



Interoperable solutions for implementing holistic **FLEXi**bility
services in the distribution **GRID**

RRI progress report – Month 36

Deliverable 2.7

WP2

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Approvals

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ABBREVIATIONS

PC: Project Coordinator
CA: Consortium Agreement
CC: Communication Committee
DoA: Description of Action
EC: European Commission
GA: General Assembly
IPR: Intellectual Property Right
KPI: Key Performance Indicator
M: Month
PH: Project Handbook
R&D: Research and Development
RRI: Responsible Research and Innovation
SC: Steering Committee
TP: Technical Partner
WP: Work Package
SME: Small and Medium Enterprise
DMP: Data Management Plan
H2020: Horizon 2020

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EXECUTIVE SUMMARY

This document reports the effort put into responsible research and innovation (RRI) by partners involved in FLEXI:GRID project during the third year of the project, as well as the plans for the project's final year. It is a follow-up to the deliverable *D2.6 RRI progress report – Month 24* which covers the second year of the project and the deliverable *D2.5 RRI progress report – Month 12* which covers the first year.

The report is divided into sections related to specific cross-cutting issues promoted by the European Commission (EC). Specifically, the report tackles the gender equality, open access and public engagement elements of RRI. The gender structure of the project team at different levels is reported in Table 2. The open access is promoted by ensuring public access to the project's public deliverables and scientific publications. All open access publications are uploaded to Zenodo repository and listed in Table 3. This includes deliverables and scientific publications. To address the public engagement element, during the third year of the project six RRI events were held, with at least one in each of the demo-site countries.

The future plans include continuation of uploading materials to Zenodo repository to ensure open access to the project's results and organisation of RRI events by project partners. The rough outline of the event schedule is given in **Error! Reference source not found.** The future public engagement events will be held in-person, unless the COVID-19 confinement measures in hosting countries make it impossible. In that case, the events will be held online.

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1 INTRODUCTION

1.1 The FLEXIGRID project

The main goal of FLEXIGRID is to allow the distribution grid to operate in a secure and stable manner when a large share of variable generation electricity sources is connected to low and medium voltage grids. To fulfil this goal FLEXIGRID project introduced a three-level approach aiming at flexibility, reliability, and economic efficiency through the development of innovative hardware and software solutions.

These solutions will be demonstrated in four demo-sites across Europe, i.e., Croatia, Greece, Spain, and Italy, ensuring their interoperability through its integration into an open-source platform able to harmonize the data flow between FLEXIGRID solutions and the real grid.

1.2 The objective and scope

This deliverable is the third of four periodic reports on responsible research and innovation (RRI) in FLEXIGRID project. This report is the result of activities in task 2.4 of work package 2, which aims at monitoring *integration of the responsible research and innovation approach in FLEXIGRID*. RRI integration in the project is a continuous effort of all partners in the consortium and RRI permeates in some degree through all the project tasks. However, this deliverable is directly connected to:

- Task 1.3 *Quality Assurance Plan and Data Management Plan* through the data management plan element
- Task 2.2 *Definition of stakeholders' common requirements towards a smart citizen-centred energy system*
- Work package 9 *Communication and dissemination activities*. Decision was made to integrate RRI into the dissemination activities of the work package 9 and use them not only to spread the information about the project but also to gather feedback from the participants.

The deliverable presents a report on the third year of the project as well as the plans for the remainder of the project's duration. In the first section the topic of RRI is introduced, its implications on FLEXIGRID project are described and a report on the RRI integration during the third year of the project is presented. The second section is focused on the plans for the future of RRI within FLEXIGRID.

2 RRI DURING THE THIRD YEAR OF FLEXIGRID PROJECT

The RRI is an approach to research and innovation promoted by the European Commission (EC) to ensure that the projects it funds are ingrained in society and local communities. The EC provided six thematic elements, i.e., policy agendas, to focus on, as shown in Figure 1. These thematic elements are gender issues, ethics, open access, public engagement, science education and governance. In FLEXIGRID, the main focus is placed on open access, public engagement and gender components of RRI. We did not plan to explicitly include the rest of the thematic elements in the task activities, but they are incorporated implicitly through the activities of this and other work packages in the project. For example, ethical points of originality and innovation in research are encouraged in the aspect of scientific publications. This, in connection with the open access principle, ensures the replicability of the developed models and results of the project.

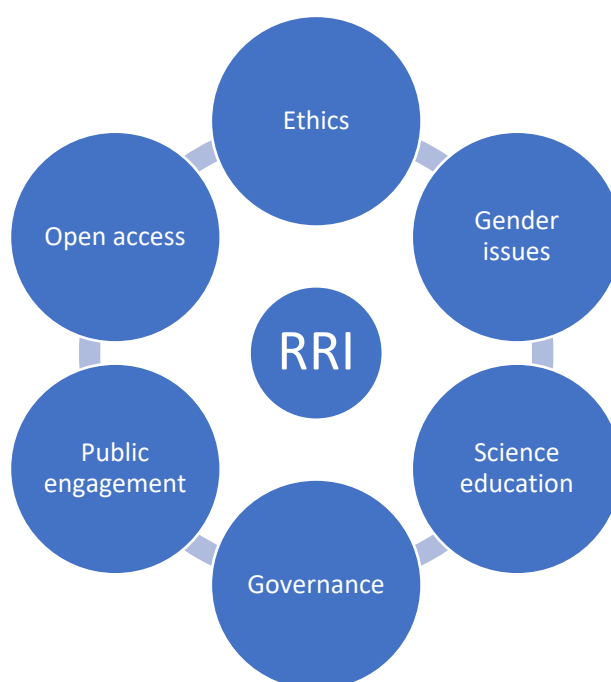


Figure 1 The six thematic elements of RRI

During the first months of the project, a plan for integrating the RRI into the project was prepared. The plan for task 2.4 comprised two types of activities. Firstly, it was decided to focus on integration of open access in the project, and, secondly, to focus on organising various promotional and educational activities. The former group was named *Open access* and the latter *Public engagement*. *Gender equality* is a specific cross-cutting issue because it affects the project from the beginning.

Table 1 shows the actions of Task 2.4 Integration of the Responsible Research and Innovation approach in FLEXIGRID completed by the month 36 of the project, this deliverable being the last action on the list.

Table 1 Completed actions in task 2.4 of FLEXIGRID project

ACTION	WHO	WHEN
Setting the scope and budget for events	CIRCE, UNIZG-FER	M3
Defining the events (locations, duration, budget, etc.)	All	M6
Preparation and scheduling of events	CIRCE, UNIZG-FER	M11
RRI progress report 1	UNIZG-FER	M12
First round of RRI events	UNIZG-FER	M20
RRI progress report 2	UNIZG-FER	M24
Second round of RRI events	UNIZG-FER, EDYNA, VERD, VIESGO, UNICAN	M25-M31

2.1 Gender equality

As stated in the project proposal, FLEXIGRID partners are committed to foster gender equality and are aware of the Gender Equality in Horizon 2020 guidelines. In this regard, the project tasks and responsibilities are divided among both genders in a balanced and non-discriminatory way.

Table 2 describes the gender structure at different levels within the consortium members during the second year of the project, while Figure 2 shows the same in percentages. Female to male ratio fell the second year in row to 24%, while in year 2 it was 27% female members and 30% the year before. The shares of female workers decreased in all categories compared to the previous year, with 21% of junior positions taken by women, while 25% of senior and manager positions are filled by women.

Table 2 Gender structure at different levels during second year of the project

Partner	Female researchers			Male researchers			Female other than researchers			Male other than researchers			TOTAL
	Junior	Senior	Manager	Junior	Senior	Manager	Junior	Senior	Manager	Junior	Senior	Manager	
CIRCE	0	2	2	1	14	5	1	5	2	1	1	3	37
VIESGO	0	1	0	0	9	1	0	0	1	0	0	0	12
VERD	0	1	0	2	5	1	0	1	0	0	1	1	12
HEP-ODS	0	0	0	0	0	0	2	0	0	9	0	0	11
EDYNA	0	0	0	0	0	0	0	0	0	2	3	1	6
OP&A	0	1	0	0	5	2	0	0	0	0	0	0	8
ZIV	0	3	1	0	6	1	0	0	0	0	0	0	11
SELTA	0	1	0	0	1	1	0	0	0	0	0	2	5
ATOS	0	1	0	0	6	0	0	0	0	0	0	0	7
IOSA	0	0	0	0	0	0	0	0	1	0	2	1	4
HYPERTECH	0	1	1	0	4	3	0	1	0	0	0	0	10
UNICAN	0	2	0	1	3	1	0	1	1	0	0	0	9
UNIZG-FER	2	1	0	1	5	1	0	0	0	0	0	0	10
LINKS	0	0	0	5	3	2	0	0	0	0	0	0	10
CAP	0	0	0	0	0	0	1	1	0	0	1	1	4
TOTAL	2	14	4	10	61	18	4	9	5	12	8	9	156

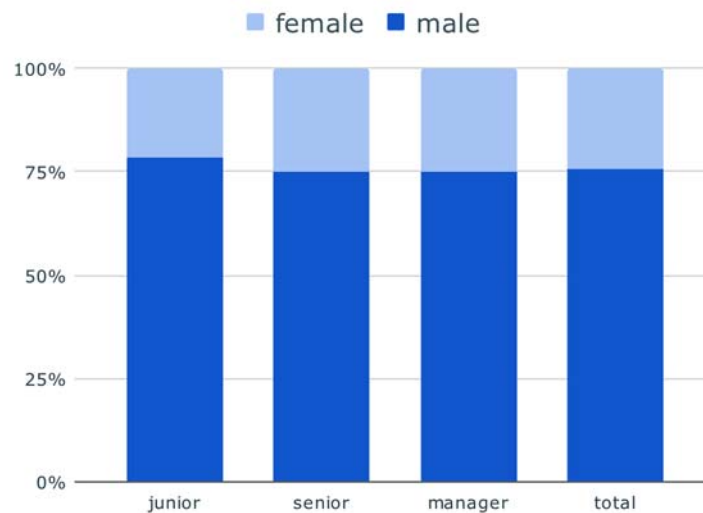


Figure 2 Gender structure of the consortium

The full implementation of the eight FLEXIGRID use cases is aimed at covering the need of the whole population, regardless of sex, gender or age. Therefore, the project's outputs do not directly affect women or men and there is no gender dimension in the technical tasks to be carried out. Thus, the activities that will be developed in the project do not require sex or gender analysis.

2.2 Open access

In FLEXIGRID we promote open access publishing and aim to make as many of our deliverables and other outputs available to a wide audience. At the end of the previous reporting period, preparation of deliverable D1.3 *Update of Data Management Plan-Month 24* was completed. In this deliverable the FLEXIGRID project set the goal of publishing the public deliverables, research outputs and open-access data on Zenodo¹ platform. As an additional effort in Task 2.4, we set up a Zenodo community for FLEXIGRID project. This will enable easier tracking and reporting on the project's open-access outputs and give the project more visibility and ensure the accessibility of results well past the project duration. The repository can be reached through the following link: <https://zenodo.org/communities/flexigrid/>

Table 3 holds the list of the documents uploaded to Zenodo repository during the third year of the project.

¹ Zenodo is a repository hosted by CERN where all research outputs can be uploaded and become citable. The documents uploaded to Zenodo can be organised into curated communities, such as European Commission Funded Research (OpenAIRE), a community for uploads funded by the EC through FP7 or H2020 programmes [3].

Table 3 List of documents uploaded to Zenodo repository

DOCUMENT	WHO	WHEN
Hybrid Forecast and Control Chain for Operation of Flexibility Assets in Micro-Grids	LINKS, VERD	31/11/2021
Introducing guard smart meters: voltage predictions and its implications for smart LV grid operation	OP&A	02/06/2022

2.3 Public engagement

To engage the public in the decision-making process of FLEXIGRID, a series of RRI events was planned for the second, third and fourth years of the project. The goal of these events is to be in line with RRI guidelines by including a wide variety of stakeholders and addressing as many policy agendas as possible. The events were held between M13 and M20 in the second year of the project, and between M25 and M31 in the third year.

The events were planned in conjunction with work package 9, with an aim to transform the one-way communication that is the dissemination of the project into a two-way communication. This way the partners not only share the information about FLEXIGRID, but also collect useful feedback from the public.

The decision was made to integrate public outreach activities into the dissemination events of work package 9 and to include them in the agenda of each Steering Committee meeting. The events will consist of presentation of the project and a workshop during which the stakeholders' feedback will be collected. Responsible for organisation of each event will be the partners from the country where the event will be hosted. Due to COVID-19 confinement measures the events are planned in the online form. During the second year of the project two events were organised.

For every event the hosting partner gathers a group of stakeholders to participate, prepare a presentation and a workshop and fill a report after the event. To prepare the workshop tools collected through RRI Tools project available in the RRI Tools website [1] are used.

2.3.1 Planning of the events

Three main components of the events are the participants, the topic and the workshop format. First, the topic and the participants are selected and based on the topic and the participants, the workshop format is chosen to ensure maximum applicability of its results.

The process of participant selection is done by the partner hosting the event. These events will be aimed at getting feedback from all stakeholders that recognise the value of the project results. The partners are encouraged to use this event to collect useful inputs from the public on a task of the FLEXIGRID project they are responsible for. The selected group of stakeholders should be relevant for the current phase of the project and the tasks for which the partners hosting the event are responsible. The relevant stakeholders shall be selected from one or more of the following categories:

- Consumers (residential, commercial or industrial separately)
- Associations (professional and citizens', as well as energy co-ops)
- Equipment producers and vendors
- Research institutions
- Energy sector representatives

- Public bodies (market operators, regulatory bodies, funding agencies, etc.)
- Local authorities and policy makers

These are the categories used in the Stakeholder Mapping document for T2.2. The consortium will strive to cover all stakeholder groups during the course of the project.

The topic of the event is chosen in the same way as the participants. Event hosts shall decide the topic based on their organisation's role in FLEXIGRID project, aiming to collect as much useful feedback from the participants as possible.

The last step is preparation of the events. After the first decisions are made, the format of the workshop shall be decided. Optimal format will be decided by considering the participants and the topic, as well as the organisers and the venue. RRI events organised within FLEXIGRID will comprise the following three activities, spanning up to two hours in total:

- Survey
- Presentation
- Workshop

2.3.1.1 Survey

First, a survey is conducted to determine the participants' knowledge and opinions about the topic. The surveys will be short and ask only basic questions, taking up to 5 minutes of time. The results will be used to describe the group in the report and will make the results and conclusions reached at different events comparable. It will also be possible to use this survey to collect the stakeholders' feedback on specific topic prior to the event.

At the end of every event, a quality survey will be conducted through which the participants' satisfaction with the event will be assessed. The results of this survey will also be included in the report.

2.3.1.2 Presentations

After the survey is collected, the organisers will hold presentations to introduce the topic of the event. Besides preparing the participants for the workshop, the presentations will disseminate information about the project and fill the participants' knowledge gaps. The organiser of the event will prepare the presentation, considering the participants' knowledge about the topic. The presentations will not take up more than 5-7 minutes each.

2.3.1.3 Workshop

The main activity in the event will be a workshop. The workshop will take up to one hour. The main purpose of the workshop is to implement RRI into the event by collecting the stakeholders' feedback and reaching out to the public. Structure of the workshop will be chosen depending on the group of participants, using tools collected through the RRI Tools project such as the ActionCatalogue.

2.3.1.4 Reporting

After the event, the organisers will prepare a report in which they will present the key results and conclusions of the survey and the workshop. The report will be submitted in a form of a spreadsheet and will be included in the RRI progress reports.

2.3.2 Events held in the third year

During the third year of the project six stakeholder events were held. The list of events is given in Table 4. The reports on the events can be found in APPENDIX A. Report on FLEXIGIRD's stakeholder engagement activities.

Table 4 List of stakeholder events

ACTION	WHO	WHEN
RRI event in Greece: Stakeholders' event	VERD, IOSA	M25
RRI event in Spain: The Challenges of the Distribution Grid. Changing Tomorrow Now	CIRCE, OPA, ZIV, ATOS, UNICAN and EDP REDES ESPAÑA (VIESGO)	M25
RRI event in Italy: FLEXIGRID project presentation	EDYNA	M29
RRI events in Croatia:	UNIZG-FER	M29-M32
<ul style="list-style-type: none"> • Green Arena event • Policy Lab • - Geek talk - Share your extra energy! at Good Energy Festival 		

2.3.2.1 RRI event in Greece

A live event was held in Greece in the form of a discussion among hotel owners. The event, hosted by VERD and IOSA, reached 21 stakeholders.



Figure 3 FLEXIGRID presentation by IOSA

Innovative energy solutions installed through FLEXIGRID project in the Greek demo site were presented first. The goal of the event was to assess the interest of the hotel owners in installing similar solutions on their premises. Their feedback was noted as follows:

43% of the respondents would install PVs in their premises to reduce their energy costs and 40% would also consider installing a battery system to deal with network issues (power outages, voltage drops etc.).

Half of the respondents said they would need timeline, cost and a techno-economic analysis of the potential benefits before installing any smart energy system on their premises as per Figure 4.

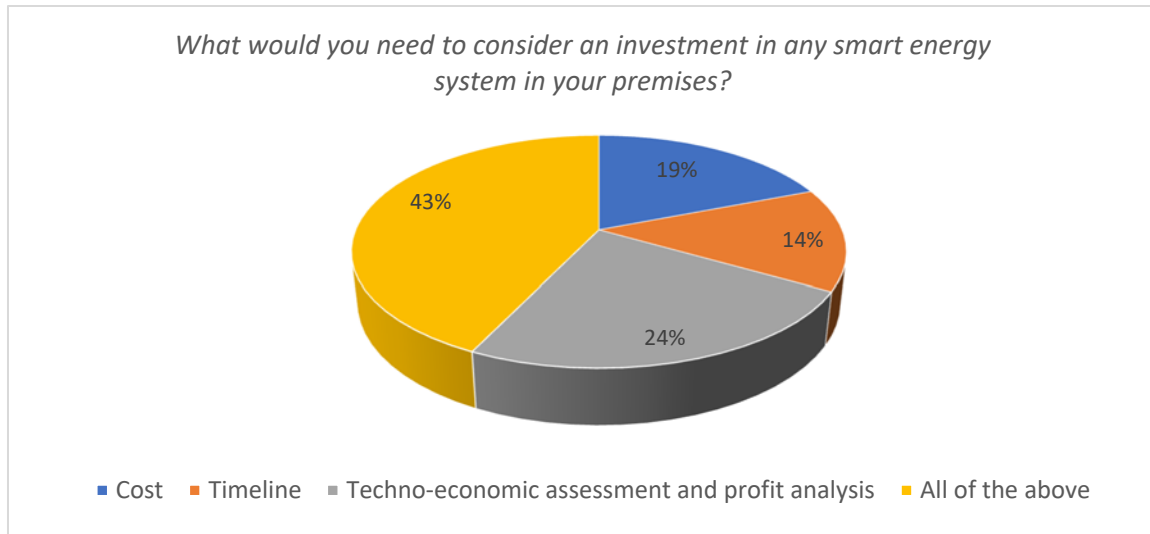


Figure 4 Results of survey in the question of what would be needed by hotel owners to invest in smart energy systems for their premises

About 80% of the respondents would allow automatic control of the PV, battery and EV charging points – the remaining 20% though said that they would prefer to be asked before the system takes any decision as per Figure 5.

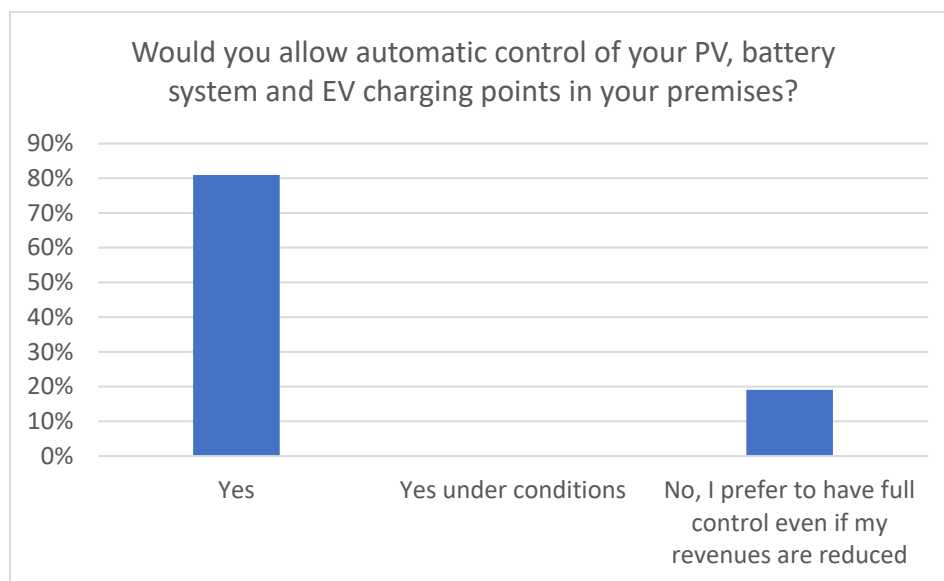


Figure 5 Results of survey on whether hotel owners would allow for automatic control of the smart devices installed in their premises

In conclusion, the interest in solutions proposed in FLEXIGRID project exists among the relevant stakeholders in Greece. However, the prerequisites stated by the hotel owners show their aversion to possible financial and technical risks. High number of stakeholders who would allow direct control of their devices is a promising factor for the implementation of FLEXIGRID solutions in the future.

2.3.2.2 RRI event in Spain

A panel discussion was organised in Spain in October 2021 to discuss the challenges of the future grids and the technologies to be tested in the Spanish demo-site. The event was hosted by UNICAN at the University of Cantabria premises in Santander (Cantabria, Spain) and Co-organised with EDP SPAIN (VIESGO). It also included the collaboration of CIRCE, ORMAZABAL, ZIV and ATOS. The title of the event was “*The Challenges of the Distribution Grid. Changing Tomorrow Now*” and the main objectives was to open a debate on these challenges and to show the solutions that Project FLEXIGRID proposes to address them.

The event was designed as a face-to-face discussion with two panels. The first panel was to discuss the new needs for the distribution grids of the future, and it was composed of representatives of a research institute, an energy company, a university and the local government.



Figure 6 Second panel participants

The second panel (see Figure 6) was intended to present the solutions that FLEXIGRID will test in the Spanish demo-site and it was composed of the Spanish members of the consortium: CIRCE, EDP/VIESGO, OPA, ZIV, ATOS and UNICAN.

The event also included a survey among the attendees. The survey included two multiple choice questions related to the motives to adopt flexibility devices and a satisfaction question related to the usefulness of the panel. The results are shown in Figure 7.

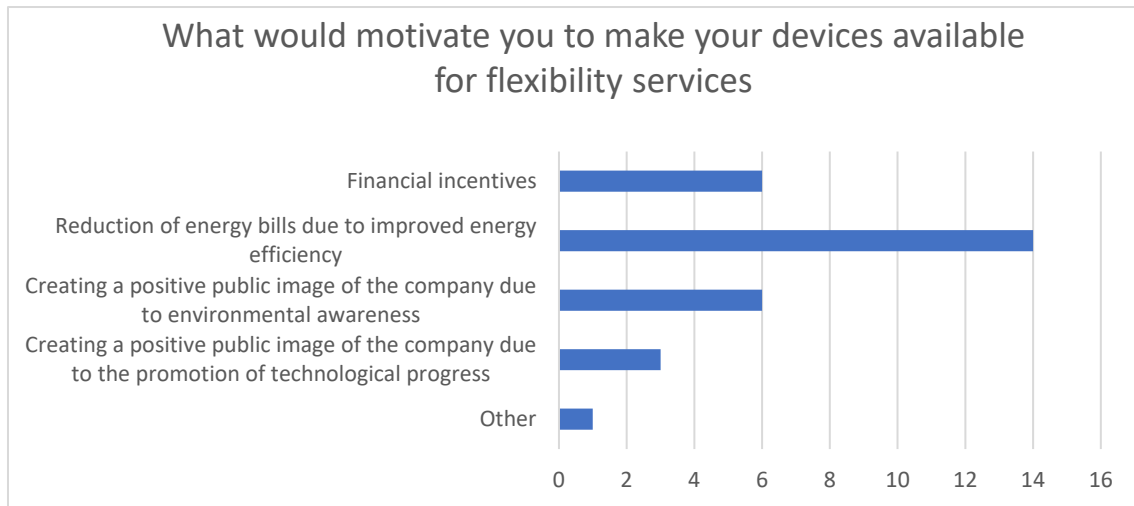


Figure 7 Results of the first survey question in Spanish RRI event

In the first question, most of the answers pointed out to the reduction of the electricity bill as the main motivation for the adaptation to the flexibility services. This may have been influenced by the great increase of the price of the electricity in Europe at the time of the event, but it is also true that a previous event in Croatia in May also got to the same results. The “other” answer mentioned the inclusion of generation and storage on the flexibility system.

On the other side of the scales, the available answer got exactly the same results so we can conclude that all factors are equally considered as obstacles to the expansions of these new devices. The results for the previous event in Croatia gave some more importance to the comfort and less to the communication with the ancillary service organizers. These differences may be due to several reasons, including the geographical differences between Spain and Croatia, and the small number of samples for the survey. The “other” option mentioned the regulations as an impeding factor

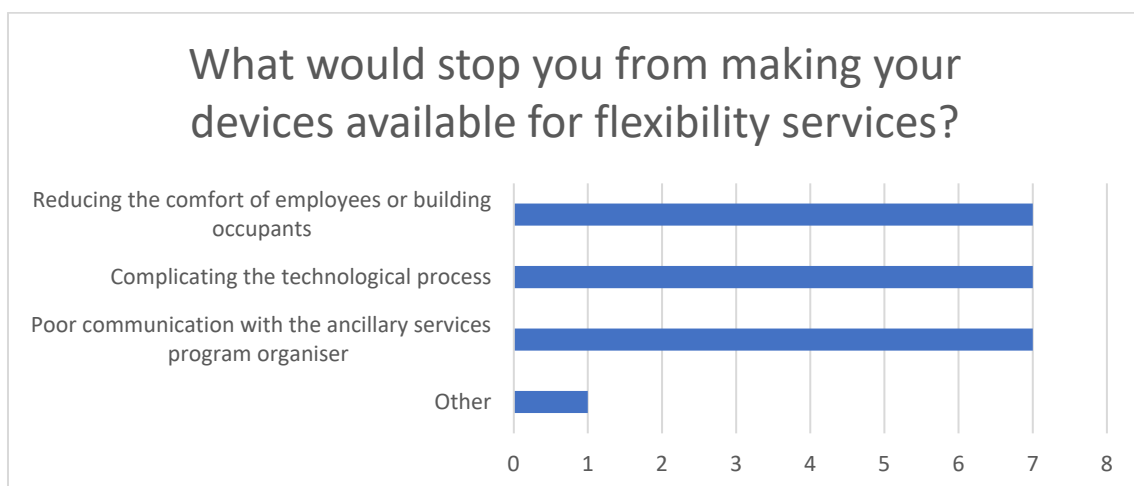


Figure 8 Results of the second survey question in Spanish RRI event

The final survey obtained very satisfying results with all of the attendees finding the event very useful for their future needs.

How would you rate the applicability of this panel discussion to your education or future work?

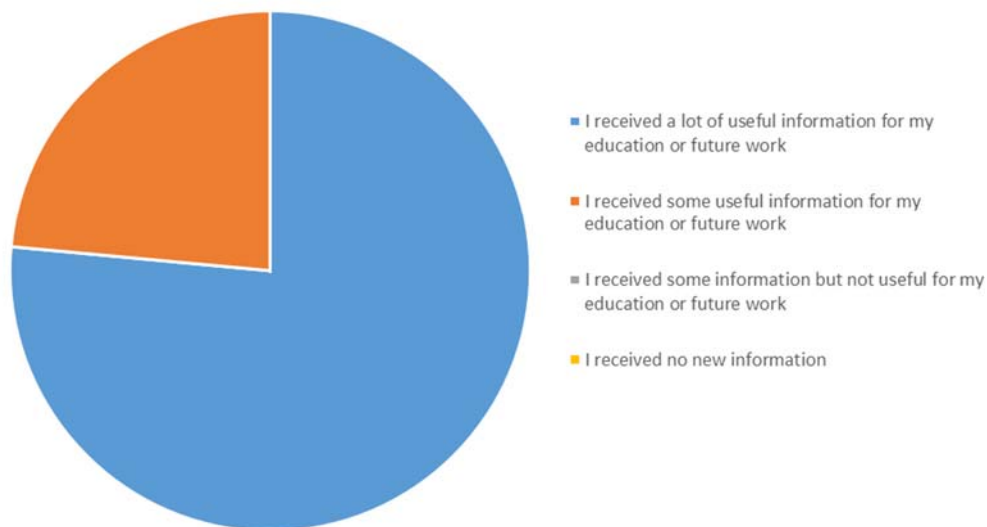


Figure 9 Satisfaction with the workshop

Among the conclusions of the event, the common ground is that there is a need for the updating of the distribution grids so that the grid can adapt to the requirements of the future. This future has the need for a digitalization that eases the integration of the electrical grid with other networks. This future also reserves an important role for the new prosumers and their influence in the behaviour of the grid and the market.

There is also an emphasis in the importance of the existence of innovation teams in the industry to assist with the technological step that we face. Those teams must also receive regulation help instead of the obstacles that they have to confront so often.



Figure 10 Panellists and members of FLEXI GRID taking part of the RRI event in Spain

2.3.2.3 RRI event in Italy

An online panel discussion entitled “FlexiGrid project presentation” was hosted by the Italian demo partner EDYNA. The goal of the event was to engage representatives of local authorities and national regulatory bodies into a fruitful discussion on the future of distribution grids. In total, 11 stakeholders were engaged in the event.

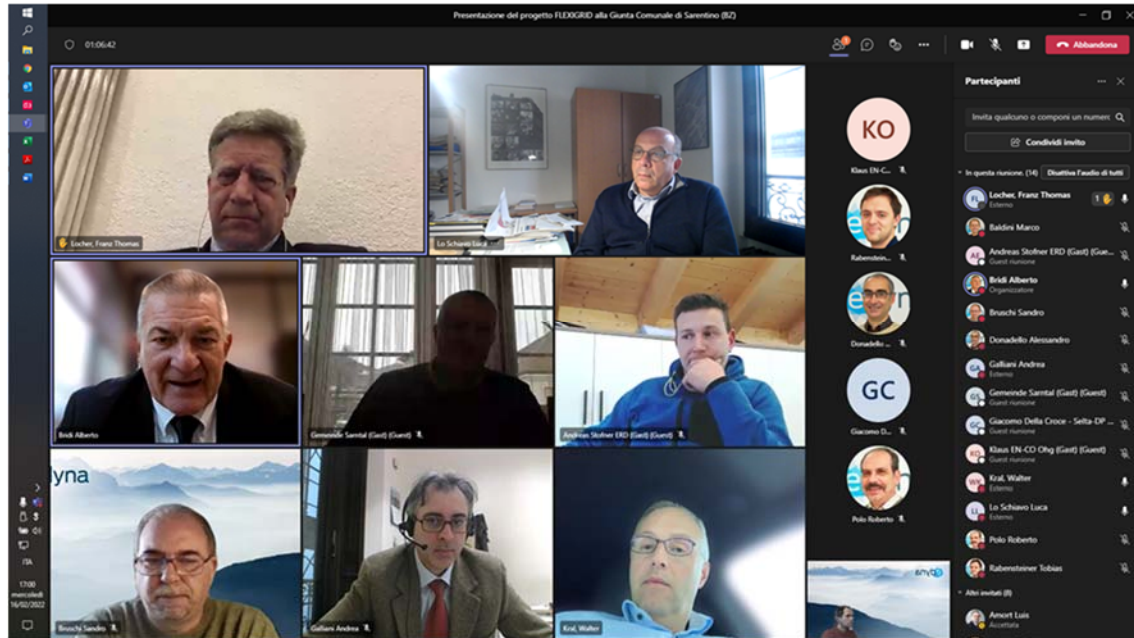


Figure 11 Screenshot of the Italian panel discussion

As a result of the discussion, the National Regulatory Agency of Italy representatives shown interest for the project and assured the panel that they will take suggestions from it as a reference for the future regulatory decisions. Moreover, the local politicians (mayor and province councillor) were grateful for the choice of the territory for the pilot and welcomed the prospect of a better electricity service for the citizens of the area. The electricity producers involved in the discussion have shown interest in the possibility to offer new service to the grid.

2.3.2.4 RRI events in Croatia

In Croatia the new Electricity Market Act entered into force in October 2021. To help the implementation of the Act, the RRI events in Croatia were aimed at assessing the technological readiness for and social acceptance of the Act's provisions. UNIZG-FER contributed to three events organised with this goal:

1. Green Arena “Domaća visokotehnološka digitalna rješenja za podršku energetskej tranziciji” (eng. *National high-end technological solutions as a support to energy transition*)
2. Policy Lab
3. Geek talk - Share your extra energy! at Good Energy Festival

The first event was an online panel discussion hosted by Croatian Eko Kvarner association. Participants represented a technology provider, a DSO, an energy cooperative and university. Registered users can watch the recording of the discussion in [2] (in Croatian). Besides the seven panellists, the discussion was listened by 66 attendees. The questions aimed at the attendees show a group of people interested in smart grids. 60% participants reported active participation in the energy transition while additional 37% plans to join in the future.

The aim of this discussion was to analyse the state-of-the-art of technological solutions for smart grid in development in Croatia. In this sense, the representative of UNIZG-FER gave an overview the solutions being demonstrated within FLEXIGRID. The main conclusion in this event was that Croatia has access to necessary technology for transition to smart grids and that the regulatory framework is the main obstacle to this transition.

The second event, Policy Lab, was organised by UNIZG-FER in coordination with Green Energy Cooperative (ZEZ) with an aim of analysing the legal framework necessary for development of energy communities in Croatia. It was structured as a round table with two moderators. The participants were representatives of the technology providers, industry, research institutions, system operators, regulatory bodies and the ministry affiliated with the Electricity Market Act. In total, 20 persons participated in the event.



Figure 12 Policy Lab round table

The ministry representatives reported the completion of the legal framework within their responsibility and explained that additional provisions need to be set by the regulatory agencies and the system operators. Croatian energy regulatory agency confirmed that the practical regulations are in development.

The DSO pointed out energy netting, grid fee calculation, financial settlement and billing as the issues within their responsibility that need to be resolved for the energy communities to happen

in Croatia. The discussion developed around these issues and most participants agreed that a well-defined, simple to implement and fair set of rules is necessary.

As a next step, it was agreed that UNIZG-FER will conduct a study of different cases of energy community configuration and settlement rules, with the data inputs provided by the DSO. The results of this study will help to settle the issues hindering the development of the practical regulations.

The third event was a panel discussion at Good Energy Festival entitled Geek talk - Share your extra energy! The discussion was moderated by a UNIZG-FER representative and numbered five panellists and around forty attendees.



Figure 13 Panel discussion at Green Energy Festival

The discussion revolved around smart energy solutions from the perspective of two researchers, a firm providing digital solutions, an IT firm aiming to join the electricity sector and an EV-owners association. The panellists gave their experience and shared lessons learned through various H2020 projects (FLEXIGRID amongst them) and talked about the upcoming challenges and the importance of both technical and social aspects in the energy transition.

3 PLANS FOR THE NEXT YEAR

Table 5 shows actions in task 2.4 *Integration of the Responsible Research and Innovation approach in FLEXIGRID* planned for the remainder of the project.

Table 5 Planned actions in task 2.4 of FLEXIGRID project

ACTION	WHO	WHEN
Third round of RRI events	TBD	M43
RRI progress report 4	UNIZG-FER	M48

3.1 The risk of COVID-19

The risk of COVID-19-related public gathering restrictions continuing into the next year is not negligible. For this reason, if the in-person events are still impossible to hold, the events will be held online.

3.2 Open access

During the following year we will continue promoting open access-publishing and uploading the project's outputs to the Zenodo repository, in line with the D1.3 *Update of Data Management Plan-Month 24*.

3.3 Public engagement

A set of public engagement RRI events is planned for the final year of the project, in month 43. Consortium members will define the structure and scope of the events and publish the invites no later than one month before the event is held.

4 REFERENCES

- [1] RRI Tools Project, [Online]. Available: <https://rri-tools.eu/>. [Accessed 25 5 2022].
- [2] Eko Kvarner, "Green Arena "Domaća visokotehnološka digitalna rješenja za podršku energetskej tranziciji"," 15 2 2022. [Online]. Available: https://us02web.zoom.us/webinar/register/WN__3alsq2yTuW2CO8RCgI_kg. [Accessed 26 5 2022].
- [3] RRI Tools Project, "What is RRI?," [Online]. Available: <https://rri-tools.eu/about-rri>. [Accessed 25 5 2022].

5 APPENDIX A. Report on FLEXIGIRD's stakeholder engagement activities

Hosting partner	Stakeholder engagement activity	Date	Involved partners	Dominant RRI element	Language	Format of the event	Local authorities	Industry	Research Institutes	General Public	Policy Makers	Energy sector	Equipment producers and vendors	Customers	Associations	Other	Total of stakeholders reached
VERD	Stakeholders' event	08/10/2021	Greek demo partners	public engagement	Greek	Live event - discussion amongst hotel owners. Reached out to the stakeholders of the event to present innovative energy solutions and the FLEXIGRID project	0	0	0	0	0	0	0	0	0	21	21
Main conclusions		<p>We presented FLEXIGRID's solutions installed in the Greek demo site to a group of hotel owners in the island of Thasos. We then distributed questionnaires to get their feedback and thoughts about installing smart energy solutions in their premises.</p> <p>Key results can be presented as per below:</p> <ul style="list-style-type: none"> 43% of the respondents would install PVs in their premises to reduce their energy costs and 40% would also consider installing a battery system to deal with network issues (power outages, voltage drops etc.) half of the respondents said they would need timeline, cost and a techno-economic analysis of the potential benefits before installing any smart energy system on their premises about 80% of the respondents would allow automatic control of the PV, battery and EV charging points - the remaining 20% though said that they would prefer to be asked before the system takes any decision. 															

UNICAN	Panel discussion	22/10/2021	Spanish Demo partners	public engagement	Spanish	Panel discussion in person. Recorded for online viewing after the event.	1	3	4	8	0	1	0	0	0	0	17
Main conclusions		<p>There is a need for the updating of the distribution grids so that the grid can adapt to the requirements of the future. This future has the need for a digitalization that eases the integration of the electrical grid with other networks. This future also reserves an important role for the new prosumers and their influence in the behaviour of the grid and the market.</p> <p>There is also an emphasis in the importance of the existence of innovation teams in the industry to assist with the technological step that we face. Those teams must also receive regulation help instead of the obstacles that they have to confront so often.</p>															
EDYNA	FlexiGrid project presentation	16/02/2022	Italian demo partners	public engagement	Italian/German	Panel discussion (virtual) in MS Teams platform	3	1	0	0	2	4	1	0	0	0	11
Main conclusions		<p>The National Regulatory Agency representatives shown interest for the project, and they will take suggestion for future regulation.</p> <p>The local politicians (mayor and province councillor) were grateful for the choice of the territory for the pilot and they see the prospect to have a better electricity service for the people.</p> <p>The producers involved shown interest to have the possibility to offer new service to the grid.</p>															

UNIZG-FER	Policy lab	17/02/2022	-	public engagement	Croatian	Round table (in person) - moderated discussion among relevant stakeholders in Croatian power system. The representatives from the Ministry of economy, regulatory bodies, DSO, research institutions and one energy coop were participated. The main point of discussion were the practicalities necessary for deployment of energy communities in Croatia.	0	2	5	0	2	6	2	0	3	0	20
Main conclusions		<p>The ministry representatives confirmed that the legal framework is completed, which opens the floor for practical provisions to be made by the DSO and regulatory agencies (HERA and HROTE).</p> <p>The complications regarding energy netting, grid fees, financial settlement and billing were pointed out as the largest obstacles for energy communities by the DSO representatives. This was supported by other participants, with the general conclusion that a well-defined and fair set of rules is necessary in order for energy communities to take off.</p> <p>Finally, a study of different cases of energy community configuration and settlement rules was defined to be conducted by UNIZG-FER, with the data inputs provided by ODS representatives.</p>															