexibility-the-enabler-for-a-clean-energy-future-10-nov-2021/**
- **Participant:** Iberdrola
- **Type of participation:** Audience
- **Presentation/Speech/ title:** Flexibility: The enabler for a clean energy future?
- **Presentation abstract:** The need of design or adapt the services that provides the DSOs and TSOs to the clients, this service should be flexible to guarantee Europe's position as a leader in the global green economy because there is an increasing of the demand about decentralized power. Innovations solutions, efficient and transparent market are required to accomplish the target as well laying the foundations for the creation of a legal framework. Overarching principles for the market-based procurement: transparency, data visibility, coordination, value stacking, incentives, and technology neutral approach.
- **Relation to EDDIE:** The topic of the conference (flexibility as a necessary pathway for the future of green energy) generates a global vision of how the electricity sector will evolve in the coming years, thus being able to deduce what skills and knowledge companies will demand from their employees to create an education system accordingly.
- **Photo related to the event:** Figure 5-57

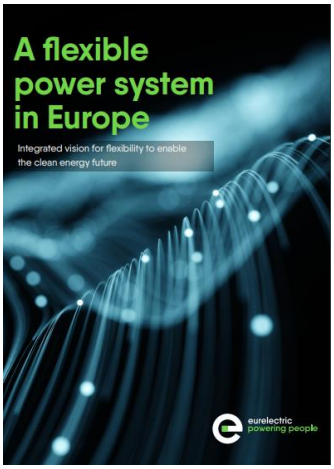


Figure 5-57. Cover of Euroelectric's report

5.3.14. 3rd Coordinet Stakeholder Forum – Roadmap for a Green Deal fir market design

- **Date**: November 25, 2021
- **Location**: hybrid event
- **Type of activity**: Participation of a Forum
- **Organizers**: Coordinet Project
- **Estimated participants**: 100
- **Website**: **https://coordinet-project.eu/news/3rd-coordinet-stakeholder-forum**
- **EDDIE participant**: CRE, EDSO.
- **Type of participation**: Audience

- **Relation to EDDIE**: Coordinet aims to help enable decarbonization in the EU by increasing the share of RES in the electricity system through active network management. Based on experiences from the DEMO runs, the following topics will be discussed: market timing, consumer engagement, aggregation, standardized products and services.

  The third CoordiNet Stakeholder Forum (SHF) aims to discuss recommendations for regulatory arrangements to the current energy market design, enabling TSOs and DSOs to procure considered standardized products for grid services in a coordinated manner across Europe.

  Coordinet aims to help enable decarbonization in the EU by increasing the share of Renewable Energy Sources (RES) in the electricity system through active network management.
- **Photo for presentation the event**: Figure 5-58

Figure 5-58. 3rd Coordinet Stakeholder Forum – Roadmap for a Green Deal fir market design

5.3.15. Europe in transition: challenges for research and education

- **Date**: March 10, 2022
- **Location**: Strasbourg – France
- **Type of activity**: Participation to an Event
- **Organizers**: Within the framework of the French Presidency of the European Union (PFUE) and five research alliances (ANCRE, AVIESAN, ALLISTENE, AllEnvi and ATHENA)
- **Estimated participants**: 100
- **Website**: **https://www.allianceenergie.fr/save-the-date-europe-en-transition-les-defis-pour-la-recherche-et-la-formation/**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: Under the aegis of the French Ministry of Higher Education, Research and Innovation, the five national alliances (gathering the French research organizations and universities under 5 embedding topics: energy, environment, numeric, health, human and social sciences) have produced a positioning document which reflects a common and shared vision of new directions in research, to serve the major transitions, in the emerging academic discipline of sustainability science.
- **Photo for presentation the event**: Figure 5-59

Figure 5-59. Europe in transition: challenges for research and education" Conference

5.3.16. DIGITAL EDUCATION STAKEHOLDER FORUM

- **Date**: March 22, 2022
- **Location**: Online Event
- **Type of activity**: Participation of a Forum
- **Organizers**: European Commission (EC)
- **Estimated participants**: 150
- **Website**: **https://education.ec.europa.eu/event/digital-education-stakeholder-forum**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The representatives of EDDIE Project – „EDucation for Digitalization of Energy" participated at the "Digital Education Stakeholder Forum - Making education and training fit for the digital age", organized online by the European Commission (EC), on Tuesday, 22nd of March 2022. The Digital Education Stakeholder Forum was the first major European Event on the digital education subject organised by the European Commission since the start of the COVID-19 pandemic. The Event highlighting the Digital Education aimed at collecting important input from stakeholders and discuss the implementation of digital education, in terms of policy and practice at European, national and regional levels. In this context, digital education has become a key political priority across the European Union (EU). Additionally, the Forum was a great opportunity to reflect on the first year of implementation of the brand new Digital Education Plan. The Agenda of the Digital Education Stakeholder Forum underlined interesting and important topics such as: key enablers for digital education in Europe; one year implementing the Digital Education Action Plan; the experiences of young people; digital education ecosystem; and digital skills and competences for the digital transition.
- **Photo as logo and presentation**: Figure 5-60.

EDDIE PROJECT AT THE DIGITAL EDUCATION STAKEHOLDER FORUM

6th of April 2022, EDDIE Consortium

The representatives of EDDIE Project – „EDucation for Digitalization of Energy" participated at the "Digital Education Stakeholder Forum - Making education and training fit for the digital age", organized online by the European Commission (EC), on Tuesday, 22nd of March 2022. The Digital Education Stakeholder Forum was the first major European Event on the digital education subject organised by the European Commission since the start of the COVID-19 pandemic.

The Event highlighting the Digital Education aimed at collecting important input from stakeholders and discuss the implementation of digital education, in terms of policy and practice at European, national and regional levels. In this context, digital education has become a key political priority across the European Union (EU). Additionally, the Forum was a great opportunity to reflect on the first year of implementation of the brand new Digital Education Plan.

The Forum brought together a wide range of stakeholders and partners from across the EU, including policymakers at the European and national levels, practitioners, academics and representatives from civil society and business. All the participants were guided by the common objective of promoting the transformation of education and training in Europe to provide learners with a high-quality, inclusive, and effectively digitalised system.

The Agenda of the Digital Education Stakeholder Forum underlined interesting and important topics such as: key enablers for digital education in Europe; one year implementing the Digital Education Action Plan; the experiences of young people; digital education ecosystem; and digital skills and competences for the digital transition.

The digital transition is a key priority for the European Union. In terms of key enablers for digital education in Europe, the European Commission has put forward ambitious targets to equip 80% of Europeans with basic digital skills and to have 20 million Information and Communications Technology (ICT) specialists employed in the EU by 2030. To achieve these targets, Member States will need to have in place strong digital education ecosystems. These will need to be supported by key enabling factors, such as digital infrastructure and connectivity, teachers equipped with digital skills and competences, and cooperation with the private sector.

Figure 5-60. EDDIE's Press Release "Digital Education Stakeholder Forum"

5.3.17. Automotive Sector Skills Blueprint projects underpinning an EU-wide long-term cooperation

- **Date**: March 24, 2022
- **Location**: Online Event
- **Type of activity**: Participation of an Event
- **Organizers**: Development and Research on Innovative Vocational Education Skills (DRIVES Project)
- **Estimated participants**: 70

- **Website**: https://www.project-drives.eu/en/listnewsevents
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The event addressed the future of the EU Automotive Sector, the outcomes of the DRIVES partnership and the legacy of the project. The main objective of this Event was to provide a comprehensive and independent overview on the automotive industrial landscape. DRIVES Final Event particular focused on three key areas reshaping the industry 1. The resilience of the industry in light of global competition (new market entrants) and changing business models. 2. The green transition, in particular electromobility and battery supply. 3. The digital transition, in particular the move towards connected and automated vehicles (CAVs) and the increasing importance of software.
- **Photo as logo and presentation**: Figure 5-61.

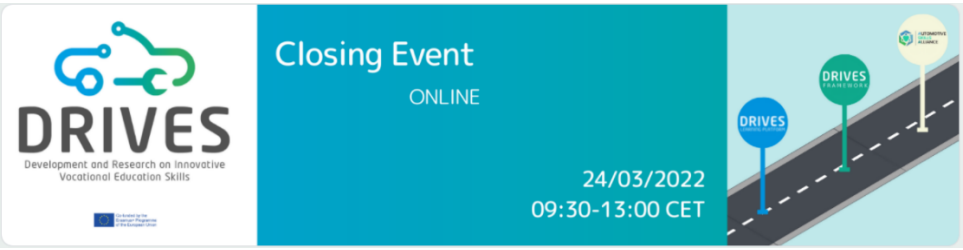


Figure 5-61. Automotive Sector Skills Blueprint projects underpinning an EU-wide long-term cooperation

5.3.18. Raising the uptake of renewables by DSOs

- **Date**: April 1, 2022
- **Location**: Online Event
- **Type of activity**: Participation to an Event
- **Organizers**: E.DSO
- **Estimated participants**: 100
- **Website**: https://www.edsoforsmartgrids.eu/latest-news/e-dso-organised-its-3rd-projects-in-the-spotlight-event
- **EDDIE participant**: CRE, E.DSO
- **Type of participation**: Audience
- **Relation to EDDIE**: On Friday 1 April, E.DSO organized the third webinar in the E.DSO "Projects in the Spotlight" series, titled "Raising the uptake of renewables by DSOs". With around 100 participants, the event shed light on E.DSO members' R&I projects addressing the challenges in distribution operation related to the sharp rise in renewables in new innovative ways which will help shape the energy sector of the future. Three projects were put under the spotlight: CoordiNet, EUsysflex and Smart4RES, which, under the moderation of Marie Picut, European Affairs Policy Manager at Enedis, explained the essence of their project's solution with regards to a scenario with high penetration of renewable energy sources.
- **Photo for presentation the event**: Figure 5-62.

Figure 5-62. Raising the uptake of renewables by DSOs

5.3.19. 2022 World Sustainable Energy Days (WSED)

- **Date**: April 6-8, 2022
- **Location**: Wels, Austria
- **Type of activity**: Participation to an Event
- **Organizers**: CRE
- **Estimated participants**: 80
- **Website**: **https://eurec.be/event/the-world-sustainable-energy-days-wsed-2022/**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The WSED are one of Europe's largest conferences on climate neutrality with over 100 speakers from all over the world. In addition to 6 dedicated conferences covering key aspects of the energy transition, technical site visits and a major tradeshow will present the latest technology innovations and solutions. The 2022 motto is "Energy transition – full speed ahead!" The 2022 WSED will include discussions on the far-reaching transformation of policies, technologies and markets for achieving climate neutrality, and how to raise the pace of change.
- **Photo for presentation the event**: Figure 5-63.

Figure 5-63. World Sustainable Energy Days 2022

5.3.20. ENERGY TECH SUMMIT 2022

- **Date**: April 26-28, 2022
- **Location**: Warsaw, Poland
- **Type of activity**: Participation of a Conference
- **Organizers**: Futurae Events
- **Estimated participants**: 200
- **Website**: **https://energytechsummit.com/**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The annual Energy Tech Summit is hosting top global energy and mobility investors, entrepreneurs, and government leaders at an exclusive three-day hybrid event, broadcasted globally on April 26-28, 2022. This exclusive event, is bringing the latest developments in energy and mobility convergence theme, debated by global industry leaders across 9 conference tracks.
- Forget what you know about tech conferences – Energy Tech Summit focuses on quality content, context, and in-depth discussion accompanied with vast opportunities to network in a group of peers.
- **Photo as logo and presentation**: Figure 5-64

Figure 5-64. Energy Tech Summit 2022

5.3.21. European Vocational Skills Week 2022

- **Date**: May 16-20, 2022
- **Location**: Online
- **Type of activity**: Participation of a Conference
- **Organizers**: European Commission (EC)
- **Estimated participants**: 300
- **Website**: **https://vocational-skills.ec.europa.eu/index_en**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: the 6th edition of the European Vocational Skills Week, (the Week) celebrating all the very best practices in Vocational Education and Training (VET), with events by local, regional, national organisations, and other VET partners.
- **Photo as logo and presentation**: Figure 5-65

Figure 5-65. European Vocational Skills Week 2022

5.3.22. Shaping the EO*GI Skills of the Future

- **Date**: May 17-18, 2022
- **Location**: Hybrid Event, Online and in Brussels
- **Type of activity**: Participation of a Conference
- **Organizers**: EO4GEO Alliance
- **Estimated participants**: 70
- **Website**: **https://vocational-skills.ec.europa.eu/index_en**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The event brought together a broad and diverse range of stakeholders in the field of EO*GI including European institutions (the European Commission, EUSPA, ESA, as well as local and regional ones), with representatives of the private sector and academia and training providers, who discussed together the current needs and education gaps in the EO*GI sector, what means are put in place to tackle it, and what additional steps and initiatives shall be further undertaken.
- **Photo as logo and presentation**: Figure 5-66.

Figure 5-66. Shaping the EO*GI Skills of the Future

5.3.23. UNESCO World Higher Education Conference 2022

- **Date**: May 18-20, 2022
- **Location**: Barcelona, Spain
- **Type of activity**: Participation of a Conference
- **Organizers**: UNESCO
- **Estimated participants**: 130
- **Website**: **https://www.unesco.org/en/education/higher-education/2022-world-conference**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: UNESCO World Higher Education Conference (WHEC2022) aims at reshaping ideas and practices in higher education to ensure sustainable development for the planet and humanity. In the view of the global health crisis, UNESCO World Higher Education Conference, initially planned to be held in 2021, will take place from 18 to 20 May 2022.
- **Photo as logo and presentation**: Figure 5-67.

Figure 5-67. UNESCO World Higher Education Conference 2022

5.3.24. EU Green Week 2022

- **Date**: May 30-June 5, 2022
- **Location**: Across Europe and Online
- **Type of activity**: Participation of a Conference
- **Organizers**: European Commission (EC)
- **Estimated participants**: 200
- **Website**: **https://environment.ec.europa.eu/eu-green-week/eu-green-week-2022_en**
- **EDDIE participant**: CRE
- **Type of participation**: Audience

- **Relation to EDDIE**: EU Green Week is an annual opportunity to debate European environmental policy with policymakers, leading environmentalists and stakeholders from Europe and beyond. This year's edition focuses on the European Green Deal – the EU's sustainable and transformative growth strategy for a resource-efficient and climate-neutral Europe by 2050.
- **Photo as logo and presentation**: Figure 5-68.

Figure 5-68. EU Green Week 2022

5.3.25. Networking Event for Pact for Skills Members

- **Date**: May 31, 2022
- **Location**: Online
- **Type of activity**: Participation of a Networking Event
- **Organizers**: European Commission (EC)
- **Estimated participants**: 100
- **Website**: **https://www.pactforskillsnetworking.eu/**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The representatives of EDDIE Project – „EDucation for Digitalization of Energy" participated at the "Networking Event for Pact for Skills Members", organized online by the European Commission (EC), on Tuesday, 31th of May 2022. The Pact for Skills was launched in November 2020 by the European Commission as a shared engagement model for skills development in Europe aiming to maximise the impact of investing in upskilling and reskilling. Since 2020, more than 650 organisations, among them companies, workers, national, regional, and local authorities, social partners, cross-industry and sectoral organisations, education and training providers, chambers of commerce and employment services have joined the Pact. The Pact for Skills is the first of the flagship actions under the European Skills Agenda and is firmly anchored in the European Pillar of Social Rights. The Networking Event is the first opportunity for the members of the Pact to gather, to learn more about the Pact, the activities organized under it and discover what initiatives have been implemented by fellow members.

  The Agenda of the Pact for Skills Networking Event highlighted several presentations that includes updates on the latest policy developments, as well as an overview of the tools and resources offered by the recently launched Pact for Skills Support Services. Moreover, the participants were able through the website to read about other attendees, identify key potential peers for networking and organise one-to-one meetings. Additionally, the participants had the opportunity to meet the coordinators of the Large-scale Skills Partnerships developed under the Pact and to learn more about the initiatives launched in the different ecosystems. Pact for Skills Commitments, Regional Dimension and Ecosystem in the Pact for Skills, Cross-Ecosystem Parallel Session: Construction, Renewable Energy were key subjects tackled during the Event.

  During the discussions, Manuela GELENG – Director of Jobs and Skills, DG EMPL underlined interesting aspects: "We need to invest more in upskilling and reskilling opportunities. The Pact for Skills is based on skills actions that are shared between many actors, and there is a need to work together to maximise the impact in upskilling and reskilling. This Pact is not just about commitments, is also about concreate actions, with real impact".

  "One of crucial components of transition pathways which is indeed related to very strategic visions, but is oriented also to very practical measures that needs to be taken concerning investments, regulatory environment and notably, skills. The final goal is to have a successful transition where employees will find

for themselves the necessary skills", pointed out Jakub BORATYNSKI – Director of Networks and Governance, DG GROW.

The objectives of Pact for Skills Support Services are the following: to strengthen the capacity of large-scale skills partnerships to deliver quality upskilling and reskilling for people of working age; to develop viable large-scale skills parentships among the European industrial ecosystems; and to promote the awareness of benefits and need for quality upskilling and reskilling.

For this event, EDDIE consortium prepared a press release that was shared on social media and posted on EDDIE website under the **News** and **Events** sections. (Figure 5-70)

- **Photo as logo and presentation**: Figure 5-69

Figure 5-69. Networking Event for Pact for Skills Members

EDDIE
EDucation for Digitalisation of Energy

With the support of the Erasmus+ Programme of the European Union

EDDIE AT THE PACT FOR SKILLS NETWORKING EVENT

12th of June 2022, EDDIE Consortium

The representatives of EDDIE Project – „EDucation for Digitalization of Energy" participated at the *"Networking Event for Pact for Skills Members"*, organized online by the European Commission (EC), on Tuesday, 31th of May 2022. The Pact for Skills was launched in November 2020 by the European Commission as a shared engagement model for skills development in Europe aiming to maximise the impact of investing in upskilling and reskilling. Since 2020, more than 650 organisations, among them companies, workers, national, regional, and local authorities, social partners, cross-industry and sectoral organisations, education and training providers, chambers of commerce and employment services have joined the Pact.

The Pact for Skills is the first of the flagship actions under the European Skills Agenda and is firmly anchored in the European Pillar of Social Rights.

The Networking Event is the first opportunity for the members of the Pact to gather, to learn more about the Pact, the activities organized under it and discover what initiatives have been implemented by fellow members.

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Figure 5-70. EDDIE's Press Release "Networking Event for Pact for Skills Members"

5.3.26. InnoGrid 2022 - Mission Acceleration

- **Date**: June 14 & 29, 2022
- **Location**: Online and in Brussels
- **Type of activity**: Participation of a Networking Event
- **Organizers**: E.DSO and ENTSO-E
- **Estimated participants**: 500
- **Website**: **https://www.innogrid.eu/**
- **EDDIE participant**: CRE, E.DSO
- **Type of participation**: Audience

- **Relation to EDDIE**: InnoGrid 2022 was held for its 11th Edition in which E.DSO and ENTSO-E are co-organisers. It gathered policy-makers, grid operators, grid users, market participants, innovators, academics, and civil society representatives to discuss how to accelerate innovation in three key areas: electricity grids, active customers, and flexibility. Around 200 participants met and enjoyed networking, also together with projects representatives in the exhibition area, and more than 300 people were connected online.
- **Photo as logo and presentation**: Figure 5-71

Figure 5-71. InnoGrid 2022

5.3.27. Power Summit 2022 - Game Changers

- **Date**: June 15-16, 2022
- **Location**: Brussels
- **Type of activity**: Participation of a Summit
- **Organizers**: Eurelectric
- **Estimated participants**: 100
- **Website**: **https://www.eurelectric.org/events/2022-ps-electric-decade/**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The Power Summit is widely recognised as a must attend event, where leaders of the European power sector and senior decision makers meet, exchange and plan for the future. Join heads of state, commissioners, CEOs and civil society to debate our strategy and how we can accelerate the Electric Decade together.
- **Photo as logo and presentation**: Figure 5-72

Figure 5-72. Power Summit 2022

5.3.28. EDULEARN22 International Education Conference

- **Date**: July 4-6, 2022
- **Location**: Palma de Mallorca, Spain
- **Type of activity**: Participation of a Conference
- **Organizers**: International Academy of Technology, Education and Development (IATED)
- **Estimated participants**: 250
- **Website**: **https://iated.org/iceri/**

- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: EDULEARN22, the 14th annual International Conference on Education and New Learning Technologies was held in Palma de Mallorca (Spain) on the 4th, 5th and 6th of July, 2022. EDULEARN is one of the largest international education conferences for lecturers, researchers, technologists and professionals from the educational sector.
- **Photo as logo and presentation**: Figure 5-73

Figure 5-73. EDULEARN 2022 – International Education Conference

5.3.29. Digitally Enabled Renewable Energy Communities: The role of Citizens in the Clean Energy Transition

- **Date**: September 7, 2022
- **Location**: Online
- **Type of activity**: Participation of a Webinar
- **Organizers**: European Commission (EC) – ETIP SNET
- **Estimated participants**: 100
- **Website**: **https://smart-networks-energy-transition.ec.europa.eu/events/current-and-past-events/etip-snet-webinar-digitally-enabled-renewable-energy-communities**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The representatives of the Romanian Energy Center Association (CRE) participated at the ”Digitally enabled renewable energy communities: The role of citizens in the clean energy transition” Webinar, organised by ETIP SNET Platform, on Wednesday, 7th of September 2022, hosted online. This webinar presented guidelines and practical implications of how adopting a consumer/prosumer-centric approach and enabling energy communities can be pivotal in enhancing the energy transformation for reaching Fit for 55 targets and supporting the REPowerEU plan through the use of digital solutions.

  The Agenda of the ”Digitally enabled renewable energy communities” Webinar highlighted key topics from high-level representatives such as: consumer-centric approach and digitalization; digital enabling of renewable energy communities; the adoption of innovative digital solutions, customers (prosumers and consumers) involvement and the role of youth continuous education in energy and digitalization.

  The European Commission (EC) under the lead of DG Energy has set the scene within the framework of the upcoming Digitalisation of Energy Action Plan. The Action Plan is very important and relevant for EDDIE project - EDucation for DIgitization of Energy as for the development of the long-driven sector skills strategy and creation of a large-scale partnership on digitalization of the energy value chain around the future entity proposed by the Blueprint Erasmus+ project. ETIP SNET complemented it with a European multi-stakeholder point of view through the voices of industry, research and university. The European Youth Energy Network (EYEN) discussed the unique perspective of the first and only federation of energy-focused youth organisations, while the Alliance for Internet of Things Innovation (AIOTI) and GAIA-X Project underlined aspects on energy communities with a focus on digital solutions.

This Webinar refers to the High-Level Use Case 5, part of the ETIP SNET R&I Implementation Plan 2022-2025[5], which aims to develop the necessary R&I to facilitate one-stop-shop and consumer/citizen participation in the energy system and, correspondingly, the inclusion of the energy system in the concept of data economy. The motivation of the High-Level Use Case 5 is reffering that prosumers and consumers have proactive role to accelerate the adoption of new energy services, pace for consumer impact design of cross sectorial energy infrastructure, and integration of the energy system into the broad picture of data economy.

Furthermore, very important aspects regarding the challenges of the local energy management were addressed during the Webinar. These challenges are related to the energy management functions on large scale, automation and scalling of all functions, forecasting on local levels, planning and scheduling with respect to privacy and habits of the citizens, and data availability. GAIA-X Project proposed several solutions such as: interoperability of data and services, portability of data and services, security and trust and open source.

European Technology & Innovation Platforms (ETIPs) have been created by the European Commission in the framework of the new Integrated Roadmap Strategic Energy Technology Plan (SET Plan) by bringing together a multitude of stakeholders and experts from the energy sector. The ETIP Smart Networks for Energy Transition (SNET) role is to guide Research, Development & Innovation (RD&I) to support Europe's energy transition. Its mission is to: set-out a vision for RD&I for Smart Networks for Energy Transition and engage stakeholders in this vision; prepare and update the Strategic Research and Innovation Roadmap; report on the implementation of RD&I activities at European, national/regional and industrial levels; and to provide input to the SET Plan action 4 which addresses the technical challenges raised by the transformation of the energy system. The SET Plan is a key stepping-stone to boost the transition towards a climate neutral energy system through the development of low-carbon technologies in a fast and cost-competitive way.

For this event, EDDIE partner CRE prepared a press release that was shared on social media and posted on their website. (Figure 5-75)

- **Photo as logo and presentation**:Figure 5-74

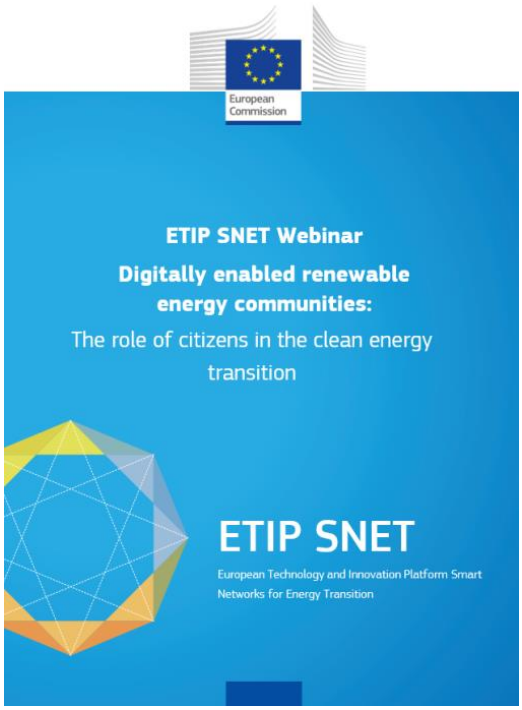
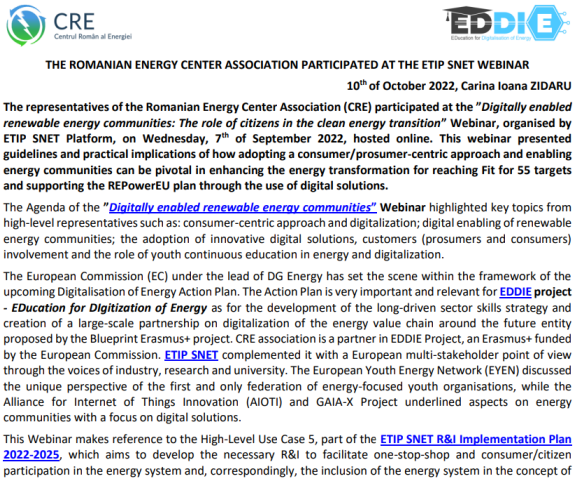


Figure 5-74. ETIP SNET Webinar "Digitally enabled renewable energy communities"

[5] https://smart-networks-energy-transition.ec.europa.eu/publications/etip-publications/etip-snet-r-and-i-implementation-plan-2022-2025



THE ROMANIAN ENERGY CENTER ASSOCIATION PARTICIPATED AT THE ETIP SNET WEBINAR

10th of October 2022, Carina Ioana ZIDARU

The representatives of the Romanian Energy Center Association (CRE) participated at the *"Digitally enabled renewable energy communities: The role of citizens in the clean energy transition"* Webinar, organised by ETIP SNET Platform, on Wednesday, 7th of September 2022, hosted online. This webinar presented guidelines and practical implications of how adopting a consumer/prosumer-centric approach and enabling energy communities can be pivotal in enhancing the energy transformation for reaching Fit for 55 targets and supporting the REPowerEU plan through the use of digital solutions.

The Agenda of the *"Digitally enabled renewable energy communities"* **Webinar** highlighted key topics from high-level representatives such as: consumer-centric approach and digitalization; digital enabling of renewable energy communities; the adoption of innovative digital solutions, customers (prosumers and consumers) involvement and the role of youth continuous education in energy and digitalization.

The European Commission (EC) under the lead of DG Energy has set the scene within the framework of the upcoming Digitalisation of Energy Action Plan. The Action Plan is very important and relevant for **EDDIE project - *EDucation for Digitization of Energy*** as for the development of the long-driven sector skills strategy and creation of a large-scale partnership on digitalization of the energy value chain around the future entity proposed by the Blueprint Erasmus+ project. CRE association is a partner in EDDIE Project, an Erasmus+ funded by the European Commission. ETIP SNET complemented it with a European multi-stakeholder point of view through the voices of industry, research and university. The European Youth Energy Network (EYEN) discussed the unique perspective of the first and only federation of energy-focused youth organisations, while the Alliance for Internet of Things Innovation (AIOTI) and GAIA-X Project underlined aspects on energy communities with a focus on digital solutions.

This Webinar makes reference to the High-Level Use Case 5, part of the ETIP SNET R&I Implementation Plan 2022-2025, which aims to develop the necessary R&I to facilitate one-stop-shop and consumer/citizen participation in the energy system and, correspondingly, the inclusion of the energy system in the concept of

Figure 5-75. CRE's Press Release ETIP SNET Webinar "Digitally enabled renewable energy communities"

5.3.30. Is Open Source the Next Big Thing in Electricity Distribution?

- **Date**: September 22, 2022
- **Location**: Online
- **Type of activity**: Participation of a Webinar
- **Organizers**: E.DSO in collaboration with the RWTH Aachen University
- **Estimated participants**: 150
- **Website**: https://www.edsoforsmartgrids.eu/events/past-events/e-dso-webinar-is-open-source-the-next-big-thing-in-electricity-distribution
- **EDDIE participant**: CRE, E.DSO, RWTH Aachen
- **Type of participation**: Audience
- **Relation to EDDIE**: On 22 September EDDIE project representatives participated at the webinar 'Is Open Source the next big Thing in Electricity Distribution?' organized by E.DSO in collaboration with the RWTH Aachen University. Since open source has been transforming many business sectors, and the percentage of open-source software behind our daily systems is growing at an unimaginable scale, it is expected that the energy sector will be affected as well. The webinar raised critical questions trying to provide a vision of the possible implications of Open Source in the future work of Distribution Grid Operators.
- **Photo as logo and presentation**: Figure 5-76

Figure 5-76. "Is Open Source the Next Big Thing In Electricity Distribution?" Webinar

5.3.31. 2022 Edition of the European Week of Regions and Cities

- **Date**: October 10-13, 2022
- **Location**: Brussels
- **Type of activity**: Participation of an Event
- **Organizers**: European Commission (EC)

- **Estimated participants**: 120
- **Website**: https://ec.europa.eu/social/main.jsp?langId=en&catId=88&eventsId=2011&furtherEvents=yes
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The 20th edition of the European Week of Regions and Cities 2022 (#EURegionsWeek) will take place from 10 to 13 October 2022. The European Week of Regions and Cities 2022 is the biggest annual Brussels-based event dedicated to cohesion policy bringing together regions and cities from all over Europe, including politicians, administrators, experts and academics.
- **Photo as logo and presentation**: Figure 5-77

Figure 5-77. European Week of Regions & Cities

5.3.32. Participatory lab: Regions tackling Skill Challenges for the Green and Digital Transitions under the Pact for Skills

- **Date**: October 11, 2022
- **Location**: Online
- **Type of activity**: Participation of an Event
- **Organizers**: European Commission (EC)
- **Estimated participants**: 100
- **Website**: https://pact-for-skills.ec.europa.eu/about/events/participatory-lab-regions-tackling-skill-challenges-green-and-digital-transitions-under-pact-skills-2022-10-11_en
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: On 11 October, 14:30−16:00 CET, the Pact for Skills organised a participatory lab session titled 'Regions tackling skill challenges for the green and digital transitions under the Pact for Skills'. This session is organised as part of the European Week of Regions and Cities. The online event will allow regional and local stakeholders to share their experiences in implementing skilling actions to tackle the challenges posed by the green and digital transitions at the regional level.
- **Photo as logo and presentation**: Figure 5-78

Figure 5-78. Regions tackling Skills Challenges for the Green and Digital Transition under the Pact for Skills

5.3.33. Repowering Europe for a Sustainable EU Strategic Autonomy

- **Date**: October 19, 2022
- **Location**: Brussels
- **Type of activity**: Participation of an Event
- **Organizers**: European Energy Research Alliance (EERA)
- **Estimated participants**: 80
- **Website**: **https://www.eera-set.eu/events/3315:repowering-europe-for-a-sustainable-eu-strategic-autonomy.html**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: In this context, the REPowerEU Plan was designed to support the difficult task of combining the short-term objectives of European strategic autonomy with the efforts to achieve the long-term goals of climate neutrality. Research must play a prominent role in this endeavour, but Europe needs to create the space and the adequate conditions for it to fulfil such a role in the current context.

  While calling for out-of-the-box approaches, the EERA conference aimed at addressing some of the following urging questions: How can research contribute even more to short-term implementation challenges? How to increase the impact of research knowledge on the policymaking process? How can researchers, policymakers and industry empower each other to accelerate finding those lasting solutions that will make the EU more sustainable, energy secure and autonomous?
- **Photo as logo and presentation**: Figure 5-79

Figure 5-79. Repowering Europe for a Sustainable EU Strategic Autonomy

5.3.34. Posting of Workers: the role of National Authorities in the Enforcement of the Rules

- **Date**: October 26, 2022
- **Location**: Bucharest, Romania
- **Type of activity**: Participation of a Seminar
- **Organizers**: The EC-funded MoveS network (Free Movement and Social Security Coordination)
- **Estimated participants**: 100
- **Website**: **https://ec.europa.eu/social/main.jsp?langId=en&catId=88&eventsId=2028&furtherEvents=yes**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The EC-funded MoveS network (Free Movement and Social Security Coordination) organised a binational seminar (Romania/Italy) in Bucharest on 26 October 2022. The seminar is organised by MoveS in collaboration with its Romanian national expert Magda Șotropa and its Italian national expert Francesco Costamagna. MoveS is an EC-funded network of independent experts from 32 European countries coordinated by Eftheia and Deloitte.

- **Photo as logo and presentation**: Figure 5-80

Figure 5-80. Posting of Workers: The Role of National Authorities in the enforcement of the Rules

5.3.35. 16th SET Plan Conference - Towards a new Strategic Energy Technology Plan

- **Date**: November 9, 2022
- **Location**: Prague, Czechia
- **Type of activity**: Participation of a Conference
- **Organizers**: This Event is co-organised by the Ministry of Industry and Trade of the Czech Republic and the European Commission.
- **Estimated participants**: 150
- **Website**: **https://commission.europa.eu/events/16th-set-plan-conference-towards-new-strategic-energy-technology-plan-2022-11-09_en**
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The 2022 edition of the SET Plan conference, “Towards a new Strategic Energy Technology Plan”, aimed at exploring the transformational pathways to sustainable, secure, resilient and competitive energy systems and value chains, as well as to raise awareness among all stakeholders on the latest research and innovations in the field of carbon-neutral energy technologies.

  The event focused on research and innovation in the field of energy in the context of the current climate and geopolitical challenges. Among others, attendees were able to discuss how to step up the SET Plan to the increased energy and climate policy ambitions. The conference gathered clean energy actors from the European and national public and academic spheres, private sector and non-governmental and international organisations.
- **Photo as logo and presentation**: Figure 5-81

Figure 5-81. 16th Set Plan Conference – Towards a new Strategic Energy Technology Plan

5.3.36. 2022 Forum on Vocational Excellence

- **Date**: November 15, 2022
- **Location**: San Sebastian, Spain
- **Type of activity**: Participation of a Forum
- **Organizers**: The event is jointly organised by the European Commission and the Basque government, with the support of the European Training Foundation (ETF), Cedefop and EACEA, as well as the Community of Practice on CoVEs, and Katapult.
- **Estimated participants**: 150
- **Website**: https://ec.europa.eu/social/main.jsp?langId=en&catId=88&eventsId=2026&furtherEvents=yes
- **EDDIE participant**: CRE
- **Type of participation**: Audience
- **Relation to EDDIE**: The Forum discussed the latest developments on the European initiative on Centres of Vocational Excellence (CoVE). The event is jointly organised by the European Commission and the Basque government, with the support of the European Training Foundation (ETF), Cedefop and EACEA, as well as the Community of Practice on CoVEs, and Katapult. Include the participation of the partners of ongoing CoVE projects, as well as other Vocational Excellence initiatives currently being developed in Europe and beyond, that form part of wider partnerships and networks in Vocational Education and Training (VET).

  The event will also benefit from high level political representatives, including national governments (from both EU and ETF partner countries), social partners and their European level representatives, VET provider associations, regional authorities, International organisations, as well as European institutions and Agencies.
- **Photo as logo and presentation**: Figure 5-82

Figure 5-82. 2022 Forum on Vocational Excellence

5.3.37. A Multi-Scale Calibration Approach For A Digitalised Energy System

- **Date**: November 22, 2022
- **Location**: Brussels and Online
- **Type of activity**: Participation of a Seminar
- **Organizers**: E.DSO, DG ENER, DG CNECT
- **Estimated participants**: 200
- **Website**: **https://www.edsoforsmartgrids.eu/events/past-events/e-dso-dg-ener-dg-cnect-joint-seminar-a-multi-scale-calibration-approaches-for-a-digitalised-energy-system**
- **EDDIE participant**: CRE, E.DSO, COMILLAS
- **Type of participation**: Audience
- **Relation to EDDIE**: On 22 November, E.DSO-DG ENER-DG CNECT hosted the Joint Seminar “A multi-scale calibration approach for a digitalised energy system transformation’. The event brought together over 200 participants, both in Brussels and online, featured 17 speakers, 5 main sessions and 2 individual keynote remarks from the European Commission.

The aim of the seminar was to engage in a meaningful discussion about the future digitalised energy system and significantly brought forward the idea of the future Energy Data Space, while tackling digital twin, standards and interoperability, data spaces, grid edge and smart metering.

- **Photo as logo and presentation**: Figure 5-83

Figure 5-83. "A Multi-Scale Calibration Approach For A Digitalised Energy System" Seminar

5.3.38. 5th E.DSO-ENCS-ENTSO-E Event on Cybersecurity "European Energy Grids' Security in a Radically Changed Landscape"

- **Date**: November 23, 2022
- **Location**: Brussels and Online
- **Type of activity**: Participation of an Event
- **Organizers**: E.DSO, ENCS, ENTSO-E
- **Estimated participants**: 250
- **Website**: https://www.edsoforsmartgrids.eu/events/past-events/5th-e-dso-encs-entso-e-event-on-cybersecurity-european-energy-grids-security-in-a-radically-changed-landscape
- **EDDIE participant**: CRE, E.DSO
- **Type of participation**: Audience
- **Relation to EDDIE**: On 23 November, the European Network for Cyber Security (ENCS), the Association of European Distribution System Operators (E.DSO), and the European Network of Transmission System Operators for Electricity (ENTSO-E), together hosted a hybrid event discussing the latest industry knowledge in a radically changed landscape resulting from the war in Ukraine with experts in the field of cybersecurity.

  The main topics debated were how the conflict is creating new conditions for the cybersecurity of the energy grids, how cyber-attacks and malware can compromise the security of energy grids, and how the new Network Code on Cybersecurity will further protect the energy sector from cyberattacks.
- **Photo as logo and presentation**: Figure 5-84

Figure 5-84. 5th E.DSO-ENCS-ENTSO-E Event on Cybersecurity "European Energy Grids' Security in a Radically Changed Landscape"

5.3.39. E.DSO TF1 Go4Flex Workshop

- **Date**: November 24, 2022
- **Location**: Online
- **Type of activity**: Participation of an Workshop
- **Organizers**: E.DSO
- **Estimated participants**: 110
- **Website**: https://www.edsoforsmartgrids.eu/events/past-events/e-dso-tf1-go4flex-workshop
- **EDDIE participant**: CRE, E.DSO
- **Type of participation**: Audience
- **Relation to EDDIE**: On 24 November 2022, with more than 100 participants, Task Force 1 (TF1) "Active System Management" of the European Distribution System Operators' Association for Smart Grids (E.DSO) Technology Committee successfully held a webinar to present their Grid Observability for Flexibility Report published on 20 October 2022.

  TF1 co-chair Ewa Mataczyńska, PGE Dystrybucja, provided an overview of the Go4Flex Report by identifying different levels of flexibility in relation to DSO's needs for maintaining stability and reliability of distribution grids. The improvement of observability at the low and medium voltage and better knowledge of the network are fundamental for the early identification of emerging stability issues, she stated.
- **Photo as logo and presentation**: Figure 5-85

Figure 5-85. E.DSO TF1 Go4Flex Workshop

6. EDDIE Advisory Board Meetings

The International Advisory Board (IAB) plays a key role as an independent external quality consultant for the project strategy, actions, and assessments, and also providing requirements and inputs on goals and issues, monitoring project milestones and providing final feedback on results and future expectations in other sectors and other blueprints.

Figure 6-1. IAB members of EDDIE

The members of IAB could be identified in Figure 6-1 and the complete list is as follows:

- **CESI** (The European Confederation of Independent Trade Unions), Belgium.
- **City of Aachen**, Germany.
- **City of Herne**, Germany.
- **DAFNI** (Network of Sustainable Greek Islands), Greece.
- **DERLab** (European Distributed Energy Resources Laboratories), Germany.
- **EUROGAS**, Belgium.
- **ENTSO-E** (European Network of Transmission System Operators for Electricity), Belgium.
- **FSR** (Florence School of Regulation), Italy.
- **Italgas** – GD4S member
- **NTT Data** (even if became a member of the EDDIE Consortium replacing GE ii 2020, remained within IAB, as started since the beginning of the project in 2019) .
- **T&D Europe**, Belgium.

6.1. 1st EDDIE Advisory Board Meeting – November 2020

The first meeting with IAB experts was carried out in November 2020 and an EDDIE project executive summary was presented, together with main achievements and planned activities summary. The coordinator of EDDIE presented the general ideas and characteristics of the project, objectives, expected results and deliverables (short a medium term), as well as the framework for the participation of the International Advisory Board. Following the introduction, a summary of the results obtained so far as well as the plans for the future work were presented by the project partners. The board members participated actively in the session, interacting with the speakers by asking questions and making comments about the presentation. During this meeting several topics were raised, and we can include here:

- The European Commission “Pact for Skills”, which includes green and digital skills
  https://ec.europa.eu/social/main.jsp?catId=1517&langId=en/
  https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2059
  https://europe-on.org/skills-4-climate/
- “Open-Source Communities” within EDDIE project as they could be integrated in the project future work.

- Cybersecurity as the power system is developing so fast in terms of needs of security
- Skill gaps and how they can be tackled (causes, available or not training courses, industry coverage). EDDIE is currently investigating different curricula both in University studies and VET and in different countries, to see if that matters are covered in the curricula. The status of young professionals and graduate students about skills is under study as well.

Figure 6-2. IAB meeting #1 - photo with the participants

- Geographical dimension of EDDIE and how could the skills requirements and gaps be analyzed by country.
- Exploitation of the results as the main purpose of the project is to get the maximum sustainability of its blueprint strategy.
- Involvement of more countries in EDDIE investigations and assessments
- Website and social media interactions.

A picture with the participants can be seen in Figure 6-2.

Also, a survey was launched to the participants on early December 2020 to get specific external evaluation from IAB members to get on external evaluation outcome. Survey was prepared and launched by COMILLAS and DNV GL. Suggestions for improving or extending Eddie's current strategy and objectives are also collected throughout the survey. The importance of involving the associations of universities, the institutions that provide technical education and extend the current survey to other countries behind the consortium is pointed out on the survey. The most expected relevant result of a project focused on the digitization of the energy sector is strengthening of the training and educational system with more communication between all the partners involved that will allow for a new era in energy which improves sustainability without negative impacts on occupational levels. Improve safety, productivity, accessibility and sustainability of energy systems. Breaking down the traditional boundaries between key sectors of the economy (energy, transport, buildings), opening the door to a new era of flexibility and supporting the achievement of a carbon neutral economy is stressed. Actions suggested to achieve those relevant results includes mainly social media campaigns to raise public awareness and reach out to all the partners involved; streamline the interaction with the main representatives of the industry and the relevant associations of education providers is also pointed out. Control and conclusions of this first survey were reported to the EACEA , within the appropriate project reporting documentation.

6.2. 2nd Advisory Board Meeting – June 2021

The Partners involved in the strategic implementation of EDDIE project and the external experts, participated, and actively contributed at the 2nd International Advisory Board (IAB) of EDDIE Project hosted Online. This relevant meeting was organized by the project coordinator COMILLAS, on Thursday 10th of June 2021. The role of

Education in the Digital Era for Digitalization will create the framework for EDDIE Project to take part in the decision-making process of Digitalization of the European Energy Sector (DEES).

The 2nd International Advisory Board highlighted important and relevant topics for the current state of the project, best practices in education, blueprint strategy, stakeholder database, and dissemination activities tailored for EDDIE stakeholders. In addition, the focus was also on the assessment of the First Technical Progress Report which received positive reaction from the European Education and Culture Executive Agency (EACEA). Moreover, the path and strategies towards a new context of Education for Digitalization of Energy Sector, exploitation of the results, website, and social media interactions, were also topics on the 2nd IAB meeting agenda.

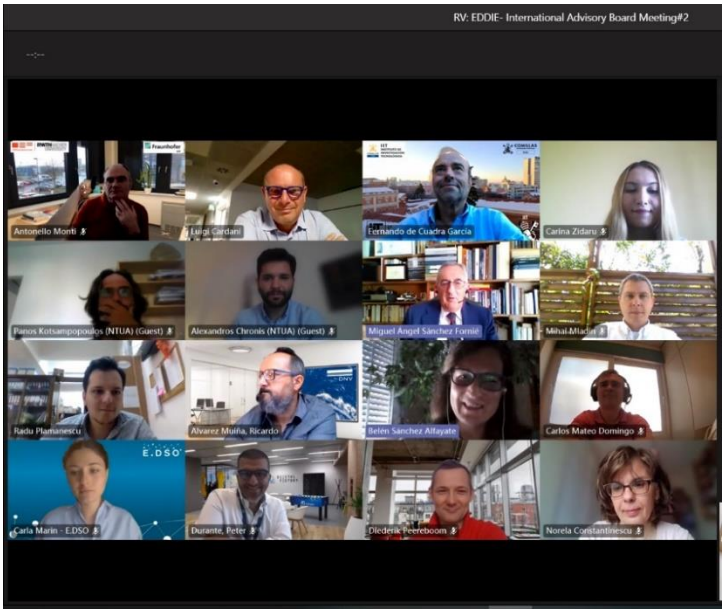


Figure 6-3. IAB meeting #2 - photo with the participants

The interaction with the external experts (Figure 6-3) was very active and productive, giving EDDIE the opportunity to update its activities and developments. As a result, new plans will include areas of digitalization of energy transmission and distribution grids including smart grids and smart metering infrastructures, information, and communication systems for the energy sector like data management and cyber-security, new energy services and transition and digitalization of energy supply and generation. Moreover, it has been decided that the future SSA will not only be based on focus countries, but also will consider particularities of regions in transition when it comes to upskilling and reskilling needs as those regions are moving to cleaner forms of energy, pathways to a climate neutral society and economy. Based on such examples, EDDIE shall be in the position to elaborate and disseminate “best practices” and “success stories”. The identification of skill gaps will be assessed for a broader geographical coverage, including other fields of energy with the aim of improving the relevance of the activities and innovation in the holistic approach.

To promote and disseminate this meeting and to provide more information on the progress of the project, EDDIE consortium created a dedicated document as a press release that was posted on the website and shared on the social media channels. The document is listed under the **NEWS** section on the website and can be found **here** as well. A print screen of this document is in Figure 6-4. All these actions were disseminated on social media as well.

Besides that, as a main conclusion it was decided to conduct a second survey as it was demonstrated as the most efficient tool to provide insights and comments to the overall project objective and activities.

2nd INTERNATIONAL ADVISORY BOARD for EDDIE PROJECT

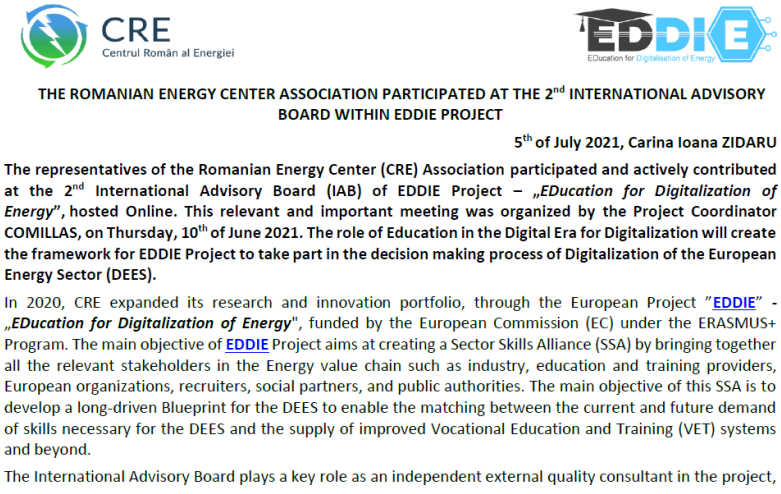
The Partners involved in the strategic implementation of EDDIE project and the external experts, participated and actively contributed at the 2nd International Advisory Board (IAB) of EDDIE Project hosted Online. This relevant meeting was organized by the project coordinator COMILLAS, on Thursday 10th of June 2021. The role of Education in the Digital Era for Digitalization will create the framework for EDDIE Project to take part in the decision making process of Digitalization of the European Energy Sector (DEES).

EDDIE – *„EDucation for Digitalization of Energy"*, funded by the European Commission (EC) under the ERASMUS+ Program aims at creating a Sector Skills Alliance (SSA) by bringing together all the relevant stakeholders in the Energy value chain such as industry, education and training providers, European organizations, recruiters, social partners, and public authorities. The main objective of this SSA is to develop a long-driven Blueprint for the DEES to enable the matching between the current and future demand of skills necessary for the DEES and the supply of improved Vocational Education and Training (VET) systems and beyond.

The International Advisory Board plays a key role as an independent external quality consultant in the project, and it is providing requirements and inputs on goals and issues, monitoring project milestones and supporting with final feedback on results and future expectations in other sectors and other blueprints. Quality assessments are performed throughout the entire implementation period together with project progress reports. Members of the IAB are important stakeholders from the European Energy sector as follows: EUROGAS; DERlab - European Distributed Energy Resources Laboratories; FSR - Florence School of Regulation; T&D Europe; CESI - European Confederation of Independent Trade Unions; The City of Aachen; DAFNI Network; City of Herne; ENTSO.E - European Network of Transmission System Operators for Electricity and ItalGas.

Figure 6-4. EDDIE's press release on the 2nd IAB meeting

For this event, CRE Association shared **content** and information for its members. All the communication was posted on CRE website and on its social media channels. A print screen of this document is in Figure 6-5.



THE ROMANIAN ENERGY CENTER ASSOCIATION PARTICIPATED AT THE 2nd INTERNATIONAL ADVISORY BOARD WITHIN EDDIE PROJECT

5th of July 2021, Carina Ioana ZIDARU

The representatives of the Romanian Energy Center (CRE) Association participated and actively contributed at the 2nd International Advisory Board (IAB) of EDDIE Project – *„EDucation for Digitalization of Energy"*, hosted Online. This relevant and important meeting was organized by the Project Coordinator COMILLAS, on Thursday, 10th of June 2021. The role of Education in the Digital Era for Digitalization will create the framework for EDDIE Project to take part in the decision making process of Digitalization of the European Energy Sector (DEES).

In 2020, CRE expanded its research and innovation portfolio, through the European Project "EDDIE" - *„EDucation for Digitalization of Energy"*, funded by the European Commission (EC) under the ERASMUS+ Program. The main objective of EDDIE Project aims at creating a Sector Skills Alliance (SSA) by bringing together all the relevant stakeholders in the Energy value chain such as industry, education and training providers, European organizations, recruiters, social partners, and public authorities. The main objective of this SSA is to develop a long-driven Blueprint for the DEES to enable the matching between the current and future demand of skills necessary for the DEES and the supply of improved Vocational Education and Training (VET) systems and beyond.

The International Advisory Board plays a key role as an independent external quality consultant in the project,

Figure 6-5. CRE's press release on the 2nd IAB meeting for EDDIE project

6.3. 3rd Advisory Board Meeting – November 2021.

The 3rd International Advisory Board Meeting (Figure 6-6) highlighted interesting and significant topics for the development of the project, the feedback, dissemination and stakeholders' campaign, best practices in education for Vocational Education and Training (VET), university and continuous learning, blueprint strategy and latest actions on stakeholders mapping. Dissemination activities within EDDIE Project which includes social media interactions, exploitation of the results, various actions on EDDIE's website were addressed in the 3rd IAB meeting. With regards to the dissemination activities, the EDDIE Project started a new topic news on its website addressing relevant policy briefs for the Energy Sector. The main objective consists in informing the interested audience about critical subjects regarding Energy, Digitalization, Skills and Competences, under the format of a summary.

Additionally, in the 3rd IAB Meeting there was presented in detail the Quality Assessment Report for the Analysis of the previous meeting.

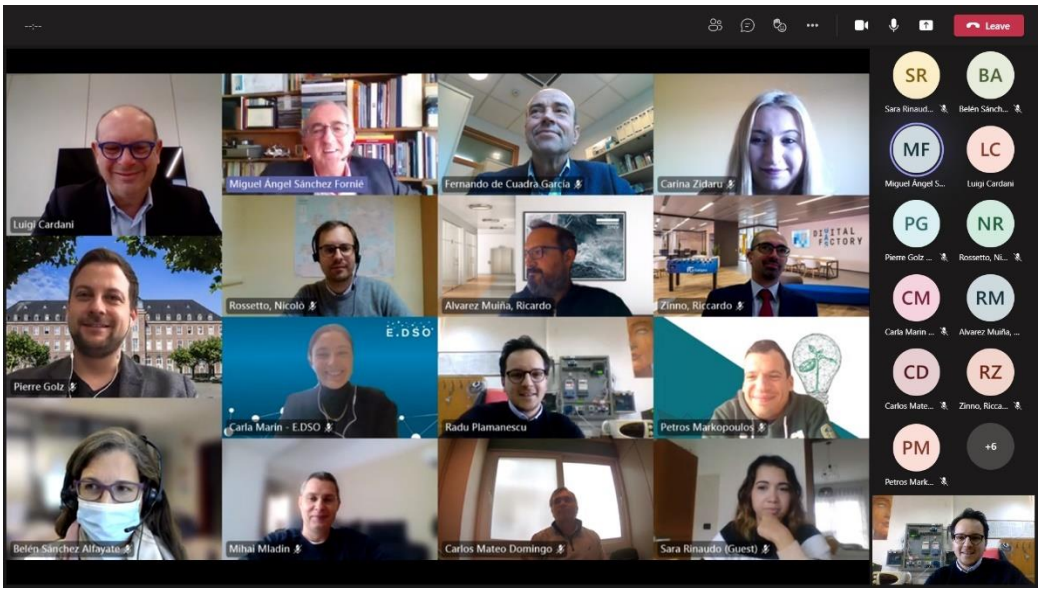


Figure 6-6. IAB meeting #3 - photo with the participants

The feedback from the IAB members was positive with comments on the work that has been done and the strategy of EDDIE towards the right direction. Remarks were made on the importance of upskilling and reskilling in all sectors and for the energy sector at the transition. One of the challenges of this project is to include all profiles of stakeholders (with all the differences) as VET institutions, Universities, technicians, top managers, students, etc. Channels to reach them are different, as well as their interests. The status of the project and the progress of the work was underlined by DAFNI, especially with respect to the skills demand and the skills gaps. One point to stress is the geographical dimension (rural- mountain- islands) in terms of markets and education.

To promote and disseminate this meeting and to provide more information on the progress of the project, EDDIE consortium created a dedicated document as a press release that was posted on the website and shared on the social media channels. The document is listed under the **NEWS** section on the website and can be found **here** as well. A print screen of this document is in Figure 6-7. All these actions were disseminated on social media as well.

EDucation for DIgitalisation of Energy

3rd INTERNATIONAL ADVISORY BOARD OF EDDIE PROJECT

Representatives of EDDIE Project - ***„EDucation for Digitalization of Energy***", the Partners involved in the strategic implementation, important members and the external experts, participated and actively contributed at the 3rd International Advisory Board (IAB) of the Project which took place in the Online Environment. This important meeting was organized by the project coordinator COMILLAS Pontifical University, on Thursday, 25th of November 2021. The role of Education in the Digital Era for Digitalization will create the framework for EDDIE Project to take part in the decision-making process of Digitalization of the European Energy Sector (DEES).

The 3rd International Advisory Board Meeting highlighted interesting and significant topics for the development of the project, the feedback, dissemination and stakeholders' campaign, best practices in education for Vocational Education and Training (VET), university and continuous learning, blueprint strategy and latest actions on stakeholders mapping. Dissemination activities within EDDIE Project which includes social media interactions, exploitation of the results, various actions on EDDIE's website were addressed in the 3rd IAB meeting. With regards to the dissemination activities, the EDDIE Project started a new topic news on its website addressing relevant policy briefs for the Energy Sector. The main objective consists in informing the interested audience about critical subjects regarding Energy, Digitalization, Skills and Competences, under the format of a summary.

Figure 6-7. EDDIE's press release on the 3rd IAB meeting

For this event, CRE Association shared content and information for its members. All the communication was posted on CRE website and on its social media channels. A print screen of this document is in Figure 6-8

THE ROMANIAN ENERGY CENTER ASSOCIATION PARTICIPATED AT THE 3rd INTERNATIONAL ADVISORY BOARD WITHIN EDDIE PROJECT

25th of November 2021, Carina Ioana ZIDARU

The representatives of the Romanian Energy Center (CRE) Association participated and actively contributed at the 3rd International Advisory Board (IAB) of EDDIE Project – *„EDucation for Digitalization of Energy"*, hosted Online. This relevant and important meeting was organized by the Project Coordinator COMILLAS, on Thursday, 25th of November 2021. The role of Education in the Digital Era for Digitalization will create the framework for EDDIE Project to take part in the decision-making process of Digitalization of the European Energy Sector (DEES).

In 2020, CRE expanded its research and innovation portfolio, through the European Project "EDDIE" - ***„EDucation for Digitalization of Energy"***, funded by the European Commission (EC) under the ERASMUS+ Program. The main objective of EDDIE Project aims at creating a Sector Skills Alliance (SSA) by bringing together all the relevant stakeholders in the Energy value chain such as industry, education and training providers, European organizations, recruiters, social partners, and public authorities. The main objective of this SSA is to develop a long-driven Blueprint for the DEES to enable the matching between the current and future demand of skills necessary for the DEES and the supply of improved Vocational Education and Training (VET) systems and beyond.

The 3rd International Advisory Board Meeting highlighted interesting and significant topics for the development of the project, the feedback, dissemination and stakeholders' campaign, best practices in education for Vocational Education and Training (VET), university and continuous learning, blueprint strategy and latest actions on stakeholders mapping. Dissemination activities within EDDIE Project which includes social media interactions, exploitation of the results, various actions on EDDIE's website were addressed in the 3rd IAB meeting. With regards to the dissemination activities, the EDDIE Project started a new topic news on its website

Figure 6-8. CRE's press release on the 3rd IAB meeting for EDDIE project

6.4. 4th Advisory Board Meeting – June 2022

The 4th International Advisory Board Meeting (**Figure 6-9**) highlighted important and significant subjects for the development of the project such as the project status, the Action Plan, ongoing activities, Mid-Term Report and the Positive assessment by the European Education and Culture Executive Agency (EACEA). Dissemination activities within EDDIE Project which includes social media interactions, exploitation of the results, future events and several actions on EDDIE's website were addressed in the 4th IAB meeting. In this context, during the meeting was presented the database of stakeholders, together with the overall architecture and design and the registration procedure.

Additionally, the 4th IAB Meeting underlined the Pilot Activities and the future EDDIE-ENTITY. With regards to the EDDIE-ENTITY, the main functions and responsibilities, organisation and models, brief survey about services and portals such as: training programmes, dissemination, jobs, tools and systems were addressed during the 4th IAB Meeting. The framework of this Entity is related to the energy transition to be accelerated in the European Union through the Fit for 55, REPower EU and the associated necessary skills to support EC'S Digitalization of Energy Action Plan, and education through Pact for Skills. The European Commission Action Plan for Energy with focus on digitalization and will support the energy transition.

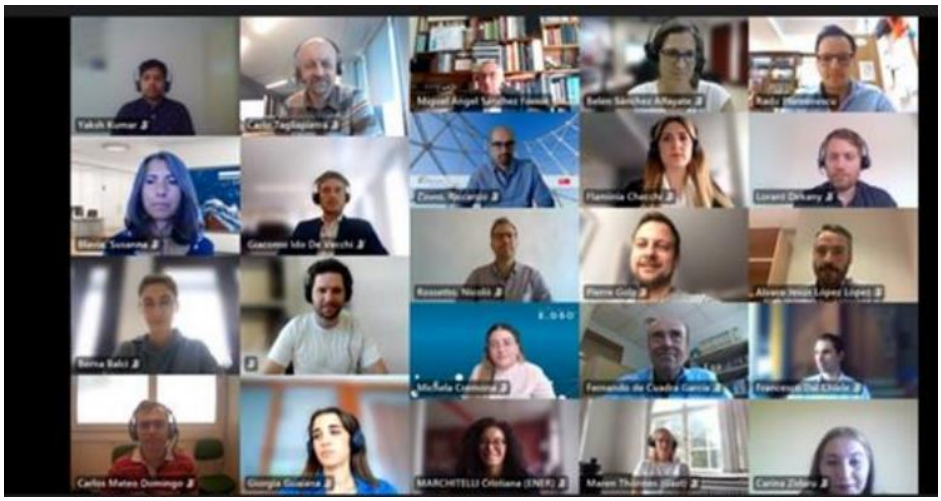


Figure 6-9. IAB meeting #4 - photo with the participants

Moreover, the Pact for Skills is underlined in the framework of the Entity as the Education is recognised as a major challenge in both energy and digitalization sectors. The Blueprint Strategy must ensure sustainability after the project ends, becoming a major reference in education of the energy sector in the future. The Strategy will be framed with the Pact for Skills becoming a reference of education for energy transformed by transition and digitalization. Furthermore, the important mission of the EDDIE-ENTITY is to become the reference body for skills education in the Digitalization of the European Energy Sector. Its main activity will be to provide a platform to share training or disseminate skills in the context of the digitalization of the energy system.

To promote and disseminate this meeting and to provide more information on the progress of the project, EDDIE consortium created a dedicated page on the website and a press release that was posted on this page and shared on the social media channels. The document is also listed under the **NEWS** section on the website and can be found **here** as well. A print screen of this document is in Figure 6-10. All these actions were disseminated on social media as well.

EDucation for Digitalisation of Energy

With the support of the Erasmus+ Programme of the European Union

4th INTERNATIONAL ADVISORY BOARD OF EDDIE PROJECT

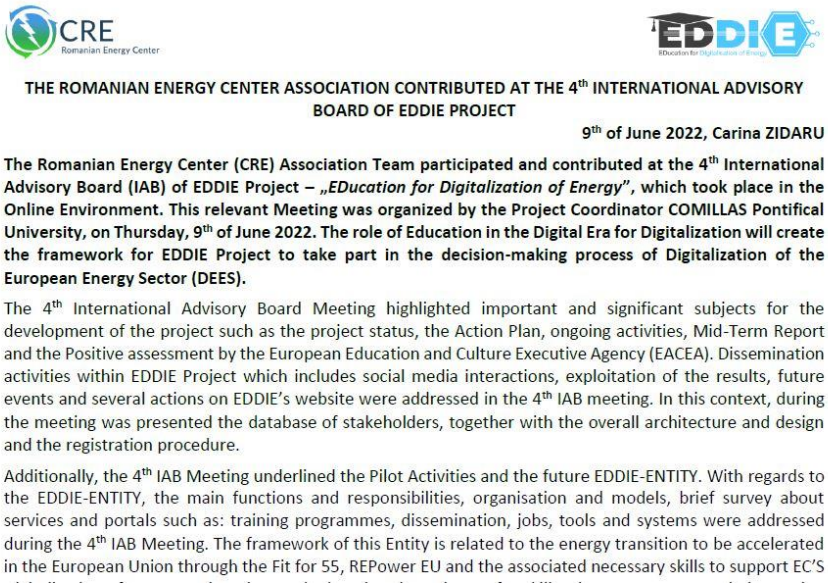
9th of June 2022, EDDIE Consortium

Representatives of EDDIE Project - *„EDucation for Digitalization of Energy*", the Partners involved in the strategic implementation, important members and the external experts, participated and contributed at the 4th International Advisory Board (IAB) of the Project hosted online. This relevant meeting was organized by the project coordinator COMILLAS Pontifical University, on Thursday, 9th of June 2022. The role of Education in the Digital Era for Digitalization will create the framework for EDDIE Project to take part in the decision-making process of Digitalization of the European Energy Sector (DEES).

The 4th International Advisory Board Meeting highlighted important and significant subjects for the development of the project such as the project status, the Action Plan, ongoing activities, Mid-Term Report and the Positive assessment by the European Education and Culture Executive Agency (EACEA). Dissemination activities within EDDIE Project which includes social media interactions, exploitation of the results, future events and several actions on EDDIE's website were addressed in the 4th IAB meeting. In this context, during the meeting was presented the database of stakeholders, together with the overall architecture and design and the registration procedure.

Figure 6-10. EDDIE's press release on the 4th IAB meeting

For this event, CRE Association shared content and information for its members. All the communication was posted on CRE website and on its social media channels. A print screen of this document is in Figure 6-11



CRE Romanian Energy Center

THE ROMANIAN ENERGY CENTER ASSOCIATION CONTRIBUTED AT THE 4th INTERNATIONAL ADVISORY BOARD OF EDDIE PROJECT

9th of June 2022, Carina ZIDARU

The Romanian Energy Center (CRE) Association Team participated and contributed at the 4th International Advisory Board (IAB) of EDDIE Project – *„EDucation for Digitalization of Energy"*, which took place in the Online Environment. This relevant Meeting was organized by the Project Coordinator COMILLAS Pontifical University, on Thursday, 9th of June 2022. The role of Education in the Digital Era for Digitalization will create the framework for EDDIE Project to take part in the decision-making process of Digitalization of the European Energy Sector (DEES).

The 4th International Advisory Board Meeting highlighted important and significant subjects for the development of the project such as the project status, the Action Plan, ongoing activities, Mid-Term Report and the Positive assessment by the European Education and Culture Executive Agency (EACEA). Dissemination activities within EDDIE Project which includes social media interactions, exploitation of the results, future events and several actions on EDDIE's website were addressed in the 4th IAB meeting. In this context, during the meeting was presented the database of stakeholders, together with the overall architecture and design and the registration procedure.

Additionally, the 4th IAB Meeting underlined the Pilot Activities and the future EDDIE-ENTITY. With regards to the EDDIE-ENTITY, the main functions and responsibilities, organisation and models, brief survey about services and portals such as: training programmes, dissemination, jobs, tools and systems were addressed during the 4th IAB Meeting. The framework of this Entity is related to the energy transition to be accelerated in the European Union through the Fit for 55, REPower EU and the associated necessary skills to support EC'S

Figure 6-11. CRE's press release on the 4th IAB meeting for EDDIE project

6.5. 5th Advisory Board Meeting – November 2022

The 5th International Advisory Board Meeting (Figure 6-12) highlighted important and significant subjects for the development of the project such as the project status, the ongoing activities, and deliverables. Dissemination activities within EDDIE Project which includes social media interactions, exploitation of the results, future events, and several actions on EDDIE's website were addressed in the 5th IAB meeting. During the meeting was presented the database of stakeholders, pilot activities, the blueprint strategy, the future EDDIE-Entity in the European Framework and 3rd Quality Assessment report.

During the meeting, some recent actions were presented, including some policy briefs, concrete interactions in terms of contributions and prospect cooperations with other European initiatives and frameworks, such as CEDEFOP, ESCO and the Pact for Skills. In addition, for the trial site demonstrations, five entities have designed some pilot activities, to be developed in Germany (Aachen, Herne, and Cologne), Greece, Italy and Spain, to test diverse aspects of the design of the Strategy. The activities detailed in the presentation cover a range of activities (MOOCs, Summer schools, Vet training, etc.) and EQF levels (1 – 8).

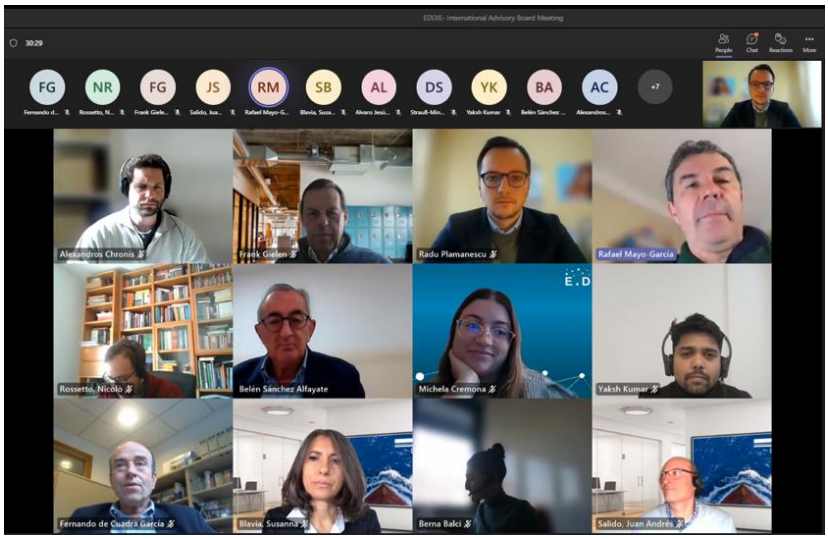


Figure 6-12. IAB meeting #5 - photo with the participants

The 5th IAB Meeting underlined a new European framework within the Digital Action Plan for Energy, which offers a great opportunity in the field of Education and training of skills in the Energy Sector. In this context, EDDIE Project was referenced in the framework of the "Digitalising the Energy System - EU Action Plan" which was released on 18th of October 2022 by the European Commission (EC). The Action Plan is very important and relevant for EDDIE for the development of the long-driven sector skills strategy and the creation of a large-scale partnership on digitalization of the energy value chain strongly linked with the future entity, proposed by the Blueprint Erasmus+ project.

The 5th IAB meeting also highlighted the progress regarding the sector skills strategy with the focus on the evaluation and comparison of the business models. The final version of the Strategy will have the primary objective as the creation of the EDDIE-ENTITY. The framework of this Entity is related to the energy transition to be accelerated in the European Union through the Fit for 55, REPower EU and the associated necessary skills to support EC'S Digitalization of Energy Action Plan, and education through Pact for Skills. The European Commission Action Plan for Energy with focus on digitalization and will support the energy transition. Moreover, the Pact for Skills is underlined in the framework of the Entity as the Education is recognised as a major challenge in both energy and digitalization sectors. The Blueprint Strategy must ensure sustainability after the project ends, becoming a major reference in education of the energy sector in the future. The Strategy will be framed with the Pact for Skills becoming a reference of education for energy transformed by transition and digitalization.

The important mission of the EDDIE-ENTITY is to become the reference body for skills education in the Digitalization of the European Energy Sector. Its main activity will be to provide a platform to share training or disseminate skills in the context of the digitalization of the energy system.

To promote and disseminate this meeting and to provide more information on the progress of the project, EDDIE consortium created a dedicated page on the website and a press release that was posted on this page and shared on the social media channels. The document is listed under the **NEWS** section on the website and can be found **here** as well. A print screen of this document is in Figure 6-13. All these actions were disseminated on social media as well.

5th INTERNATIONAL ADVISORY BOARD OF EDDIE PROJECT

16th of December 2022, EDDIE Consortium

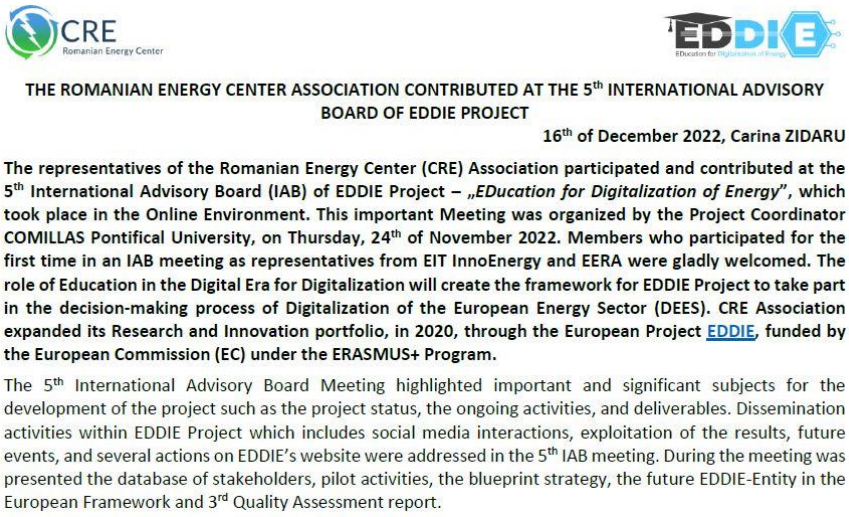
Representatives of EDDIE Project - *„EDucation for Digitalization of Energy*", the Partners involved in the strategic implementation, important members and the external experts, participated and contributed at the 5th International Advisory Board (IAB) of the Project hosted online. Members who participated for the first time in an IAB meeting as representatives from EIT InnoEnergy and EERA were gladly welcomed. This relevant meeting was organized by the project coordinator COMILLAS Pontifical University, on Thursday, 24th of November 2022. The role of Education in the Digital Era for Digitalization will create the framework for EDDIE Project to take part in the decision-making process of Digitalization of the European Energy Sector (DEES).

The 5th International Advisory Board Meeting highlighted important and significant subjects for the development of the project such as the project status, the ongoing activities, and deliverables. Dissemination activities within EDDIE Project which includes social media interactions, exploitation of the results, future events, and several actions on EDDIE's website were addressed in the 5th IAB meeting. During the meeting was presented the database of stakeholders, pilot activities, the blueprint strategy, the future EDDIE-Entity in the European Framework and 3rd Quality Assessment report.

During the meeting, some recent actions were presented, including some policy briefs, concrete interactions in terms of contributions and prospect cooperations with other European initiatives and frameworks, such as CEDEFOP, ESCO and the Pact for Skills. In addition, for the trial site demonstrations, five entities have designed some pilot activities, to be developed in Germany (Aachen, Herne, and Cologne), Greece, Italy and Spain, to test diverse aspects of the design of the Strategy. The activities detailed in the presentation cover a range of activities (MOOCs, Summer schools, Vet training, etc.) and EQF levels (1 – 8)

Figure 6-13. EDDIE's press release on the 5th IAB meeting

For this event, CRE Association shared content and information for its members. All the communication was posted on CRE website and on its social media channels. A print screen of this document is in Figure 6-14



THE ROMANIAN ENERGY CENTER ASSOCIATION CONTRIBUTED AT THE 5th INTERNATIONAL ADVISORY BOARD OF EDDIE PROJECT

16th of December 2022, Carina ZIDARU

The representatives of the Romanian Energy Center (CRE) Association participated and contributed at the 5th International Advisory Board (IAB) of EDDIE Project – *„EDucation for Digitalization of Energy*", which took place in the Online Environment. This important Meeting was organized by the Project Coordinator COMILLAS Pontifical University, on Thursday, 24th of November 2022. Members who participated for the first time in an IAB meeting as representatives from EIT InnoEnergy and EERA were gladly welcomed. The role of Education in the Digital Era for Digitalization will create the framework for EDDIE Project to take part in the decision-making process of Digitalization of the European Energy Sector (DEES). CRE Association expanded its Research and Innovation portfolio, in 2020, through the European Project EDDIE, funded by the European Commission (EC) under the ERASMUS+ Program.

The 5th International Advisory Board Meeting highlighted important and significant subjects for the development of the project such as the project status, the ongoing activities, and deliverables. Dissemination activities within EDDIE Project which includes social media interactions, exploitation of the results, future events, and several actions on EDDIE's website were addressed in the 5th IAB meeting. During the meeting was presented the database of stakeholders, pilot activities, the blueprint strategy, the future EDDIE-Entity in the European Framework and 3rd Quality Assessment report.

Figure 6-14. CRE's press release on the 5th IAB meeting for EDDIE project

7. Scientific work and publications

7.1. Photovoltaics Enabling Sustainable Energy Communities: Technological Drivers and Emerging Markets – Energies Journal (MDPI)

- **Date**: 2021
- **Type of activity**: Publication
- **Organizers**: NTUA / KTH
- **Website**: https://www.mdpi.com/1996-1073/14/7/1862
- **Type of Activity**: Scientific Article
- **Publication title**: Photovoltaics Enabling Sustainable Energy Communities: Technological Drivers and Emerging Markets
- **Publication authors**: Alexandros Chronis. Foivos Palaiogiannis, Iasonas Kouveliotis-Lysikatos, Panagiotis Kotsampopoulos, Nikos Hatziargyriou
- **Publication abstract**: In this paper, we investigate the economic benefits of an energy community investing in small-scale photovoltaics (PVs) when local energy trading is operated amongst the community members. The motivation stems from the open research question on whether a community-operated local energy market can enhance the investment feasibility of behind-the-meter small-scale PVs installed by energy community members. Firstly, a review of the models, mechanisms and concepts required for framing the relevant concepts is conducted, while a clarification of nuances at important terms is attempted. Next, a tool for the investigation of the economic benefits of operating a local energy market in the context of an energy community is developed. We design the local energy market using state-of-the-art formulations, modified according to the requirements of the case study. The model is applied to an energy community that is currently under formation in a Greek municipality. From the various simulations that were conducted, a series of generalizable conclusions are extracted.
- **DOI**: https://doi.org/10.3390/en14071862
- **Relation to EDDIE**: The publication investigates the economic benefits of an energy community investing in small-scale photovoltaics and applying energy trading amongst the members, under the establishment of a local energy market which is strongly connected with the digitalisation of energy.
- **Photo, print-screen of the header**: Figure 7-1

energies

MDPI

Article

Photovoltaics Enabling Sustainable Energy Communities: Technological Drivers and Emerging Markets

Alexandros-Georgios Chronis [1,*], Foivos Palaiogiannis [2], Iasonas Kouveliotis-Lysikatos [3], Panos Kotsampopoulos [1] and Nikos Hatziargyriou [1]

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* Correspondence: achronis@power.ece.ntua.gr

Figure 7-1. Photovoltaics Enabling Sustainable Energy Communities: Technological Drivers and Emerging Markets

7.2. THE ROLE OF MOOCS IN THE NEW EDUCATIONAL SCENARIO: AN INTEGRATED STRATEGY FOR FACULTY DEVELOPMENT

- **Date**: 2021
- **Type of activity**: Poster/Publication
- **Organizers**: POLIMI
- **Website**: https://www.pok.polimi.it/
- **Type**: Scientific Article, Poster
- **Publication title**: THE ROLE OF MOOCS IN THE NEW EDUCATIONAL SCENARIO: AN INTEGRATED STRATEGY FOR FACULTY DEVELOPMENT
- **Publication authors**: Daniela Casiraghi, Susanna Sancassani, Federica Brambilla (POLIMI)
- **Publication abstract**: The COVID-19 pandemic emergency has forced a profound reshape of our lives. Our way of working and studying has been disrupted with the result of an acceleration of the shift to the digital world. To properly adapt to this change, we need to outline and implement new urgent strategies and approaches which put learning at the center, supporting workers and students to further develop “future proof” skills. In the last period, universities and educational institutions have demonstrated that they can play an important role in this context, also leveraging on the potential of Massive Open Online Courses (MOOCs) which proved to be an important vehicle of flexibility and adaptation in a general context characterized by several constraints. From March 2020 till now, we have witnessed an exponential growth of MOOCs enrolments numbers, with “traditional” students interested in different topics not necessarily integrated to their curricular studies. To support students and faculty development during the spreading of the pandemic, Politecnico di Milano focused on one main dimension: faculty development for a better integration of digital tools and contents in the e-learning experience. The current discussion focuses on how to improve the integration of MOOCs in the in-presence activities to create meaningful learning and teaching experiences, thereby leveraging blended learning approaches to engage both students and external stakeholders to equip them with future job relevance skills.
- **Relation to EDDIE**: Within EDDIE strategy, MOOCs are a very important part in exploitation and the results. This publication proposed a way to support teachers in integrating MOOCs in the learning experience, and Politecnico di Milano has launched a series of online training paths for faculty development, offering a series of stimuli and tools useful to redesign learning and teaching experiences by enhancing the coherence between learning objectives, assessment methods and active learning experiences. These actions are very relevant in the context of EDDIE for best practices and examples to follow.
- **Photo, print-screen of the header**: Figure 7-1.

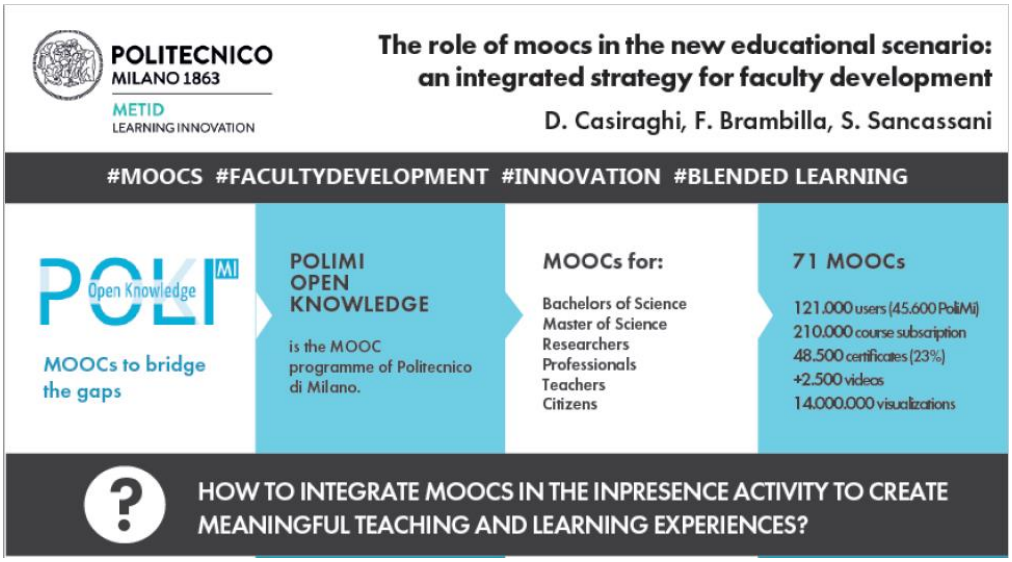
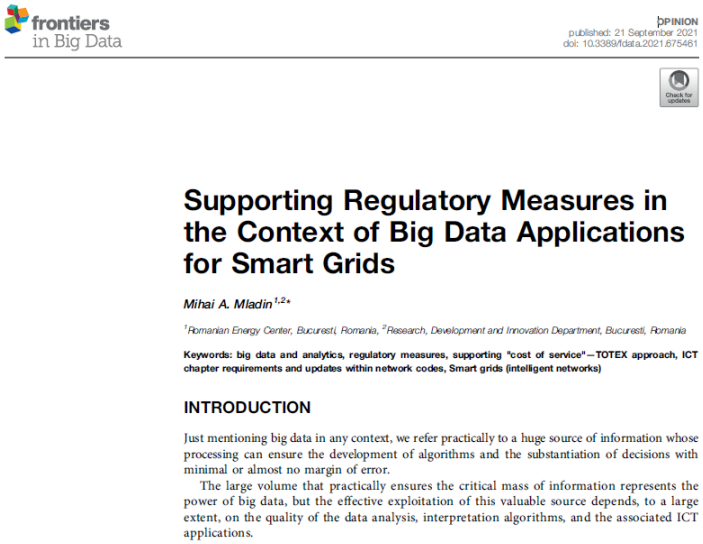


Figure 7-2. The role of MOOCs in the new educational scenario. A poster presented on POLIMI Platform

7.3. Supporting Regulatory Measures in the Context of Big Data Applications for Smart Grids

- **Date**: 2021
- **Type of activity**: Publication
- **Organizers**: Frontiers in Big Data
- **Website**: https://www.frontiersin.org/articles/10.3389/fdata.2021.675461/full?&utm_source=Email_to_authors_&utm_medium=Email&utm_content=T1_11.5e1_author&utm_campaign=Email_publication&field=&journalName=Frontiers_in_Big_Data&id=675461
- **Type**: Scientific Article
- **Publication title**: Supporting Regulatory Measures in the Context of Big Data Applications for Smart Grids
- **Publication authors**: Mihai MLADIN (CRE)
- **Publication abstract**: Just mentioning big data in any context, we refer practically to a huge source of information whose processing can ensure the development of algorithms and the substantiation of decisions with minimal or almost no margin of error. The large volume that practically ensures the critical mass of information represents the power of big data, but the effective exploitation of this valuable source depends, to a large extent, on the quality of the data analysis, interpretation algorithms, and the associated ICT applications. In more and more fields, big data and in general digitalization is following a trend with a very high dynamic. In business, digitalization most often refers to enabling, improving, and/or transforming business operations and/or business functions by leveraging digital technologies and a broader use of digitized data, turned into intelligence and actionable knowledge. The energy sector is increasingly associated with the terminology "energy transition," and the main factors that determine and enhance this transition are the integration of renewable energy sources and digitalization. By default, and with technology advancement, the market reacts and proposes solutions to respond to these trends, but their adoption and implementation depends, to a large extent, on the regulatory framework.
- **Relation to EDDIE**: The energy sector is certainly the one in which historical data on the operation of energy systems have been collected to a large extend over time. Moreover, the trend and dynamics of digitalization consolidate this positioning of the energy sector toward big data and the exploitation of this huge potential. EDDIE project seeks for new trends such as digitalization in supporting smart grid processes by adopting and implementing data-driven solutions also generates new actor profiles such as solution integrators, aggregators, and others who play key roles in this context of energy transition.
- **Photo, print-screen of the header**: Figure 7-3



frontiers in Big Data

OPINION
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Supporting Regulatory Measures in the Context of Big Data Applications for Smart Grids

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Keywords: big data and analytics, regulatory measures, supporting "cost of service"—TOTEX approach, ICT chapter requirements and updates within network codes, Smart grids (intelligent networks)

INTRODUCTION

Just mentioning big data in any context, we refer practically to a huge source of information whose processing can ensure the development of algorithms and the substantiation of decisions with minimal or almost no margin of error.

The large volume that practically ensures the critical mass of information represents the power of big data, but the effective exploitation of this valuable source depends, to a large extent, on the quality of the data analysis, interpretation algorithms, and the associated ICT applications.

Figure 7-3. Supporting Regulatory Measures in the Context of Big Data Applications for Smart Grids – open access article in Frontiers.

8. Conclusions

EDDIE target audience stakeholders' groups include relevant policy makers, energy industry experts, education providers, research community as well as student and professionals that need to broaden their knowledge and specialize in the field of digitalization for the energy value chain.

EDDIE has created awareness of the ongoing work for skills gaps identification, best practices in the field but also to the strategy definition for the long-term objective to help create a highly skilled workforce. The future employees will help improve of the competitiveness of the European Energy Sector, the harmonization of processes for an accurate and successful digitalization of the sector and for a smart, inclusive, and sustainable growth. All the activities were aimed at collecting feedbacks and inputs from stakeholders and advisory board members during the organization of dedicated events and from the interaction with representatives of European institutions.

Various EDDIE partners participate actively to high level EU initiatives like the DG Energy meetings, and to several working groups of the ETIP-SNET platform (European Technology and Innovation Platform Smart Networks for Energy Transition). This commitment not only helps us to get visibility for the project but enables a fruitful exchange of experiences and ideas between EDDIE and other Erasmus+ funded projects, institutions, and policy makers at the European level.

Furthermore, EDDIE has created awareness of the project technical work and has disseminated the results through the organization and participation in numerous targeted events (workshops, scientific and technical conferences, exhibition fairs etc.) and has planned even more aiming at pushing ahead the sharing of knowledge and ideas and at driving the dialog with the different target audiences.

EDDIE is developing the sector skills strategy for the Digitalization of the Energy value chain (BSDE) based on sustainable cooperation among key industry stakeholders' groups, training providers, social partners, and public authorities. The blueprint will match current and future skills demand and supply adapted transnational contents, tools, and methodologies from education and training providers.

List of Figures

List of Tables