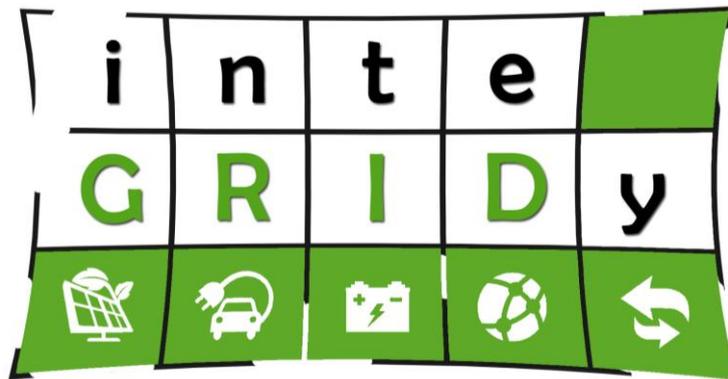


Innovation Action



inteGRIDy

integrated Smart GRID Cross-Functional Solutions for
Optimized Synergetic Energy Distribution, Utilization
& Storage Technologies

H2020 Grant Agreement Number: 731268

**WP9 – Dissemination, Exploitation and
inteGRIDy Outreach**

**D9.1 - Plans for dissemination, exploitation &
communication of results**

Document Info	
Contractual Delivery Date:	31/10/2017
Actual Delivery Date:	31/10/2017
Responsible Beneficiary:	ATOS
Contributing Beneficiaries:	All inteGRIDy partners
Dissemination Level:	Public
Version:	V1.0
Type:	Final



Document Information

Document ID:	D9.1
Version Date:	31/10/2017
Total Number of Pages:	123
Abstract:	This document presents inteGRIDy's Communication, Exploitation and Dissemination Plan, which evolves from the one in the Description of Action. It both lays down the methodology to be followed for dissemination and exploitation actions and outlines the actions to be taken, to maximize the impact of inteGRIDy results.
Keywords:	inteGRIDy, dissemination, communication, exploitation

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Version history

Version	Date	Comments
0.0	14.07.2017	ToC
0.1	21.07.2017	First contribution – Dissemination Plan (Atos)
0.2	07.09.2017	Inclusion comments from Siemens
0.3	25.09.2017	Inclusion Annex, Atos individual exploitation. (Atos)
0.4	03.10.2017	Inclusion of partner and pilot exploitation plans (Siemens)
0.5	05/10/2017	Technical review
0.6	15/10/2017	QCB review
1.0	31/10/2017	Final version to be released to the EC



Executive Summary

This document is dedicated to the presentation of inteGRIDy's Communication/Dissemination and Exploitation plans, starting from the original proposal already presented on the DoA document.

Regarding the Communication and Dissemination activities, this document covers, as an enhancement of the original plan, the methodology to be followed during the project lifetime for dissemination actions, as well as the way agreed to follow in order to maximize the impact of project results.

The dissemination and communication plan is broken down into individual tasks, defined here and allowing the consortium to define a consistent approach. This enables the distribution of responsibilities, assigning particular tasks to key partners so they can manage them efficiently, gathering all needed information from partners.

As for the actions taken to maximize the impact, the dissemination plan includes the pre-selection of groups of interest, which are, at this stage, susceptible to be addressed. For each group, what to communicate (and how) together with the specific time frame to do so, is specified. Subsequently, the list of groups and activities identified as potential targets are analysed, in terms of associated costs and potential benefits for inteGRIDy. This way, it is possible to provide a preliminary list of tentative events, to be addressed during the project lifetime.

The already addressed dissemination activities, which have been targeted in this first year, are also detailed together with the previous list of potential future events.

The administrative schedule for dissemination activities, presented both in the Consortium Agreement (CA) and D10.1 Project Management Handbook, are also reminded here.

Finally the exploitation approach for inteGRIDy is presented. It combines both the individual exploitation perspectives of each partner with the overall project expected impact.



List of Acronyms and Abbreviations

Term	Description
CA	Consortium Agreement
DCM	Dissemination & Communication Manager
DoA	Description of Action
DR	Demand Response
DSO	Distribution system operators
EC	European Commission
EM	Exploitation Manager
F2F	Face to Face
GA	General Assembly
H2020	Horizon 2020
ICT	Information and Communication Technologies
IM	Innovation Manager
PC	Project Coordinator
PEM	Pilot Manager
PMO	Project Management Office
PO	Project Officer
QCB	Quality Control Board
QCM	Quality Control Manager
R&D	Research and Development
SME	Small and Medium Enterprises
SMR	Semi-annual Management Report
SNS	Social Network Services
STM	Scientific & Technical Manager
TL	Task Leader
WP	Work Package
WPL	Work Package Leader



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1 Introduction

1.1 Scope and Objectives of the Deliverable

Dissemination and exploitation of project results are important targets of the inteGRIDy consortium for ensuring the scientific progress beyond the state-of-the art in the course of the project (by getting feedback on scientific fora) and for a sustained economic yield after finishing the project (adapting the project to received feedback). The whole consortium is fully engaged in creating public awareness, scientific interest and a new market.

This document is based on the preliminary dissemination and exploitation plan drafted on the project proposal [INT16], adding relevant material on the dissemination and communication strategy, through the study of goals, audiences, messages, channels and roles and providing the first version of exploitation proposals. It also sets out the plan to raise awareness, share knowledge, attract potential users and explore future commercial use in the context of inteGRIDy project, through various means, including the website, distribution of dissemination material, publications in journals and participation in conferences and other relevant events. Also, it will establish key performance indicators for the dissemination and will plan concrete dissemination actions, which are assigned to partners. The dissemination plan will be the basis for all the dissemination activities.

1.2 Structure of the Deliverable

The document is set up and covers the following topics:

- Methodology section drafts all considerations taken into account by the project so as to build up the dissemination, exploitation and communication plans. The following aspects are detailed: the methodology to be applied, the plans' design phase and the processes to be followed, first to approve and then to execute the plans together with the project coordination.
- Following the methodology, the details about the communication and dissemination plans are presented. This section covers the setting of objectives, the selection of the most appropriate audience and timing for the implementation of actions, the overview of planned communication activities, the plans for applying feedback and the internal coordination procedures.
- Finally, the exploitation plan is presented. This section covers each partner's specific plan, the exploitation plan for each pilot to be developed within inteGRIDy and the project's overall expected impact. Exploitation activities include the identification of the project's main exploitable assets, a market analysis, an investigation of business models for exploitation of project results and the development of the project's business plan.

1.3 Relation to Other Tasks and Deliverables

This report is the first step on the dissemination, communication and exploitation process for inteGRIDy. As explained in detail in section 2, all technical inteGRIDy activities are covered by the plan outlined in this document. Therefore, all tasks within the project will be carefully monitored and followed so as to provide feedback to future reports, split into three main categories:

- Dissemination and communication reports, gathering inteGRIDy partner activities to promote project results and achievements in public fora.
- Exploitation reports, considering also IPR, including refined and updated plans to exploit the knowledge generated by partners in the project.
- Public awareness and stakeholder engagement documents, aiming at evaluating the impact reached by inteGRIDy communication.

2 Methodology

inteGRIDy's Communication, Dissemination and Exploitation Plans will be created following a three-phase approach, as described in Figure 1. These three phases are the following:

- **Design and definition phase.** It is the initial step, in which the definitions of all plans are set. All stages included in this phase are described in detail, in section 2.1.
- **Approval phase.** Once the design and definition step is finalized, the plan must be approved by the Consortium. This is detailed in section 2.2.
- **Execution phase.** When approved, the actual plan is then ready to be applied. Section 2.3 describes this final process.

These three stages are expected to be consecutive, at least on the first plan implementation. However, once the plan is running, the early feedback is very important to be considered and updates on the plan design may follow to adapt to unexpected situations.

All three phases must be carefully managed and monitored inside the project, assuring the proper mechanisms to avoid deviations or eventual failures, while disseminating and/or exploiting results. This way, coordination actions and roles must be properly set up and clarified since the very beginning.

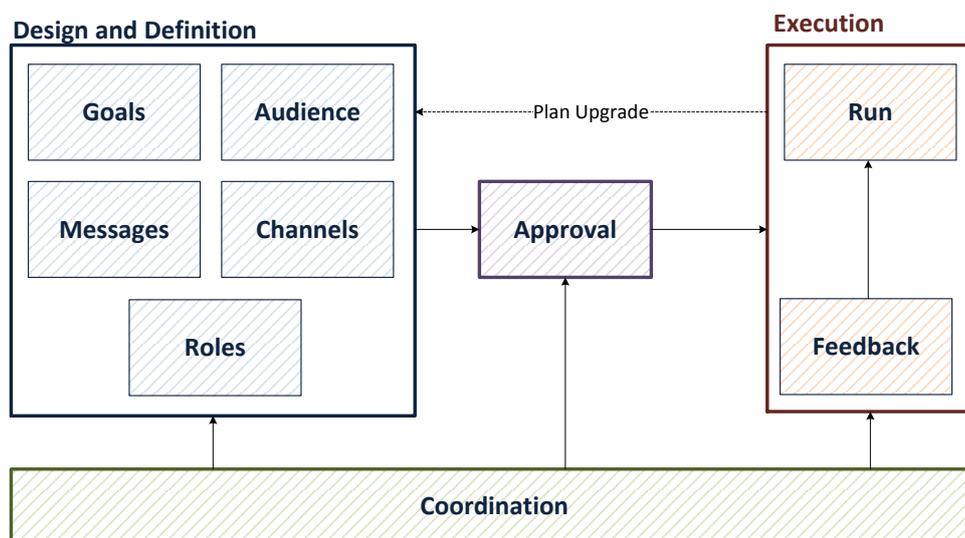


Figure 1. inteGRIDy methodology for plan implantation.

2.1 Plan design

This section covers the first stage, concerning the plan design and definition. It comprises the goal setting, audience identification, message definition, channel selection, partnership model and activities selection and role setup. These are all described in detail in each of the following sections.

2.1.1 Goals

One of the main goals of this project is to disseminate knowledge and to create the premises for the industrial beneficiaries to exploit the project results.

inteGRIDy consortium is expected to develop new hardware and software to address several hot topics in the R&D energy field, such as demand response, energy storage technologies, smartening of the grids and electrovehicles integration. The results will be demonstrated and applied on small scale and large-scale pilots in different countries.

The direct beneficiaries of the enhancements proposed in inteGRIDy project are grid operators, DSOs and users. The way to reach them will be through workshops, industry



forums, standardization bodies. As for the pure R&D dissemination of knowledge activities, a conventional approach of disseminating through publications and conference presentations will be followed.

2.1.2 Audience

The subsequent step, after setting the objectives, is to characterize the potential audiences of the communication and dissemination activities.

For this purpose, the concept of groups of interest is introduced. These groups are collections of individuals identified as either potentially interested or affected by inteGRIDy's expected outcomes. Within these groups of interest one may find: employees, executives, managers, business units, allies, project teams from companies belonging to the inteGRIDy's consortium, suppliers of the group of interest in question, clients of the group of interest in question, etc.

Groups of interest can be organized as follows, depending on the expected impact:

- inteGRIDy's **primary** groups of interest are those whose knowledge, attitudes or behaviour must be changed in order to meet inteGRIDy's goals. They have the potential to become inteGRIDy clients and primary partners.
- inteGRIDy's **secondary** groups of interest are all others who are affected when inteGRIDy's initiative succeeds in achieving its goals.
- inteGRIDy's **tertiary** groups of interest are those who can influence primary and secondary groups of interest.

The main target groups relevant for the dissemination and communication of inteGRIDy results identified so far are listed below:

- **Science:** Universities and other research institutes in the addressed or associated fields of research, Standardization bodies.
- **Industry:** Potential customers for commercial exploitation or partners for future developments. Smart Grid operators and DSOs.
- **End-users:** Energy consumers and prosumers.
- **Public:** Civil society, associations, ordinary citizen.
- **Education:** Students attending lectures and workshops in the universities.
- **Government:** European and national/federal legislative and executive authorities.

These target groups will be revised in the exploitation task and adjusted accordingly to keep the coherence between dissemination and exploitation. Different dissemination and communication strategies will be used to ensure capturing the attention of every type of target audience.

Regular communication with universities and other research institutes will ensure that the latest research results and new methods in the relevant topics will be identified and considered within inteGRIDy. Possible synergies could speed up research and development or enhance the outcomes.

The presentation of project research results to other researchers will allow an unbiased review and help finding new answers. The project outcomes will be presented on relevant conferences, workshops and appropriate exhibitions.

By resorting to trade fairs and getting in contact with other innovative companies the inteGRIDy project can attract the interest of new technologies that may be integrated into the inteGRIDy platform, in order to extend its functionalities. The close cooperation with end-users will foster debates on certification, possibilities and maturity of the technology,



guidelines and other topics. Dialogues with end-users and experts will raise public interest, provide different points of view and reveal the impact for the sector.

Incorporating students into research will increase the available manpower and creativity, thus strengthening innovation. Very important is also the promotion of inteGRIDy to European and national/federal policy.

2.1.3 Messages

Messages are the key items when addressing communication issues. In order to be effective, a message must comprise relevant information and target the adequate audience. As a result, the audience of a message should be oriented towards helping to fulfill the project's objectives.

In addition to providing information itself, messages also point out the sense of importance, relevance or urgency of such information. Also, they are very effective linking the content with a tangible and addressable contact.

inteGRIDy should be able to convey relevant and pertinent messages including appropriate information. These must, as well, address the identified groups of interest to maximize the impact. Also, messages must promote and summarize the technical work being done in the project, ideally generating catchy information able to influence the audience. They should be prone to generate discussion points that inteGRIDy partners can incorporate when presenting the project at events.

As one would expect, messages should be shaped to fit the concrete need of a target audience, channel used and ultimate purpose. This purpose can vary from just conveying new facts to change behaviours or encourage participation. Some of these purposes may overlap, but they are all oriented to serve as steps towards the final goal of disseminating inteGRIDy's view.

A particular group of interest first receives a message, but it can take some time to understand it, then assume and agree with it and finally act accordingly. There are several factors influencing the way a group of interest accepts a given message:

- **Convey clear messages.** It is important to use clear language, stressing and repeating the key concepts, while avoiding technical or bureaucratic terms (especially in the case the group of interest is not fully aligned with the expertise of the project) so as to avoid misunderstandings.
- **Maintain consistency.** Identical, well explained and homogeneous terminology and structure should be used along the message (and of course in line with what is used on the project) to guarantee acceptance and understanding. This is particularly important in the case new terminology is proposed.
- **Use the appropriate tone.** The targeted group of interest and the expected impact on it will be reflected on the tone. It is important to carefully select the tone depending on the need to appeal as reassuring or straightforward, for example. In all cases, it must sound as truthful as possible.
- **Stress credibility.** Linking with the previous topic, the message source must always appear as fully reliable and professional, as this will make a decisive impact on the audience. A lack of credibility will translate into target groups probably discarding the message.
- **Align to audience needs.** A message is prone to be accepted in case the audience identifies it as aligned with what they consider important to them. This way, shaping the message to meet these expectations is critical to increase acceptance.

Providing that it is possible, messages should be tested on special audiences so as to assure they are understood correctly, before releasing them to the public. This enables collecting early feedback analysing the reaction.

Finally, as general guidelines to adapt a message to a particular audience, the following items must be studied:

- Are there any barriers or benefits to the audience inherent to the adoption of the idea presented?.
- Is inteGRIDy proposing something that needs the target audience to change behaviour? What are those changes?.

2.1.4 Communication channels

Dissemination is seen to be effective when multiple communication channels are considered. Communications channels are the selected medium used to convey the message to the targeted audiences. There exists a plethora of communication channels, so selecting the most appropriate ones for a given situation is not always easy.

The first consideration, in this case, would be studying how to seem credible, by adapting the message to the way the targeted audience usually gets its information. In addition, the trend followed by the audience in terms of where and when they are more prone to pay attention should be also considered.

Selecting the most suitable channel for a given message and audience is a complex task. All channels present strengths and weaknesses. A trade-off between the potential gains and losses inherent to the selection of a channel is key to make a suitable choice.

inteGRIDy would analyse communications channels based on the considerations detailed on Table 1.

Table 1. Channel selection

Item	Explanation	Options
Category	Type of channel	Oral channels Written channels Multimedia channels
Size	Estimation of the number of persons that can be reached	Large (50+ people) Medium (15-50 people) Small (<15 people)
Cost	Estimation of the economic resources required for the channel	High (6.000+€) Medium (1.000€-6.000€) Low (<1.000€)
Preparation time	Approximate time required to prepare the action associated	High (2+ days) Medium (1-2 days) Low (<1 day)
Execution time	Approximate time elapsed from the beginning of the action until it is completed	High (3+ days) Medium (3 hours - 3 days) Low (<3 hours)
Pros	Main advantages, strength points	N/A
Cons	Main disadvantages, weaknesses	N/A
Comments	Issues which are important to bear in mind	N/A



It is important to note that the audience (and its individuals) may react differently, depending on the time, as not always all the information is properly understood and retained. This way, repeating messages and re-using communication channels is usually a good idea so as to maximize the potential impact, as the chance to reach the appropriate audience at the pertinent time increases.

Based on the considerations explained in Table 1, inteGRIDy has pre-selected a collection of potential targeted communication channels. They are all listed on Table 2. This list should be considered as a first proposal, as during the project some new channels may be identified and used to complement and/or replace the existing ones.

Due to the dynamic nature of this Communication and Dissemination Plan, the communication channels listed above may be complemented with or replaced by others, according to specific needs that the consortium may identify throughout the dissemination phase of the project.



Table 2. inteGRIDy channel list.

Channel	Categ.	Size	Cost	Prepar.	Exec.	Pros	Cons	Comments
Formal F2F	Oral	Small	Low	Low	Low	Personal. Immediate feedback. Low probability of misunderstandings. High involvement.	Planning required. Logistics required.	Good impact due to personal contact. To be used jointly with other channel(s), to reinforce communication. It is expected to be used extensively throughout the dissemination phase.
Informal F2F	Oral	Small	Low	Low	Low	Personal. Immediate feedback.	Possibility of distorted messages. Underestimation of the importance of messages by the recipient.	Quick and a good first-contact alternative. Good impact due to the personal contact. To be used jointly with other channel(s) to reinforce communication. Not suitable to communicate sensitive information due to its informal nature.
Small meeting	Oral	Small	Low	Low to Medium	Low	Personal. Immediate feedback. Low probability of misunderstandings. High involvement.	Planning and logistics required. Attendance problems.	Usually includes professionals from two companies. It encourages teamwork between the two parties. They can be very effective if correctly executed. They might be perceived as uninteresting and excessively time-consuming by some attendants, hence avoided.



Large meeting	Oral	Medium	Low	Low to Medium	Low	Creates interest. Captures the audience.	Significant planning and logistics required. Attendance problems.	Usually includes professionals from several companies. It encourages teamwork between the parties involved. Good for putting out short messages without having to make decisions.
Event (exhibitor)	All	Large	High	High	Medium	Large audiences can be easily reached.	Significant planning required. Very significant preparation required. Very high cost of execution (if booth is to be eye-catching).	Their real return-on-investment potential must be studied very carefully. Possibility to sponsor the event. Possibility to hand out promotional items and giveaways.
Event (visitor)	Oral	Large	Low	Low	Medium	Large number of groups of interest can be reached in person. Immediate feedback.	Planning and logistics required.	It has good impact due to the personal contact. It should be used jointly with other channel(s) to reinforce communication. It is expected to be used extensively throughout the dissemination phase.
Symposia	Oral	Medium	Medium	Medium	Low	Creates interest. Captures the audience.	Significant planning required. Significant preparation required.	A principal means of scientific dissemination. These are openly discursive events. They may be organised by the inteGRIDy consortium or by a third party.



Seminar	Oral	Medium	Medium	Low to Medium	Low	Low probability of misunderstandings. High involvement.	Significant planning required. Significant preparation required.	These are participation-based events. They may be organised by the inteGRIDy consortium or by a third party. They may be conventional or online.
Workshop	Oral	Medium	Medium	Low to Medium	Medium	Immediate feedback. Low probability of misunderstandings. High involvement.	Significant planning and logistics required. Attendance problems. Cost of execution.	These are demonstration-based events. They shall be organised by the inteGRIDy consortium. They have good impact due to the personal contact.
Website	Multimedia	Large	Low to High	High	High	Large audiences can be easily reached. Can be made to be eye-catching. Can include all the information required. The website can be segmented. Interactive and dynamic.	Risk of information overload. Requires specific skills to make it effective.	Very powerful tool if used to its maximum potential. Search-engine results positioning optimisation should be looked into. Enables the implementation of other functionalities such as forums, RSS news services, etc. Enables the possibility to be creative.
News release	Written	Medium to Large	Low	Low	Low	Large audiences can be easily reached. Can be made to be eye-catching.	May get lost in the information clutter. May be ignored by a significant proportion of the audience. Can only convey limited information.	Not periodic (released whenever required). Used to inform about an important and very specific issue.



Publication (contribution)	Written	Large	Low	Low to Medium	Low	Large and specific audiences.	Can only convey limited information. May get lost among all other information.	Articles in scientific journals constitute a principal means of scientific dissemination May target specific sectors. May consist of scientific articles, newspaper columns, letters to the editor, etc.
Publication (advertisement)	Written	Large	Low to High	Low to Medium	Low	Large and specific audiences	Can be expensive. Can only convey limited information. May get lost among all other information included within the publication or web portal in question.	May target specific sectors. Enables the possibility to be creative.
Standardization	Written	Large	High	High	High	Large and specific audiences. Large impact on industry.	A great preparation time is required. A high number of meetings have to be attended.	Standardization can reinforce European industry potential to create market opportunities by making inteGRIDy's technology ubiquitous and thus even more affordable and widely deployed.
Social Network publication	Multimedia	Large	Low	Low	Low	Reach a large audience Interact with the audience Instant impact	Management is a time consuming task. All accounts should be updated frequently	Twitter feed: allow members to provide quick updates on relevant to the project issues. LinkedIn channel: an effective way to communicate events and especially publications Facebook channel: an effective way to communicate events and news to the general public.



Video	Multimedia	Large	Low	High	High	Good impact Self-explanatory	Time demanding task Involve many partner	Good for demos and pilots
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2.1.5 Audience and communication channel matching

Besides the identification of inteGRIDy target groups, it is important to consider that each group has different needs and hence requires a different approach. The consortium ensures that the elaborated dissemination materials are appropriately adapted to the target audiences so that all activities are tailored to the target groups' special information needs. The materials are internally reviewed by the inteGRIDy partners before exposition to the general audiences.

The following table lists and matches the disseminate-able results to dissemination target groups and the respective means of dissemination.

Table 3. inteGRIDy audience/channel matching matrix.

Audience	Stakeholders	Motivation	Content	Channels
Scientific community	Researchers Universities	Interested in the new technology provided (research results).	Methodology, Components, Integration, CMP, Tools.	Journal articles, conference presentations, workshops, web site.
	Standardization bodies		Certification, Design rules	Journal articles.
Industrial community	DSOs	CMP Integration results	Methodology, Components, Integration, CMP, Tools.	Web site, SNS, showcases, demonstrations, workshops, press releases, newsletters.
	SMEs	New opportunities to develop parts of the system.		
	Investors Providers	Value created.	Value, Design, Certification.	Conference presentations, workshops, Showcases, press releases, newsletters.
End-Users	Consumers Prosumers	Reduced costs Tools. Alignment to people's values and beliefs.	Business model, Tools.	Workshops, Showcases, press releases, newsletters.
	Civil Society Associations Ordinary citizen	General interest for innovative technological achievements, Being aware of new evolving technologies.		
Education	Students	Interested in the new technology provided (research results).	Methodology, Components, Integration, CMP, Tools.	Journal articles, conference presentations, workshops, web site, workshops, SNS.



Government	European Commission	Responsible for funding and evaluating the project.	Methodology, Components, Integration, Certification, Design rules	Journal articles, conference presentations, workshops, web site, workshops, SNS
	Federal legislative and executive authorities	Create a label that ensures the quality of an application in terms of financial issues, process and application	Methodology, Certification, Design rules	Press releases, newsletters, showcases, demonstrations, web site, SNS

2.1.6 Roles and coordination

Once the plan has identified goals, audience, messages and channels, it is time to assign the appropriate roles for the dissemination and communication procedure, making sure the needed resources are allocated to those activities. This includes not only the staff but also physical resources. The allocation must take into consideration the number of actions and the frequency of each action so as to determine the proper management team.

The roles to be assigned can be as listed below:

- **Sponsor**. It is the communication activity promoter, who is usually an expert on the specific area where the targeted group of interest is located.
- **Dissemination and Communication Manager (DCM)**. The person responsible for the overall Communication and Dissemination Plan, in charge of coordinating all communication activities, namely
 - Managing the **plan design and definition** stage;
 - Generating this **D9.1** deliverable, coordinating all the feedback on the contents;
 - Managing the **plan approval** stage;
 - Coordinating the **plan execution** stage;
 - Continuously enhancing and upgrading the Communication and Dissemination plan based on the received feedback and the changing environment. Partners should share knowledge, results and experiences in the dissemination activities as well, in order to maximize the impact of the project.
- **Developer**. The person/group delivering the specific activity, providing, for instance, all the required material.
- **Quality Control Board (QCB)**. It is the group supervising all communication and dissemination, ensuring that all the activities are appropriate and effective.

2.2 Plan approval

The obligatory following step to the design of the communication and dissemination plan is presenting and approving it through a General Assembly (GA) meeting. This grants the official approval of the consortium and enables the subsequent phase of plan execution.

The approval must be reiterated in case future reviews are made on the original plan.



2.3 Plan execution

The plan approval made through the process described in section 2.2 releases the plan for its implementation.

As described in 2, this execution phase comprises two different and inter-related tasks. The primary task is applying what was outlined in the plan. All inteGRIDy partners are expected to contribute, maximizing the dissemination scope and attending as much events as possible.

In addition, a background task is also initiating, so as to collect potential feedback on plan implementation and acceptance. In case low impact is detected, corrective actions can be taken to modify the original plan. The feedback collecting process should take in to consideration the following aspects:

- **Mechanisms.** The way the feedback reaches back.
- **Timing.** Periodicity in which the feedback is collected, analysed and translated into corrective actions.
- **Strengths and weaknesses assessment.** The plan should be reviewed progressively, based on the identified strong and weak points.
- Creating and implementing **new approaches for success**, consulting with technical assistance advisors if needed.

Wide scope changes to the plan, derived from this feedback, must be discussed and approved at consortium level, in the context of GA meetings, whereas small changes on particular items on the communication activities can be directly handled by the DCM and the related partners involved in such activities.



3 Communication and dissemination plan

This section covers the details of the actual communication and dissemination plan outlined for inteGRIDy and based on all premises depicted throughout section 1.

On the following subsections, the objectives, audience channels, expected feedback and coordination mechanisms will be described.

3.1 Objectives (Why to communicate and disseminate)

The ultimate objective of inteGRIDy Dissemination and Communication Strategy is to promote the innovative character of this project, as well as to maximize the impact of project activities and ensure that all the derived outcomes will be widely spread among the appropriate stakeholder communities, as well as public audience, at appropriate times and via appropriate methods.

In addition to this, the inteGRIDy Consortium aims at intensively identifying potential contributors to the development, evaluation, uptake and exploitation of project outcomes, encouraging their participation on a systematic and regular basis.

The above mentioned Dissemination and Communication channels will be continuously supported by the project Community so as to facilitate the exploitation of the project results, which are intrinsically linked to the dissemination and communication efforts. Consequently, the efficient publicity and the wide exposure of the project activities and/or results to targeted stakeholders and media will accelerate the practical use of these results beyond the project's lifetime and will eventually increase the project impact.

A high visibility of the project and the promotion of an active interaction with key stakeholders are necessary elements to build project awareness, maximize exploitation potential and promote accountability that helps justify the project's "worth to invest public money", to support the Innovation Action.

Starting a dissemination plan at early stages of a project, increases its impact and enhances subsequent exploitation opportunities. Providing the wider public with advance notice of possible future plans and actions, it also strengthens collaboration links with partners and helps to establish and reinforce a wider networking activity. In other words, it is important to guarantee the project's greatest impact on stakeholders outside of the consortium, in order to ensure that:

- the project outputs will be fully exploited in the most effective manner, i.e. the scaling-up of the demonstrated solutions will be facilitated;
- the knowledge gained throughout the project and more generally the information generated by the project, can be made available to all interested organisations;
- elements of excellence of the project can be reused and replicated in other projects, becoming a reference that will trigger further developments in the field and beyond;
- the project reaches decision-makers to contribute improving future policies; and
- the benefits that the project's outcomes will bring to society (services, employment, economy) are well pointed out.

3.2 Message (What to disseminate and communicate)

This step concerns the efficient selection of the project-related information, which will be eligible for dissemination, while ensuring the protection of the project partners' specific know-how, without endangering the exploitation of results.

Towards this direction, the following project information will be communicated to the relevant audience:



- **Vision** (objectives, strategic relevance) and key facts. Since messages will follow an evolution from the start of the project to the aftermath, they will be reviewed periodically in the course of the project,
- **News** (achievements and results). Partners will for example recapture how inteGRIDy project improves people's lives, based on demonstration/training activities. Personalised experiences will illustrate the impact of the project and will give a human dimension that can widen the end-users' acceptance,
- **Events** promotion and events results. The following project outputs will be disseminated as widely as possible:
 - Ready for use solutions, along with Lessons-learned and recommendations,
 - Training & Educational sessions on the new tools delivered by the project to respective stakeholders.

The needed steps to fulfil all outlined objectives, while including the aforementioned content, can be listed as follows:

- Design of inteGRIDy graphical identity, namely project's logo and dissemination material templates in order to ensure consistency throughout the project duration.
- Development and maintenance of inteGRIDy Website to serve as a major dissemination tool in terms of project's concept, objectives and outcomes and report uploading. It will also have a section that will be acting as an active "blog", where partners will be able to publish articles about intermediate results, events etc. The Website appearance will be coherent with the general communication strategy. Periodically updates of the Website will be carried out, according to users' evaluation sessions planned in dissemination plan.
- Strong online presence in Social Media channels, creating inteGRIDy interaction spaces in networks such as Twitter, LinkedIn, Google+, Flickr, YouTube etc., contributing with continuous updates and engaging a wide number of visitors in order to help the consortium to reach a wider spread with their dissemination activities.
- An updated agenda, the so-called calendar, via the web and the user interface. Within the dissemination plan an updated agenda via the web and user interfaces will provide information about the events and actions related to the project.
- Delivery of project public documentation to the project's website, reporting on the inteGRIDy developments and proposed solutions, aiming to raise awareness and engaging the target community and public audience.
- A considerable number of publications both in conferences and journals, establishing presence and diffusing innovative outcomes, so as to raise awareness of mainly industrial players, but also of the relevant scientific and research community. The feature of constant updating characterises also the publication plan of inteGRIDy, whereas the publications generated during the project will be submitted where possible to open access journals.
- Public release of electronic newsletter, leaflets, brochures, press releases and short project videos (3-5 minutes long) for a general briefing of the project, addressing the general scientific community but also the general public. A common communication strategy, which will provide important information for project's topics, achievements and news.
- Organisation of Project Events, to raise awareness among the targeted groups, analyse project activities, establish personalised interactions and provide project partners with inputs from target stakeholders to improve inteGRIDy solutions.



- Contributing to External Events, to raise key stakeholders’ awareness and facilitate knowledge sharing, thus increasing the project impact. Targeted events include events organised by the EU Commission’s Unit supervising the project, other EC Conferences and thematic clustering meetings, annual events organised under the aegis of the EC.
- Interactions with worldwide forums and institutes for the effective dissemination of the project results and the cross-fertilization of ideas and concepts.
- Establishment of synergies with similar projects so as to identify commonalities and to avoid repetition. This will be accomplished through dedicated meetings specified on the inteGRIDy Website, well in time, so that they can be attended by different Consortium partners in the project.

3.3 Audience (To whom to communicate and disseminate)

SIEMENS (as WP9 leader) and ATOS (as DCM, T9.1 and T9.2 leader) are in charge of this inteGRIDy Dissemination Plan. They will keep track of it throughout the project period. However, all partners will use their industrial partnerships, standardization activities and long-standing experience in EU funded projects, to contribute to the dissemination and communication activities over the project duration.

The Consortium is formed by a well-balanced group of industrial companies, SMEs and research institutes, thus it is able to reach a diversified audience.

Key stakeholders of the inteGRIDy target audience have been grouped into several categories. As seen in Table 4, there are several target groups that have been defined and which include both high-level and low-level stakeholders.

Table 4. Key stakeholders identified as target audience of inteGRIDy.

Energy sector	End users	Facilitators
Energy retailers	Building Occupants	EU Institutions (EC, European Science Foundation, MEPs) National public authorities (industrial committees, national regulation authorities, ministries and regional councils) Standardisation Bodies (such as CEN, DIN) Related EU-funded projects Organizations & EU Alliances in topics addressed by inteGRIDy European Technology Platforms and respective clusters Public Bodies & Environmental Organizations
Aggregators	Facility managers	
DSOs & TSOs	System operators	
Distributed Generation Providers	Commercial and Residential Customers	
ESCOs	Stakeholders at the Pilot Sites	
Technology Providers	General Public	
Scientific community		

The inteGRIDy project highly values end users, as the solutions provided will be adapted to their needs, based on appropriate user requirements and evaluation procedures, to ensure a high level of user acceptance. However, the target audience of dissemination activities will go beyond the end-users, as the main potential customers of the inteGRIDy solutions are decision makers (site managers, CEOs, board of directors’ members, etc.) and the project scale-up will need facilitators. Special attention will be paid to disseminate the project results through

- National Level (i.e. National Exhibitions in Smart Grids/Energy storage/ Energy Efficiency)



- European Union Level (European Business Council for Sustainable Energy (e5), European Council for an Energy Efficient Economy (ECEE), Energy Efficient Buildings Association (E2BA), etc.).

inteGRIDy is organized to follow a schedule that can be broken down into three main phases:

- **Phase 1** – Initial awareness phase (M1-M10), covering the process to determine the overall architecture, business models and standardization analysis. It aims at:
 - Agreeing upon the communication strategy and future activities;
 - Creating initial awareness in the markets related with the Project's objectives and scope.
- **Phase 2** – Targeted market awareness phase (M10-M30) comprises the main framework development phase together with the first steps towards the integration on large and small scale pilots. It aims at:
 - Creating more “targeted awareness” regarding inteGRIDy technologies with key players and potential users;
 - Informing the target market about the technological benefits of inteGRIDy.
- **Phase 3** – Strategic phase (M31-M48) runs on the last part of the project, where pilots are implemented, validated and conclusions are reached. It aims at:
 - Maximizing target market awareness regarding the inteGRIDy solution;
 - Thus contributing to ensure the project sustainability and full exploitation.

3.3.1 Initial awareness phase

For the consortium members involved in this stage, this is the second chance to start building awareness of the project (the first one being the project proposal stage). Unlike at the project proposal stage, when the communication of the expected benefits and relevance of the project had (by necessity) a prospective outlook, at this stage, these benefits must look achievable and within reach. It is important to convey a clear idea of the relevance and magnitude of the project.

With respect to the concepts introduced in section 2.1.2, this phase should use the characteristics introduced in Table 5.

Table 5. Phase 1 message details.

Concept	Description
Clarity	Simplicity and straightforwardness of messages being communicated
Consistency	Respect to the DoA is to be maintained
Tone	Straightforward and reassuring, with the aim to maintain a high interest of the potential target audience
Credibility	Trustworthiness and professional integrity of the spokesperson transmitting the message is extremely relevant
Audience needs	Benefits that the industry, university, regulation authorities and citizens are going to obtain from the project as a whole

3.3.2 Targeted market awareness phase

During this stage, the consortium must keep on building awareness on the project. Moreover, the communication of the project's concept and potential benefits need to be differentiated,

depending upon the target audience and communication channels utilised, being necessary to take into account the audience profiling and communication channel issues described in this document.

Table 6. Phase 2 message details.

Concept	Description
Clarity	Simplicity and straightforwardness of messages are essential to limit misunderstandings with issues such as the progress of technological development achieved at different times
Consistency	With respect to earlier stages should be maintained, so as to consolidate the messages being sent out
Tone	Constantly reassuring, looking to maintain a high level of interest of all audiences
Credibility	Same level of credibility must be achieved by all members of the consortium, independently on their level of involvement in these technology-orientated tasks
Audience needs	Development is progressing successfully and that milestones are being achieved as planned

3.3.3 Strategic phase

At this final stage, the project's outcome, scientific validity and benefits are put to the test. Therefore, the benefits of the project must be thoroughly underlined, with greater emphasis on the added value of inter-partner collaboration as a driver for the project achievements.

Regarding the message characteristics at this stage, we can underline:

Table 7. Phase 3 message details.

Concept	Description
Clarity	Simplicity should be sustained throughout
Consistency	Consistency must be maintained regarding the communication of the project's benefits, regardless of the internal difficulties which the consortium may find at this stage
Tone	Remain reassuring and never be alarming
Credibility	Trustworthiness and professionalism of the spokespersons transmitting the messages becomes extremely relevant
Audience needs	Concrete results and evaluation analysis. Exploitation forecast

3.4 Channels

The choice of the correct dissemination plan and the means to be used for its successful realisation play important role in the viability of the project. Dissemination activities will target the public, academic and industrial areas and their main objectives are to:

- Create awareness, understanding and interests about the scope, objectives and results of the project,
- Address all the stakeholders of the project with specific and valuable knowledge and solutions and
- Engage the stakeholders and drive them to adopt and implement the project results.

Given that the communication target groups identified within a wide variety of sectors - from high-level to low-level stakeholders -, a different approach of the dissemination plan is needed per target group.

At the same time, experience has shown that the usage of the new social media and the web can also play an important role, apart from the dissemination of the project, promoting possible future cooperation, but even more providing a real feedback over the circulation of the project and a valuable participants' data bank for future projects.

The aforementioned methods & channels will prepare for the scaling-up of the project solutions and will allow getting the market ready for their use.

The presentation and feedback sessions will take place from the project start, so that the solutions can be adjusted accordingly. The training sessions will be held close to the end of the project to start-up the phase of introduction to market. Project data and results will be deposited on an e-platform with open access, following the Data Management Plan. Based on the above-described methodology, the activities planned in inteGRIDy are listed below:

Table 8. inteGRIDy planned activities.

Activity	Main objective	Audience	Cost
Organisation of presentation /feedback sessions (1 per year at major forums or trade shows, relevant to the project theme)	Key stakeholders from Europe and beyond will be invited to presentation / feedback sessions, to provide the project with their inputs (visions and alternative solutions).	An attendance of 40-70 delegates is considered.	15.000 euros (estimated costs for meeting room & catering & travel)
Organisation of training sessions (at least 3)	A series of Virtual Reality-enabled system's operators and prosumers training to inteGRIDy solution will be held in cooperation with key stakeholder groups, to enable new users to experiment the solutions and to provide their feedback.	An attendance of 20-30 delegates per session including representatives from the inteGRIDy end - users	20.000 euros (estimated costs for meeting room, training material & travel)
Liaison with initiatives dealing with Energy Efficiency and DR programs in Europe (i.e. EuroACE[EUR01], E2B EI[E2B01], etc.)	Contribute to the organisation events of respective alliances and initiatives, namely by participating to EuroACE and E2B EI workshops and by setting up Special Sessions at respective conferences to allow having contributions regarding improving Energy Storage Technologies & DR techniques introduced in inteGRIDy.	An attendance of 40-50 delegates is considered for the EuroACE events similar to the Special Sessions of E2B EI conferences where overall participation is about 500.	15.000 euros (estimated cost of participation & travel costs)
Development and maintenance of the project Website	The project website will spread the objectives and results as widely as possible.	At least 5.000 visitors will have accessed the website by the end of the project.	4.500 euros

Production of project documentation and printing costs	The project brochure will be a key document, to be spread by the Consortium as a whole and by each Consortium partner, as widely as possible.	500 copies of the project brochure will be distributed throughout the project duration.	3.000 euros
Participation in relevant Conferences	Raise awareness of targeted groups (SMEs, business consultants) with respect to results obtained	BICs, business consultants, and through them, Small medium-factories in their territory.	2.000 euros
Booths in targeted events in each participating country (i.e. InfoSystem expo, annually in Greece, etc.)	Present the project to stakeholders from different industrial domains.	ICT professionals, start-ups, industrial organisations.	3.000 euros (incl. cost of exhibition space) for each country
Participation in the major events (i.e. ICT event, CeBIT[CEB01], Energy 201x, Smart Grid-Technology and Markets, etc.)	Present the project to professionals involved in smart grid and to potential buyers.	The event attracts up to 850.000 visitors every year.	5.000 euros (estimated cost of exhibition space)
Participation in the Grid Expo 201x[GRE01] (each year performed in a different country, involving the new innovations and ideas on grids technology)	Participate and present the projects objectives and mission.	Policy-makers – European policy-makers, stakeholders, general public	3.000 euros

Regarding the dissemination and communication activities, Siemens and ATOS (through their role of WP and DCM respectively) shall ensure that the following key principles are known by all the partners:

- Dissemination materials (other than scientific and academic publications) concerning results from H2020 projects **need to contain the following specific sentence**, included in the EC Grant Agreement:

“This work was supported by the European Commission in the framework of the H2020-ICT-2014-2 project inteGRIDy (Grant agreement no. 731268)”

- The project logo should, as much as possible, be included in all dissemination materials, including the public and internal websites, articles, brochures, posters etc. If possible, the European flag should also be included alongside the inteGRIDy logo (http://europa.eu/about-eu/basic-information/symbols/flag/index_en.htm).



- If several logos are included, e.g. the logo of partner's organisation, other sponsors etc., they should all be of about the same size.

Using the event and channel analysis done at section Table 9, this section presents an additional study considering, per channel, the following aspects:

Table 9. Channel study.

Item	Explanation
Objective	Purpose of the communication activity
Message	Message to be communicated
Audience	Group(s) of interest being targeted
Timing	Timing and frequency of the communication activity
Human resources	People involved in making the activity a reality
Other resources	Prototypes, promotional items, etc
Cost	Total estimated budget, excluding human resources costs

This will be updated throughout all inteGRIDy lifetime.



Table 10. inteGRIDy channel study.

Channel	Objective	Message	Audience	Timing	Human	Other	Cost
Meetings	Depends	Depends	Primary, Secondary Tertiary	Depends	Representatives with expertise on the area	None	Depends
Event (exhibitor)	Build awareness Meet key people Evaluate future calls	Depends	Primary, Secondary Tertiary	Depends	Representatives with expertise on the area	Booth materials, prototypes, product brochures and promotional items	Depends
Event (visitor)	Build awareness Meet key people Evaluate future calls	Depends	Primary, Secondary Tertiary	Depends	Representatives with expertise on the area	None	Depends
Symposia / Seminar (organizer)	Build awareness Present results Meet key people Refine for future events	Depends	Primary, Secondary Tertiary	Depends	Representatives with expertise on the area	Prototypes and product brochures	Depends
Symposia / Seminar (visitor)	Build awareness Present results Meet key people Potential involvement in future events	Depends	Primary, Secondary Tertiary	Depends	Representatives with expertise on the area	Prototypes and product brochures	Depends
Workshop	Demonstrate results	Present results	Primary, Secondary Tertiary	Depends	All partners	Prototypes	Depends
Website	Make project information available	News, events, links, publications, related projects...	All groups and general public	On demand	DCM	None	None
News release	Inform about project news	Project results	Primary, Secondary Tertiary	Depends	Representatives with expertise on the area	None	None
Publication (advertiser)	Build awareness Inform about project news	Project results	Primary, Secondary Tertiary	Depends	Representatives with expertise on the area	None	Depends

3.5 Social Network profile management and internet dissemination activities

Nowadays, social networks have become powerful means of communication. The connection of users is almost infinitive and spontaneous.

inteGRIDy aims at creating different groups in different social media with the aim of inviting and accepting all relevant contacts that could be interested in what inteGRIDy is working on and producing.

Thus, these groups are not just a “place” to hold discussions among project partners and/or with people external to the project possibly interested in joining in, but also a means to promote what is being done while collecting feedback from the outside.

3.5.1 LinkedIn

inteGRIDy has created a profile and a group in LinkedIn [LIN01]. The rationale is to gather a broad group of specialists, which can contribute to the project with their expertise in inteGRIDy related technologies, as well as to connect with other research groups.

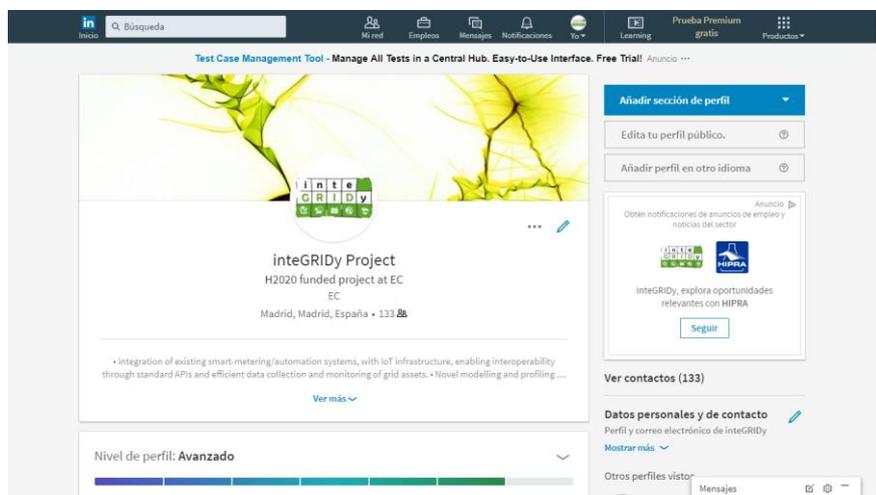


Figure 2. inteGRIDy profile in LinkedIn

3.5.2 Twitter

A Twitter feed has been created and used to provide short news updates or items for the project, in parallel with the LinkedIn profile. This can be followed at @inteGRIDy_H2020.

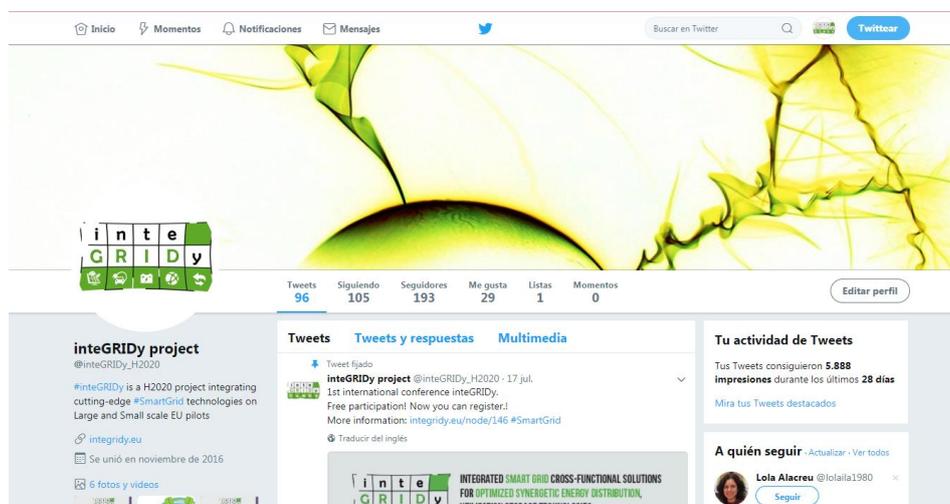


Figure 3. Twitter account of inteGRIDy project

3.5.3 Flickr

In order to more efficiently manage and diffuse the produced, visual material and information, an account in Flickr has been created, and is constantly populated with videos and fotos.

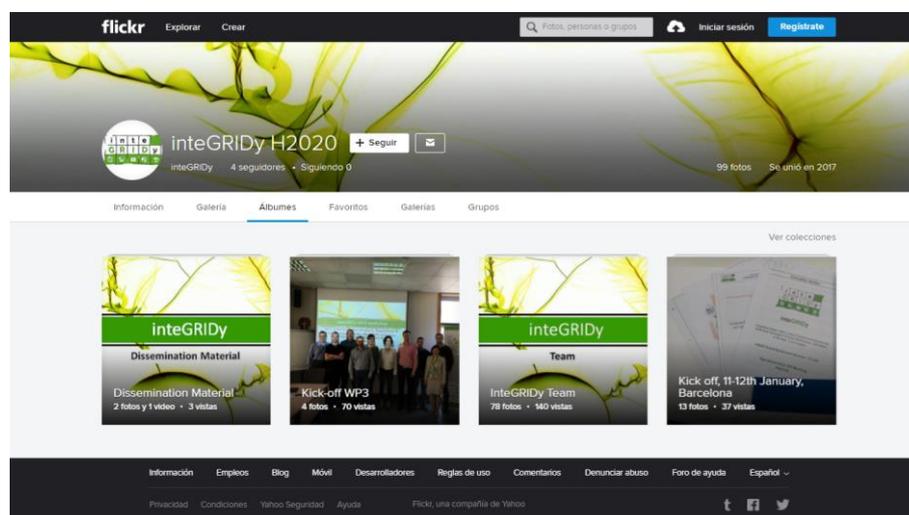


Figure 4. inteGRIDy Flickr account

3.5.4 Others

Other social media alternatives will be also studied as Facebook, Google +, YouTube or Slideshare.

3.6 Dissemination feedback and evaluation

Part of the execution plan, as introduced in section 2.3, considers the continuous gathering of feedback, so as to apply it accordingly, enhancing the dissemination and communication plan when needed. The stakeholder's involvement in the project is expected to provide valuable feedback, which should be effectively assessed by the consortium.

The feedback nature can be categorized as follows:

- **Automatically generated feedback.** This is the case of inteGRIDy's webpage usage. It can be used to discover the profile of potential clients and/or partners.

The website is the main communication channel established by inteGRIDy, as it provides external visibility and contains detailed information about the project goals, scope, progress and partners.
- **Human generated feedback.** Into this category, it is also possible to differentiate between
 - **Person-to-person feedback.** Collecting feedback based on the reaction of people when delivering inteGRIDy's messages on F2F meetings and events. Groups showing interest can be addressed as potential clients and/or partners.
 - **Questionnaires.** They can be used to assess the interest raised on a particular audience. They can also help assessing the potential involvement and acceptance of the project.

Depending on the importance of the results of the different feedback mechanisms used, these should be shared with all the members of the consortium as they come, or through the periodic evaluation meetings mentioned above.

3.7 Project internal coordination

DoA document, and its refinement through inteGRIDy's deliverable D10.1 "Project Management Handbook", provide an overview of inteGRIDy practices and procedures. This deliverable covers the way contributors, work package leaders and task leaders should perform their duties and how to apply common working processes so as to minimize the administrative overhead.

The report also describes the tools, quality assurance and risk management, document handling procedures, reporting procedures and external publication.

In addition, the inteGRIDy consortium will keep track of all dissemination and communication activities for each of the events identified as relevant to the consortium via a "Dissemination Record", managed by the DCM, that will contain at least the following fields:

Table 11. Dissemination record template.

Name	Location	Date	Deadline(s)	Dissemination Type	Additional info
The name of the event	City and country of the event	Date of the event	Deadline to contribute to the event	Exhibition, demo booth, conference, journal publication...	Anything else to be pointed out

This file also includes a section for opportunities, considering as such future events in line with the project thematic and susceptible to be addressed with partners' contributions.

4 Creation, elaboration and provisioning of dissemination material

A set of materials are created so as to reinforce the project brand and reaffirm its identity. Some indicative examples are the creation of a project logo, templates for the official documents to be developed within the project, etc.

The following sections describe this diffusion material, both the already created and the envisaged content to be developed during inteGRIDy's lifetime.

4.1 Corporate design

In order to enhance and promote instant public recognition and togetherness of the consortium, corporate design material to be used by the different partners has been created. This material includes different templates for documents, general presentations and logo design. Each and every communication activity shall use the corporate design and specify that it reflects only the author's views and that the Community is not liable for any use that may be made of the information contained therein (according to the Grant Agreement).

The following colors are used in the logo and should build the basis for inteGRIDy dissemination material:

- Black (R 0 – G 0 – B 0).
- White (R 255 – G 255 – B 255).
- Green (R 59 – G 145 – B 1).

4.2 Logo

The Corporate Design is centered on the logo. This logo was created at proposal stage. The logo will be used in combination with the European emblem to indicate the Community financial support.

inteGRIDy's logo approach aims at presenting an eye-catching symbolic representation of all envisioned technical innovations. The result is the logo shown in Figure 5, in which the project acronym is shown together with iconic representation of key inteGRIDy concepts, such as renewable energy sources, electric vehicle synergies, new storage models, intelligent grid operation and demand response methodologies.



Figure 5. inteGRIDy logo design.

4.3 Slideware

One of the tasks of dissemination work is to keep the standard presentation up to date. This presentation delivers the main message of the inteGRIDy project and it is used by all partners on the major events for giving an overall view of the project, its objectives and value to the target community. Prior to each major phase of the project this presentation is updated not only with information about the latest achievements, but also with the forthcoming events.

The design of this material is based on the design of the logo which is the main symbol of the project.

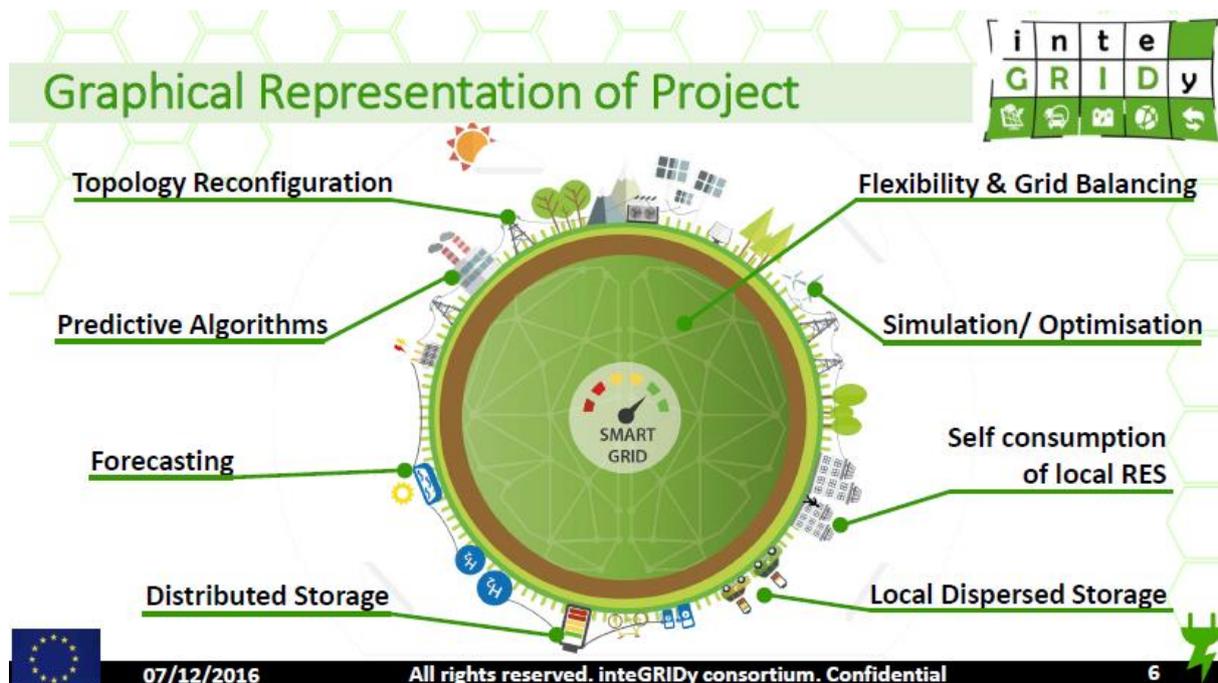


Figure 6. inteGRIDy project presentation example.

4.4 Website

The inteGRIDy website is publicly available at <http://www.inteGRIDy.eu>. As shown in Figure 7, it includes details about the project description and partner’s profile (for each participant). It also provides up-to-date information about the project’s progress and results, upcoming events and other news.



Figure 7. inteGRIDy website.

Project deliverables (all of which are marked as public) can be directly accessed through the webpage. Links to project publications and research data that may be hosted in external repositories are also provided in the website.

Social network pages (e.g., LinkedIn, Twitter, YouTube) will be used to draw attention to the website and improve awareness of the project.

4.5 Video

Video presentation format plays a vital role in inspiring interest and generating wider understanding of research and innovation. The importance of videos showing key results of scientific innovation has been praised by several authors. A good video allows researchers to reach specific audiences and communicate their motivation and their findings. Moreover, a video showing the system in action can be the main tool to reach end-users and policy makers.

Different topics can be targeted by video formats. As an example, the following actions are being considered:

- Professional commercial videos,
- Partner's initial thoughts;
- Demo videos for pilots.

4.6 Brochure, Poster and Newsletter

In order to provide interested parties with a consistent overview about the main topics, the objectives, the status and the future development of inteGRIDy, there will be a brochure designed and distributed to each member of the consortium. This will give every partner the opportunity to address potential contacts at appropriate occasions, e.g. exhibitions and conferences.

Posters will be also supported as dissemination material. It will be used on dissemination events. The main purpose of the poster is to catch the audience's attention through a clear and eye-catching design.

The project will produce electronic Newsletters (biannual approximately), describing the project's achievements and innovations, aiming at fostering the highest possible penetration to both market and scientific community. The Newsletter will be released via email to multiple parties, consisting of the members of the inteGRIDy Community (registered stakeholders that have accepted the project's invitation), as well as the business and research contacts of the project participants, who can potentially raise interest in the inteGRIDy's offerings.

Common templates have been created to cover all dissemination activities, according to the corporate image of inteGRIDy and initial material can be found in the Annex II.

4.7 Press release

The most efficient way to disseminate project results to other organizations outside inteGRIDy consortium and public media is through press releases. This is a very traditional approach to dissemination. Target channels for this communication are relevant public and energy related newspapers, journals, television (both local and nation wide), scientific/administrative publications, etc.

All aforementioned dissemination means will be used by the consortium to promote inteGRIDy at regional, national and EU levels. Special attention will be paid to select the most relevant media options so as to assure optimum dissemination of associated technologies. As the project evolves, a comprehensive set of materials for journalists is expected to be produced, ensuring the proper dissemination of relevant background.

4.8 Other

As the project plans to attend and organize workshops and exhibitions (both internal and external), specific dissemination material customized to a particular location and/or event will be prepared. Roll-up posters or trade show displays are examples of this kind of supporting material.

5 Measures of impact

inteGRIDy will monitor the proper advancement regarding dissemination activities using key performance indicators (KPIs) oriented to quantify and manage all forms of communication and dissemination, focusing specially on results and their inherent quality. Continuous monitoring of these KPIs will assure the needed feedback to enable potential strategy changes.

KPIs are originally identified following the reasoning explained below:

- The right message has been delivered to the right people.
- Messages are effectively delivered.
- There is a system to pick up all feedback to determine effectiveness.

All dissemination activities compress one or more indicators and/or feedback tools in place to measure their communication efficiency. Table 12 specifies the minimum requirement set up for inteGRIDy to consider an indicator successful, with the associated contingency plan in case it is not reached.

Table 12. KPIs for dissemination assets.

Dissemination	KPI	Threshold	Contingency Plan
Web page	Yearly visits	1.500	Promoting the web via SNS and at events
	Visit duration	2 min (avg)	Refine web structure to point clearly to key information. Upload more relevant content.
	External references	100 (no searches)	Contact more stakeholders and promote the site.
Publications	Submitted papers	15	Foster partner collaboration and dissemination. Identification of more appropriate events.
	Articles, journals and books	6	Address several publication options.
Events	Attended	10	Find alternative events. Increase participation.
	Organized	2	N/A
	Workshop attendees	30	Prepare a good agenda, content and speakers to assure participation. Promote the event.
Newsletters	Subscriptions	75	Produce more interesting content. Invite to subscribe in events.
Brochures	Number	3	Adapt the content to the project progress and targets.
Social Network	LinkedIn contacts	150	Request partners to send invitations to their relevant professional contacts.
	Twitter followers	200	Request partners to send invitations to their relevant professional contacts.

Each partner will be in charge of monitoring its own dissemination activity locally and to report the progress and pitfalls to the dissemination leader. All partners are responsible for liaising with the local and regional media for dissemination purposes. In addition, external project material will be reviewed together with the DCM in order to comply with quality standards.

5.1 Risk and issues

inteGRIDy has identified an initial set of potential risks. These risks will be monitored and mitigated by the DCM.

Some risks associated with the dissemination activities may include:

- Communication and dissemination initiatives are not reaching the proper audience.
- Poor dissemination towards relevant stakeholders, leading to potential lack of participation from key stakeholders.
- Low project visibility due to bad dissemination activities, although the project is running fine.

To mitigate these risks, the following actions are considered:

- Set clear objectives based on the knowledge of the target audience.
- Ensure a clear map of stakeholders and ensure clear message across all dissemination material.
- Dissemination of related ideas, making use of different tools so as to properly disseminate project results (such as the project website, electronic and printed newsletters, press releases, papers etc).

5.2 Updates to the communication and dissemination plan

Table 13 provides a quantification of the inteGRIDy dissemination activities and sets a basis for verifying whether the project's dissemination objectives have been met.

Table 13. Quantification of inteGRIDy (general) Dissemination Activities.

Channel	KPIs	Main Target Stakeholders		
		Energy Sector	Users	Facilitators
Project Documentation				
Leaflet	1 initial version + update	X	X	X
Poster	1 initial version + update	O	X	O
Reference PPT	1 initial version + update	X	X	X
Project Publications				
Project newsletter	6 (biannual issue)	X	X	O
Articles and proceedings	Average 3 publications/year	O	X	O
Project deliverables	See list of deliverables	X	X	X
Open access repository	1 deposit per year	X	O	O
Project video / slideshow	1 initial version + update	X	X	X

Online Presence				
Project website	1 website, monthly updated	X	X	X
Related websites	10+	Depending on specific Website		
LinkedIn	At least 1 monthly update	X	X	X
Twitter/Facebook	At least 1 weekly update	X	X	X
Events				
Presentation & feedback sessions	3	X	O	O
Training sessions	3	O	X	O
External events	30+	Depending on specific event		
Caption:				
X	<i>Main target</i>			
O	<i>Secondary target</i>			

Some inteGRIDy partners (specifically, the Project Coordinator (PC), the Scientific and Technical Manager (STM) and the DCM) have already created awareness of the inteGRIDy project by participating in BRIDGE Initiative.

A press release has been issued on January 2017 by the PC, detailing the composition of the consortium, the scope of the project and the challenges ahead.

More details on these dissemination activities will be found in D9.3 “Report on Dissemination & Communication Activities” planned for the M18 (June, 2018).

6 Exploitation plan

In line with the inteGRIDy Dissemination and Communication, as well as Exploitation Plans, project partners intend to promote and disseminate achievements and results using different channels, each on their own interest fields, aiming at raising public awareness and also cognizance on the respective National and European stakeholders.

Industrial partners will play a crucial role to promote results and engage different energy market stakeholders and customers for the adoption of the inteGRIDy results. Establishing business links with energy market key players is crucial to an effective dissemination of inteGRIDy results, as well as a means for a potential future implementation of the resulting solutions and business models proposed by the project.

inteGRIDy research (including academic) partners plan to have a considerable impact on the scientific community through the dissemination of results via publications in most relevant journals and conferences. Synergies, liaisons and close collaboration with other research initiatives are also planned to foster even wider penetration of dissemination.

In addition, Pilot leaders are committed to organize dedicated workshops and info days oriented to their local communities so as to disseminate results and ensure public endorsement for their grid balancing and business modelling activities. National relevant stakeholders will be also reached to support on regulation related topics.

Finally, inteGRIDy, as a consortium, plans to attend sector relevant industrial fairs and exhibitions so as to increase the project visibility.

All in all, the main objective is to reach optimum deployment of proposed technologies so as to open the path for potential commercial exploitation, via demonstration of viability. Table 14 resumes all exploitable outputs of inteGRIDy.

Table 14. Preliminary exploitable results identification.

Exploitable Results	Lead Partner	Type of Result	Mean of exploitation
InteGRIDy integrated Solution	AI	ALL	Licensing / Royalties
Flexible Residential local storage system with smart energy control	W+V/SUNLIGHT/CERTH	A C	Direct sale/ Research contracts / IA projects
Multi-carrier hub and flexible Optimized management for DSO	ENG	B C	Direct sale / Licensing
Mobility data aggregation and intelligent decision making	SIEMENS	C D	Direct sale/ Licensing
Neighbourhood Energy Management, DR Flexibility Forecasting & Optimisation Tool, Customer side applications	CERTH/TU/UCY/ENG	A	Direct sale/ Licensing
Demand Side Energy Behaviour Profiling Mechanism	TREK	A	Direct sale/ Research contracts / IA projects
Integrated Optimization-based Decision Making Tool, Monitor and Supervision for smart micro-grids	CERTH/UCY	B	Licensing / Research contracts
Model Predictive Control for Process & Energy Systems	CERTH	B	Licensing / Research contracts
Visual Analytics T tool for Flexibility Analysis, Aggregation and Forecasting	CERTH	B	Licensing / Research contracts
MV Distribution Networks Management T Tools	POLIMI	B	Research contracts / IA projects / Publication
Control Hub and DSM hub	M7	C	Direct sale
Innovative Energy Storage technologies	UNE/UCY	C	Direct sale/ Licensing
ZHERO Technology	UNE	C	Direct Sale / Licensing / Patenting
Virtue EV	EMS	D	Direct sale/ Licensing
Legend			
A. Demand Response		C. Energy Storage Technologies	
B. Smartening the distribution grid		D. Smart Integration of grid users from Transport	

6.1 Exploitation Strategy

The Exploitation Manager will produce an Exploitation Strategy that will provide a detailed log of how the project results for inteGRIDy will be managed, protected and promoted. The document will be delivered in month 24 and updated versions will be released in months 36 and 48, according with the project plan.

The Exploitation Strategy will build on the high level information contained in this report and will ensure the project's consortium:

- Understands the landscape (market, technology, IP etc.)
- Know what development objectives are (e.g. reaching a certain Technology Readiness Level etc.)
- Understands what further work, investment and funding is required to reach the objectives.
- Constructs the optimal technology 'package' by:
 - Identifying interdependencies or synergies that maximise the product/service value
 - Building a portfolio of IP (ie. not limited to patents)
 - Adding value through development
 - Requirements to change market perceptions
- Defines the most appropriate exploitation route.

The inteGRIDy Exploitation Manager will be responsible for investigating the novelty of the invention and proposing to the Consortium the possibility to apply for a patent protecting the generated IP. This process has been mapped and will be further expanded within the Strategy. The exploitation path can be summarized as:

The Exploitation Strategy will closely align with the activities taking place in business modelling processes, which include:

- Providing the foundations for the commercialization of the inteGRIDy platform and its components
- Providing three complementary pillars: life cycle data, cost-benefit analyses and energy market business model intelligence
- Developing new business models that link the inteGRIDy system with the customer in novel, engaging ways, building on big data knowledge, enabling dissemination and diffusion of inteGRIDy across European member states.

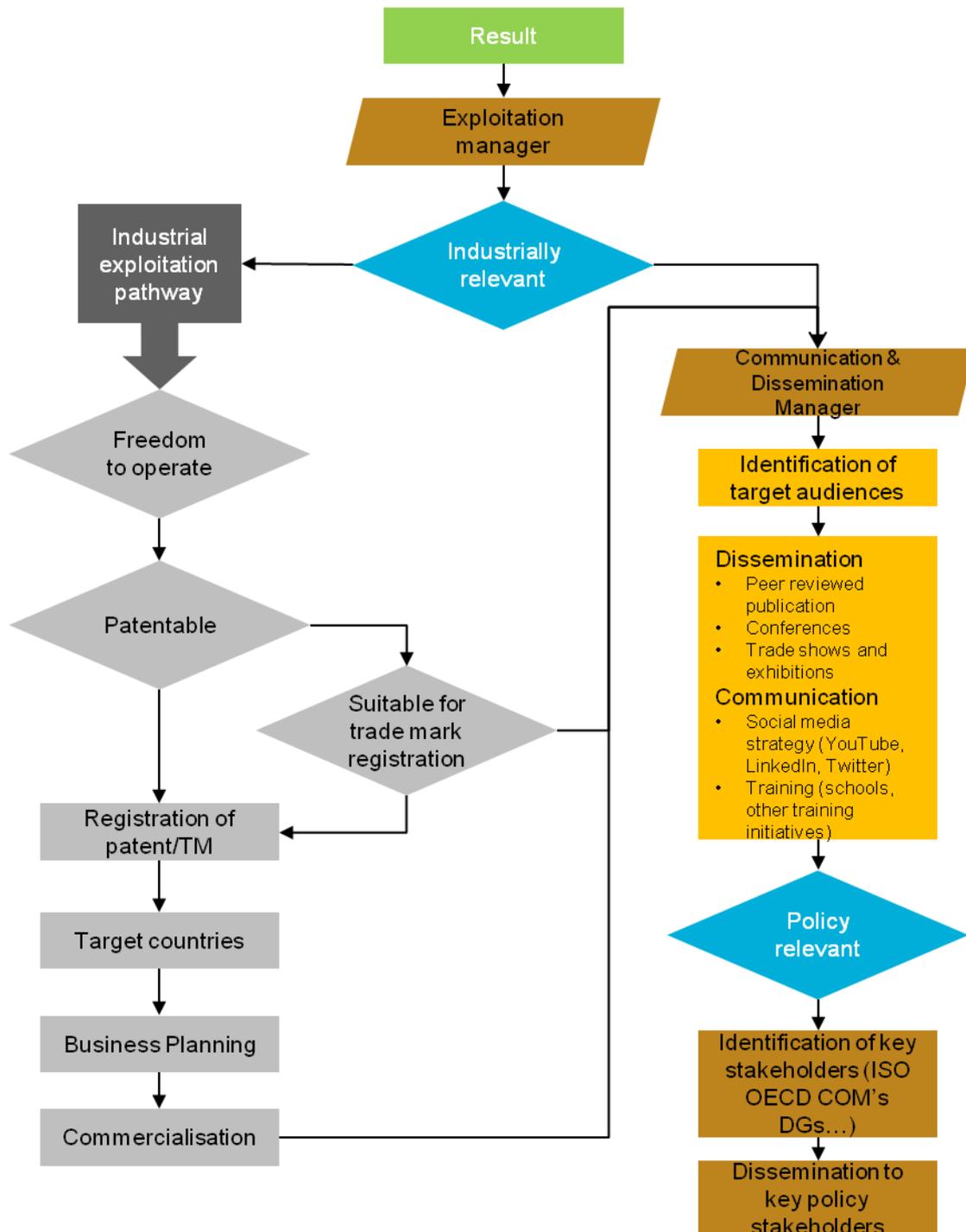


Figure 8. Exploitation strategy.

6.2 Partner specific exploitation plans

The overall dissemination and exploitation strategy is based on and leads to specific plans per partner. All of these plans contribute to the procedure presented in Figure 9. The plans include detailed lists of target groups, associations, companies, persons, etc. To each of the aforementioned audiences, appropriate dissemination and exploitation measures will be assigned. Though, all partners are committed to intense cooperation in general, the universities and end-users account for dissemination activities, while the industrial partners carry out the exploitation.

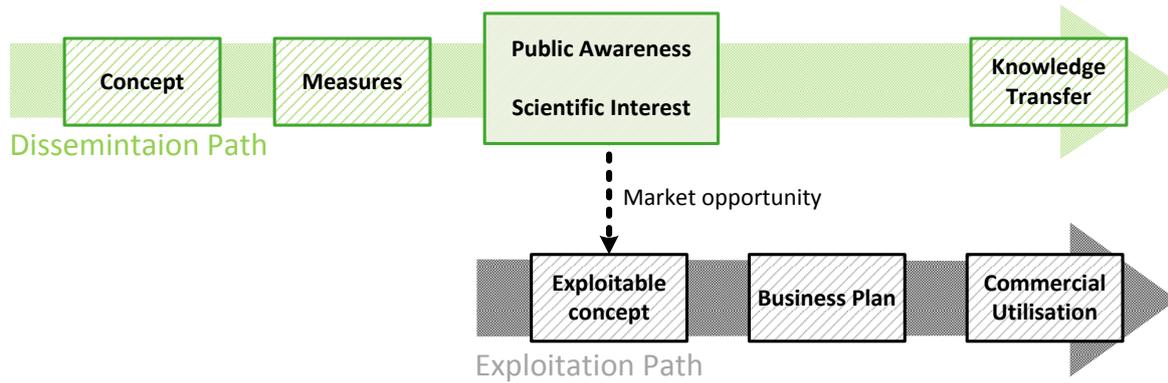


Figure 9. Dissemination and Exploitation paths.

This section provides the inteGRIDy partners’ individual exploitation plans. The organisations have been categorised into six groups, in line with the original proposal:

- Large Industrial Companies (ATOS, SIEMENS, ENG, SIVECO, SUNLIGHT)
- DSO/Utilities/Energy Providers (GNF, ELECTRICA, ASM, ASSEM, INNED, PHE, WVT, EAC)
- SMEs (ATK, M7, EMS, UNE, AIGUASOL, TREK, VPS)
- Research and academia partners (CERTH, TEES, UNEW, UNIROMA1, POLIMI, UCY, UCP),
- Non-profit organisations (E@W, ENOVA) and
- Public body (IWC).

This section presents an overview of the potential exploitable content per partner together with a short description of the individual exploitation plan. This information is extended in Annex I for generic organization data.

Large Industrial Companies

6.2.1 Atos

What content could be exploited?	ATOS, as a leading digital services company, will make use of inteGRIDy to enhance its portfolio in the Energy & Utility market. ATOS will use its business network to exploit inteGRIDy results by presenting the developments to the different business lines of the company and in professional fairs.
Approach to exploitation	ATOS aims at playing a pivotal role on the definition, customization and implementation of inteGIRDy’s cross-functional modular platform (CMP). The collaborative development of such platform inside the project will provide important knowledge and know-how for the involved team so as to apply the resulting methodologies to internal research and development assets, with the goal to further develop and position them as marketable modules through the company’s business lines. Specifically, ATOS commercial interest in inteGRIDy is twofold: CMP needed customization to different cases and application layer optimization in the energy domain, aided by the collaboration with the key players inside the consortium. This will also foster potential replicability of the resulting solution to other scenarios reached via the project stakeholders. ATOS expects its Big Data service line to grow 30% in the following five years, boosted mostly in the infrastructure applications and in two reference markets: banking and energy utilities.

6.2.2 Siemens

<p>What content could be exploited?</p>	<p>Siemens will earn significant knowledge through its involvement in inteGRIDy. The policy review in which the partner will participate, is expected to offer useful insight on the regulatory environment existing across different territories in Europe. Also, the contributions in the cyber security context will offer Siemens practical new knowledge that can be applied on other projects.</p> <p>The main exploitable content for Siemens will be the work on the Isle of Wight pilot, where Siemens is deploying a novel system that will offer greater flexibility to the DNO. The innovation can be summarised in three points:</p> <ul style="list-style-type: none"> • Siemens will provide new and innovative demand side management strategies that enable live bureau market participation. The building owner/operators will be able to reduce hedging commitments and overall energy consumption whilst increasing the flexibility in line with grid operator requirements. • Inside the building, Siemens is deploying a high number of sensors and other field devices that will enable Siemens to increase the size of flexible load and participate in more demand response events. • Introducing an array of sensors to improve the process of aggregating load across multiple buildings.
<p>Approach to exploitation</p>	<p>Siemens will define an exploitation strategy that will detail all of the steps Siemens will take to commercialize and protect the innovations generated in inteGRIDy. At this initial stage, Siemens approach can be summarized as:</p> <ul style="list-style-type: none"> • inteGRIDy as a reference: Siemens will exploit the innovations by producing case studies and references that will be disseminated in meetings, conferences and via marketing channels. • Replicable system architecture: Siemens will define a replicable system architecture on Isle of Wight pilot which is intended to be re-used where possible with other municipalities across Europe. • Re-deploy knowledge: Siemens will embed the learning generated during inteGRIDy within the organisation and use it to inform decision makers in other projects, business cases and R&D activities. • Leverage relationship: Siemens intends to continue building relationships with the inteGRIDy partners such as UCP, Teesside University and Minus 7, with the aim of generating additional value for their customers, through the expertise and innovation that exists within these partners.

6.2.3 ENG

What content could be exploited?	<p>Many results of the inteGRIDy project can be exploited by ENG. As responsible partner for the overall architecture and of its implementation as Cross Functional Modular Platform (CMP), ENG will have a deep knowledge of the wide variety of technologies that inteGRIDy is inheriting from previous projects and that are being customised, integrated, extended to address emerging needs coming from energy prosumers and DSOs. Also, intangible results will be exploited: market analysis, stakeholders' needs, new business models mapped onto the European framework of regulation will be for ENG an opportunity to extend the energy & utilities business area also outside national frontiers.</p>
Approach to exploitation	<p>ENG is a very active player in the ICT for Energy Management and Smart Grid domain. In this regard, the Energy & Utilities General Division is fully involved in delivering effective ICT solutions for the energy and the multi-utility market. However, ENG has also a long and solid experience in national and European co-funded research projects, tailored for the Smart Energy Grid.</p> <p>Hence the approach to exploitation will be twofold: a new and more competitive IT service and solutions offering to the Energy & Utilities market in which ENG already supplies many big customers (Terna, e-Distribuzione, Acea, E.On, Eni, etc.); a deeper knowledge of the more recent technologies for the Smart Grid to be exploited in even more challenging research initiatives. Indeed, expertise and skills developed inside the project will increase the already important knowledge and know-how of the involved team giving ENG the chance to profitably continue its research activity in European projects in the Energy Management and Smart Grid domain.</p>

6.2.4 SIVECO

What content could be exploited?	<p>SIVECO, as an IT leading company, will use inteGRIDy results to develop new business models and to attract clients from energy distribution.</p> <p>SIEVCO will use its business network to exploit inteGRIDy results by presenting the developments to the different lines of business inside the company and in dedicated events..</p>
Approach to exploitation	<p>SIVECO aims at playing a key role in the definition, development and deployment of inteGIRDY's cross-functional modular platform (CMP). The team engaged in the collaborative development inteGRIDy will be exposed to huge amount of knowledge and know-how. The resultant methodologies will be used in internal research and development assets aiming at developing new business models to access new markets via company's dedicated line of business.</p> <p>SIVECO's commercial interest is in customizing the inteGRIDy CMP for different business cases, mainly DSO and in fostering replicability of the solution.</p>

6.2.5 SUNLIGHT

What content could be exploited?	Mainly, SUNLIGHT will make use of inteGRIDy on Energy Power Systems and Green Energy Systems. Our products may be enhanced with technology that's not SUNLIGHT's specialty at the moment. For example, Artificial Intelligence.
Approach to exploitation	<p>An islanded autonomous grid operates for experimental purposes on Energy Power Systems and Green Energy Systems, at the industrial Renewable Energy park at Xanthi, Greece. The energy sources of the grid are sun, wind and diesel. Lead-acid batteries and Polymer Electrolyte Membrane (PEM) electrolyser that produces and stores hydrogen are used for energy storage.</p> <p>In collaboration with other partners, our focus is to maximize the efficiency of the Energy Power Systems and Green Energy Systems in order to create technologically advanced and competitive products. Furthermore, inteGRIDy gives us the opportunity to learn more about the legal, political, technological and economical condition in most of the European countries. This knowledge helps us improve our business and marketing model in European countries and moreover, to understand better the needs of our customers.</p>

DSO/Utilities/Energy Providers

6.2.6 GNF

What content could be exploited?	Within the project duration, GNF will make use of the CMP to test the viability of the use cases defined at the Barcelona pilot site. The tools developed during the project are expected to be integrated to the service portfolio of the energy service company. In addition, the CBA methodologies and the KPI's defined within the project will be useful for GNF to build an own procedure to quantify viability of future replications.
Approach to exploitation	In a service based-model, GNF is creating a value proposition around energy services that brings value to the customer and answers the current energy challenge. GNF is developing services that enhances user experience, harvest the benefits of the digitalization on both customer and network, minimizes energy costs, ensures a secure energy supply and minimize emissions. GNF expects to integrate the CMP to its own service portfolio and continue developing functionalities to comply with all range of GNF's clients specificities. The replicability of this pilot case in Barcelona will be analyzed throughout the project in order to ensure that inteGRIDy's outputs are appropriate to GNF's client's specificities.

6.2.7 *ELECTRICA*

What content could be exploited?	ELECTRICA, by his three DSO in Romania, will use inteGRIDy results to improve the services to offer and to provide innovative energy distribution service packages.
Approach to exploitation	ELECTRICA will use its business network to exploit inteGRIDy results by presenting the developments to the different lines of business inside the company and in dedicated events.

6.2.8 *ASM*

What content could be exploited?	ASM TERNI as DSO will make use of the inteGRIDy to improve its Smart Grid in terms of integration and better use of energy resources, especially with respect to microgrids. ASM TERNI will use its network to exploit inteGRIDy results by presenting the developments in professional fairs, technical and scientific journals.
Approach to exploitation	<p>Concrete measures will be planned by ASM TERNI to enhance the innovation capacity and integration of inteGRIDy knowledge. Due to its role as DSO and InteGRIDY test site, ASM TERNI is definitely committed to the inteGridy project with respect to the utilisation of the smart grid solutions developed throughout the project. To make effective the ASM's exploitation plan, products have to comply with current legislation and be commercially available.</p> <p>The activities aimed at using and sharing knowledge comprise:</p> <ul style="list-style-type: none"> i) installation of the new solutions for local microgrids in order to offer DR and other energy services (12-24 months after the end of the project); ii) running the different modules, models, tools and Applications suitable to improve the quality of DSO services (6-12 months after the end of the project); iii) utilization of the lessons learnt over the project to go beyond the current situation and design new national and European actions (projects, events, training, etc.).

6.2.9 *ASSEM*

What content could be exploited?	The Cross-functional Modular Platform (CMP) which will be developed under inteGRIDy project, will enable A.S.SE.M. S.p.A. to improve the distribution network management, also through the exploitation of the resources associated with it (e.g. storage) and with consequent benefits in technical and economic terms.
Approach to exploitation	<p>From the operational point of view, the tools and the results obtained within the project will be shared and made available to the technical staff responsible for managing the distribution network so that they can actually be exploited in the management of the network itself.</p> <p>Through appropriate information/awareness campaigns, A.S.SE.M. S.p.A. users will improve their energy behaviours.</p> <p>The results obtained within the project will also be shared with the Italian energy authority, in order to expand their implementation to the political level.</p>

6.2.10 INNED

What content could be exploited?	As a DSO, INNED will make use of the inteGRIDy technologies to perform a suitable demonstration which will give the line to follow for future large scale developments to be implemented on the grid.
Approach to exploitation	INNED aims at improving the grid stability on the basis of technologies and knowledge shared and applied within the inteGRIDy consortium. In order to get an increasing efficiency of the electrical balance, taking also in to account the high seasonality of the consumption in the Maurienne Valley, the knowledge and experience to be generated in the context of inteGRIDy may contribute significantly in the better exploitation of the Renewable Energy Sources on the grid and the selection of innovative business models, in line with our activity.

6.2.11 PHE

What content could be exploited?	<p>As the electricity supplier, PH Energia being aware of the legislation in force in Portugal, will contribute with its knowledge in the area for the implementation of the pilot in Lisbon, particularly in case studies that will study the dynamic tariffs and also contribute to the sizing and the technical installation of the solar plant to be installed on the roof of the building.</p> <p>The participation of PH Energia in the inteGRIDy project would permit to expand the company's knowledge on the new services and technologies proposed in the countries of the pilot projects. Many use cases proposed in different pilot projects can be replicable to more countries across the inteGRIDy Pilots enabling to enlarge the data in a wider and complex environment.</p>
Approach to exploitation	<p>PHE are responsible for the pilot implementation in Lisbon (Pilot 7), with the support of the other technical partners (E-NOVA, UCP, VPS). In this pilot, there would be installed a small PV plant at the rooftop with an area of about 50 m². The electric energy generated through this plant, combined with storage solutions, will also enable to reduce the grid load. Since PH Energia has a great experience in clean energy solutions (namely PV), its knowledge can be successfully used in the implementation of the pilot. Making use of know-how PH Energia designs and plan an optimized offer to each customer and seemingly implement the most efficient solution. PH Solar is its brand targeted to the operational intervention of this product that operated with the partners and suppliers of renewable production solutions.</p> <p>In addition to this, in the Lisboa pilot there would be studied a potential to adapt the EV charging cycles to dynamic tariffs, that would replace the already used fixed-tariffs system, avoiding EV charging in peak hours. As an electricity retailer, PH Energia would provide the inputs integrating the virtual dynamic tariffs in the use cases of the pilot.</p>

6.2.12 WVT

What content could be exploited?	WVT is a leading private utility company in Greece. WVT is going to use the integrity project results to build stronger and long term customer engagement opportunities, to have a dynamic impact on the Greek liberalized market, to go large scale for DR using the project's replicability option.
Approach to exploitation	Study the project results and build up cost and/or profit sharing business models with the end customers. The replicability potential could serve the company acting as an aggregator for the actual future DR market needs.

6.2.13 EAC

What content could be exploited?	<p>UCY as a pioneer in the research field will utilize the cross-functional platform provided within inteGRIDy in order to increase the energy efficiency within the university campus. By activating the identified control points within the campus, the microgrid concept will be implemented. The target is to transform the University of Cyprus into a "living laboratory", which will use its own RES production in order to cover the electricity needs.</p> <p>EAC (as DSO) will take advantage of the controllable microgrid and the controllable prosumers within Cyprus in order to solve grid issues (such as violations of the voltage profile, grid congestion issues, power quality deterioration, etc.).</p>
Approach to exploitation	<p>The cross-functional platform of inteGRIDy will be utilized in order to combine all the information provided by the smart metering infrastructure (for RES production, energy storage and energy consumption) and installed sensor systems within the university campus microgrid with the forecasted energy. The target is to increase the controllability of the microgrid in order to increase the efficiency in the energy flows.</p> <p>The platform provided by inteGRIDy will be utilized by the dispersed prosumers in order to offer ancillary services to the DSO through the controllable demand response. EAC (as DSO) will use the controllability of both the microgrid and the dispersed prosumers in order to resolve the above referred grid issues.</p>

SMEs

6.2.14 ATK

What content could be exploited?	A.T.Kearney is active with data services related battery storage and is currently involved in the development and formation of several joint ventures in this space. Specifically, the data about the economic models and timing of charge versus discharge across a range of European markets with differing grid and market conditions is of interest.
Approach to exploitation	A.T.Kearney currently has a good level of sophistication and subject matter immersion in the UK grid and associated applications, but will learn more and exploit further the applications of innovation through the InteGRIDy project across multiple EMEA geographies (A.T. Kearney has 26 central hub offices with access to markets across the European section of its business).



6.2.15 M7

What content could be exploited?	<ul style="list-style-type: none"> • InteGRIDy is enabling M7 to write the interface and control strategy to control a network of heat pumps to provide a DSM service and optimise the purchase of grid electricity • The economic value is in the ability to provide the technology with a lower cost electricity tariff. • This capability adds a further level of functionality on the existing product and extends the competitive edge • Benefits of DSM in enabling lower cost energy purchase is will be valuable
Approach to exploitation	<p>The benefits articulated above will be included as part of M7's general exploitation strategy into chosen markets.</p> <p>The network built up through the InteGRIDy project itself will also act as a potential routes to market. As the benefits are demonstrated so other partners may choose to exploit the technology.</p>

6.2.16 EMS

What content could be exploited?	<p>As a market leading voltage optimisation and energy storage brand, Powerstar will actively promote its involvement in inteGRIDy through its online and offline channels. Powerstar will disseminate and present the inteGRIDy outcomes of the project to its extended network through its promotional marketing activity as well as at inhouse and external events.</p>
Approach to exploitation	<p>The current energy landscape, as emphasized through government strategies such as the clean carbon strategy and the 2040 plans, highlight the buoyancy for smart energy storage and electric vehicle charging solutions.</p> <p>Powerstar's involvement in the inteGRIDy project will provide a platform to educate audiences, both within and external to the energy sector, on how an integrated approach to the energy/EV market can help overcome the numerous obstacles proposed within the news and government strategies.</p> <p>The inteGRIDy findings will support the launch of VIRTUE EV and propel the product from its introduction into its growth phase by provided tangible results on how it can be used to tackle infrastructure challenges.</p> <p>The intention is to use inteGRIDy as a pilot case study to substantiate the benefits. Powerstar expects adoption of its technology to grow by 60% in the next 24 months.</p>

6.2.17 UNE

What content could be exploited?	<p>UNE intends to exploit inteGRIDy results to cope with new market demands and to further develop the OWNER GRID (smart grid) network. In particular</p> <p>a) UNE will use the results to improve the ZHERO technology in the context of network services</p> <p>b) UNE is also looking forward to exploiting the predictive algorithms which will be developed within the project</p>
Approach to exploitation	<p>This storage system and its advanced control can be integrated as smart grid component on the final user – the base concept is taking advantage of the “supplementary energy sharing” between users, contributing to reducing the use of the distributor's network (smart grid management).</p> <p>UNE in particular:</p> <p>a) will study the results of the project to provide the customized services required by the network by refining the distribution algorithms, thus increasing system efficiency</p> <p>b) With predictive algorithms, will develop a more refined AI to increase energy self-consumption and to improve the smart management of the energy reserve always available to the customer; associating the results with domotics, the energy available to the user will increase in the critical phases.</p>

6.2.18 AIGUASOL

What content could be exploited?	<p>AIGUASOL will make use of inteGRIDy to enhance its portfolio in smart grid DR programs and strategies. As well, all the thermal-electrical models and control strategies developed will be integrated in the new-gen Energy management systems, which are planned to be developed by the company.</p>
Approach to exploitation	<p>Aiguasol aims to play a decisive role in the analysis and implementation of advanced control strategies in the Barcelona pilot case. The participation in these tasks will provide real experience in the implementation and optimization of DR strategies, with the future objective of being replicated in other existing facilities.</p> <p>In addition, its participation in other important work packages, such as WP3 and WP9, will allow to expand its knowledge on the application and exploitation of smart grid DR programs and strategies. Knowledge that will be incorporated in the realization of future local energy master plan or national policies.</p>

6.2.19 TREK

What content could be exploited?	<p>By defining TREK developments performed in the InteGRIDy project, we proceed with the definition of the 1st version of the exploitation plan.</p> <p>Development of a context based profiling flexibility engine to further extract in an automated way the potential of flexibility/controllability of portfolio customers. By taking into account in-building contextual</p>
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	<p>(environmental conditions) and operational (devices operation) conditions, we proceed with the establishment of an analytics engine that enables the extraction of accurate consumers profiles and further selection of best fitted automated Demand Response Strategies.</p> <p>The main objective is to extend the list of functionalities provided by the Demand Side Profiling Engine (TREK tool) and more specifically:</p> <ul style="list-style-type: none"> • Inclusion of building thermal mass modelling techniques • Incorporation of virtual energy storage concept as part of the functionality supported by the tool. The latest will enable the implementation of demand shifting strategies • Incorporation of additional load (device) models • Adaptation of fine grained control techniques as part of the functionality at the DSS layer of the engine <p>A Data Analytics tool as a service of Aggregator cockpit, enabling process analytics and simulation analysis over historical data of consumers. The Visualization Analytics tool is also a tangible outcome that TREK will try to commercialize as part of the software solutions of the company in the energy domain.</p> <p>TREK's main objective is to exploit the Visualization Analytics tool to be developed in InteGRIDy project, by providing customized Demand Side management services. More specifically:</p> <ul style="list-style-type: none"> • Apart from typical energy analytics, one of the main objectives of the Data Analytics is to provide analytics over Demand Side Management Scenarios. Therefore the business layer of the tool is able to address innovative business models for the new energy market stakeholders. • Towards the provision of enhanced analytics, several data types are defined and further incorporated in the holistic Visualization framework (energy consumption data, flexibility profiling data, environmental conditions, price data etc...). The main innovation of the proposed engine is that we decouple data management from analytics layer, facilitating in this way the integration with heterogeneous data sources. • An add-on feature of the Visualization Analytics framework is the "what if" simulation analysis feature. The role of this module is to support energy market stakeholders (namely Aggregators and ESCOs) to perform simulations about portfolio performance under different business conditions. Special focus is delivered on the simulation of different Demand Response Strategies towards the optimal selection of clusters of consumers to participate in different types of business services. <p>We presented above the 2 core exploitable outcomes of the company, directly linked with the development and evaluation activities performed in the project.</p>
<p>Approach to exploitation</p>	<p>As mentioned above, we are defining two potential exploitable assets:</p> <ul style="list-style-type: none"> • TREK enhanced Demand Side Profiling Engine • TREK Visualization Analytics tool <p>For each of them, an updated exploitation plan is presented. We have to point out that the updated version of the exploitation deliverable will provide a more concrete plan towards the commercialization of the project outcomes (considering also the demonstration of the</p>

frameworks at the different pilot sites).

TREK enhanced Demand Side Profiling Engine

The **Demand Side Profiling Engine** developed in the project provides an enriched functionality useful for different stakeholders. The analytics engine enables the extraction of accurate customer profiles; thus this process engine can be further integrated to different energy management services for:

- **Facility Managers and ESCOs:** By incorporating the **demand flexibility engine** feature in existing energy management tools, we offer fine grained calculation of the potential of demand flexibility, facilitating that way the implementation of control strategies (automated or not) associated with the energy management contracts.
- **Microgrid Operators:** as the responsible party for energy management of a mixed (demand and generation) portfolio. The **demand flexibility engine** enables a better management of the demand side, supporting that way the optimal management of the microgrid operation.
- **Demand Response Aggregators:** This is the main business case examined in the project. By incorporating **demand flexibility engine** in existing portfolio management tools, we provide a more accurate estimation of flexibility potential, towards triggering successful business (Demand Response) strategies.
- **BMS solution providers companies:** The **demand flexibility engine** could stand as an add-on feature of existing BMS solution.

It is obvious that the **Demand Side Profiling Engine** can act either as an end-to-end application for energy market stakeholders or as an integrated software module of commercial BMS solutions. Towards this direction, the main path for commercialization of the **Demand Side Profiling Engine** is defined:

- **Demand Side Profiling Engine** as part of TREK energy services pool. TREK is developing end-to-end solutions in the energy field (main focus on the provision of demand side management services) and thus the **Demand Side Profiling Engine** will be incorporated as an analytics feature of the energy management solutions.
- Bilateral agreements with BMS service providers towards incorporating the flexibility engine as part of BMS solution. TREK to exploit available contacts in energy markets to promote the respective service.
- Direct contacts with market stakeholders (facility managers, retailers acting as Aggregators, VPP managers) towards promoting the flexibility engine as an add-on feature in the available energy management services. A licensing policy should be defined during the last period of the project, towards exploiting the context based flexibility engine as a software element.

The current version of the exploitation plan focuses mainly on the definition of potential customers for the developed services. Details about marketing policies along with the time plan for the commercialization of the **Demand Side Profiling Engine** will be defined in the updated version of the exploitation plan.

TREK Visualization Analytics tool

The tool is considered as an analytics engine to support different market and grid operations and therefore considerable for different stakeholders and portfolio managers. More specifically, the tool with the enriched functionality may provide benefit services to:

- **Demand Side Management /DR Aggregator:** this is the case examined in Integrity project. The plan is to provide analytics over DSM services (as presented above), enabling the optimal placement in Demand Response markets.
- **VPP/Microgrid Operators:** This is a new term in energy market responsible for the management of a micro level (in geographical terms) portfolio. Data analytics over heterogeneous data types will facilitate the optimal management of the cluster of microgrid customers. (Main focus in optimal production vs. consumption management)
- **ESCOs & Facility Managers:** Similar to the VPP Operators, the role of ESCOs and Facility Management companies is to serve their customers by providing meaningful energy management services. Therefore, the Data analytics tool could provide insights towards the implementation of best fitter energy efficiency strategies to their customers.
- **Market Retailers:** The responsible market entities to represent consumers in traditional energy markets. The visualization analytics engine could provide insights towards the extraction of clusters with similar characteristics and thus the definition of innovative dynamic tariff policies.
- **Energy Consultancy Agencies:** Towards the digitization of electricity grids, the world of energy data science and analytics is continuing to grow. That leads to the growth of consultancy agencies providing analytics over big data. The Data analytics tool (especially the “what if simulation” feature) could be a useful tool for these stakeholders.

The current version of the exploitation plan is focusing on the definition of potential customers and possible exploitation channels. The detailed marketing plan for the exploitation of Visualization Analytics tool along with the licensing policy will be defined in the final version of the deliverable, following the demonstration of the software components during the project period.

6.2.20 VPS

What content could be exploited?	VPS will exploit new demand response tool and algorithms for energy usage optimization.
Approach to exploitation	Participation in InteGRIDy project will be key to improve interoperability with third party systems, which will reduce future implementation costs and enhance market access of proposed VPS solutions. Additionally, VPS will leverage on existent distribution channels (VPS as an established network of partnerships in EU and Latin America from business in the past 10 years providing oil&gas telemetry products).

Research and academia partners

6.2.21 CERTH

What content could be exploited?	<p>CERTH/ITI has gained valuable knowledge and experience in several aspects such as DR flexibility forecasting and optimization tool that can predict the energy flexibility of a building, a Multi-Agent Based Holistic Modelling and Simulation Framework (method, algorithms and tools), based on the extracted Occupancy Models, Energy Models and Business Processes Models, Occupancy Measurement toolset for real-time occupancy monitoring and information extraction in buildings, etc.</p> <p>The <i>Visual Analytics module</i> supports the analysis of large volumes of space occupancy and energy consumption data. This tool utilized for the evaluation of the building performance, as well as for the visual representation of the collected data and extracted information. Such visual analytics tools can further be exploited in other domains and applications, in order to provide powerful visualization of different spatiotemporal data that can be very important for the evaluation of the performance and all its related aspects.</p> <p>The <i>Intelligent Building Control & Flexibility Prediction Toolset</i> constitutes of powerful dynamic and integrated tools for real-time building automated monitoring & control, allowing the prediction/forecasting of a building's energy flexibility, based on extracted profiles and current contextual conditions, while further being able to coordinate operation of building's assets in the optimal comfort & energy efficient manner. CERTH/ITI will explore the potential of exploring such tools in different Demand Response applications, targeting utility companies and ESCOs that could utilize such tools to offer similar services</p> <p>The <i>Facility Management Web-Based Interface with DER Flexibility data analytics</i> is a powerful web-based console able to assist Facility Managers' every day monitoring and control of a building's assets, based on the enhanced real-time and historical information provided through a multi-sensorial network and infrastructures. This asset can be extended in order to further be exploited to support powerful monitoring and control applications in different energy domains and different customer segments.</p> <p>In a similar manner, the main aim of the inteGRIDy project exploitation activities where CERTH/CPERI is involved is to explore the innovative aspects of the foreseen outcomes and turn them into commercially</p>
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	<p>viable offers in targeted customers. These customers are either the in-house process plants or external who will request the construction or revamp of a process/automation system by CERTH/CPERI. CERTH/CPERI's integrated exploitation approach provide possible scenarios for further evolution of the developed solutions, during and after the end of the project and in combination with a periodic updated of the provided component. Furthermore, CERTH/CPERI plans to exploit the provided components, in the development of which it is directly involved (<i>Plant/Process/System Data Exchange Tool (DET), Supervisory Model Predictive Control for Energy Systems, Integrated Decision Support & Supervisory EMS Tool</i>) and reuse the algorithms that will be designed and developed within the specific outcomes of the project, as an integrated service for the energy systems it designs or constructs. Licensed versions or the provided tools will be available only when the components are stand-alone whereas the add-on will be part of the integrated automation system solution.</p> <p>CERTH/CPERI's developed and enriched with custom-built databases for materials and other RES and storage energy related components (e.g. batteries) being developed on the basis of <i>SimaPro software</i> for the environmental assessment of the demonstrated solutions in Spain and Cyprus, can be exploited to commercial oriented partners e.g. engineering companies who design smart energy systems. Except from other, companies manufacturing and EPC (Engineering-Procurement and Construction) business units can take benefit of such a tool during the definition of necessary components specifications, trying to promote the development and beneficiation from circular economy business models.</p> <p>The <i>dynamic energy process tool</i> embedded with house-built modules, developed by CERTH/CPERI, for the representation of components operation as those of Power to Heat can be exploited as a powerful supporting software enabling inter-connected modules for the dynamic simulation of a full energy system (production, distribution, consumption, and storage). With this tool, a list of proposed guidelines and storage with RES integration schemes can be used by business-oriented European stakeholders dealing with energy supply chain. This tool can contribute to the optimization of LV/MV interconnected components serving the needs of international market players who are active in carrying out major power plant projects throughout Europe.</p>
<p>Approach to exploitation</p>	<p>CERTH/ITI will seize the opportunity for further exploitation of the inteGRIDy project outcomes according to the institute's ambitions and activities.</p> <p><i>Knowledge-sharing/Intellectual activities:</i> Both CERTH institutes plan to additionally exploit the outcomes of inteGRIDy project to the wider scientific community, by preparing and submitting to journals and conferences, papers relevant to the occupancy flow modelling and prediction techniques, multi-sensorial networks and occupancy-based demand side management.</p> <p>Further contributions to the wider-scientific community will be provided by diffusing the novel algorithms and techniques that were applied in the inteGRIDy framework.</p> <p>Regarding the prototypes that will be designed and developed for the</p>

	<p>different frameworks' modules (etc.), it will jointly collaborate with involved partners for the delivery of corresponding prototypes with corresponding licenses to the associated scientific community.</p> <p>CERTH/CPERI will further seek bilateral meetings and P2P meeting with Greek and European based energy market players.</p> <p><i>Research activities:</i> CERTH is expected to gain valuable knowledge and experience in aspects such as integrative modelling combining technical and business models, energy efficiency and knowledge management. Therefore, as a research institute, will further reuse and exploit know-how, algorithms and tools resulting from the project to future R&D initiatives. Towards this direction, the aim is to provide and develop even more results, robust algorithms, open models etc.</p> <p><i>Business activities:</i> CERTH/ITI is a research institute that is non-profitable and targets to knowledge dissemination and expansion. However, CERTH/ITI institute holds active collaborations with SMEs and the energy industry in Greece and in European level. CERTH/ITI will also investigate the creation of spin-off companies oriented in commercializing products derived from the above research and the participation in new spin-off commercial companies capable of exploiting its research when new market needs and solutions are identified. CERTH/CPERI will further seek exploitation through the Clean Energy Ltd. spin-off company already established.</p>
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6.2.22 TEES

What content could be exploited?	Neighbourhood Energy Management Optimisation (NEMO) tool. The tool is able to predict energy demand based on historic time series data and current temperature forecasts. It can send signals to optimize allocation of energy generation between the generation assets, based on the criteria of cost reduction and/or CO2 emission reduction. For such purposes it interfaces to SCADA and other communication protocols. Associated services / tool modules may be exploited separately as well: energy demand prediction, optimisation of energy allocation between different generation assets, algorithms for communication with SCADA systems.
Approach to exploitation	<p>Provided successful demonstration of NEMO capabilities, we would pursue the following:</p> <ul style="list-style-type: none"> • Commercial partnership(s) with established market players within inteGRIDy consortium and/or externally toward commercialization of NEMO and/or its modules; • Explore the possibility for IP protection / patenting; • Explore the possibility for setting up a start-up company for commercialization of NEMO tool and its modular services.

6.2.23 UNEW

What content could be exploited?	Newcastle University electrical power research group has extensive experience in developing, implementing and trialling distribution network management tools. Newcastle University will apply its experience and connections with distribution network operators to the definition and implementation of the cross-functional modular platform
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	(CMP).
Approach to exploitation	Newcastle University will contribute to the definition, development, simulation and implementation of InteGRIDy's CMP. Newcastle University electrical power research group has been working closely with distribution network operators, who are the potential users of the CMP. UNEW can therefore ensure the DNO's views are reflected in the definition of the CMP. Simulation model of the pilot case, Isle of Wight in this case, will be built by UNEW. Such model can be used to test the performance of InteGRIDy's CMP in a safe simulation environment but also carry out infeasible trials, which are unlikely to be realised in real world. Such pre-implementation simulation can build confidence for the actual implementation of the CMP. UNEW will also use its experience in designing and analysing trials for the CMP in collaboration with the DNO.

6.2.24 UNIROMA1

What content could be exploited?	UNIROMA1, as academic partner in the Terni Pilot, will make use of inteGRIDy mainly to: <ul style="list-style-type: none"> • Improve the knowhow in the field of energy management, distributed generation and distribution network operation • Promote the collaboration with distribution system operators, as well as with other partners operating in the energy field
Approach to exploitation	Optimization algorithms for the management of LV micro grid/ MV distribution network will be tested and verified by field measurements in Terni Pilot. UNIROMA1 expects to exploit and disseminate such results by participating to international conferences and by publishing papers in the most relevant international journals in the energy field.

6.2.25 POLIMI

What content could be exploited?	POLIMI research team will use inteGRIDy project in order to implement and demonstrate the effectiveness of the "smart algorithm" developed in the labs. Similarly, POLIMI will evaluate tools developed by partners in order to perform a cross study of the "smart grid approaches". Results will be promoted to the POLIMI international scientific network in international conferences, workshop, etc.
Approach to exploitation	<p>POLIMI team is today quite active in providing technical consultation both to public bodies and private companies.</p> <p>Thanks to the knowledge improvements driven within inteGRIDy project, the research team is expected to strengthen his commercial activities.</p> <p>From a scientific point of view, the POLIMI research team is also very active in publishing papers and in international committee. Thanks to this networks, the team will share and promote inteGRIDy outcome at international level.</p>

6.2.26 UCY

What content could be exploited?	<p>UCY as a pioneer in the research field will utilize the cross-functional platform provided within inteGRIDy in order to increase the energy efficiency within the university campus. By activating the identified control points within the campus, the microgrid concept will be implemented. The target is to transform the University of Cyprus into a “living laboratory”, which will use its own RES production in order to cover the electricity needs.</p> <p>DSO will take advantage of the controllable microgrid and the controllable prosumers within Cyprus in order to solve grid issues (such as violations of the voltage profile, grid congestion issues, power quality deterioration, etc.).</p>
Approach to exploitation	<p>The cross-functional platform of inteGRIDy will be utilized in order to combine all the information provided by the smart metering infrastructure (for RES production, energy storage and energy consumption) and installed sensor systems within the university campus microgrid with the forecasted energy. The target is to increase the controllability of the microgrid in order to increase the efficiency in the energy flows.</p> <p>The platform provided by inteGRIDy will be utilized by the dispersed prosumers in order to offer ancillary services to the DSO through the controllable demand response. The DSO will use the controllability of both the microgrid and the dispersed prosumers in order to resolve the above referred grid issues.</p>

6.2.27 UCP

What content could be exploited?	<p>Based on the work in inteGRIDy, UCP will be able to further improve the business model tool, develop framework and publish the findings in academic conference and outlets.</p>
Approach to exploitation	<p>Exploitation will focus on two areas, publications and the business model tool. Work on publications has already started, reflected in two conference participations in 2017. As for the business model tool, we will present first developments in the BRIDGE group and subsequently develop an exploitation plan.</p>

Non-profit organisations**6.2.28 E@W**

What content could be exploited?	<p>Results of the analysis executed within the project regarding operational, regulatory and functional aspects together with the results of the surveys will be exploited allowing an enhanced vision of the barriers and the potential of the innovations as well as the future trends of the sector.</p> <p>The skills acquired during the inteGRIDy activities will enable Energy@Work to better understand the application context for smart grid technologies at national and European level.</p>
Approach to exploitation	<p>Energy@Work aims to promote through its own growing network the dissemination of the scientific results and the best practices acquired</p>

	and/or consolidated within the inteGRDy project. The participation to sector events, with particular attention to the regional contest, will enable the diffusion of a culture focused on energy efficiency at territorial level, while facilitating the adoption of innovative solutions through an appropriate technology transfer to public and private actors.
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6.2.29 ENOVA

What content could be exploited?	LISBOA E-NOVA, as one of the responsible entities for the implementation of good practices in the energy and environmental management, will make use of inteGRIDy to enhance its portfolio in the Smart City area, allowing the Municipality and their key stakeholders to improve the knowledge in this field.
Approach to exploitation	<p>LISBOA E-NOVA aims to provide their best contribution managing the Lisbon pilot providing all the data useful for the implantation of inteGIRDy's cross-functional modular platform (CMP).</p> <p>The collaborative development of such platform inside the project will provide important knowledge and know-how for the involved team as to apply the resultant methodologies to improve the Municipality Energy Efficiency and expand it to other key stakeholders. This will contribute in the future to implement an integrate city's energy management system.</p>

Public body

6.2.30 IWC

What content could be exploited?	<p>The CMP could be exploited by both the DNO and micro-grid operators that may emerge in coming years as the network is opened up to greater flexibility and new operating models.</p> <p>The council will exploit the simulation model to understand the network impacts of large-scale investment programmes, such as EV charging point installation, the electrification of heating and the integration of storage technologies.</p> <p>Individual technologies being developed by inteGRIDy partners will also be examined to assess their usefulness to the council and other organisations as they begin to explore opportunities to provide grid-balancing services.</p>
Approach to exploitation	<p>The council will seek further engagement with the DNO so that it understands the concept and practical application of the CMP. It also intends to disseminate information to all UK DNOs through either a conference or webinar and will discuss options with the Electricity Networks Association (ENA).</p> <p>The council will also seek opportunities to showcase technologies being developed by project partners to both the public and private sectors.</p>

6.3 Pilot specific exploitation plans

Both large and small-scale pilots covered by inteGRIDy project have some inherent assets and envisaged enhancements and additions to be made over those assets to increase their technological readiness level (TRL) and, thus, approach them to the market.

This section includes the individual exploitation plans for each pilot, covering six large scale pilots and four small scale pilots.

Large Scale: Isle of Wight (UK), Terni (IT), San Severino Marche (IT), Barcelona (ES), St-Jean (FR), Nicosia, (CY);

Small Scale: Lisboa (PT), Xanthi (GR), Ploiesti (RO), Thessaloniki (GR).

Following the same way to proceed, this section includes pilot's short description of the approach to exploitation. Annex I covers extended information on pilot profile, research focus and overview of the partners involved.

6.3.1 Pilot Use Case 1: Smart Grid fleet Charging EV Facilities, Demand Side Response & Energy Storage (Isle of Wight, UK)

Approach to exploitation	<p>The University of Newcastle and CERTH will disseminate the results of the project to the scientific community through publications in reputable scientific journals and conferences. They will also liaise with other research initiatives in order to maximise exposure to the project, identify synergies with other projects and foster shared learning amongst the academic community.</p> <p>The Isle of Wight Council, acting as pilot lead, will organise workshops for local community to promote the results of the project and ensure public understanding of what the partners are trying to achieve. They will promote it to councillors and members of staff who work at the Council. They will also establish links with relevant trade bodies, such as the Association for Decentralised Energy, to have their support on regulatory issues.</p> <p>Finally, Siemens, Minus 7, EMS and the other pilot partners will promote the results of the project at relevant industrial exhibitions and fairs.</p>
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6.3.2 Pilot Use Case 2: Combining Smarter Decentralized MV/LV Automation with Local Coordinated DER-DSO Operation for improving Grid Optimization (Terni, IT)

Approach to exploitation	<p>With the support of ATOS and the other project partners, ASM Terni will disseminate the results of the project to the scientific community via publications in reputable scientific journals and conferences. They will also liaise with other research initiatives in order to maximise exposure to the project, identify synergies with other projects and foster shared learning amongst the academic community.</p> <p>ASM Terni, as pilot leader, will organise workshops for the local community to promote the results of the project and ensure public support to what they are trying to achieve. ASM Terni will also establish links with relevant trade bodies, such as the Italian National Committee of the World Energy Council, to have their support on regulatory issues.</p> <p>ENG will promote the results of the project at relevant industrial</p>
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exhibitions and fairs. It will also use the intelligence it gains at Terni to support a new and more competitive IT service and solution offering to the Energy & Utilities markets. The deeper understanding ENG will gain on smart grid technology will be exploited in other challenging research initiatives. Ultimately the expertise and skills developed with inteGRIDy will give ENG the chance to profitably continue its research activity in European projects, in the Energy Management and Smart Grid domain.

6.3.3 Pilot Use Case 3: Advanced DG Monitoring Power Flows Forecasting & Topology Optimization (San Severino Marche, IT)

Approach to exploitation

Politecnico di Milano, with the support of other academic partners on InteGRIDy, will disseminate the results of the pilot project to the scientific community via publications in reputable scientific journals and at conferences. They will also liaise with other research initiatives in order to maximise exposure, identify synergies with other projects and foster shared learning amongst the academic community.

ASSEM, as pilot lead, will organise workshops for the local community to promote the results of the project and ensure public support in what they are trying to achieve. They will also establish links with relevant trade bodies, such as the Italian National Committee of the World Energy Council, to publicise the results of the pilot.

UNE and Energy@Work will promote the results of the project at relevant industrial exhibitions and fairs. Energy@Work will also promote the San Severino Marche pilot through its own growing network of contacts and publicise the best practices acquired. E@W will participate in sector events, with particular attention to the regional context, which will enable the diffusion of a culture focused on energy efficiency at territorial level, while facilitating the adoption of innovative solutions through an appropriate technology transfer to public and private actors.

6.3.4 Pilot Use Case 4: Smart Grid Integration, self-consumption strategies & enlarged RES penetration factor (Barcelona, ES)

Approach to exploitation

Barcelona's pilot lead by GNF will organise workshops for local community, including the users of Claror Cartagena Leisure Centre, to promote the results of the project and ensure public support in the grid balancing activities being conducted.

CERTH, as academic partner, with the support of other academic partners on inteGRIDy will disseminate the results of the pilot project to the scientific community via publications in reputable scientific journals and at conferences. CERTH will also liaise with other research initiatives in order to maximise exposure, identify synergies with other projects and foster shared learning amongst the academic community.

Both GNF and Aiguasol will promote the results of the pilot project at relevant industrial exhibitions and fairs; and look to utilise the Barcelona case study as a customer reference to help to economically exploit the generated innovations.

6.3.5 *Pilot Use Case 5: Novel Demand Response & Virtual Energy Storage Schemes (St-Jean, FR)*

Approach to exploitation	<p>INNED, as St. Jean's pilot leader, will take responsibility for organising workshops within the local community to promote the results of the project and ensure public support in the activities that are taking place. They will also establish links with relevant national groups or associations to have their support on regulatory issues.</p> <p>With the support of ATOS and the academic project partners, INNED will disseminate the results of the project to the scientific community via publications in reputable scientific journals and conferences. INNED will also liaise with other research initiatives in order to maximise exposure to the project, identify synergies with other projects and foster shared learning amongst the academic community.</p> <p>Both pilot partners will promote the results of the project at relevant industrial exhibitions and fairs.</p>
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6.3.6 *Pilot Use Case 6: Coordinated DR and DSM at Academic Campus and Households with RES & CHP (Nicosia, CY)*

Approach to exploitation	<p>The University of Cyprus and CERTH will disseminate the results of the pilot project to the scientific community via publications in reputable scientific journals and at conferences. Both partners will also liaise with other research initiatives in order to maximise exposure, identify synergies with other projects and foster shared learning amongst the academic community.</p> <p>The Electricity Authority of Cyprus, as pilot leader, will organise workshops for the local community to promote the results of the project and ensure public support in what they are trying to achieve. They will also establish links with relevant trade bodies, such as the Greek Energy Forum, to promote the results of the pilot.</p> <p>The partners of inteGRIDy will promote the results of the pilot project at relevant industrial exhibitions and fairs.</p>
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6.3.7 *Pilot Use Case 7: DR in Municipal Buildings integrating PV, EVs and Thermal Storage (Lisboa, PT)*

Approach to exploitation	<p>Lisbon's pilot leader, Lisboa E-NOVA, will organise workshops for the local community, including staff and visitors of Campo Grande 25, to promote the results of the project and ensure public support in the activities that are taking place. They will also establish links with relevant national groups or associations such as ERSE (the Portuguese Energy Services Regulatory Authority) to have their support on regulatory issues. Lisboa E-NOVA aims to manage and utilise all the data that stems from the implementation of inteGRIDy's cross-functional modular platform (CMP). Moreover, it will maximize the learnings taken from the project and apply the resultant methodologies to improve energy efficiency within the municipality and expand it to other key stakeholders. This will contribute in the future to implement an integrate city's energy management system.</p> <p>With support of the other Lisbon pilot partners, PHE aims to</p>
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disseminate all the intermediate achievements and the results during the lifespan of the project through the social media (LinkedIn, Facebook) and the webpage of the company. In addition to this, PHE aims to promote the projects outcomes through participating in the relevant national fairs and workshop in order to provide the public with the knowledge on new technologies adapted in the project.

VPS, as technological provider of Lisbon Pilot, will promote the results of the project at relevant industrial exhibitions and fairs benefiting the applicability of their technology in a representative infrastructure such as the Municipality of Lisbon's building with highest level of consumption.

Universidade Católica Portuguesa (UCP) is a partner responsible for developing novel business models for the inteGRIDy platform and its components. At Lisbon pilot, UCP will test and explore new business models that promote the integrated consumer-producer paradigm. The results of this exploration will be considered in the work of UCP on business modelling for the inteGRIDy platform and other pilots. With regard to exploitation, UCP will focus on two areas – the Business Model Tool and scientific publications. The Business Model Tool is an online tool that will help in bringing emerging business models at Lisbon pilot closer to implementation. UCP will present the ongoing developments of the Business Model Tool in the BRIDGE group and subsequently develop an exploitation plan. Publication practice is an ongoing activity that will be conducted during the lifespan of the inteGRIDy project. Publications will also integrate the work done at the Lisbon pilot.

6.3.8 Pilot Use Case 8: Optimum Distributed Control of RES-enabled Islanded Grids Local Storage (Xanthi, GR)

Approach to exploitation

Sunlight, as pilot leader for Xanthi, will organise workshops for the local community to promote the results of the project and ensure public support in the activities that are taking place. They will also establish links with relevant national groups or associations such as the Greek Energy Forum to publicise the results of the project and share best practice.

CERTH will disseminate the results of the pilot project to the scientific community via publications in reputable scientific journals and at conferences. CERTH will also liaise with other research initiatives in order to maximise exposure, identify synergies with other projects and foster shared learning amongst the academic community.

Sunlight will promote the results of the project at relevant industrial exhibitions and fairs; and they will also look to leverage the expertise they gain on the project to create value for new and existing customers.

6.3.9 Pilot Use Case 9: Intelligent Energy Demand and Supply Matching feat innovative simulation & command-control for energy grids (Ploiesti, RO)

Approach to exploitation	<p>The pilot leader, Electrica, will organise workshops for the local community within the city of Ploiesti, including students and faculty staff, to promote the results of the project and ensure public support in grid balancing activities and new business models implementation. Electrica will also establish links with relevant national groups or associations, such as ROREA (the Romanian Renewable Energy Association), to elicit their support on regulatory issues.</p> <p>With the support of ATOS and the academic project partners, both Electrica and SIVECO will disseminate the results of the project to the scientific community via publications in reputable scientific journals and conferences. Both partners will also liaise with other research initiatives in order to maximise exposure to the project, identify synergies with other projects and foster shared learning amongst the academic community.</p> <p>Both Electrica and Siveco will promote the results of the project at relevant industrial exhibitions and fairs.</p>
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6.3.10 Pilot Use Case 10: Flexible DR at Residential and Tertiary Building with Local Storage (Thessaloniki, GR)

Approach to exploitation	<p>Watt+Volt, Thessaloniki's pilot leader, will organise workshops for the local community, including students and faculty staff, to promote the results of the project and ensure public support in grid balancing activities and new business models implementation. Watt and Volt will also establish links with relevant national groups or associations to have their support on regulatory issues.</p> <p>CERTH will disseminate the results of the pilot project to the scientific community via publications in reputable scientific journals and at conferences. CERTH will also liaise with other research initiatives in order to maximise exposure, identify synergies with other projects and foster shared learning amongst the academic community.</p> <p>Both Sunlight and Watt and Volt pilot partners will promote the results of the project at relevant industrial exhibitions and fairs.</p>
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7 Conclusions

This deliverable covers the introduction of the methodology used to build up inteGRIDy's Communication and Dissemination Plan, together with the content itself of such plan. In addition, the extended exploitation plans for the project, differentiating between individual partner exploitation plans and pilot-specific ones, are presented.

As for the methodology, a clear dissemination plan is introduced, including target audience identification, selection of the type of messages and channels to be used and responsibility assignment. It counts on the General Assembly approval, so it is currently up and running, producing even early results, as presented.

Regarding the content, the process of identifying and targeting activities is agreed to be done through a dissemination record in which all partner's activities are updated. Each inclusion in that record has followed the study and evaluation process outlines in this deliverable, considering all pros and cons. A preliminary list of targeted events is provided, along with a summary of already disseminated activities, including the webpage setup.

Finally, the exploitation plan outline, per partner and per pilot is presented. On the former case, each organization is asked to provide a general view of the foreseen impact that is expected to experience as a result of all innovations envisaged to be carried out in inteGRIDy and its translation on the business impact. On the latter case, each pilot identifies the current and foreseen TRL for its assets and the way they plan to influence the market once acquired the final TRL.

All these plans outlined here are in their initial shape, and will, indeed, be updated in the future as more clear view of the impact comes as a consequence of project progress.



8 References

- [CEB01] CeBit congress <http://www.cebit.de/en/>
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- [E2B01] E2B EI Congress <http://e2b.ectp.org/>.
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- [LIN01] inteGRIDy LinkedIn group <https://www.linkedin.com/groups/8581459/profile>
- [FLI01] inteGRIDy Flickr Account <https://www.flickr.com/photos/integrity>

Annex I. Extended exploitation details

This Annex contains extended information regarding partner's specific exploitation plans considering also generic data regarding each organization structure, motivation and general objectives. The covered topics consist on the following sections:

- A description of the organisation
- Value proposition
- The relevance of inteGRIDy to the organisation

Similarly, Pilot exploitation plans are complemented here with extended information on the pilot itself.

Individual exploitation plans

Atos

Organisation profile	<p>Atos SE (Societas Europaea) is a leader in digital services with pro forma annual revenue of circa € 12 billion and 100,000 employees in 72 countries. Serving a global client base, the Group provides Consulting & Systems Integration services, Managed Services & BPO, Cloud operations, Big Data & Cyber-security solutions, as well as transactional services through Worldline, the European leader in the payments and transactional services industry.</p> <p>With its deep technology expertise and industry knowledge, the Group works with clients across different business sectors: Defense, Financial Services, Health, Manufacturing, Media, Utilities, Public sector, Retail, Telecommunications and Transportation. Atos is focused on business technology that powers progress and helps organizations to create their firm of the future.</p>
Value proposition	<ul style="list-style-type: none"> • Deep technology and industry expertise • Cross sector understanding of digital services
Strategic focus areas	<ul style="list-style-type: none"> • Defense • Financial Services • Health • Manufacturing • Media • Utilities • Public sector • Retail • Telecommunications • Transportation
How is inteGRIDy relevant to your organisation	<p>inteGRIDy aims to integrate cutting-edge technologies, solutions and mechanisms in a scalable Cross-Functional Platform connecting energy networks with diverse stakeholders, facilitating optimal and dynamic operation of the Distribution Grid (DG), fostering the stability and coordination of distributed energy resources and enabling collaborative storage schemes within an increasing share of renewables. Consequently, the project is demonstrating important steps in the evolution of the European energy system and this will provide key learnings for ATOS which it can make use of within its portfolio of services to the energy industry.</p>

Siemens

Organisation profile	Siemens is involved in more than 200 countries globally focusing in the areas of electrification, automation and digitalisation. One of the world's largest producers of energy-efficient, resource-saving technologies, Siemens is No. 1 in offshore wind turbine construction, a leading supplier of combined cycle turbines for power generation, a major provider of power transmission solutions and a pioneer in infrastructure solutions as well as automation and drive and software solutions for industry.
Value proposition	<ul style="list-style-type: none"> • 170 years of experience in the energy industry • Highly innovative with over 4,500 patents filed per year • Expertise across the full energy value chain
Strategic focus areas	<ul style="list-style-type: none"> • Electrification • Digitalisation • Automation
inteGRIDy's relevance in Siemens' current business model	<p>The energy industry is rapidly evolving and as an OEM Siemens must conduct a process of continual research and development. As one of Europe's leading smart grid projects, inteGRIDy will generate valuable knowledge on how to integrate cutting-edge technologies the operation optimization process of the Distribution Grid and deepen the penetration of distributed energy resources and storage. Consequently, it is very relevant to Siemens' current business model and will provide intelligence on a number of matters, such as the market environment, regulatory context and technological framework.</p> <p>Siemens is seeking to adopt new service oriented commercial models and be actively involved in technological disruption, therefore, inteGRIDY will also produce some significant insight into emerging business model innovation across Europe.</p>

ENG

Organisation profile	<p>Engineering Ingegneria Informatica S.p.a. is a leading provider of advanced Information Technology systems and services to diverse commercial and governmental customers, with a particular attention towards the Energy and Smart Grid sectors.</p> <p>Engineering Group has more than 9.000 employees spread across 50 sites in Italy, Germany, Spain, Belgium, Republic of Serbia, South America and United States. It has a consolidated revenue portfolio in 2016 of about 934 million Euros.</p> <p>The group delivers IT innovation to more than 1.000 large clients, with a complete offering combining system and business integration, outsourcing, cloud services, consulting and proprietary solutions. Engineering Data Centres, via EngMO, offer business continuity and IT infrastructure management to about 15.000 servers and 230.000 workstations.</p> <p>The Engineering Group operates through 7 business units; its innovation capability is supported by the Central Unit of Research & Development, with around 250 researchers currently involved in over 50 research projects co-funded by national and international authorities. The R&D Unit is located across 6 different locations in Italy and in</p>
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	Europe.
Value proposition	<ul style="list-style-type: none"> • Deep technology and industry expertise • Cross sector understanding of digital services • A complete offer of business integration, application and infrastructure outsourcing, innovative solutions and strategic consultancy
Strategic focus areas	<ul style="list-style-type: none"> • Public Administration & Healthcare, • Telco & Utilities, • Industry & Services, • Finance
How is inteGRIDy relevant to your organisation	<p>inteGRIDy is relevant to ENG in a number of ways. The company has significant interests in the energy industry and is involved in numerous smart grid research projects, such as STORE&GO, an H2020 Energy Storage Large Demonstration project, to evaluate the effectiveness of power to gas to balance intermittency due to high penetration of renewable fluctuating energy sources.</p> <p>ENG's focus on inteGRIDy will be the definition of the overall inteGRIDy architecture, including the scenarios and use cases, as well as the integration of a range of components, tools and methodologies. ENG will also contribute towards tasks related to the optimisation of energy flows, a topic that has been widely developed in large projects like INGRID. As large enterprise and IT company, ENG will also contribute to the definition of business models for the inteGRIDy future sustainability.</p>

SIVECO

Organisation profile	<p>SIVECO is the leader of Romanian software houses and one of the most successful regional leaders in Central and Eastern Europe with 600 employees worldwide and a total revenue of 46,8 million EUR in 2016. The company develops and exports IT solutions and consultancy projects with high added value to countries from the European Community, Middle East, North Africa and the Commonwealth of Independent States area. SIVECO delivered large and complex IT projects for education, health, agriculture, customs organizations, European institutions, private companies and public sector. National and international prizes and a top position in the IT Services Market in Romania with a 5.4 % market share in 2015, according to a study published by International Data Corporation</p> <p>New innovative products and services added to the company's portfolio recently and the strategy was adapted to roll-out new business models and to attract new clients.</p>
Value proposition	<ul style="list-style-type: none"> • 25 years of worldwide expertise in developing and implementing complex IT solutions (over 3550 projects in 27 countries) • Systems that provide integrated control of organizational activities and processes, in full compliance with national legislative regulations • Highly skilled professionals and a proven experience with complex projects • Strategic partnerships with world leaders and local players from IT

Strategic focus areas	market <ul style="list-style-type: none"> • Agriculture • Health • Public Administration • Education • Customs • EU institutions • Defence • Energy
How is inteGRIDy relevant to your organisation	<p>In this project SIVECO will participate in all stages of the solution development, starting with the analysis of use case requirements, the definition of the Conceptual Architecture - Functional & Technical Specifications, and will be the main technical partner leading the integration of the sub-components, and will also take part in the Back-end Platform demonstration and evaluation activities and also in the management, dissemination, exploitation and communication activities.</p> <p>SIVECO will support the use case for Demand Response by providing the development of the core integration platform, Intelligent Energy Demand & Supply matching feat Innovative Simulation & Command – Control for Energy Grids.</p>

SUNLIGHT

Organisation profile	<p>SYSTEMS SUNLIGHT S.A. has a long-lasting and successful worldwide presence in the energy storage and power supply sectors. It has operated in the market for three decades and ranks among the world's top manufacturers of energy products and systems, being specialized in design, production and distribution of:</p> <ul style="list-style-type: none"> • Energy Storage Systems for industrial, consumer and advanced applications (motive/traction batteries, stand by batteries, torpedo and submarine batteries etc.) • Energy Power Systems (generating sets, UPS, DC power systems, industrial air-conditioning) • Green Energy Systems (autonomous and grid connected photovoltaic systems, energy saving solutions) • Energy-related services (consulting, technical support, spare parts, site survey, installation, commissioning, maintenance, training, recycling, rental/leasing services)
Value proposition	<ul style="list-style-type: none"> • Customized turn-key solutions that cover the high demand energy needs of various sectors • Wide range of products and services to meet energy sector requirements
Strategic focus areas	<ul style="list-style-type: none"> • Extending autonomous entrepreneurial presence internationally, as well as expanding sales and partners networks • Definition of business models for future energy storage potential
How is inteGRIDy relevant to your organisation	<p>SUNLIGHT will provide its industrial Renewable Energy park at Xanthi, Greece where an islanded RES-powered autonomous grid operates with battery and hydrogen storage in order to improve the energy and resources efficiency within the factory. The existing control and automation infrastructure will be extended to allow DR mechanisms to be locally applied and to improve the distribution of the energy among</p>

	<p>the nodes of the grid using smart and enhanced Energy Management Strategies and Model Predictive Control methods.</p> <p>Also part of its fleet of MHE EVs will be integrated to the islanded grid to provide a case where dynamically changing charging requirements are necessary, at the factory operated 24/7 having 3 shifts where MHE EVs are used.</p> <p>SUNLIGHT will contribute with its integrated energy storage systems to a number of the project Use Cases, particularly:</p> <ul style="list-style-type: none"> • Deployment of Energy Management Services to suggest optimal control and automation actions/activities of residential storage solutions using scale-specific experimentally validated models that have been used for the optimization of the operation parameters of places with similar storage requirements. • Provide smart integrated home batteries solutions (Li-ion, Lead-Acid etc.), to evaluate their potential use in residential cases.
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DSO/Utilities/Energy Providers

GNF

Organisation profile	<p>Gas Natural SDG S.A. (www.gasnaturalfenosa.com) is the mother company of the Gas Natural Fenosa group. It is a multinational energy services group whose activities include generation, supplying and distributing of natural gas and electricity business. Gas Natural Fenosa (GNF) is a leading multi-national in the gas and power sectors operating in 23 countries, with more than 20 million customers. Following the acquisition of Unión Fenosa, Spain's third biggest power company, GNF has achieved its objective of integrating its gas and electricity businesses in a single company, capable of competing efficiently in energy markets subject to a process of increasing integration, globalisation and levels of competition.</p> <p>GNFIt is the largest integrated gas and power company in Spain and Latin America, leading the natural gas sales market in the Iberian peninsula, and is the world's third largest liquid natural gas (LNG) operator, with a fleet of 13 methane carriers. It is the biggest supplier of natural gas and LNG in the Mediterranean and Atlantic basin. Market leader in the distribution sector it is present throughout the entire gas value chain, with investments in exploration, production, liquefaction and transport operations.</p> <p>Other company of the GNF Group is Gas Natural Servicios SDG S.A., specialized in knowing the different customers needs in order to offer customized products and services in a standardized model, contributing both to increase the margin for our customers, offering energy efficiency related services, and to a better environmental performance. Gas Natural Servicios also develops projects for improving the efficiency of energy use, providing services to almost 2,500 customers in Spain. In order to achieve this aim, they company implements complete solutions to their customers.</p> <p>The third company of the group participating in the project is Gas Natural Informática S.A. that provides and implements innovative</p>
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	<p>technology solutions ensuring operational efficiency, process excellence and key data treatment for decision making and achieving goals. They are experts on communications, hardware and software solutions for data centres. In this initiative will participate the Engineering Company of the Gas Natural Fenosa Group: Gas Natural Engineering. They act as engineering company that designs the actions to implement in the projects and work in the assessment of the solutions.</p>
Value proposition	<ul style="list-style-type: none"> • A multinational energy services group with expertise in a range of fields including generation, supply, distribution, commercialization of natural gas and electricity business.
Strategic focus areas	<ul style="list-style-type: none"> • Smart Grid integration • New business models development • Smart cities • Energy efficiency • Renewable energies • Demand side management • Smart metering technologies • Electrical storage via Li-Io battery
How is inteGRIDy relevant to your organisation	<p>GNF is one of the biggest Spanish utilities and currently acts as an ESCO and as DSO in Spain and in other European and American countries. Thanks to its experience and background knowledge, GNF can contribute in different tasks alongside the duration of the project.</p> <p>The proposed large pilot use case for Spain is a sport center, where GNF, with the help of AIGUASOL, is developing some energy savings proposals, within the European Project "GrowSmarter". In this building, GNF currently acts as an ESCO.</p> <p>Thanks to its experience and the possibility to use its living lab for testing, GNF can contribute to the analysis of different management strategies, in order to validate the new business models proposed within inteGRIDy. Furthermore, GNF can enhance the diffusion of inteGRIDy results thanks to its participation in EASE (European Association for Storage Energy)</p>

ELECTRICA

Organisation profile	<p>SDFEE Electrica S.A ("Electrica") is a Romanian power distributor and supplier (DSO), including the communications infrastructure and energy services. In 2010, Electrica SA had a 25% market share of the electricity supply, with a total of 3.505.290 customers.</p> <p>Electrica SA has the greatest amount of assets under management within Romania, with 36% of the country's electrical networks at various voltage levels (230V - 110kV), against ENEL (29%), CEZ (18%) and EON (17%). Electrica SA serves 18 of the 42 counties in Romania, representing approximately 42% of the consumers in the country.</p>
Value proposition	<ul style="list-style-type: none"> • Quality of energy supply on a large scale across Romania • Utilising innovative technologies for the benefit of customers and the environment
Strategic focus areas	<ul style="list-style-type: none"> • Developing and extending services through partner companies • Research and implementation of wind and solar renewables

How is inteGRIDy relevant to your organisation	<p>ELECTRICA, as the DSO partner, will coordinate the demonstration of the proposed technologies on their experimental premises, by allowing access to the data FTP server from smart metering units in the given locations, as well as setup new infrastructure to test out various communication protocols and network communication infrastructure.</p> <p>Furthermore, ELECTRICA will allow the realisation of the inteGRIDy pilot use cases over their distributed assets and facilities, leading deployment, monitoring and control of local micro-grids, as well as the validation of DR mechanisms in offline simulations and real-time operation in small and large-scale pilots.</p> <p>Particularly in the Romanian use case, the energy demand and supply are matched by means of intelligent systems aiming at delivering a direct impact on overall energy consumption. Electrica will develop an innovative infrastructure with energy consumers and energy providers whose demand and supply of energy will be monitored. The aim is to reason on energy consumption and provision, so that by optimizing (reducing) the overall energy consumption a positive impact on the environment can be ensured.</p>
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ASM

Organisation profile	<p>ASM Terni is Public Company fully owned by the local municipality (City of Terni). The activity of the company is related to very essential public services in the City of Terni area as: i) Production and distribution of Electric Energy, ii) Management of public street lighting, iii) Environmental Health, iv) Drinkable water distribution and water treatment plant, v) Gas distribution .</p> <p>As DSO, ASM Terni directly owns and operates the power distribution grid and distributes electricity from the MV-LV and HV-MV substations to the end consumers (65.000 Smart Meters). Over the time, the power grid of ASM has seen the construction of many photovoltaic power plants, thanks to the incentives for renewable energy sources (RES).</p>
Value proposition	<ul style="list-style-type: none"> ● Energy distribution system operator
Strategic focus areas	<ul style="list-style-type: none"> ● Smart Grid ● Micro-grid ● SCADA systems ● Grid Optimisation ● Smart Meter ● Renewable Energy Sources ● Gas distribution ● Water distribution and treatment
How is inteGRIDy relevant to your organisation	<p>TERNI is one of the smartest DSO in Italy and has a significant experience in research initiatives since they participate as partners in many EU co-funded projects (e.g. FINESCE, ELSA, NOBELGRID). Thanks to the modern SCADA system deployed on the electricity distribution network, TERNI is able to monitor and control a real smart grid.</p> <p>This level of smartness is the starting point for the development and testing of a pilot in a rural area close to Terni, where an off-grid farm</p>

	microgrid is being connected to one of the TERNI's distribution substation. In InteGRIDy TERNI will take care of the set up of the pilot that will allow to test the collaboration between the microgrid and the TERNI's Smart Grid.
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ASSEM

Organisation profile	<p>A.S.SE.M. S.p.A. was established on March 29, 1919 as AEM (Municipal Electric Company) with the aim of starting a direct management of municipal electrical plants for producing and distributing electricity for civil and industrial uses, as well as providing public and private lighting service to the city of San Severino Marche, a small town in the center of Italy in the province of Macerata.</p> <p>Throughout history, the company undergoes various transformations ranging from the approval of the first regulation in 1924, to its subsequent modifications in the years 1960 and 1968. In 1972, an extraordinary session of the municipal council of San Severino Marche approved a significant reform, and the new regulation led to the creation of ASSEM (Special Company for Municipal Electrical Services).</p> <p>On January 1, 1995, once again, the council resolution of December 28, 1994, transforms the Special Company into a public economic entity under Law 142/1990. ASSEM keeps its name the structure is different: it becomes the San Severino Marche Company - Municipal Services Management (A.S.SE.M.).</p> <p>On June 27, 2000, A.S.SE.M. is finally transformed into a Ltd, A.S.SE.M. S.p.A. This transformation highlights the intention of the municipality of San Severino Marche, currently the only shareholder, of improving the company's competitiveness, increasing the quality of services provided to users with a positive impact on the community.</p> <p>In 2009 the company was divided into A.S.SE.M. Patrimonio S.r.l., which owns the grids, buildings and power plants, and A.S.SE.M. S.p.A., responsible for the management of gas, electricity, public lighting, water supply and purification services in the municipal area of San Severino Marche.</p> <p>Other significant moments for the company are those relating to the acquisition of the water service in 1996, of the gas service in 2000 and, most recently, the sewerage service in 2015, all under the municipal area of San Severino Marche.</p> <p>Finally, in 2016 the company A.S.SE.M. S.p.A. acquired the management of the integrated water service also in the spatial sphere of some neighboring municipalities located in the province of Macerata.</p>
Value proposition	<ul style="list-style-type: none"> ● Expertise in producing and distributing electricity and managing public lighting
Strategic focus areas	<ul style="list-style-type: none"> ● Medium Voltage (MV) network management ● Innovative faults management systems ● Smart Distribution System ● Monitoring of DG injections ● Distribution system protection, monitoring and control
How is inteGRIDy relevant to your	The Medium Voltage (MV) network managed by ASSEM SPA, and the relevant Primary Substation, since 2010 are involved in one of the

organisation	<p>Smart Grid pilot projects promoted by the Italian Authority for Electricity Gas and Water by Resolution ARG/elt 39/10. The project provided the implementation of a set of innovative features in the electrical distribution system of S. Severino Marche, supporting the effective operation of the electrical grid and enabling new services and control strategies involving the active users.</p> <p>The novel functionalities were supported through the installation of a new protection, monitoring and control system managed by the DSO, and new components to control remotely the users' power plants, according to centralized strategies (e.g., technical constraints of the power system).</p> <p>The Smart Distribution System of ASSEM SPA developed in compliance with the most recent hints of the Italian Energy Authority and of the scientific community is the ideal testing field for the integration of new technologies, tools and products devoted to the better exploitation of Renewable Energy Sources and distribution network infrastructures.</p> <p>This is made possible thanks to the already existing Smart Grid architecture, a flexible platform in which new components (new devices, strategies, logics and control tools) can be integrated easily, but also to the experience and competences acquired in the recent years on the specific topic, by the personnel directly involved in the experiment.</p>
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INNED

Organisation profile	<p>INNED is a French SME involved in activities in the energy domain and more specifically in the areas of PV energy production, electrochemical energy storage and energy distribution. INNED is a member of the SOREA group and is responsible for measurements and implementation of technical solutions (in the frame of R&D projects) with the aim to enhance the reliability and stability of the distribution grid in the Maurienne Valley area in France. In this sense INNED comprises the technical arm of SOREA and contributes to the distribution grid management.</p> <p>INNED/ SOREA is active in electricity production and distribution and operates its own grid with hydropower and photovoltaic production. The grid supplies 18 000 customers (counters), private people and industry in the Maurienne Valley in France, near the Italian border.</p> <p>INNED has to permanently improve the quality of its grid and supply services by testing and adding new devices or equipments and through new services to customers.</p> <p>An important objective of INNED is to increase the part of renewable energies from the present 35% (mean annual value) to more than 60% within 4 years. This also requires a better use of energy and a reduction of the energy consumption.</p> <p>INNED is also a player in the development of clean transports, including EVs or hydrogen cars and busses, particularly in the Maurienne Valley in connection with the ski resorts.</p>
Value proposition	<ul style="list-style-type: none"> • Expertise in renewable energy and electricity distribution

Strategic focus areas	<ul style="list-style-type: none"> • Electricity generation and distribution • PV system and storage • Renewable integration to distribution grids • Electrochemical energy storage • Energy distribution
How is inteGRIDy relevant to your organisation	<p>INNED will be involved in the pilot deployment activities of the project, providing access to their clients' buildings to validate novel Demand Response and Virtual Energy Storage technologies and associated business models. INNED distributes over 140 GWh of electricity every year, with peak demand of 42 MW (peak power period). 31% of the total annual electricity is produced by renewables, namely PVs and small hydro plants, with the aim to reach 60% in 2020 and 100% in 2030.</p> <p>Currently there is no storage installed at the INNED network, however there are plans to feed the gas grid (still in St-Jean) with methane using Power to Gas conversion and storage technologies. This grid is operated by GRDF, the national gas distribution company and fed by RTgas, the national gas transportation company. GRDF is interested in buying methane produced by SOREA and initial discussions on the project will start within 2017.</p> <p>INNED also plans to produce hydrogen from electrolysis, particularly to use low cost electricity at high production time of hydro power plants. The aim is to use hydrogen as energy storage and produce electricity in a fuel cell or to feed the gas grid with up to 6 vol% H₂.</p> <p>InteGRIDy will allow INNED to take part to one of the key research & development projects in the field of energy in the EU. INNED will use innovative technologies whose purpose is to enhance the share of renewables, taking in account resources of the grid and involving residential stakeholders to develop demand response in buildings.</p>

PHE

Organisation profile	<p>PH Energia, Lda is an electricity retailer company that is aimed to provide market energy solutions to consumer, commercial and industrial applications. It makes use of the experienced and knowledgeable team in the energy sector, in both business and academic field, to develop and integrate both services and products that present a valuable proposal. Through brand <i>Energia Simples</i>, PH Energia sells energy in the Portuguese market, residential, business and industrial sectors. With an innovative, digital and straightforward approach to the customer service, based on openness and trust, the company offers one-to-one advice and support to every customer. PH Energia also introduced market indexed tariffs, charging over the daily energy market price a transparent spread, in each month, to the domestic segment.</p> <p>Fully committed to the environment and efficiency PH Energia invests in a push market strategy that looks forward to market micro-production centres using solar energy and technology that monitors and process information, proving efficient, economically and environmentally, in all segments.</p>
Value	<ul style="list-style-type: none"> • Expertise in energy market solutions • Knowledge of multiple sectors

proposition	<ul style="list-style-type: none"> • Bringing innovation to customers • Self-consumption solutions (100% renewable) • Ecological footprint reduction • Market indexed tariffs introduction • Company is 100% digital • Commercialization of electricity in a transparent & simple way • Excellent customer service (products and services tailored to the customer needs and objectives)
Strategic focus areas	<ul style="list-style-type: none"> • Renewable energy • Energy supply • Self-consumption promotion • Energy efficiency • Environmental sustainability • Innovation & Quality
inteGRIDy's relevance to PHE's current business model	<p>One of the main goals of the inteGRIDy project is a facilitation of the decarbonization of the electricity grid and the integration of large shares of distributed renewable generation, through the deployment of innovative and highly efficient Demand Response, Energy Storage, EV management and SG technologies.</p> <p>PHE has years of established operation in several projects of clean energy production through solar panels in many hotels, public and industrial buildings. Thus, the InteGRIDy project would enable PH Energia to make use of their expertise in designing and planning an optimized offer to each customer and implementing the most efficient solution.</p>

WVT

Organisation profile	<p>WATT+VOLT S.A. is one of the biggest Greek Utilities, providing integrated electricity services. The highly-experienced and qualified professionals of WATT+VOLT and its systematic investment in research and development of new products and services, account for a rapidly growing and highly innovative electricity provider. In WATT+VOLT, we contribute towards the efficient use and conservation of electricity, the overall reduction of electricity cost and the monitoring of the customers' energy footprint. WATT+VOLT provides electricity to 12,000 households, corporations and businesses in the Greek interconnected grid. Furthermore, the company has been a pioneer in smart metering in Greece, having installed the first smart meter in 2012.</p>
Value proposition	<ul style="list-style-type: none"> • Utilising innovative technologies for organisations and the environment • Pioneering technology infrastructure to offer reliable solutions • Offering the most competitive tariffs to customers
Strategic focus areas	<ul style="list-style-type: none"> • Engage energy users to enable them adopt a sustainable way of life • Smart home - smart power - smart meters • Rational use and saving of energy by customers, through management of energy resources
How is inteGRIDy relevant to your organisation	<p>WVT is one of the biggest Greek Utilities, so thanks to its experience and availability of information, WVT can contribute in different tasks throughout the duration of the project.</p>

	<p>The proposed small-scale pilot in Thessaloniki includes a set of different typea of residential buildings with various costumer profiles, a basketball court of the largest football club of Thessaloniki as well as a multi-storey hotel (Macedonia Palace). All the dwellings are part of WVT’s portfolio, already equipped with smart meters, allowing real-time monitoring or energy consumption and are planned to be further extended with more IoT multi-sensorial infrastructures. WVT's smart meters and CERTHs dynamic simulation monitoring services will be further introduced to the current system. An energy VA/billing system is already available by WVT, to be further extended to allow active negotiation with the end-users triggering participation in DR business models.</p> <p>Thanks to its experience, WVT can contribute to analyse different management strategies in order to validate the new business models proposed within inteGRIDy. Additionally, WVT will provide to around 10 customers a home storage solution of around 5-10KWh, to allow further experimentation.</p>
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EAC

Organisation profile	<p>Electricity Authority of Cyprus (EAC) is the incumbent power utility in Cyprus, following public body governance rules. Even after the gradual opening of the market, according to EU market regulations, EAC is responsible for almost all conventional power production, owner of the Transmission System (which is operated by TSO (Transmission System Operator)), owner and operator of the distribution system. So far, it is the only power supplier in Cyprus.</p> <p>Currently, it employs approximately 2200 employees, out of which around 200 are scientists and engineers, focusing their activities on the operation, on the maintenance and on the development of the power system. At present EAC operates three thermal power stations with a total installed capacity of 1478MWe. All stations use heavy fuel oil for the steam plant and gasoil for the gas turbine plant. The penetration of RES technologies and other alternative ways of energy to the island energy system is of particular interest to the EAC. Also, other topics such as energy systems economics, energy systems efficiency, electric load forecasting, power system stability, emissions inventories and carbon tax are of particular interest as well. EAC has participated in various FP7 European project acting as a Coordinator and/or as a work package leader.</p>
Value proposition	<ul style="list-style-type: none"> ● Expertise in power generation, transmission system operation and distribution system operation.
Strategic focus areas	<ul style="list-style-type: none"> ● Micro-grid ● smart-meters ● PLC or GPRS communication technologies ● Demand-side management ● Renewable energy ● Distributed generation ● Energy storage
How is inteGRIDy	<p>EAC is convinced for the shift to green energy and sustainability, as well as transformation to Smart Grids, and is moving forward to contribute to</p>

relevant to your organisation	<p>this end through coordinated projects. To mention some, EAC is conducting a pilot AMI (Automated Metering Infrastructure) project with 3000 consumers, to identify the best practices for smart grid evolution. Further, EAC is also participating in "Smart net metering for promotion and cost-efficient grid-integration of PV technology in Cyprus" project with the Acronym SmartPV, which is co-financed by the European Commission under the LIFE+ Programme.</p> <p>This is a pilot demonstration project approved under the theme "Environment Policy and Governance" contributing to the implementation of European environmental policy and the development of innovative policy ideas, technologies, methods and instruments.</p>
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SMEs

ATK

Organisation profile	<p>A.T. Kearney is a leading global management consulting firm with offices in more than 40 countries. Since 1926, we have been trusted advisors to the world's foremost organizations. A.T. Kearney is a partner-owned firm, committed to helping organisations achieve immediate impact and growing advantage on their most mission-critical issues.</p> <p>AT Kearney is unrivalled globally in our ability to provide the analytics capability necessary to optimise energy and infrastructure systems. We now recognize there is a need for this to be applicable in a digital environment. We have risen to the challenge of analyzing multiple and fragmented sources of data and dispatching commands by putting dedicated resources in place to deliver an agile business intelligence and connectivity application 'HELIOS'. The platform ubiquitously connects to a variety of data sources to harvest all the data that is required to analyse, optimise and automate the implementation of efficiency algorithms in real time and at a regional scale. Our experience with this data, alongside a practical and advisory experience of commercialisation of distributed energy models.</p>
Value proposition	<ul style="list-style-type: none"> ● Expertise in a range of fields including analytics, innovation, operations, technology, strategy and transformation,
Strategic focus areas	<ul style="list-style-type: none"> ● Aerospace and defense ● Automotive ● Chemicals and petrochemicals ● Finance ● Healthcare ● Metals and mining ● Transportation ● Energy and utilities
How is inteGRIDy relevant to your organisation	<p>A.T. Kearney hold deep expertise in the replication, commercialisation and exploitation of new technologies, systems and intellectual property. Having recently invested heavily in IoT and smart technology expertise, they are currently involved in the delivery of many grant and privately funded and exemplar projects, taking the role of delivering the replication, exploitation, market analysis and business case delivery including cost benefit and cost efficiency analysis.</p>



	<p>InteGRIDy is demonstrating important steps in the evolution of the European energy system and this will provide key learnings for A.T. Kearney which it can make use of within its portfolio of services to the energy industry.</p>
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M7

Organisation profile	<p>Working with housing associations, developers and innovators, Minus7 offers the first building-integrated hybrid heating solution specifically designed for the UK climate. British engineered and BBA approved, the Minus7 System utilizes the best of solar thermal, photovoltaic, heat pump and energy storage technology in one appealingly simple solution. The system works in 3 parts – a roof, solar energy processor which includes a heat pump and thermal stores. All the domestic hot water and heating a building requires is available on demand giving a complete stand-alone heating solution.</p>
Value proposition	<ul style="list-style-type: none"> • The provision of low cost low carbon heating – at lower prices than current gas prices for heating and grid prices for electricity • In the UK market our system raises a building’s EPC rating by about 25 points. Thus for buildings rated in bands E/F, our technology raises the buildings to band C. We are cheapest technology per band point. The government is regulating the rental market such that all rental properties have to be at least band C by 2020. • The technology is funded by both the UK governments’ heat (RHI) and electricity (FiT) subsidy. This means that the capital cost of the install is paid for by the subsidy.
Strategic focus areas	<ul style="list-style-type: none"> • Residential and Domestic electricity and heating market
How is InteGRIDy relevant to your organisation	<p>InteGRIDy is relevant in a number of ways since it demonstrates the deployment of products like distributed smart grid storage (used to shift peak load) which is core to Minus 7’s strategic interests.</p> <p>If the Minus 7 system was deployed in a million homes it would cost less than £16bn and would remove 3.7GWe from the national grid at peak, while adding 3GWe of PV energy. It would also provide over 3GWth of thermal and electrical storage allowing demand to be moved to match times of low cost electricity production.</p> <p>Energy stores at this scale solves the problem of intermittent renewable energy generation, while also negating the need for back-up fossil fuel power - thus reducing the overall cost of electricity to the country. The InteGRIDy project aims to provide an evidence base for this concept, building a micro test installation of the system to illustrate the ability to remove peak load form the grid and absorb surplus energy in the thermal stores.</p> <p>Importantly InteGRIDy will enable M7 to articulate the value proposition of DSM. Currently we do not include the economic value of DSM in our business case analysis</p>

EMS

Organisation profile	EMSc is a UK energy solutions company which design and manufacture an innovative range of commercial energy management technologies. EMSc (UK) Ltd was formed in 2001, and has installed over 7,000 systems throughout the world, the company's solutions are exported to over 20 countries and the client base includes landmark sites, large blue-chip companies, public sector estates, government and local authorities and SME's across a range of industries. EMSc's vision is to help clients make their organization more energy efficient through cutting edge energy saving solutions. The company is focused on providing the best engineering solution for each client and provides a bespoke manufacturing and turnkey project management service to adopt a full concept to completion approach for each client, and to ensure maximum savings and efficiencies are achieved. The company invests in continued research & development to offer pioneering solutions to clients, which are fully designed and manufactured in the UK to the highest quality standards.
Value proposition	<ul style="list-style-type: none"> • Design and manufacture award winning, patented technology • Solutions are manufactured under IEC 60076, and under the Made In Sheffield accreditation • Global market leader of cutting edge energy saving solutions
Strategic focus areas	<ul style="list-style-type: none"> • Energy storage • Energy management/efficiency • EV charging
How is inteGRIDy relevant to your organisation	<p>InteGRIDy aims to integrate cutting-edge technologies and software to optimise the operation of the Distribution Grid; fostering the stability and coordination of distributed energy resources and enabling collaborative storage schemes within an increasing share of renewable and supporting the penetration of EV.</p> <p>EMSc has been involved in the smart energy business for over 15 years, with over 7000 Voltage optimisers sold. The company has significant knowledge concerning grid integration, energy storage, and the national grid and pan European energy networks. The company's flagship solution, Virtue, is a pioneering energy storage system which was recently voted European product innovation of the year 2015 at Utility Week.</p>

UNE

Organisation profile	<p>UNE is an Italian SME located in Reggio Emilia and created in 2011. The company provides services and competences in the field of renewable energy and environmental sustainability. UNE supplies hybrid thermal and PV plants as well as micro-wind turbines. UNE is a high innovative company with strong collaboration with Universities and Research Centres.</p> <p>The main mission since 2013 is the development of an innovative Renewable Energy Storage System (RESS) designed and optimized for residential buildings.</p>
Value proposition	<ul style="list-style-type: none"> • Expertise in provision of services and competences in the field of renewable energy and environmental sustainability.

Strategic focus areas	<ul style="list-style-type: none"> • Hybrid thermal and PV plants • Energy storage solution for residential buildings • Energy management system • Demand response platform
How is inteGRIDy relevant to your organisation	<p>The ZHERO technology is a storage solution for residential buildings or other low voltage users as public offices or schools. This storage system and its advanced control can be integrated as smart grid component on the final user – low voltage grid side to increase the self-consumption of renewable energy, reducing their possible impact on the grid, and allowing a smart management of the grid both for commercial and technical aspects through the communication with demand response platforms. The device is particularly environmental friendly, ensuring 100% recyclability.</p> <p>During the InteGRIDy project, UNE will test its storage equipment in real field in the pilot case application to complete the smart grid on the final side strictly connected with the demand response system.</p>

AIGUASOL

Organisation profile	<p>Founded in 1999, the SME AIGUASOL team is made up of more than 20 professionals with a high level of technical and scientific experience. They include engineers, PhDs, architects and physicists who have notable experience both in private companies and research centres, and distributed among offices in Barcelona, Basque Country, and Santiago de Chile.</p> <p>AIGUASOL provides engineering and research services, promoting innovative solutions to reduce the impact associated with energy consumption (experience in urban planning, construction, industrial processes and power generation, with a focus on energy planning, savings measures, energy efficiency, process integration and renewable energy implementation). AIGUASOL is the official TRNSYS distributor for Spain and Portugal, and develop energy-advanced tools for third parties. AIGUASOL has participated in several Tasks of the International Energy Agency and is member of the Steering Committee of the ESTTP.</p> <p>AIGUASOL have a wide experience on energetic plans (i.e. the Barcelona energy improvement plan), building thermal and lighting simulations, and renovation proposals definition and validation through cost optimal analysis (i.e. the TOBEEM project introducing a semi-automatic cost optimal analysis for tertiary buildings, for more than 20,000 scenarios). We also have wide experience on monitoring HVAC systems (both, generation but also distribution and emission elements) in order to understand their operation, and to detect improvements (linked to emulation and simulation techniques) both to substitute physical elements (retrofit) and/or to operate the existing or the new ones in the correct way. Those methodologies are linked to BEMS-BEPS integration.</p>
Value proposition	<ul style="list-style-type: none"> • Expertise in a range of fields including research & development of energy performance and monitoring tools
Strategic focus areas	<ul style="list-style-type: none"> • Energy in Buildings • District and large energy plants



	<ul style="list-style-type: none"> • Energy Policy • Energy Rehabilitation • Energy management systems • NZEB buildings and environmental labels • Energy Intensity in industry • R&D
How is inteGRIDy relevant to your organisation	<p>AIGUASOL, as an engineering and consultancy company working deeply in thermal-electrical simulation for the design of real-life systems, is aware of the important role that energy in building can assume to foster the stability and coordination of distributed energy resources and enabling collaborative storage schemes within an increasing share of renewables. For this reason, it wants to take advantage of the knowledge acquired during the project to incorporate it into its portfolio of services to the industry and tertiary sector.</p>

TREK

Organisation profile	<p>TREK is a consultancy and technology development services firm, providing Information Technology (IT) services to small, medium and large Organizations all across Europe, North Africa and the Middle East. TREK aims at providing flexible solutions for small and medium-sized electricity consumers and integrated solutions for electric utilities and service providers in the field of demand management (Aggregators). The business strategy of TREK (deployed also through the subsidiary companies belonging to the TREK Group of Companies) includes research and development of advanced technologies, to create a full suite of solutions and products appealing to everyone involved in the electricity market, namely:</p> <ul style="list-style-type: none"> • Solutions for consumers: Tools for creating consumption profiles (Consumer Profiling), Tools for personalized billing reports (Informative Billing) and Innovative Solutions for Building Automation. • Solutions for Public Agencies and Business / Industrial Consumers: Multiparametric solutions to optimize energy consumption without compromising business performance targets (Enterprise Performance and Sustainability), Tools for the analysis and real-time monitoring of power consumption data (Billing Analysis, Monitoring and Optimization), along with energy consumption forecasting and reporting tools. • Solutions for Utilities and Energy Services Companies: Tools for analyzing Consumers' Portfolios and shaping optimized billing strategies, Innovative Solutions for Forecasting and Management of Electricity Demand, Tools for Electricity Trading Optimization and Risk Management and cutting-edge solutions for ensuring semantic interoperability between infrastructure / devices / systems of smart grid, adopting the approach of the Internet of Things (Cloud and Standards-Based Services - "Internet of the Grid"). <p>TREK focuses on designing and developing innovative techniques and solutions for analysis of consumer profiles, as well as, the development of intelligent and automated techniques for real-time balancing of supply and demand of electricity (power optimization balance), while overcoming critical factors that prevent widespread adoption and</p>
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	implementation of demand response strategies (Demand Response - DR).
Value proposition	<ul style="list-style-type: none"> • Expertise in providing flexible solutions for small and medium-sized electricity consumers and integrated solutions for electric utilities and service providers in the field of demand management (Aggregators). The main focus of the company is to provide innovative tools that enable a better understanding of demand, unleashing that way the potential of flexibility of consumers to participate in DR campaigns. The company provides both consultancy services and the platform for DSM participation.
Strategic focus areas	<ul style="list-style-type: none"> • Smart Grid Solutions • Energy efficiency and DR schemas • Energy Management Solutions • IT management solution
How is inteGRIDy relevant to your organisation	<p>With respect to the inteGRIDy project, the business strategy of TREK includes research and development of advanced technologies, to create a full suite of solutions and products for the design and implementation of effective demand response strategies.</p> <p>More specifically, TREK has developed an innovative user profiling framework which utilizes real-time energy demand data and ambient information in order to define dynamic consumer flexibility profiles and optimize the demand response potential of individual consumers and (subsequently) aggregated clusters of them. These demand flexibility models allow for the quantification, in real time, of the discomfort caused by the reduction or shifting of specific loads. Subsequently, this is translated into dynamic demand flexibility functions that feed demand side control and optimization strategies. By quantifying the discomfort levels of customers, we enable the identification of personalized Value of Lost Load (VLL) models, which eventually are transformed into local and global Demand Flexibility models. These models can further enable the delivery of robust short term forecasting of demand flexibility along with quantification of the cost of demand reduction or shifting, promoting that way the implementation of successful DR campaigns.</p> <p>Moreover, TREK aims to develop a novel Visual Analytics framework (interface for Utilities and Aggregators) that allow for the multi-criteria clustering of the demand side, considering not only consumption information but, also, additional information (geographic, demographic, along with behavioral ones under various conditions), thus allowing for accurate and optimized segmentation of the demand side. This is a data analytics platform with enriched visualization to facilitate the business stakeholders (especially DR Aggregators) in portfolio management.</p>

VPS

Organisation profile	<p>Virtual Power Solutions (VPS) is an innovative company with a strong knowledge and experience in:</p> <ul style="list-style-type: none"> • Internet of Things (IoT), • developing hardware and software solutions, • M2M communication platforms based on cloud and mobile
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	<p>applications for Smart Homes and Smart Cities,</p> <ul style="list-style-type: none"> acquiring and processing millions of data every day to provide its customers with valuable information from its data centre to all-over the world. <p>Through its affiliate company in Portugal, VPS has a track record of more than 50,000 successfully installed products (in banks, hotels, industry, airports, hospitals, universities, retail, utilities and municipalities) across 5 continents.</p> <p>The company was originally founded in 1990 by a group of young entrepreneurs (physicists and computer scientists researchers from the University of Coimbra), with expertise in the development of data acquisition, transmission, automation and remote control solutions. Those founders are now leading the business and developing new solutions in the energy field. VPS currently has over 40 experienced and highly qualified employees.</p>
Value proposition	<ul style="list-style-type: none"> Using ICT for an intelligent combination of load management, storage and demand Innovation in telemetry, remote management and data processing
Strategic focus areas	<ul style="list-style-type: none"> Developing and investing in innovative and high-growth solutions in the energy field Innovation through market / technology analysis, product management in collaboration / partnership and new business acceleration
How is inteGRIDy relevant to your organisation	<p>InteGRIDy is relevant in a number of ways since it demonstrates the deployment of products like the charging monitoring system, which is core to Virtual Power Solutions' strategic interests. The system provides on-line data of electrical consumption in a 15 minutes period. In terms of operation, there is local data collection equipment in each location which collects the information and sends it to the host using where possible the existing network infrastructure. The central system has the ability to receive, consolidate and centrally store the information collected from various locations, as well as the ability to provide access to data via web browser.</p> <p>As an industrial partner, VPS will supply energy management solutions and will develop, deploy and improve DR tools and algorithms for energy usage optimization. VPS will be strongly connected to the Lisbon pilot, by providing the technology for EV charging optimization and PV production monitoring. VPS will be active in system integration and evaluation and will also participate in dissemination, replication and exploitation activities.</p>

Research and academia partners

CERTH

Organisation profile	<p>The Centre for Research and Technology-Hellas (CERTH) is the only research centre in Northern Greece and one of the largest in the country, founded in 2000. It is supervised by the General Secretariat for Research and Technology (GSRT) of the Greek Ministry of Education and Religious Affairs. CERTH has important scientific and technological achievements in many areas including: Energy, Environment, Industry,</p>
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Mechatronics, Information & Communication, Transportation & Sustainable Mobility, Health, Agro-biotechnology, Smart farming, Safety & Security, as well as several cross-disciplinary scientific areas.

Two different institutes from CERTH participate in the inteGRIDy project, namely the Information Technologies Institute (ITI) and the Chemical Process and Energy Resources Institute (CPERI).

(i) CERTH/ITI

The Information Technologies Institute (ITI) was founded in 1998 as a non-profit organisation under the auspices of the General Secretariat for Research and Technology of Greece, with its head office located in Thessaloniki, Greece. Since 2000 it is a founding member of CERTH, being one of the leading institutions in Greece in the fields of Informatics, Telematics and Telecommunications, with long experience in numerous European and national R&D projects, with more than 350 employees. It is active in a large number of research domains such as Security and Surveillance, Image and Signal Processing, Computer & Cognitive Vision, Human Computer Interaction, Virtual and Augmented Reality, Multimedia, Database and Information Systems and Social Media Analysis. Since its establishment, CERTH/ITI has participated in more than 175 research projects funded by the European Commission (FP5-FP6-FP7 & H2020) and more than 100 research projects funded by Greek National Research Programmes and Consulting Subcontracts with the Private Sector (I&T Industry). ITI currently has 216 employees including Scientific Personnel (Researchers, Collaborating faculty members, Postdoctoral Research Fellows, Postgraduate Research Fellows, and Research Assistants), Administrative and Technical Staff. In the last 10 years, the publication record of ITI includes more than 270 scientific publications in international journals, more than 600 publications in conferences and 100 books and book chapters. These works have been cited in more than 6500 times.

(ii) CERTH/CPERI

Chemical Process and Energy Resources Institute (CPERI) was founded in 1985 in Thessaloniki, Greece and in 2000 CPERI became a founding member of CERTH. CPERI is the leading research institute at a national level according to the latest five year evaluation by an internationally scientific committee assigned by the General Secretariat of Research and Technology with more than 200 employees. CPERI contributes to the increased competitiveness of the Greek and European industry by providing unique and innovative solutions to research problems of technological and/or commercial interest. CPERI is classified among the Institutes of Excellence in Greece, while its inflows is around to EUR 10 million €/year. Moreover, it holds the 16th position among the European Research Institutes (top 50 REC organisations) having signed grant agreements in FP7 in terms of counts of participations for the period 2007-2013.

CPERI has participated in numerous EU and National projects related to energy field acting as a technology and systems integrator, demonstration case provider, automation systems infrastructure designer and industrial software developer.

Two different CERTH/CPERI laboratories are participating in the

	<p>inteGRIDy project, in particular:</p> <ul style="list-style-type: none"> - the Laboratory of Process Systems Design and Implementation (PSDI) and - the Institute for Solid Fuels Technology and Applications (ISFTA). <p>The quality of scientific work carried out by CPERI researchers over the last 5 years is documented in 904 publications in reputable journals, conferences, books and 16,270 citations, deriving from 881 research projects that have been implemented during this period. In 2016, total annual turnover of CPERI reached 9,8 million Euro and its personnel amounted 204 persons, while ISFTA contributed with 1,961 million Euro and 55 employees.</p> <p>On March 30, 2012 Chemical Process Engineering Research Institute (CPERI) merged with Institute for Solid Fuels Technology and Applications (ISFTA) to establish the Chemical Process & Energy Resources Institute (CPERI). The new established Research Institute is a member of CERTH, since then. CPERI/ISFTA focuses on the lab/pilot scale demonstration of energy systems dealing mainly with fossil fuels and lately with RES supported by steady and unsteady simulation platforms for their principles of operation representation.</p> <p>The Laboratory of Process Systems Design and Implementation (PSDI) at CERTH has a wide background on the study and construction of process systems and integrated energy systems used for energy production, management and storage and holds unique knowledge in system design, engineering and integration of industrial automation systems, supervisory control and data acquisition systems for industrial processes and advanced optimization techniques.</p>
Value proposition	<ul style="list-style-type: none"> • High Quality Scientific Research • Deep technology and industry expertise • Strong partnerships with the International & National Industry • Strong collaboration with Research Centres and Universities in Greece and abroad
Strategic focus areas	<ul style="list-style-type: none"> • Information Technologies (Informatics, Telematics and Telecommunication Technologies) • Chemical Process & Energy Resources (Sustainable & Clean Energy, Environmental Technologies, Chemical & Biochemical Processes, Advanced Functional Materials)
How is inteGRIDy relevant to your organisation	<p>There are a number of reasons why inteGRIDy is relevant to CERTH. The organisation has profound experience on pilot realisation and platforms implementation and will actively participate in the inteGRIDy Cross-Functional Platform implementation, as well as will lead the activities envisioned within WP6.</p> <p>CERTH will also play a crucial role in the production of the inteGRIDy Operation Analysis Framework, the integrated Visualization Platform, the advanced model-based control and optimization tools and services the pre-pilot use case realisation in Xanthi and Thessaloniki.</p> <p>CERTH/ITI exhibits substantial research activity as well as technology transfer actions, and employs a high quality scientific group in the area of multi-sensorial and energy related systems, the development of simulation platforms and visual analytics for highly complex systems. It participates in research networks with assorted institutes and industrial</p>

	<p>partners in Greece and Europe and is in the process of establishing a spin-off company, to commercially exploit the research results (already available as prototypes) of the Laboratory.</p> <p>CERTH/CPERI exhibits substantial research activity as well as technology transfer actions, and employs a high quality scientific group in the area of energy related systems, the development of simulation platforms for energy flowsheets and environmental assessment of energy ground-based solutions. It participates in research networks with assorted institutes and industrial partners in Greece and Europe and already has a spin-off company (Clean Energy Ltd, www.cleanenergy.com.gr), to commercially exploit the research results of the Institute.</p> <p>Furthermore, CERTH/CPERI provides a wide range of services related to the development and evaluation of energy systems and industrial-grade systems development. The participation of CERTH/CPERI in the inteGRIDy project will help to gain more knowledge in areas to be addressed such as advanced control for smart grid networks based on standards and web services communication from industrial automation systems, techniques for information filtering and organization for the I/O field, etc. At the same time within the inteGRIDy project, CERTH/CPERI will bring in the consortium the knowledge from its development and operation of industrial-grade process systems, regarding optimization and advanced model-based control and bidirectional communication with automation systems for common information modelling, concerning knowledge extraction from field data and the behaviour of the dynamic energy systems, as well as, innovative algorithms for representation of exhaustive enumeration of energy system's operation for decision support.</p>
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TEES

Organisation profile	<p>Teesside University, based in North East of England, is founded on a rich heritage, which has influenced its development into the dynamic, energetic and innovative institution it is today. It currently has 18,000 students and 1,700 employees. In 2009, TU was named UK University of the Year at the Times Higher Education Awards, and in 2013 TU received The Queen's Anniversary Prize for Higher and Further Education.</p> <p>Within TU the Technology Futures Institute (TFI) carries out multidisciplinary research spanning innovation in process control, energy and environment, life sciences, security business and enterprise as well as providing consultancy services to industry. Such work is conducted in collaboration with a wide number of academic and commercial partners. The TFI has approximately 35 academic members plus research staff and 64 PhD students. In the latest research assessment by the UK government TFI attained its highest ever performance rating, with 59% of research recognized as world-leading or internationally excellent, and 90% of research having world-leading or internationally excellent impact.</p>
Value proposition	<ul style="list-style-type: none"> ● World class teaching ● Deep technology and industry expertise

	<ul style="list-style-type: none"> • Multidisciplinary research spanning innovation in process control, energy and environment, as well as life sciences
Strategic focus areas	<ul style="list-style-type: none"> • Science, Engineering and Design • Computing, Media and the Arts • Health and Social Care • Social Sciences, Humanities and Law • Business
How is inteGRIDy relevant to your organisation	<p>The project is relevant to Teesside University for a number of reasons. The Technology Futures Institute (TFI) carries out multidisciplinary research spanning innovation in process control, energy and environment, life sciences, security business and enterprise as well as providing consultancy services to industry. Recently, Teesside University has participated in EU projects related to energy efficiency, building information modelling, and energy management systems.</p> <p>TU developed DR energy management optimisation tool within the EU FP7 project IDEAS which will be integrated with the tools provided by the other inteGRIDy project partners, thus contributing to the project Objective 1 to Integrate a set of innovative tools and technologies under a scalable and replicable platform. The tool will be demonstrated within the project, thus contributing to the Objective 4 to Demonstrate an integrated Decision Making and Optimisation Framework.</p> <p>Teesside University, will also contribute significant knowledge and experience in demand response at a neighbourhood scale, the wider energy industry and data management approaches.</p>

UNEW

Organisation profile	<p>Newcastle University is among the top 20 higher education institutions in the UK in terms of research power, according to the influential professional publication, Research Fortnight. This is based on the results of the latest Research Excellence Framework (2014), which found that the vast majority of Newcastle University's research was placed in the top two categories of 4*(world leading) or 3* (internationally excellent).</p> <p>The University has one of the largest European Union research portfolios in the UK: around 235 FP7 projects worth over €100million to the university; and so far, over 40 projects awarded under Horizon 2020. The University also has research links with many other countries. It is a member of the prestigious Russell Group, comprising 24 leading research institutions in the UK and in the year ended 31 July 2015, its total research income equaled around €120 million. Newcastle University is ranked in the top 1% of universities in the world (QS World University Rankings 2014). The student population in 2014-2015 stood at 22,673 (UK campus) with 5250 overseas students from over 120 countries. A further 1191 students are based at our campuses in Malaysia and Singapore. UNEW offers several hundred programmes at undergraduate and postgraduate level spanning Medicine, Science, Agriculture, Engineering, Social Science, Arts, Humanities, Languages and Education.</p>
Value proposition	<ul style="list-style-type: none"> • World class university • Deep technology and industry expertise, particularly in electrical

	<p>power</p> <ul style="list-style-type: none"> • Home to the National Centre for Energy Systems Integration
Strategic focus areas (within electrical power group)	<ul style="list-style-type: none"> • Power Electronics • Power Systems • Drives and Control • Machines • Hybrid Electric Aerospace
How is inteGRIDy relevant to your organisation	<p>The InteGRIDy project aligns closely to Newcastle University's research interests within the field of electrical power. The group of Electrical Power at Newcastle University is one of the strongest research groups in UK and it covers all areas of electrical power, ranging from power systems to electrical drives/machines and power electronics. The group is considered to be one of the world's leading research teams with international collaboration, large research funding from EU/UK, multiple esteemed publications and a very strong collaboration with industry.</p> <p>The university has two newly built research facilities (The Smart Grid Lab and Energy Storage Test Bed) that are part of Newcastle's £200 million flagship project Science Central, which brings together academia, the public sector, communities, business and industry to create a global centre for urban innovation and sustainability.</p> <p>These two state of the art research facilities will enable the university to develop the power network model as well as the optimum smart grid topology suitable for the Isle of Wight pilot. These facilities combined with the extensive experience that the research team at Newcastle University has, on power systems and all aspects of smart grids, makes the InteGRIDy project very relevant to Newcastle University.</p>

UNIROMA1

Organisation profile	<p>"Sapienza" University, which was founded in 1303 in Rome, is one of the oldest universities in the world and one of the top performer in international university rankings. The research unit involved in the proposal is with the Dept of Astronautics, Electrical and Energetics Engineering of the Civil and Industrial Engineering Faculty.</p> <p>The members of the research unit have an extensive experience in network studies related to planning, design, operation and protection of transmission and distribution networks; as well as in developing of simulation models for static and dynamic studies related to the integration of distributed generation, demand response, storage systems and EV charge systems in smart and micro grids during normal operation and fault conditions.</p>
Value proposition	<ul style="list-style-type: none"> • Expertise in a range of fields including renewable power generation, LV network , Battery Energy Storage, MV networks analysis.
Strategic focus areas	<ul style="list-style-type: none"> • Smart Grid • Smart Cities • Smart Microgrid • Building Automation • MV/LV Network Studies
How is inteGRIDy relevant to your	<p>UNIROMA1 has developed the network model for the state estimation of the ASM Terni power network, hence it will carry out preliminary lab</p>

organisation	<p>studies with a view to provide feedback and suggestions on how to optimize micro grid cooperation with secondary substation and ASM Terni DMS.</p> <p>In particular, UNIROMA1, having already implemented and validated (in previous research projects) an accurate model of the ASM Terni MV/LV distribution network, will be immediately able to conduct in-depth studies of the network (power flow, optimal power flow, short circuit analysis, frequency analysis, power quality, hosting capacity and so on) aimed at estimating the response of the system (both in normal operation and during faults) in relation to the interconnection of rural micro-grid.</p> <p>These studies will provide the necessary knowhow for a secure and reliable interconnection of micro-grids to the distribution network, as well as the preliminary investigation tool for their subsequent integration into the DSO's SCADA system, in order to obtain a better management of available energy sources.</p> <p>UNIROMA1 with ENG will develop optimized power network management tailored to utilize LV micro grid as flexibility asset through leveraging on decentralized automation.</p>
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POLIMI

Organisation profile	<p>The Politecnico di Milano (English: Polytechnic University of Milan) is the largest technical university in Italy, with about 40,000 students. It offers undergraduate, graduate and higher education courses in engineering, architecture and design.</p> <p>In particular, the Department of Energy, born on January 1st, 2008, is a structure created under the impulse of professors and researchers previously belonging to four departments traditionally related to the energy sector:</p> <ul style="list-style-type: none"> ● Department of Energy Engineering ● Department of Electrical Engineering ● Chemistry, Materials and Chemical Engineering “Giulio Natta” ● Department of Nuclear Engineering <p>To fulfil its R&D objectives the Energy Department makes use of the operating tools proper of the scientific and technological research in the engineering field, in connection with several laboratories of modelling and numerical simulation and experimental laboratories belonging to the five Department divisions:</p> <ul style="list-style-type: none"> ● Chemical Technologies and Processes and Nanotechnology Division ● Electrical Division ● Nuclear Engineering Division – CeSNEF ● Fluid Dynamic Machines, Propulsion & Energy Systems Division ● Thermal Engineering & Environmental Technology Division
Value proposition	<ul style="list-style-type: none"> ● Leading technical university offering undergraduate, graduate and higher education courses in engineering, architecture and design.
Strategic focus areas	<ul style="list-style-type: none"> ● Smart cities and communities ● Smart Grid concept

	<ul style="list-style-type: none"> • mobile energy storage • Micro-CHP • distributed generation technology • renewable energy sources
<p>How is inteGRIDy relevant to your organisation</p>	<p>The research activity of the Electric Power System Group, which directly cooperate in the inteGRIDy project, is focused on the main topics related to the power systems, from the production to the final use. In particular, the main research fields are:</p> <p>Power systems analysis and control: The EPS group has developed innovative models to assess the electric system static and dynamic security, with particular attention to voltage security. The research activities deal with the stability for large and small perturbations, using ad hoc algorithms and time-domain simulations. Different techniques are adopted, such as interior point algorithms and artificial intelligence tools, including genetic algorithms, fuzzy logic and neural networks. Currently, research activities are also carried out on the stochastic security assessment (including dynamic rating), stochastic optimization for renewable integration and on optimization of microgrids design and operation in developing Countries.</p> <p>Market operation: Competition has been introduced in the electricity world, in order to decrease electricity prices and enhance economic efficiency. The conventional integrated electric utilities have been restructured and substituted by competitive markets. However, in some cases, the new electricity markets look more like an oligopoly than to a perfectly competitive market. The EPS Group has developed studies and simulation methodologies of the electricity market, applying statistics, power market analysis and the game theory. Different models are adopted such as the equilibrium models, in order to consider each participant's strategy: either the supply function equilibrium models, chosen as the basis of many power market models, or the conjectural supply function model. Moreover, a market approach is also used for the reactive power, in order to determine an economic compensation of the reactive power/voltage control service.</p> <p>Market regulation: The EPS Group is active in developing models able to assess the influence of the different players on costs and on environmental issues. Concerning the regulatory issues, the EPS Group works on the setup of the Italian distribution grid code for both HV/MV and LV networks. The Group is active not only in Italy but also in some developing Countries. The main research subjects are: quality of service regulation in Italy and in the EU, definition of regulation (Grid Codes) for renewables.</p> <p>Dispersed Generation, Smart Grids: The EPS Group is active in the evaluation of the DG impact on the electric system, analysing solutions that can result in a better DG penetration in the distribution networks. Starting from the evaluation of the distribution networks hosting capacity, the work is oriented both to long-term possibilities, the so called smart grids, and to short-term ones, such as intermediate models of active grids able to accept immediately the DG opportunities. In this context, the EPS Group works on the innovative coordination control of load, storage and DG.</p> <p>With respect to the topics of the project here proposed, the EPS group</p>

	developed tools for the optimization of the distribution grid, both for the planning and for the management of the infrastructure. These tools are available for different SW platform (based both on commercial, e.g. DigSilent Power Factory, and research, Matlab, packages).
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UCY

Organisation profile	<p>The University of Cyprus was established in 1989 and admitted its first students in 1992 with an incoming class of 486 undergraduate students. During the academic year 2013-2014 there were 7048 students (undergraduate and postgraduate) across 8 faculties, 22 departments and 11 research units at UCY.</p> <p>The University of Cyprus aims to establish itself as a Pioneer Research Institution achieving International Scientific Recognition in European Higher Education, offering Competitive Programmes and to become a Centre of Excellence in the wider Euro - Mediterranean Region. The main objectives of the University are twofold: the promotion of scholarship and education through teaching and research, and the enhancement of the cultural, social and economic development of Cyprus.</p> <p>Furthermore, the Research Centre for Sustainable Energy (FOSS) was created in order to play a key role in research and technological development activities in the field of sustainable energy within Cyprus and at international level with the aim of contributing to the achievement of the relevant energy and environment objectives set out by Europe. In particular, the FOSS strives to become a centre of excellence in energy that will act as a structure where world-standard R&D work can be performed, in terms of measurable scientific production (including training) and/or technological innovation.</p> <p>In FOSS, significant research expertise from the University of Cyprus as well as from industry has been assembled that spans a host of fields: Electrical, Mechanical, Civil, Environmental, Chemical engineering, to Physics, Chemistry, Economics, Finance, as well as Architecture. The FOSS team aims, with the development of the necessary synergies, to create the impetus for the advancement of the field of energy. Members of the Centre represent Cyprus in European Energy Committees such as the Energy Committee for the Horizon 2020, the SET Plan, the European Technology & Innovation Platform SNET and PV and the European Standards Committees on PV. Furthermore, the FOSS staff act as expert evaluators for predominantly Energy Proposals within Horizon 2020 and other National initiatives. Furthermore, the researchers comprising the working team have extensive experience in grant proposal applications and have acquired funding for a range of research topics through the EU, the National Research Funding Agency in Cyprus as well as industry.</p>
Value proposition	<ul style="list-style-type: none"> • World-class learning environment from teaching and research • Deep sustainable energy expertise and capabilities • Dedicated facility for energy research and development
Strategic focus areas	<ul style="list-style-type: none"> • Sustainable Energy research and development • Cultural, social and economic development of Cyprus • Establishment of facilities for transforming the university into a

	<p>green campus with microgrid controls for effective energy and demand side management.</p> <ul style="list-style-type: none"> Establishing affiliations with European, Middle East and worldwide Universities
<p>How is inteGRIDy relevant to your organisation</p>	<p>The University of Cyprus has set the goal of becoming energy self-sufficient using energy produced from sustainable energy sources. To achieve this, 10 MWp of PV, 1 MWhr of electrochemical storage, EV charging/discharging stations, solar thermal units and heat pumps will be engaged (own funding) together with the existing rooftop PV installations. All of these systems will be combined with Demand Side Management (DSM) and optimum use of resources all the year round including capabilities offered through a planned micro-grid architecture. The DSM will be based on a single point of control, which will integrate the several existing and future Building Energy Management Systems (BEMS).</p> <p>Current plans include the following: the installation of smart sensors, smart metering infrastructure and micro-grid controllers (own funding) for the efficient operation of the micro-grid infrastructure in full coordination with the local grid operator. Moreover, autonomous weather stations, monitoring the POA irradiance, ambient and module temperature are implemented in 17 locations in Cyprus and all collected data are stored at a centralised database at the UCY premises. Additionally, the pilot use case extends outside the University's premises as 35 dispersed households within Cyprus under the PV net-metering policy are equipped with smart-meters enabling the bidirectional flow of information, the active use of DSM techniques and the smartening of the current distribution system. The whole micro-grid structure and the dispersed prosumers within Cyprus will be operated under the supervision of the local DSO (EAC) allowing the real data accessibility from the network, which represents the essential preconditions for carrying out smartened grid network operation (from DSO side) combined with local DER (from the end user premise).</p> <p>Demo activities will apply the proposed inteGRIDy functional modular platform in the context of the aforescribed smart RES system through the use of Field Middleware, addressing as well the efficient interconnection among energy networks (electrochemical and thermal storage).</p>

UCP

<p>Organisation profile</p>	<p>Universidade Católica Portuguesa is among the best universities in Portugal and the business school is the number one business school in Portugal according to the Financial Times Ranking (ranked 26 in Europe). Its MBA programme is ranked 36th in the world. The business school has strong ties to Portuguese businesses, the national government and the city administration of Lisbon. UCP has a tradition of national and internationally funded research projects within innovation, strategy and organizational fields.</p>
<p>Value proposition</p>	<ul style="list-style-type: none"> Teaching excellence and practical relevance of programs Leading provider of Management and Economics students Lifelong learning environment to advance the understanding of business and economic decision making

Strategic focus areas	<ul style="list-style-type: none"> • Recognition as a hub for pan-Atlantic business • Generation of original research
How is inteGRIDy relevant to your organisation	<p>Universidade Católica Portuguesa will contribute skills around business modelling, entrepreneurship, international policy analysis and international firm strategy. The intention will be to understand and exploit understanding through the interplay and intersection of three areas: business modelling, sustainable technologies and policy-firm interplay.</p> <p>In order to bring the newly emerging business models at the intersection of electricity, mobility and big data to the market, new tools and frameworks are required. For this purpose a novel online tool has been developed (the Business Model Tool) which relies on state of the art knowledge of business modelling. It is the first ever tool that brings business modelling closer to implementation, integrates creativity stimulating templates and includes a testing routine for business model quality, particularly suited and catered for ventures in the energy industry. This tool and the related knowledge and frameworks can greatly improve the marketability of the inteGRIDy results.</p> <p>Moreover, new business models have to be seen in the context of international institutions. Our research has studied the international context and impact of institutions on business models. This will allow a tailored fit of business models to country specific and consumer specific requirements.</p>

Non-profit organisations

E@W

Organisation profile	Energy@Work is an innovative non-profit start-up organisation founded in 2014. It is located in Apulia, Italy. The main goals for Energy@Work are the exploitation of researchers' activities, protecting national young excellences in research, promoting on its own territory and abroad technological research and innovation.
Value proposition	Energy@Work aims to raise up territory competences creating contact between researchers and companies through research and development, supply engineering and consulting services. It has expertise in several areas including: energy efficiency at both building and district level, design and development of ICT systems for industrial automation.
Strategic focus areas	<ul style="list-style-type: none"> • Energy efficiency, • ICT, • Automation and control.
How is inteGRIDy relevant to your organisation	Members, even if under 35 years old, can show off wide and substantial experience in energy efficiency, ICT, automation and control. The scope of Energy@Work is to fill up existing gap between applied and industrial research, supporting partners during development of high technological products or services, disseminating and validating results, promoting partnerships between public and private entities. The participation to the inteGRIDy project allows to Energy@Work to consolidate its know-how in the areas of smart grid and DR, acquiring new methodologies and skills in order to create innovative

products/services to be propagated at regional and national scale.

ENOVA

Organisation profile	<p>LISBOA E-NOVA is a non-profit association operating under private law that seeks to contribute to the sustainable development of the city of Lisbon through mainstreaming good practices in urban planning, construction, urban management and mobility, involving all the city's key stakeholders, among political decision makers, all major urban stakeholders and the citizens of Lisbon.</p> <p>LISBOA E-NOVA is composed by a General Assembly, a Board of Administrators, a Consultancy Committee and a Supervisory Board. The General Assembly comprises 17 affiliates who are active in very distinct sectors, including local administration, education, water and energy utilities, transport, among others. LISBOA E-NOVA is responsible for the development and monitoring of Lisbon's Energy-Environment Strategy, signed by the Lisbon Municipality in 2008, setting targets in the field of energy, water and materials resources, for the period from 2009 to 2013.</p> <p>LISBOA E-NOVA also coordinates Lisbon's participation in the Covenant of Mayors assuring the communication with the European Commission and the status of results. Within this context Lisboa E-Nova coordinates several projects, both in the technical and communication fields, with which it addresses the sustainability challenges that the Lisbon city faces, raising the awareness of all key stakeholders and motivating their participation in the systematic and continuous improvement of the city's energy and environmental performance.</p>
Value proposition	<ul style="list-style-type: none"> • Direct project experience to improve Lisbon's energy and environmental performance • Independent engagement with city stakeholders for sustainable development
Strategic focus areas	<ul style="list-style-type: none"> • Implement a continuous improvement process involving all Lisbon's key stakeholders • Improve energy and environmental performance of the city • Raise awareness for a responsible use of the city energy and environmental resources • Public sector • Transportation • Energy Efficiency
How is inteGRIDy relevant to your organisation	<p>At the local level, Lisbon's Municipal Master Plan (PDM), provides the Energy-Environmental Strategy (developed by Lisboa E-Nova) and SEAP operationalization, fostering the adoption of good practices to promote a more sustainable performance of city neighbourhoods, based on a sustainable plans assessment through all its phases; more energy efficiency in public infrastructures, namely, street lighting, buildings or integration of renewable energy technologies.</p> <p>LISBOA E-NOVA also has a solid experience in the communication and citizen engagement area where it periodically organises communication events, such as workshops, exhibitions, technical visits, allowing for the dynamization of open dialogue platform between the citizen and the</p>

	<p>experts on a variety of themes related to energy and environment.</p> <p>InteGRIDy aims to integrate cutting-edge technologies, solutions and mechanisms in a scalable Cross-Functional Platform connecting energy networks with diverse stakeholders, facilitating optimal and dynamic operation of the Distribution Grid (DG), fostering the stability and coordination of distributed energy resources and enabling collaborative storage schemes within an increasing share of renewables. This integration applied in Lisbon pilot will benefit the Municipality and therefore, as a major associate member of the agency, will benefit Lisboa E-Nova reaching the targets proposed by its statutes and increase the experience in the area.</p>
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Public body

IWC

Organisation profile	<p>The Isle of Wight Council (IWC) is a Unitary Authority which provides a wide range of services to a local population of 140,000 and some 5,000 businesses. It is the authority for highways, education, planning and licensing and provides social care services for adults and children.</p> <p>IWC is also responsible for strategic planning for the Isle of Wight and has produced “Eco Island” as its Sustainable Community Strategy. It is a vision for a low carbon community and for growth based on the development of the green economy. Specifically, Eco Island has targets for the Island to become self-sufficient in renewable electricity generation and to have the lowest per capita carbon footprint in England by 2020.</p> <p>IWC also has a broader vision of sustainability, focused on the Island’s ecological footprint, and are working with the local community to make the Isle of Wight the first sustainable region in the UK.</p> <p>The council also has a priority for economic development and encourages investments which create skilled jobs, training opportunities and wealth. The renewable energy sector has been a focus for the council and the Isle of Wight is now home to a number of world class clean tech companies. There has also been significant investment in renewable energy generation, covering PV, energy from waste and tidal energy technologies.</p>
Value proposition	<ul style="list-style-type: none"> ● Stated commitment to sustainability ● Delivered numerous low-carbon projects ● Close relationship with Distribution Network Operator (SSEN)
Strategic focus areas (within Eco-Island Sustainable Community Strategy)	<ul style="list-style-type: none"> ● Thriving Island ● Healthy and Supportive Island ● Safe and Well-kept Island ● Inspiring Island.
How is inteGRIDy relevant to your organisation	<p>The council has a strategic objective to have the smallest carbon footprint in England by 2020. It aims to achieve this through; the adoption of smart technology; improvements in the delivery of public services; and behavioural change amongst residents and the business</p>



	<p>community.</p> <p>The further development of distributed generation is reliant on overcoming the current grid constraints and the development of a future energy network is therefore referenced in the council's Economic Development Plan.</p> <p>InteGRIDy's core aims of integrate cutting-edge technologies and software to optimise the operation of the Distribution Grid are closely aligned to the councils'. The Island will directly benefit from greater integration of distributed energy resources and the greater penetration of low carbon transport.</p>
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Pilot exploitation plans

As in the previous section, extended details regarding pilot sites for inteGRIDy are included here, including pilot profile description, research focus and partners involved.

Pilot Use Case 1: Smart Grid fleet Charging EV Facilities, Demand Side Response & Energy Storage (Isle of Wight, UK)

Pilot profile	<p>The Isle of Wight Council has produced a Community Strategy that has the aim of delivering self-sufficiency in electricity produced from local renewable energy sources. This will require an installed capacity of RES of 170MW. To date, approximately 80MW have been installed, but the Island is now subject to a grid constraint due to the large amount of DG. This adds cost and complexity, with impacts on the economic and environmental targets. Reinforcement through an additional interconnector is unaffordable and potentially unachievable; therefore, IWC has started to investigate smarter solutions which will allow it to achieve its ambitions and future-proof the electricity network.</p>
Research focus	<p>Demand Response:</p> <ul style="list-style-type: none"> • Develop a detailed Power Systems Model for the Island. • Analyse the management scheme for energy demand in order to design effectively a "virtual" power plant. <p>Smartening the distribution grid</p> <ul style="list-style-type: none"> • Produce optimal smart grid architecture for the Island at full DG capacity and compare the ROI of this to alternative measures. • Develop a commercial model for IWC to provide grid balancing services through the aggregation of load (DSR) and generation. <p>Energy storage technologies:</p> <ul style="list-style-type: none"> • Heat storage options at residential level. • Field trial some of the available components of the smart grid architecture, including an electrically-powered thermal store. <p>Smart Integration of grid users from Transport:</p> <ul style="list-style-type: none"> • Evaluation of the energy management methods to the EV charging solution. • 15 systems based at BT Exchanges serving entire BT fleet on IOW and available for public use by EMS • Offer grid balancing solutions through the ability to provide flexibility in DSR

Partners involved	<ul style="list-style-type: none"> • Isle of Wight Council • University of Newcastle • Minus 7 • EMS • CERTH • AT. Kearney • Siemens
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Pilot Use Case 2: Combining Smarter Decentralized MV/LV Automation with Local Coordinated DER-DSO Operation for improving Grid Optimization (Terni, IT)

Pilot profile	<p>Terni will utilize an existing microgrid, which includes local RES generation (PV and wind farm, accounting overall for 30 kWp + a 30 kW wind turbine under deployment), cogeneration for thermal energy (25 kWt) and power simultaneous generation (31 kVA) aimed at matching local rural farm heat and electricity demand needs, battery backup storage (60 KWh) and EV recharging stations. The DER cluster is owned and operated as an off-line microgrid by a local farmers cooperative. Electric connection (switchgears, secondary substations) with the Terni smart grid is under deployment by using internal Terni funding, with no financial impact for the project. DR platform functionalities are leveraging valuable experience and developed solutions from the FINESCE project.</p> <p>By means of the tools, models and mechanisms that inteGRIDy will make available, ENG and ASM aim at demonstrating a hybrid cooperative business model between independent and privately owned DER clusters, based on the unexploited potential as flexibility providers or energy surplus providers to the local DSO. The Hybrid business model will be enabled by deploying decentralized MV/LV automation in secondary substation and direct connection with individual local privately owned DERs. The final goal is to combine direct yet individual control of private DERs by the DSO with direct control operated by the DER owner.</p> <p>Different approaches will be considered to optimize the a) local microgrid, b) EV recharging system, c) local distribution grid smartened by ML/LV substation automation solutions. The available DER will be continuously monitored and properly controlled by the microgrid owner, to address local electric and thermal needs related to the processes of the rural farm, and by the DSO to improve stability and reliability of the distribution network. The activities will include real time field flexibility optimization management by Terni and assessment of the impact of the microgrid flexibility into the distribution network.</p>
Research focus	<p>Demand Response:</p> <ul style="list-style-type: none"> • Automated DR programs will be defined and deployed to allow DSO distribution network manager to access microgrid resources (especially storage and CHP) with the aim of stabilizing the smart grid in compliance with the constraints imposed by the running farm processes. <p>Smartening the distribution grid:</p> <ul style="list-style-type: none"> • Resources of the farm microgrid will be made available to the DSO under a microgrid-as-a-service model;



	<ul style="list-style-type: none"> • The flexible capacity of the DER cluster will be made available under a flexibility-as-a-service model; • Real-time field flexibility optimization management will be put in place. • Synergies between electricity and thermal networks considered by leveraging on biomass renewable cogeneration <p>Energy storage technologies:</p> <ul style="list-style-type: none"> • Storage will be used to maximise local generation of local distributed generation and to support the smart grid in case of surplus of power or local congestion. <p>Smart Integration of grid users from Transport:</p> <ul style="list-style-type: none"> • A tourist hotspot is located near the microgrid so some EV recharging points could be installed and used to evaluate how a DSO-level coordination of these loads support grid reliability and stability.
Partners involved	<ul style="list-style-type: none"> • ASM Terni • ENG

Pilot Use Case 3: Advanced DG Monitoring Power Flows Forecasting & Topology Optimization (San Severino Marche, IT)

Pilot profile	<p>The pilot project is related to the distribution grid of San Severino Marche, a town of about 13.000 inhabitants in the Macerata province. In the past, the area made use of hydro resources and more recently the penetration of photovoltaic generation boomed, with significant year-on-year growth. The nearby agricultural activities offer good opportunities related to biomasses.</p> <p>The energy needs of the loads are quite limited and a reverse power flow regularly occurs. In such situations, the main goal of the DSO is to ensure stability of the DG. The DSO has the option to change the topology of its grid and optimize its configuration to maintain reliable supply. To do this, it is essential that an accurate estimation of the state of network, in real time is performed, in addition to a forecast of future states.</p> <p>ASSEM SPA will cooperate with POLIMI, UNE and Energy@work in order to activate a Pilot Use Case on the distribution grid of San Severino Marche. The goals will be related to the advanced monitoring of the grid, the forecast of the power flows and the day-ahead topology optimization of the grid. Generators will be managed by the electrical protection and remote control systems of the DSO and exploited in order to optimize the grid reliability and efficiency. In addition, an innovative platform will be utilized to evaluate the effectiveness of a coordinated control of MV generators performed by the DSO in order to provide ancillary services to the main grid. Eventually, storage mobile apparatuses will be tested both in the DSO perspective and in the final user one.</p>
Research focus	<p>Demand Response:</p> <ul style="list-style-type: none"> • Data accessible to end users and stakeholders. • Development of algorithm to use dispersed energy storage as a VPP for power balancing.

	<ul style="list-style-type: none"> • DSO control centre data exchange with cloud web-service devoted to manage dispersed energy storage (VES). <p>Smartening the distribution grid:</p> <ul style="list-style-type: none"> • Develop effective tools for the Power Flow monitoring and forecasting on the MV grid, MV/LV and MV generators interface. • Develop effective tools for a day ahead (or more days ahead) topological optimization of the MV grid. • Develop effective tools for the real-time monitoring of the grid and eventually, being able to suggest a topology reconfiguration if critical errors are identified with respect to the forecasts. • Deploy meter apparatuses and Automation Systems to test the procedure developed. <p>Energy storage technologies:</p> <ul style="list-style-type: none"> • Deploy mobile small scale ESSs (10 kWh each) based on a completely recyclable technology, connected both in the DSO MV/LV substation and/or behind the meter of LV users • Grouping of mobile small-scale apparatuses in a single node of the distribution grid to provide grid services. • Small scale apparatuses will be dispersed over the grid in a 'behind the meter' configuration. • Storage apparatuses, dispersed over the grid, will be managed in a coordinated way in order to provide both services to the final users and to the distribution grid.
Partners involved	<ul style="list-style-type: none"> • ASSEM • Polimi • UNE • Energy@Work

Pilot Use Case 4: Smart Grid Integration, self-consumption strategies & enlarged RES penetration factor (Barcelona, ES)

Pilot profile	<p>Barcelona is one Spain's largest and most prosperous cities known across the world for its architecture and unique cultural heritage. Electrical consumption is high and the local grid is characterized by significant variation in power demand and electricity unit pricing.</p> <p>In Catalonia, the RES penetration is very high and lots of wind farms are located close to the city. A problem currently suffered by wind farm operators is the difficulty to expand their installations, mostly because there is a lack of electrical capacity and which means there are many shutdowns every year.</p> <p>The Claror Cartagena sports centre is one of the city-owned sports centres; it's managed by the Claror foundation and is a high consumer of power. The Claror Cartagena has 1500 users per day and was involved in on-going Smart City project (SCC-01 Lighthouse project) "GrowSmarter" participated in by GNF. Several interesting energy savings measures have been implemented in this centre, including the installation of monitoring equipment and of a Building Energy Management System (BEMS). W&V smart meters and KiSENSE will be introduced into the current system.</p> <p>On inteGRIDy, many different smart tools will be developed and deployed on the site in order to support DR optimisation. New thermal</p>
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	<p>and electrical storage solutions will be integrated, including Li-Ion batteries, to help the penetration of RES into the grid. The storage system will respond to signals from windfarms to charge/discharge load, as required to reduce the need for RES, curtailment and help in the wind farm power evacuation in repowered wind farms. The solution can be replicated in any open public high energy consuming building.</p>
Research focus	<p>Demand Response:</p> <ul style="list-style-type: none"> • Design of scenarios for different demand response strategies depending on the on-site generation (PV) criteria, grid availability (large wind turbines) and local heat storage (pool) at different set temperatures, using these temperatures as a storage buffer. Shifting of swimming pool filtering times. • Inclusion of local batteries working as stand-alone or in cooperation with heat pumps. • Analysis of those previously identified DR strategies, by the GNF living lab in Madrid, before real implementation. <p>Smartening the distribution grid:</p> <ul style="list-style-type: none"> • Create third-party relationships between Gas Natural Windfarms and local storage, in order to detect the increase in exportation capacity of repowered wind farms if distributed storage is implemented. • Analyse the feasibility of using the battery for peak load shaving. <p>Energy storage technologies:</p> <ul style="list-style-type: none"> • Heat storage using different set of temperatures during night for the pool. Evaluation of the increase in evaporation (accumulation losses) and potential change in comfort perception by the final users. • Electrical storage via Li-Ion battery, in the Claror Cartagena Site. • Breadboard (Gas Natural own testing premises in Madrid) testing of the different components of the system, before installing them in the real site. • Analysis of the increase of on-site self-sufficiency and interaction between the grid, the available storage solutions (battery and heat storage) and on-site PV generation
Partners involved	<ul style="list-style-type: none"> • GNF • Aguasol • CERTH

Pilot Use Case 5: Novel Demand Response & Virtual Energy Storage Schemes (St-Jean, FR)

Pilot profile	<p>INNED distributes over 140 GWh of electricity every year, with peak demand of 42 MW. Nearly a third of the total annual electricity produced comes from renewable sources, namely PVs and small hydro plants, with the aim to reach 60% in 2020 and 100% by 2030. Currently, there is no storage installed at the INNED network. However, there are plans to feed the gas grid (still in St-Jean) with methane using Power to Gas conversion and storage technologies. This grid is operated by GRDF, the national gas distribution company and fed by RTgas, the national gas transmission company. GRDF is interested in buying methane produced by SOREA and initial discussions on the project will start</p>
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	<p>within 2017. INNED also plans to produce hydrogen from electrolysis, particularly to use low cost electricity at high production time of hydro power plants. The aim is to use hydrogen as energy storage and produce electricity in a fuel cell (FC), or to feed the gas grid with up to 6 vol% H₂.</p> <p>Following the future strategy of INNED to operate a fully decarbonized grid in 2030, the main aim of the pilot activities in the French pilot site spins around the integration of increasing volumes of distributed renewables into the distribution grid without affecting its stability and reliability. To this end, the pilot activities will focus on the introduction of novel technologies and business models for Human-Centric DR in Buildings (control of HVAC and lighting loads without compromising building occupants' comfort and health) and VES (through the application of Power-to-Heat solutions).</p>
Research focus	<p>Demand Response:</p> <ul style="list-style-type: none"> • Accurately model prosumers' energy behaviour to define demand flexibility profiles to enable participation in DR schemes • Clustering of prosumers' flexibility, classification and prioritization for the provision of different services to the distribution grid (balancing, ancillary services) • Demonstration of Automated (Human-Centric) DR Schemes and price based DR strategies <p>Smartening the distribution grid:</p> <ul style="list-style-type: none"> • Using tools and methods to analyse and forecast demand flexibility even in the short-term • Using tools to optimise VPP configuration based on evolving requirements of the distribution grid and available flexibility sources. • Using tools and techniques for internal optimization and dispatching between different flexibility sources (demand vs virtual storage) at various spatio-temporal granularity. <p>Energy storage technologies:</p> <ul style="list-style-type: none"> • Modelling the thermal behaviour of buildings to identify thermal mass and inertia characteristics and assess their capabilities to provide flexibility. • Demonstration of innovative Power-to-heat solutions resulting from the project for VES in Buildings through optimized HVAC and water heaters control. • Coordination with DR Solutions to optimize Smart Grid Operations and minimize intrusiveness in occupants' premises and compromises in their comfort.
Partners involved	<ul style="list-style-type: none"> • INNED • Trek

Pilot Use Case 6: Coordinated DR and DSM at Academic Campus and Households with RES & CHP (Nicosia, CY)

Pilot profile	<p>The University of Cyprus has set the goal of becoming energy self-sufficient using energy produced from sustainable energy sources. To achieve that 10 MWp of PV, 1 MWhr of electrochemical storage, 0.5</p>
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	<p>MWp CHP plant, solar thermal units and heat pumps will be utilised. All of these systems will be combined with Demand Side Management (DSM) and optimum use of resources all the year round including capabilities offered through a planned micro-grid architecture.</p> <p>The pilot will include the installation of smart sensors and micro-grid controllers (self funded) for the efficient operation of the micro-grid infrastructure in full coordination with the local grid operator. Moreover, autonomous weather stations, monitoring the POA irradiance, ambient and module temperature are implemented in 17 locations across Cyprus and all collected data are stored at a centralised database at the UCY premises. Additionally, the pilot use case extends outside the University’s premises as 46 households under the PV net-metering policy are equipped with smart-meters enabling the bidirectional flow of information, the active use of DSM techniques and the smartening of the current distribution system. The whole micro-grid structure (campus and households) will be operated under the supervision of the local DSO (EAC) allowing the real data accessibility from the network, which represents the essential preconditions for carrying out smartened grid network operation (from DSO side) combined with local DER (from the end user premise). Demo activities will apply the proposed inteGRIDy functional modular platform in the context of the aforescribed smart RES system through the use of Filed Middleware, addressing as well the efficient interconnection among energy networks (electrochemical and thermal storage).</p>
Research focus	<p>Demand Response:</p> <ul style="list-style-type: none"> • All University buildings and the nearby district (46 households) will act as individual consumers of energy. • The general idea is to enable predictive DR algorithms through inteGRIDy systems connectors and managers to allow for the proposition of real time pricing of the electricity from each consumer individually, based on its consumption profiling. • The households equipped with smart-meters will engage DR programs aiming in the optimal use of the local generation (TOU tariffs, peak pricing, etc.). <p>Smartening the distribution grid:</p> <ul style="list-style-type: none"> • The demo site has full band connectivity with the local DSO (EAC) using fiber optics and PLC infrastructure allowing bidirectional flow of data between them. • Also, the micro-grid will include the network of the nearby Aglantzia municipality (currently available 46 households). <p>Energy storage technologies:</p> <ul style="list-style-type: none"> • Thermal storage will be used for heating or cooling of buildings without needing to use electrical energy • Electrochemical storage (batteries) will be deployed improving the operational capabilities of the local RES generation • The energy storage facilities improve the efficient operation of the micro-grid by improving the quality and security of supply
Partners involved	<ul style="list-style-type: none"> • Electricity Authority of Cyprus • University of Cyprus • CERTH

Pilot Use Case 7: DR in Municipal Buildings integrating PV, EVs and Thermal Storage (Lisboa, PT)

Pilot profile	<p>The Portuguese pilot takes place in the building Campo Grande 25, the municipality's biggest consumer of electric energy where most part of the Lisbon Municipality work is performed. Its main activities include public service and office work, where office equipment and HVAC are responsible for more than 70% of the building's consumption.</p> <p>Campo Grande 25 is a 4 – block building, where around 2,000 people work every day and many others are visiting the building, as it hosts some important public services, open to public. The total area of the building is 55,000 m² and it is supplied at medium-voltage (MV), with an average annual consumption of 3.2 GWh. A fleet of around 60 electrical vehicles are charged in this building in two charging stations, in two different basement levels: one fast charging station with two plug connectors; and one normal charging station with 15 plug connectors. Today the EV's charging process has its own energy management system (EMS), with the ability to identify sources of savings and monitor the evolution of consumption.</p> <p>The LV Board located in one of the basement's level has 11 smart meters connected with a BEMS system, Kisense, which allows disaggregation of consumptions. The 11 meters are able to read data from the two transformation stations, the 4 blocks composing the building (blocks A, B, C and E), the three chillers, the lifts and the EV chargers.</p> <p>The pilot's main stakeholder is Lisbon's Municipality, who owns the building and is interested in increasing its energy efficiency with the aim to reduce electricity bills as well as to continue providing a comfortable workplace to its workers mainly through thermal comfort.</p>
Research focus	<p>Demand Response:</p> <p><i>The main goal:</i> To develop a smart local grid cross-functional solution, reduce carbon footprint and the electricity bill</p> <ul style="list-style-type: none"> • Adjusting energy use according to different price tariffs during the day (peak and off-peak periods); • Adjusting energy consumption according to local renewable energy production; • Improving operation of the electric grid management by reducing or shifting electricity usage during peak periods in response to (according to?) time-based rates; • Balancing supply and demand with energy production & consumption forecasting; • Optimizing and/or reducing energy consumption within public buildings, in order to achieve the best energy performance. <p>Energy storage technologies:</p> <p><i>The main goal:</i> To improve the building's energy storage efficiency and flexibility to transfer thermal energy in short notice, while reducing electricity bill.</p> <ul style="list-style-type: none"> • Using the ice tanks to store cold during the off-peak hours and save it for the following day <p>Smart Integration of grid users from Transport:</p>

	<p><i>The main goal:</i> To develop a smart local grid cross-functional solution and to reduce the electricity bill.</p> <ul style="list-style-type: none"> • Integrating EV fleet Management with BEMS • Integrating renewable energy production with EV fleet management
Partners involved	<ul style="list-style-type: none"> • Lisboa E-NOVA (project coordinator) • Virtual Power Solutions (VPS) • PH Energia • Universidade Católica Portuguesa (UCP)

Pilot Use Case 8: Optimum Distributed Control of RES-enabled Islanded Grids Local Storage (Xanthi, GR)

Pilot profile	<p>On the premises of Sunlight there is an islanded smart microgrid network that fulfils local load demand. The grid consists of three nodes, with each hosting a smaller microgrid. These are connected together through a common DC bus. Each microgrid consists of equipment exploiting various RES, local load, battery and diesel generator. The nodes are powered by PV and Wind Generators (WG). One of the nodes has a hydrogen generation infrastructure from PV and a FC that consumes the hydrogen upon demand based on the status of the other subsystems.</p> <p>The electrical topology is complemented by communication and automation infrastructure which leads to the formation of the smart grid and facilitates the decision making process for the exchange of energy among the systems. Besides the local data acquisition systems, an interoperable SCADA system exists that monitors and manages the power exchange at the network.</p>
Research focus	<p>Demand Response:</p> <ul style="list-style-type: none"> • Extending the existing model of the network to incorporate energy DR matching and DR shifting, when appropriate, relying on the results from the multi-objective optimization strategies. • Adjusting local energy demand by manipulating the auxiliary loads based on prosumer profiling, according to available RES production forecasts and on the day-ahead market prices analysis results. <p>Smartening the distribution grid:</p> <ul style="list-style-type: none"> • Applying advanced MPC strategies in a distributed manner using the system/network model for optimum power distribution using day-ahead profiling. • Enhancing the supervisory monitoring capabilities to include informed actions using multi-criteria decision analysis based on historical data of the network behaviour both short and long-term. • Integrating Supervisory Monitoring services through HMIs providing information/notification metrics, including multi-purpose dashboards for analysis of the distribution net status and its potential. <p>Energy storage technologies:</p>



Partners involved	<ul style="list-style-type: none"> Demonstrating energy storage technologies utilizing flexible storage management algorithms for charging/discharging. Smart energy management tools with RES-enabled storage systems with the aim of formulating a Virtual Central Storage from aggregated distributed storage systems The field trial is carried out on the 3 nodes with active serving to the load demand for optimum storage utilization and balancing among hybrid storage options (electricity, hydrogen) <p>Smart Integration of grid users from Transport:</p> <ul style="list-style-type: none"> Evaluating the energy management methods for forklift charging at dynamically changing schedules using RES, batteries of stored hydrogen options on demand. Offering grid balancing solutions through the ability to provide flexibility in DSR and in the case of the EV charging unit, returning power to the grid at peak network demand.
Partners involved	<ul style="list-style-type: none"> Sunlight CERTH

Pilot Use Case 9: Intelligent Energy Demand and Supply Matching feat innovative simulation & command-control for energy grids (Ploiesti, RO)

Pilot profile	<p>The Pilot will run at a site in the city of Ploiesti, where a true smart grid exists on three buildings with residential apartments. Each building is a ten-storey block with four apartments per floor and commercial areas on the ground floor.</p> <p>The pilot involves both normal residential equipment (LED lighting, air conditioning systems, etc), as well as large scale appliances like an elevator. The implementation will also cover small commercial consumers (local shops) located within the same building; as well as a large consumer, a company named TELCO.</p> <p>The purpose is to ensure a true DR enabled smart grid where building energy management and controls systems (EMCSs) can function based on critical peak pricing (CPP) or other DR events that are programmed. The core integration platform will handle several DR profiles, each of which can be tested. Such an implementation could serve as a main starting point for more complex DR profiles (such as auto-response) and also bring together elements of automated decision-making, based on various parameters.</p> <p>The core management platform will serve both as energy information system (EIS), but also as an energy command-control and decision system (ECCDIS). Grid devices to be tested include complex communication protocols defined by CEN-CENELEC-ETSI standards, while special attention will be given to demonstrating security aspects when communicating with devices and the core integration platform capacity to maintain field-level security.</p> <p>The main innovation features to be implemented in this pilot are the ECCDIS core integration platform, real implementation of automated-DR algorithms based on consumer profiling and data gathering and demonstrating that improvements could be realised.</p>
Research focus	Demand Response:



	<ul style="list-style-type: none"> • DSM: smart meter automated control implementation, in order to evaluate and demonstrate automatic DR response, based on smart grid input in the core integration platform; • Response side management: real active load shedding during peak times to avoid large scale power outages or brownouts, lower bills and enable load shifting; • ECCDIS Integration Platform implementation, demonstrating the integration with a large number of devices and support various communication protocols and evaluate the opportunity of using automated-DR profiles; - • General aspects: offsetting the need for increasing the distribution capacity in the winter time in areas without heating solution, reduction of peak purchase, downwards pressure on energy prices on spot markets.
Partners involved	<ul style="list-style-type: none"> • ELECTRICA • SIVCO

Pilot Use Case 10: Flexible DR at Residential and Tertiary Building with Local Storage (Thessaloniki, GR)

Pilot profile	<p>The pilot case will involve a set of different types of residential buildings with various customers' profiles. All the dwellings are part of WVT's portfolio and are already equipped with smart meters allowing real-time monitoring of energy consumption loads. Plans are in place to further expand on this with more IoT multi-sensorial infrastructures.</p> <p>The football stadium and offices of the city's largest football club, PAOK FC, will be part of the use case too and this building sees significant variation of usage throughout the year. In addition, a multi-storey hotel (Macedonia Palace Hotel) will be utilized; it covers an area of 2,800m² and its energy demands are rising. The building uses water chillers (~1MW each) for the cooling, Variable Refrigerant Flow units (450kW) and natural gas for the heating purposes, which are monitored by a BEMS. WVTs smart meters and CERTHs dynamic simulation monitoring services will be introduced to the current system.</p>
Research focus	<p>Demand Response:</p> <ul style="list-style-type: none"> • Developing predictive DR algorithms that allow the evaluation of various demand profiles through simulation; and identifying the boundaries of the DR flexibility targeting maximum self-consumption at peak hours. • Analysing the DR management scheme to develop operational profiles for residential users, the basketball court, the football club and the hotel. • Developing optimization-based methods for DR profiling, shifting and optimizing deployable to small-scale local supervisory systems for optimal model-based algorithms. <p>Energy storage technologies:</p> <ul style="list-style-type: none"> • Demonstrating energy storage technologies supported by flexible storage management algorithms for

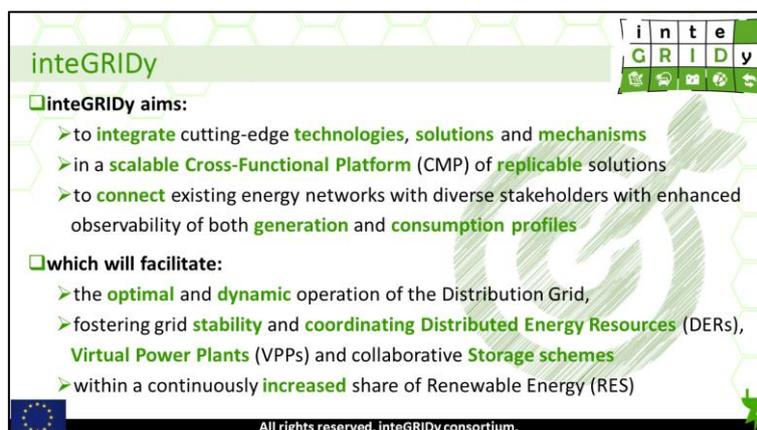
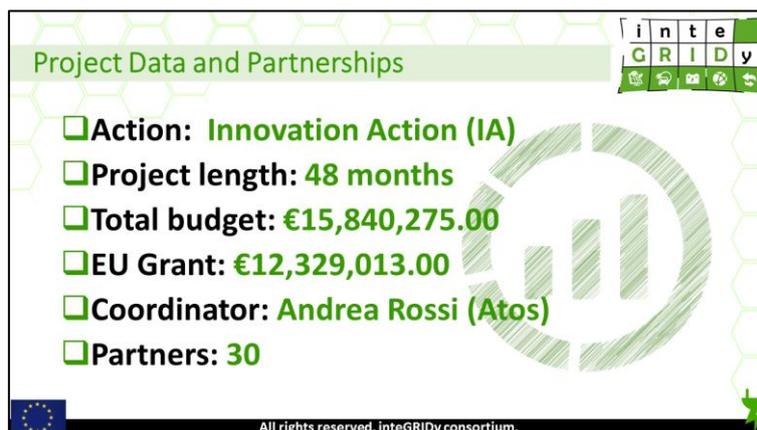
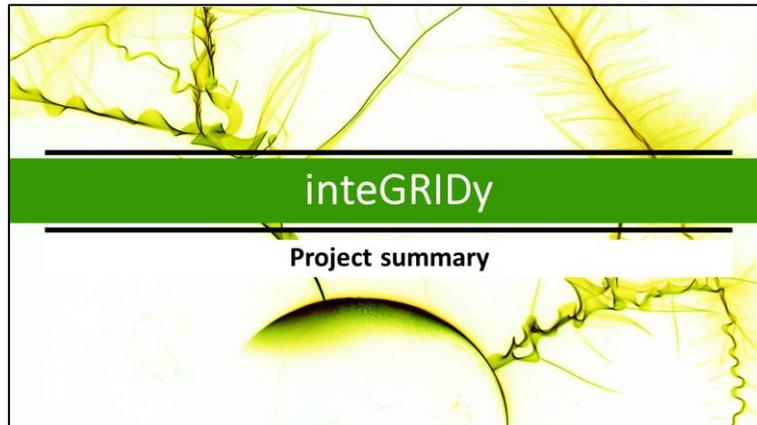


	<p>charging/discharging; and energy management tools alongside grid-connected storage systems.</p> <ul style="list-style-type: none"> • Virtual Central Storage monitoring tool from aggregated distributed storage systems to provide information about the boundaries and long-term operation of involved storage systems. • The power will be used for pre-heating of water boilers to avoid peak-hours demand on event-based schedule in an automated manner.
<p>Partners involved</p>	<ul style="list-style-type: none"> • Watt+Volt • Sunlight • CERTH

Annex II. Dissemination material

This section covers already finalized dissemination activities and templates, related to inteGRIDy during the first year. It is including the project presentation slide-set used by key members presenting at different events and the first press releases, brochure and newsletters circulated so far.

Project slide-set presentation



Expected Technical Impact

- Interoperability and efficient data collection and monitoring of grid's distributed assets.
- Network topology and Demand Response modelling
- Predictive algorithms and energy demand forecasting tools
- Visual Analytics using Human Machine Interaction
- Security access control framework, based on standardization, privacy and data protection
- Innovative Business models dynamizing the market

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inteGRIDy technical overview

Powerful Visual Analytics & HMIs

- Modelling and profiling mechanisms
- Predictive algorithms and forecasting tools
- Dynamic scenario-based simulation

Creation of a reference scalable Cross-Functional Platform (CMP)

Integration (of) cutting-edge technologies, solutions, mechanisms (with) smart-metering/automation systems, IoT infrastructures

Security, standardization, privacy, protection

Optimal & Dynamic operation of the Distribution Grid

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Graphical Representation of Project

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Demonstrators and their location

- Large Scale Pilot**
- Small Scale Pilot**
- LISBOA Portugal**: DR in Municipal Buildings integrating PV, EVs & thermal storage
- BARCELONA Spain**: Smart Grid integration, Self-consumption & enlarged RES penetration factor
- NICOSIA Cyprus**: Coordinated DR & DSM at the University campus and households with RES & CHP
- ISLE of WIGHT UK**: Smart Grid feat fast charging EV facilities, Demand Side Response and Energy Storage
- St JEAN de MAURIENNE France**: Novel Demand Response & Virtual Energy Storage schemes
- TERNI Italy**: Combining smarted decentralized MV/LV automation with local coordinated DER.DSO operation for improving Grid optimization
- San SEVERINO MARCHE Italy**: Advanced DG monitoring power flows forecasting & topology optimization
- THESSALONIKI Greece**: Flexible DR at residential & tertiary building with local storage
- PLOLESTI Romania**: Intelligent Energy Demand & Supply matching feat innovative simulations & command control for Energy Grids
- XANTHI Greece**: Optimum distributed control of RES enabled islanded Grids local storage

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Large Scale Pilots (1/2)

- 1 Isle of Wight, UK**
 [Improve the grid design, storage, EV penetration and RES installation on a self-sufficient island]

DR SG ES EV
- 2 Terni, IT**
 [Integrate offline micro grid owned by local farmers cooperative with MV grid]

DR SG ES EV
- 3 San Severino Marche, IT**
 [Enhance the distribution grid with topology optimization processes based on forecasting power flows]

DR SG ES

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Large Scale Pilots(2/2)

- 4 Barcelona, ES**
 [DR optimization and storage solutions to help grid penetration of RES. Sports centre building demo]

DR SG ES
- 5 St-Jean, FR**
 [Integration of DER into the distribution grid without threatening its stability. DR in buildings and Power-to-Heat for VES]

DR SG ES
- 6 Nicosia, CY**
 [Implementation of a micro grid between UCY campus and households, including DR and DSM strategies]

DR SG ES

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Small Scale Pilots (1/2)

- 7 Lisboa, PT**
 [Control system for buildings and accounting system to promote integrated prosumer management]

DR ES EV
- 8 Xanthi, GR**
 [DR mechanisms, supervision functions, virtual central storage and new charging facilities for local isolated micro grid]

DR SG ES EV
- 9 Ploiesti, RO**
 [Energy information system (EIS) for control and command distribution of information in a 3-building smart grid]

DR

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Small Scale Pilots (2/2)

- 10 Thessaloniki, GR**
 [DR management scheme for different consumer profiles (buildings, football stadium and hotel) and flexible storage types and management methods]

DR ES

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Plenary, Scientific & Innovation Board

- **ATOS** – Project Coordination.
- **CERTH** – Technical Coordination.
- **ENG** – Innovation Management. CMP Developer/Integrator
- **SIEMENS** – Exploitation Management
- **TEES** – Interoperability, Standards and Ethics Management.
- **POLIMI** – Pilot Management.
- **UCP** – Business model leadership.
- **SIVECO** – Requirements Management. Integration leadership.

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Thank you!

inteGRIDy consortium

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Press releases

Atos

Atos coordinates the European inteGRIDy project that will pilot a new energy framework in 8 countries

InteGRIDy has secured funding of more than 12 million euros from the European H2020 program, becoming the largest project in its category.

Madrid, 12 January 2017. - Atos, international leader in digital services, coordinates the inteGRIDy European project, which seeks to connect innovative services, technologies and emerging mechanisms of intelligent electric networks through the deployment of a scalable and replicable platform. This platform will allow the connection of the current energy network with the different market players, as well as providing improved capabilities for the monitoring of consumption and generation profiles.

The ultimate goal is to facilitate the optimal and dynamic operation of the power distribution network, boosting network stability while coordinating the inclusion of distributed energy sources, virtual power generation plants and innovative and collaborative energy storage schemes, with an increasing percentage of renewable energies.

The most relevant innovations include the integration of existing automation systems and intelligent meter reading with intelligent IoT infrastructure. Also included is the development of modeling mechanisms oriented to the management of network topology, the introduction of real-time response models and to perform battery recharging profiles. InteGRIDy also incorporates predictive algorithms to manage energy generation and demand in real time.

The 10 pilots that will take place in 8 European Union countries (Spain, Portugal, France, Italy, UK, Greece, Cyprus and Romania) will benefit from powerful visual analysis applications and dynamic simulations that will allow them to make predictions and make optimal decisions on the resources to be used.

Andrea Rossi, Energy sector coordinator at Atos Research & Innovation department and director of inteGRIDy project, comments: "All these innovations will be demonstrated in 10 environments with different conditions. The pilots will be located in different European countries and therefore governed by different socio-economic markets and contexts."

Atos

Based on pilot results, the project will propose new consistent business models with the energy paradigm proposed by inteGRIDy, which covers real-time demand management and allows new market players to participate in network operations.

In addition to coordinating the project, which consortium involves 30 partners, Atos contributes to the design and development of different elements of the ecosystem, leading the establishment of business models that make sustainable the deployment of the technology developed in the project.

The project started on January 1st, 2017, and the consortium includes Atos, Gas Natural Fenosa and Aiguasol (Spain), SIEMENS, Teesside University, Isle of Wight, University of Newcastle upon Tyne, Synergy Systems, EMSc (UK) and AT Kearney (United Kingdom), Engineering, ASM Terni, University of Rome "Sapienza", Polytechnic of Milan, Azienda San Severino Marche, Energy@Work and UNE (Italy), INNED (France), University of Cyprus and Electricity Authority of Cyprus (Cyprus), PH Energy, LISBOA E-NOVA, Portuguese Catholic University and Virtual Power Solutions (Portugal), SIVECO Romania and Societatea De Distributie Si Furnizare de Energie Electrice (Romania), Centre for Research and Technology Hellas (CERTH), Sunlight, WATT+VOLT and TREK (Greece).

For more information: www.integridy.eu

About Atos
Atos SE (Societas Europaea) is a leader in digital transformation with circa 100,000 employees in 72 countries and pro forma annual revenue of circa € 12 billion. Serving a global client base, the Group is the European leader in Big Data, Cybersecurity, Digital Workplace and provides Cloud services, Infrastructure & Data Management, Business & Platform solutions, as well as transactional services through Worldline, the European leader in the payment industry. With its cutting edge technologies, digital expertise and industry knowledge, the Group supports the digital transformation of its clients across different business sectors: Defense, Financial Services, Health, Manufacturing, Media, Utilities, Public sector, Retail, Telecommunications, and Transportation. The Group is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and is listed on the Euronext Paris market. Atos operates under the brands Atos, Atos Consulting, Atos Worldgrid, Bull, Canopy, Unify and Worldline.

First Newsletter

**INTEGRATED SMART GRID CROSS-FUNCTIONAL SOLUTIONS
FOR OPTIMIZED SYNERGETIC ENERGY DISTRIBUTION,
UTILIZATION STORAGE TECHNOLOGIES**

Issue 1 - Jul 2017

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- Editorial
- Overview inteGRIDy
- Demonstration Pilot Sites
- Partners
- News
- Next steps and events

www.integrity.eu

This project has received funding from the European Union Horizon 2020 research and innovation programme under grant agreement No 731268.

EDITORIAL

Dear reader,

It is a great pleasure for us to release this first issue of inteGRIDy's newsletter. It has been 6 months since the project started and we are gaining momentum, so it is the perfect time to present the project's key expected outcomes and objectives.

inteGRIDy is a 4-year Innovation Action devoted to test state of the art while mature smart grid technologies through the definition and implantation of a scalable Cross-Functional Platform validated in 10 different pilots located in 8 different EU states. This platform is conceived to optimize the Distribution Grid operation, fostering the stability and coordination of distributed energy resources and enabling collaborative storage schemes within an increasing share of renewables.

During the past months, the work spin around the analysis of obstacles and barriers, market needs, use case requirements, evaluation metrics,

OVERVIEW INTEGRIDY

INTEGRITY AIMS:

To integrate cutting-edge technologies, solutions and mechanisms in a scalable Cross-Functional Platform (CFP) of replicable solutions to connect existing energy networks with diverse stakeholders with enhanced observability of both generation and consumption profiles.

WHICH WILL FACILITATE:

The optimal and dynamic operation of the Distribution Grid, fostering grid stability and coordinating Distributed Energy Resources (DERs), Virtual Power Plants (VPPs) and collaborative Storage schemes within a continuously increased share of Renewable Energy Sources (RES).

GRAPHICAL REPRESENTATION OF PROJECT:

2 More information about inteGRIDy: www.integrity.eu

3

OBJECTIVES:

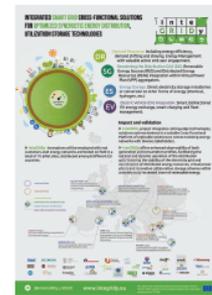
- Facilitate the decarbonisation of the electricity grid and the integration of large shares of distributed renewable generation, deploying innovative Demand Response (DR), storage, or E-vehicles (EV) management and Smart Grid (SG) technologies.
- Integrate innovative smart-grid technologies/concepts with a scalable and replicable Cross-functional Modular Platform, enabling optimal and dynamic operation of the distribution system's assets.
- Use modelling and profiling extraction techniques for network topology representation, innovative DR mechanisms and Storage System characterization, supporting automated scenario-based decision making.
- Use predictive algorithms and scenario-based simulation for innovative Operation Analysis Framework of the DG enabling avoidance of Renewable Energy Sources (RES) curtailment and enhancing self-consumption and net metering.
- Demonstrate an integrated Decision Making and Optimisation Framework featuring a grid balancing and stability engine, optimization-based energy synergies to ensure energy security.
- Deliver integrated Visual Analytics tools, with innovative HMI's and Services for stakeholders and end-users, allowing monitoring and control of distribution network in real-time context.
- Implement and Deliver added value end-user applications for all stakeholder and new business models involved in the smart grid value chain, enabling, also, their participation in energy markets.
- Contribution to the transformation of the energy market situation in Europe in order to comply with the ongoing energy related activities for standardization and regulatory frameworks.
- inteGRIDy system deployment, integration and validation in real-life large-scale demonstration pilot use cases.

EXPECTED TECHNICAL IMPACT:

- Interoperability and efficient data collection and monitoring of grid's distributed assets.
- Network topology and Demand Response modeling.
- Predictive algorithms and forecasting tools.
- Visual Analytics usign Human Machine Interaction.
- Security access control framework, based on standardization, privacy and data protection.
- Innovative Business models dynamizing the market.

DISSEMINATION MATERIAL AND CHANNELS:

You can find InteGRIDy dissemination material available in website. Different posters, presentations and brochures have been created so far.

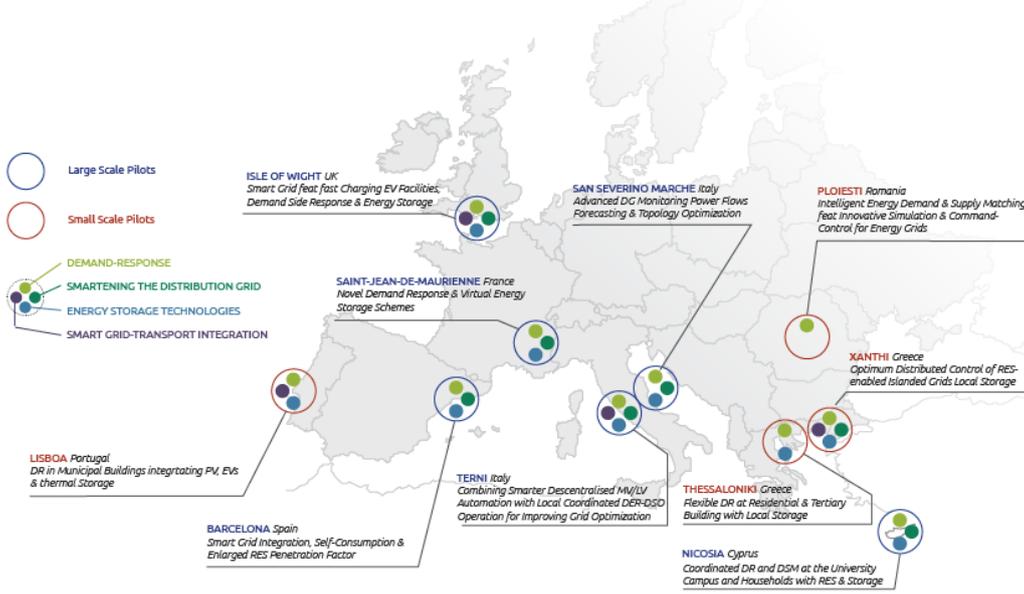


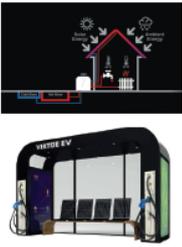
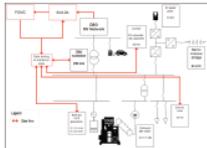
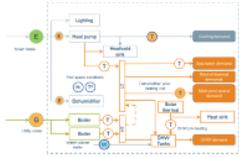
You can also follow our project in social networks.

- Twitter: https://twitter.com/inteGRIDy_H2020
- LinkedIn: <https://www.linkedin.com/in/inteGRIDy-project-1008a8130/>
- Flickr: <https://www.flickr.com/photos/inteGRIDy/albums>



DEMONSTRATION PILOT SITES



<p>1 - PILOT: ISLE OF WRIGHT</p> <p>DR SG ES EV</p> <p>Improve the grid design, storage, EV penetration and RES installation on a self-sufficient island</p> <p>The pilot on the Isle of Wight will use network data and predictive analysis to develop a smart grid architecture that will allow the island to overcome grid constraints and become self-sufficient in low carbon power generation. It will also consider the commercial arrangements that will enable the functioning of load shifting and grid balancing services on a regional basis. Three technologies will be demonstrated at scale using the intEGriDy platform – a home heating system utilising thermal storage provided by Minus 7 (M7), a rapid EV charging system that provides energy storage, DGR functionality and building energy management provided by EMS (UIQ) Ltd and an IoT-based BMS system provided by Siemens.</p> 	<p>3 - PILOT: SAN SEVERINO MARCHE</p> <p>DR SG ES</p> <p>Enhance the distribution grid with topology optimization process based on forecasting power flows</p> <p>The pilot project is related to the distribution grid of San Severino Marche, a small town sited in the center of Italy. In the past, the area reported a hydro resources exploitation while, recently, photovoltaic generation penetration rises year after year. Vice-versa, the energy needs of the loads are quite limited. In the project an accurate estimation of the state of network will be activated in order to support the DSO in operating the network. Generators will be consequently managed by the remote control system of the DSO and exploited in order to optimize the grid reliability and efficiency. Finally, a coordinated management of distributed energy storage will be tested, both in a final user perspective (improving the energy behaviour of LV users) and in the grid perspective (provide ancillary service to the local grid or to the national one).</p> 
<p>2 - PILOT: TERNI</p> <p>DR SG ES EV</p> <p>Integrate offline micro grid owned by local farmers cooperative with MV grid</p> <p>The Terni pilot site is located in Central Italy, at the boundary of the power distribution network owned by ASM TERNI, the local DSO. It consists of a microgrid (a 30 kWp rated PV plant, power storage batteries and two 31 kVA – 25 kW biomass CHP generators) that will be connected to the local smart grid in order to develop a hybrid cooperative business model between the DSO and the microgrid based on the use of flexibility as a service.</p> 	<p>4 - PILOT: BARCELONA</p> <p>DR SG ES</p> <p>DR optimization and storage solutions to help grid penetration of RED. Sports centre building</p> <p>The scope of the pilot site in Barcelona will include a sport centre that is currently undertaking a major refurbishment in the framework of GrowSmarter, an H2020 funded project. The pilot intends to quantify the demand response potential of buildings with significant flexible assets: in that specific case indoor swimming pools will be heated by electric heat pumps that could be optimized to give services to the system operator. Photovoltaic system and electric storage will be installed as additional flexible assets to locally optimise building operation.</p> 

<p>5 - PILOT: ST-JEAN</p> <p>DR SG ES</p> <p>Integration of DER into the distribution grid without threatening its stability. DR in buildings and Power-to-Heat for VES</p> <p>Following the future strategy of INNED to operate a fully decarbonized grid in 2030, the main aim of the pilot activities in the St-Jean pilot site in France spins around the integration of increasing volumes of distributed renewables into the distribution grid without threatening its stability and reliability. To this end the pilot activities will focus on the introduction of novel technologies and business models for Human-Centric DR in Buildings (control of HVAC and lighting loads without compromising building occupants' comfort and health) and VES (through the application of Power-to-Heat solutions).</p> 	<p>7 - PILOT: LISBOA</p> <p>DR ES EV</p> <p>Control system for buildings and accounting system to promote integrated prosumer management</p> <p>The Campo Grande 25 building, in Lisbon, is the municipality's biggest consumer of electric energy, with an annual consumption of about 3 GWh. In order to more dynamically respond to the energy needs, the Lisbon pilot goal is to implement a smart energy management system on its major energy consumers, recurring to the PV produced energy forecast, the integration with dynamic tariffs and the DR shift enabled by the storage capacity of cold in ice tanks and electricity in EV batteries.</p> 
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<p>6 - PILOT: NICOSIA</p> <p>DR SG ES</p> <p>Implementation of a micro grid between UCY campus and households, including DR and DSM strategies</p> <p>Two different field cases will be demonstrated in Cyprus. The first one regards the microgrid within the campus of University of Cyprus, incorporating all existing and future renewable technologies, energy storage systems, infrastructure, departments and facilities of the university. The target is to implement the proposed solutions in order to contribute to the transformation of the campus into an energy self-sufficient microgrid. The second case concerns dispersed prosumers within Cyprus, focusing on controlling their electrical demand in a more efficient way.</p> 	<p>8 - PILOT: XANTHI</p> <p>DR SG ES EV</p> <p>Optimum Distributed Control of RES-enabled Islanded Grids with Local Energy Storage</p> <p>This pilot demonstrates the optimum energy exchange at RES-enabled islanded grids with local battery stacks and hydrogen production, storage and usage. The pilot is hosted at the premises of SUNLIGHT (Xanthi, Greece) and operates unattended. There are multiple autonomous nodes that are powered by PV arrays wind generators and fuel cell, while the energy exchange is DC oriented. The research activities will be performed in collaboration of CERTH/CPERI and SUNLIGHT and will demonstrate flexible energy management strategies in a distributed manner and a novel synergy of virtual storage with EV charging, empowered by advanced Model Predictive Control (MPC) methods for supervisory control of the network.</p> 
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9 - PILOT: PLOIESTI

DR

Energy information system (AIS) for control and command distribution of information in a 3-building smart grid

The pilot case in Ploiesti, Romania, is a small scale pilot that involves three buildings with residential apartments and a commercial area on the ground floor. The pilot involves both normal customer appliances (LED lighting, air conditioning systems, etc.), as well as large scale appliances like an elevator. The pilot is based on Building Type Intelligent Energy Demand and Supply Matching feat innovative simulation & command-control for energy grids.



The purpose is to ensure a true DR smart grid, where building energy management and controls systems (EMCSs) can function based on critical peak pricing (CPP) or other Demand Response (DR) programs that could be implemented, on an otherwise in-existent centralized infrastructure.

PARTNERS

Atos

Atos Spain SA (Spain)

www.atos.net

Atos SE (Societas Europaea) is a leader in digital services with 100,000 employees in 72 countries. Serving a global client base, the Group provides Consulting & Systems Integration services, Managed Services & BPO, Cloud operations, Big Data & Cyber-security solutions, as well as transactional services through Worldline, the European leader in the payments and transactional services industry.

Atos is the coordinator of the project inteGRIDy. Atos also have a major role in the dissemination and exploitation activities on the project. Atos, being a large industrial player with a strong networking power, the capacity and practice in organizing innovation workshops, and being able to offer the appropriate infrastructure, is significantly active with respect to stakeholders' engagement.



ASM Terri Spa (Italy)

www.asmterri.it

ASM Terri is Public Company fully owned by the local municipality (City of Terri). The activity of the company is related to very essential public services in the City of Terri area as: Production and distribution of Electric Energy, management of public street lighting, environmental Health, drinkable water distribution and water treatment plant and gas distribution.

In inteGRIDy project, ASM Terri contributes to the elicitation of requirements, the definitions of Business Scenarios and the identification of stakeholders. A significant contribution is given also in what concerns the National Legislation. In preparation of the Pilot in Terri, ASM Terri undertakes the task of integrating and interconnecting field devices. Further contributions are expected in Evaluation and Impact assessment and dissemination among possible interested subjects.



Azienda San Severino Marche SpA (Italy)

www.assemspa.it

Azienda San Severino Marche SpA (ASSEM SPA) was founded by resolution of the City Council of San Severino Marche of 29/3/1919 with the original task to produce and distribute electricity and to manage the public lighting service. Subsequently, in 1998, the City Council entrusted ASSEM SPA also of the management of the water service, putting in place the foundations for the integrated management of the entire water cycle. In 2000, also the distribution and sale services of natural gas in the area of San Severino Marche were assigned to ASSEM SPA and it was converted from Special Company to a joint-stock company.

ASSEM SPA is involved as Distributor System Operator (DSO) in all the project tasks regarding the grid improvement and its analysis, considering the previous experience of ASSEM SPA about smart grid development and the effort and the strategic importance of the topic for the company. The main role is the deployment of inteGRIDy framework at San Severino Marche pilot area, its monitoring and topology optimization. ASSEM SPA is also involved in the overall evaluation, leading in particular the assessment of the inteGRIDy impact to the grid stability, flexibility and balancing.

12 More information about inteGRIDy: www.integriddy.eu



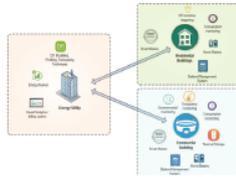
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10 - PILOT: THESSALONIKI

DR SG

DR management scheme for different consumer profiles (buildings, football stadium and hotel) and flexible storage types and management methods

Thessaloniki pilot focuses on the demonstration and assessment of different Demand Response techniques and the sustainability of related business models that can be offered by a Utility/ESCO company to residential consumers (not prosumers) and commercial customers. In both cases, the utilization of battery energy storage systems will also be evaluated. The goal is to develop efficient, practical and reliable optimization DR mechanisms for residential and commercial customers, minimizing their electricity payment and maximizing their welfare, while achieving more uniform electricity load profiles with reduced peak power.



14 More information about inteGRIDy: www.integriddy.eu



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AT Kearney (United Kingdom)

www.atkearney.com

A.T. Kearney is a leading global management consulting firm with offices in more than 40 countries. Since 1926, there have been trusted advisors to the world's foremost organizations.

They have risen to the challenge of analyzing multiple and fragmented sources of data and dispatching commands by putting dedicated resources in place to deliver an agile business intelligence and connectivity application "HELIOS". The platform ubiquitously connects to a variety of data sources to harvest all the data that is required to analyse, optimise and automate the implementation of efficiency algorithms in real time and at a regional scale.

The objective in inteGRIDy project is to create clear and compelling financial mechanisms, oriented to RES+storage smart integration in the MV/LV grids towards an EU and worldwide energy security using RES. As far as Cost Benefit Analysis is concerned, ATK apply a systematic approach to estimating the strengths and weaknesses of alternatives that satisfy transactions, activities or functional requirements. As for Cost Effectiveness Analysis will take the form of an economic analysis that compares the relative costs and outcomes (effects) of two or more courses of action.



Sistema avanzado de energia solar termica SCCL aiguasol.coop

Founded in 1999, the SME AIGUASOL team is made up of more than 20 professionals with a high level of technical and scientific experience. AIGUASOL provides engineering and research services, promoting innovative solutions to reduce the impact associated with energy consumption (experience in urban planning, construction, industrial processes and power generation, with a focus on energy planning, savings measures, energy efficiency, process integration and renewable energy implementation).

The main role of AIGUASOL in the project is to provide with know-how the consortium on the

basis of the simulation tools AIGUASOL mainly uses (TRANSYS and Modelica) and identify ways these tools can be integrated or exchange information with the rest of the tools developed (built up of individual modules), towards building a common platform for the detailed analysis of a topology when integrated with DR Flexibility and Storage systems as in the case of demos. Moreover, will support the demo activities in the Sport Centre of Barcelona, under the supervision of GNF, undertaking the role of engineering and commissioning of the specific demo activity.

14 More information about inteGRIDy: www.integriddy.eu



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PROJECT NEWS

11.01.2017 - inteGRIDy project has been officially launched

The project, coordinated by Atos, started on the 1st of January 2017. For 4 years, 30 partners will seek to connect innovative services, technologies and emerging mechanisms of intelligent electric networks through the deployment of a scalable and replicable platform. This platform will allow the connection of the current energy network with the different market players, as well as providing improved capabilities for the monitoring of consumption and generation profiles



10.01.2017 - inteGRIDy project joins BRIDGE initiative

inteGRIDy project was presented and participated in the BRIDGE Working Group and Coordination meetings in Brussels in January 2017.

BRIDGE is a European Commission initiative which gathers more than 30 Horizon 2020 Innovation Actions in the field of smart grids and energy storage. The initiative aims at identifying and structuring issues of transversal nature encountered in the demonstration projects that may constitute obstacles to innovation. The work is organised according to four main areas of interest, addressed by four Working Groups on Data Management, Business Models, Regulations and Customer Engagement.



07.03.2016 – 09.03.2019 WP3 Workshop in Lisbon

The Lisbon School of Business and Economics housed an InteGRIDy workshop, where the first steps of the project were discussed, particularly within Work Package 3 (WP3), which deals with Analysis of Environmental, Business Models & Financial Mechanisms and their links with the other work packages.

NEXT STEPS AND EVENTS

14.09.2017 1ST International Conference InteGRIDy

Hosted by Politecnico di Milano, the event will give an opportunity for a dialogue among the ongoing European H2020 R&I Projects on innovative technologies for smart grid on MV/LV in the topics of Demand Response and Intelligent distribution grid. The event will also open the discussion among representatives from National Authorities for Energy and European DSOs.

Free participation
Please register for the event:

> [Register for the event](#)

21-22.06.2017 InteGRIDy with BRIDGE initiative at the EUSEW2017

The BRIDGE initiative participated in the EU Sustainable Energy Week (EUSEW) with a session focussed on the main messages to policy makers from the demonstration projects, with a particular emphasis on the latest legislative proposals of the European Commission, "Clean Energy for All Europeans", published in November 2016.

Also, the BRIDGE initiative had a networking slot Wednesday 21st June where the initiative and its activities presented.

InteGRIDy project participated in all this activities with the presence of our coordinator Andrea Piossi.

AGENDA

- 0900 h Introduction by Prof. Alberto Delgado, Politecnico di Milano, Williams Jay and Leo Ross, ATOS, Massimo Bertoni/Olegi Arnozzi, Engineering
- 1000 h Session 1 – Ongoing policy developments in the field of the design of the internal electricity market. EC member from DG Energy, Charging the European energy markets: discussion on the winter package.
- 1100 h Coffee Break
- 1130 h Session 2 – Roundtable among national energy authorities. Discussion on the legislative proposal for a recast of the Internal Electricity Market Directives and Regulations: how can we harmonise the European approach.
- 1245 h InteGRIDy survey break. InteGRIDy survey on perception of stakeholders, Market needs and implementation priorities.
- 1300 h Lunch Break
- 1400 h Session 3 – Presentation of the ongoing H2020/National R&I Demo Projects as key drivers of innovation supporting technologies for smart grid on MV/LV.
- 1600 h End of International Conference

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731268.



<http://www.integridy.eu>