

## Smart\_Rural\_Grid



”Smart ICT-enabled Rural Grid innovating resilient electricity distribution infrastructures, services and business models”

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## Abbreviations of acronyms

Acronym	Description
CA	Consortium Agreement
CFS	Certificate on the financial statements
CO	Dissemination Confidential, limited to project participants
D	Deliverable
DoW	Description of work (annex I of the Grant Agreement)
EC	European Commission
FDR	Final financial distribution report
GA	Grant Agreement
ID	Internal discussion or report
MM	Meeting Minutes
MR	WPL monthly report
PC	Project Coordinator
PFR	Project Final Report
PMC	Project Management Committee
PO	Project Officer
PP	Dissemination restricted to other FP7 Programme participants
PPR	Partner's periodic report (contractual, M12, M24, M36)
PR	Partner's progress report (internal, at M6, M18, M30)
PT	Project presentation
PU	Dissemination Public
QM	Quality Management
QR	WPL Quarterly report
RE	Dissemination restricted to a group specified by the consortium
TMT	Technical Management Team
ToC	Table of Contents
TS	Time sheet
WP	Work package
WPL	Work package leader

# 1 Introduction

“We invent the Smart Rural Grid”. This has been the mission statement of the project since its inception and has been reiterated in many ways during the duration of the project.

The Smart Rural Grid project has aimed at developing an innovative Smart Grid approach which targets the very end part of the electric system. The present conditions of the distribution networks demand new thinking. The need for substantial improvements has since long been in a necessity. Increased efficiency, quality and network resilience are important for all grids. But the situation for many rural grids, with its long radials, lack of redundant supply and high maintenance costs are especially vulnerable. As energy consumers turn prosumers the operations of rural grids are faced with yet other challenges. Concurrently Smart Grid technologies offer new ways of addressing these and other issues.

The message above has been reiterated in many ways and across many channels since before the start of the project. As a case in point, the last video produced<sup>1</sup> sums this up in the most elegant manner. At the same time the project has tried to set the agenda for Distribution System Operators (DSO) and other stakeholders, to help them to look for solutions to these problems beyond the traditional. To increase the awareness of professionals and the public alike has been an important goal for the project in general and particularly “Work Package 8 Dissemination and Exploitation”. Non-cognizant stakeholders and authorities may turn to resolves that could imply greater costs, less flexible and insufficient solutions. Hence, the project has been conscious about informing different audiences about the challenges that lies ahead and explain to them that the R&D conducted in the project promises an attractive way to deal with these challenges.

Another important objective related to the mission statement has been to explicate the profound differences between rural regions in contrast to the urban areas in the context of energy needs and energy supply. Ample energy supply and a robust and reliable infrastructure are both imperative to assure a prosperous and vital community. Energy is a key stone for both commercial and societal development. In many European countries imbalance prevails. Urban and metropolitan areas are attributed with infrastructure and facilities that often represent a stark contrast to the rural areas, therefore profoundly impact many people’s lives and creating encouragement for leaving the country and move

<sup>1</sup>Can be found on first page of <http://smartruralgrid.eu/>

close to the cities, thus further reducing the life opportunities in more remote areas. Proper energy and energy supply are parts of that picture and the Smart Rural Grid management set forth to highlight the needs for a specific approach towards the rural and seek impacts that are especially important for rural areas. By combining different types of Information Communications Technology (ICT) equipment and power electronics the Smart Rural Grid concept has been realized. This has helped to set the agenda for similar types of research and define the program for many different events over the past years. In this way the goal embodied in the mission statement has been achieved. A very tangible result can be presented and demonstrated at the end of the project and a direction for future R&D on smarter grids have been staked out. In what way and to what degree is what this report will try to document.

Finally, dissemination activities were meant to support exploitation efforts. Due considerations to exploitation is a necessity to assure proper capitalization effects on the R&D results. This will be essential to assure both short term and long term impact. By creating awareness about the project and its ends the project aimed to solicit stakeholders with a plan to exploit the results and knowledge produced. This would include parties such as DSOs, regulators, aggregators and regular households and property owners.

## **1.1 Scope, objectives and strategy**

The overall objectives of the dissemination activity were defined in Work Package 8 (WP8). They were formulated as follows. Dissemination activities should:

- Generate and dynamize the debate about the technological challenges.
- Motivate the stakeholders to promote the social development of the rural areas by means of the Smart Rural Grid.
- Create the momentum at the end of the project.

A variety of instruments and channels were identified to achieve these goals. They included:

- Website: A central point of access to project progress and available documentation. It was to link to the project repository, but also to all public



reports, and dissemination materials. It was to embed access and content from social networks and promoters of the project.

- Social networks: Facebook, LinkedIn and Twitter.
- Project videos: Professionally produced project videos, highlighting the vision, challenges and expected outcomes.
- Flyer: A flyer in printed form was handed out at conferences, to organizations and colleagues and to engaged or interested stakeholders. Electronic version are made available in PDF format.
- Conference poster: The project poster in formats appropriate was shown to delegates in conferences and workshops, as well as in events organized at project or partner level.
- Newsletters: 3 newsletters was produced in order to announce the project.
- Programme meetings: FP7 programme meetings were used as opportunities for projects to learn from each other, discuss common issues, and to get feedback on project's work.
- Conference presentations: Proposed presentations have been submitted to national and international conferences in order to share project's achievements with experts in the field.
- Workshops: Workshops defined as interactive events of technical nature, to achieve specific objectives were also defined.
- Press releases: Starting from the first press release in M2, the project issued 4 formal announcements throughout the national and international press and media, announcing the project start and end, but also highlighting important achievements and availability of public outcomes.
- Demos: Field demonstrations have been used to show up progress to interested stakeholders. The purpose was to be proactive and reactive, sharing project's learning with the research and energy and telecom community.
- Scientific Papers/Journal articles: Scientific papers were submitted to indexed peer-reviewed journals related with the related disciplines (electricity generation and distribution, telecoms).
- Reports and other documents: Reports on specific topics has been posted on the website so they are accessible to the widest audience.

Stakeholders to be targeted with these instruments included DSOs (especially the small and mid-sized units in Europe), TSOs through ENTSO-E, researchers, regulators, general public, aggregators, prosumers and consumers. Also ICT companies and existing ESCOs were identified, governments, conferences and publishers. A full description of the dissemination strategy defined for the project can be found in Appendix A. The actual plan and the status of this plan at the end of the project has also been included in Appendix A. Comments to the actual status at the end of the project can be found in a later paragraph in the main body of this report.

## 1.2 Stakeholders focus and dissemination instruments

Instrument	Plan
Press releases	Starting from the first press release in M2, 4 formal announcements to the national and international press and media, announcing the project start and end, but also highlighting important achievements and availability of public outcomes.
Website	The central point of access to project progress and available documentation. It will link to the project repository (internal) but also to all public reports, and dissemination materials (including the project video). It will embed access and content from social networks.
Social networks	Facebook, Linked In, Twitter & Webinars
Project video	A professionally produced project video, highlighting the vision, challenges and expected outcomes.
Flyer	A flyer in printed form to be handed out at conferences, to colleagues and to engaged or interested stakeholders. Electronic version will also be made available in PDF format.
Conference posters	the project poster in formats appropriate to be shown to delegates in conferences and workshops, as well as in any event organized at project or partner level. (see table below)
Newsletters	3 newsletters will be generated in order to announce the project, give regular updates on project progress, develop a profile, and get buy-in. It will include interviews with key stakeholders, some quotes from end users, and praise from external evaluators.
Programme meetings	FP7 programme meetings will be used as opportunities for projects to learn from each other, discuss common issues, and get feedback on project's work. Yearly meetings are foreseen.
Conference presentations	Proposed presentations will be submitted to national and international conferences in order to share project's achievements with experts in the field. The selection of conferences will be made in terms of impact potential or evidence of presence of relevant experts and stakeholders. (see table below)
Workshops	5 workshops, as interactive events of technical nature, will be held to achieve specific objectives. They will be used to discuss and get feedback from users on a demo or from experts on related issues.
Demos	Field demonstrations will be used to show up progress to interested stakeholders. The purpose is to be proactive and reactive, sharing project's learning with the research and energy and telecom community.
Scientific Papers, Journal articles	Scientific papers will be submitted to indexed peer-reviewed journals related with the related disciplines (electricity generation and distribution, telecoms). Copies of all publications will be accessible on the project website. (see details in table below)
Reports and other documents	Reports on specific topics can be posted on your website so they are accessible to a wide audience. Think of anything your project has developed that may be useful to others, e.g. guidelines, methods, evaluation criteria, tool-kits, or questionnaires.

**Table 1:** Dissemination instruments: Media and communication channels defined specified for the original dissemination plan

## 2 Stakeholder targets

The following stakeholder types have constituted the main target for our dissemination effort:

- DSOs
- DSO interest groups
- Smart Grid interest groups
- Prosumer and consumer communities
- ESCOs
- Aggregators
- Researchers
- Academia

Distribution System Operators (DSOs) have been an obvious target for our dissemination effort from the outset of the project. Special focus has been directed towards smaller enterprises that typically operate in rural areas across Europe. Feedback harvested early in the project confirmed up front perceptions regarding this. Our first workshop held on May 12<sup>th</sup>, 2014 was, among other dissemination activities, instrumental in establishing this view. The research and the results produced carry substance that could potentially produce very high value for the DSOs that alternatively could face increasingly challenges, both with respect to CAPEX and OPEX. Obviously, the dissemination effort directed towards this group has been closely related with the exploitation activities in the project too. DSO interest groups can be considered a target as well as a channel to individual DSOs. Close cooperation was established early with GEODE in Brussels. This has been very useful and rewarding for the project. In Germany close ties with a group of Bavarian DSOs have been maintained through Stadtwerk Rosenheim. In Norway the national interest group of DSOs, Energi Norge, has been a recipient of R&D news from the project since its inception.

Smart Grid communities and interest groups in many European countries, constitute an important lobby and influence on utilities, regulatory bodies, suppliers and TSOs alike. Hence, efforts have been made to target such. SEDC,

VaasaEtt, Engerati have been an obvious candidate, but also national centres of expertise such as the Norwegian Smart Grid Centre have been addressed by the WP8 in the project.

Ultimately the most important stakeholders are the consumer and prosumer - the regular energy citizen. Prosumers and consumers are typically part of a community and in most cases information directed in the end-user direction have been channelled through the organizing party. This could be a municipality or a village such as Valfogona de Ripollès where the project pilot is located or a larger city with ambitions directed towards smart city programs. Energy cooperatives represent another, but related type of end-user collective of emerging importance. Direct meetings using a non-technical language is important when addressing the end user. Significant experience has been harvested in association with this type of dissemination. Figure 1 shows photographs from folk meetings in both the pilot area in Catalonia and the municipality of Hvaler in Norway which constitute a mature case for future exploitation of the technology.

During the first efforts to bridge the ongoing R&D with the business development efforts within the organizations of each consortium partner it became evident that the project had to ramp up focus on Energy Service Companies (ESCOs) as well as existing and emerging aggregators. The dissemination effort has followed suit through channels like Twitter and conferences.



(a) Meetings with prosumers and consumers a. Valfogona de Ripollès, Spain (pilot area)



(b) Meeting at the city hall of the Municipality of Hvaler, Norway which is a prominent exploitation target for project results.

**Figure 1:** an important part of dissemination and project success is communicating with local stakeholders and interests.

Sharing results with academia and other research projects have been important. Being visible in the international R&D community has been another important

objective. The most prominent community interacted with has been University of Tokyo and the Digital Grid in Japan. Other projects include EcoGrid, Nobel Grid, EMPOWER and INVADÉ. Multiple channels have been used to achieve this i.e. social media, conferences, journals etc.

The project has concentrated efforts towards this list of stakeholder types. However, we also been conscious about other stakeholder that could make a difference. These include:

- TSOs
- Solar power interest groups
- Regulators
- Investors (business angels)
- Telecom companies
- Technical media
- Suppliers and engineering

The project has discussed project related things directly with the president of the ENTSO-E in a one-to-one meeting. Representatives of the project was also invited to present the project at the annual internal strategy conference of NVE, the Norwegian regulator. Close contact has been maintained with promoters of solar energy in different European countries to share insight about how distributed energy resources could be managed. Telecom companies and communication engineering companies have shown interest in the communication concept developed in the project and suppliers and engineering companies such as Siemens (Be-Ne-Lux + Nordic), Schneider (Spain, Germany and Nordic), REC, Emporda Energia, Tratos Group, Ideal Solar, Scatec and ABB (Baltic). Through social media channels technical media houses have been a target for our dissemination. Being visible on their radars offers immediate benefits, but helps to amplify too the message that we pass out directly or over time. Targets include Utility Dive, FuturEnergy, Microgrid Media and Periodico Energia.

Finally the project has been interacting with members of the financial industry. These include Bloomberg, World Bank, BEnergiGi, BDO and Deloitte.

### 3 Dissemination activities per channel

#### 3.1 Graphical design and its use on posters, flyers and presentations

The distinct graphical expression that was specified for the project has saturated all visual communication. The logo has been projected at several events and become a familiar sign in the context of Smart Grids for rural development. The design theme evolved from the logo that was presented prior to the launch of the project. The logo itself has constituted the most important element in a branding effort. It has also been copy protected as part the exploitation effort.



**Figure 2:** An excerpt from the graphical design applied in the project



(a) The SRG logo

(b) The logo has been highly visible at a variety of events where high priority stakeholders have been present

**Figure 3:** The SRG logo in different settings

As reported in [1] the graphical design was applied to the web site and social media as well as paper based media such as posters and flyers. The latter two made an important impact at the start of the project. A stock of 1000 flyers has been distributed to pertinent stakeholders directly or as hand-outs at different events. The significance of the poster has been less significant compared to digital solutions with similar content. They have proven more flexible and yield greater attention.

## 3.2 Newsletters

Since the start of the project three newsletters have been produced and published, one each year. The format of the newsletters was created to allow comfortable reading on hand-held devices like smart phones.

The front pages of the three newsletters are shown in Figure 4 below.

Newsletter #1 published in February 2015 focused on the main concepts and ambitions of the project. It also presented key members of the project consortium and featured articles about the technology being developed. This newsletter also introduced the pilot site in Vallfogona de Ripollès in Catalonia, which was warmly embraced by the local stakeholders there.

The second newsletter, published in February 2016 featured the latest progress in the project, summarizing the findings and challenges up to that point. It also featured an article and a gallery of photos showing the deployment of the first Intelligent Distribution Power Router (IDPR) and the ongoing work to prepare the pilot site in Vallfogona de Ripollès.

The third newsletter, published in April 2016 focused mostly on tangible R&D results and exploitation. It featured an extensive, but popularized article on important results from the field tests carried out in the pilot area. It also highlighted the exploitation potential associated with the IDPR by presenting two business cases.

All three newsletters have created a response with the audience targeted. This is observed through increased web visits and more activity surrounding the project in social media.



**Figure 4:** Front pages of the three newsletters published by the project

### 3.3 Website

The project's website has played an important role in the dissemination effort. Basically every information element that has been produced and digital media created has been linked to the project website. Consequently they can be accessed from the website accordingly. People interested in the project will need to only remember this site or enter "Smart Rural Grid" in a search engine and they will have access to news posted through Twitter, the project archive, the mission and vision statement and videos.

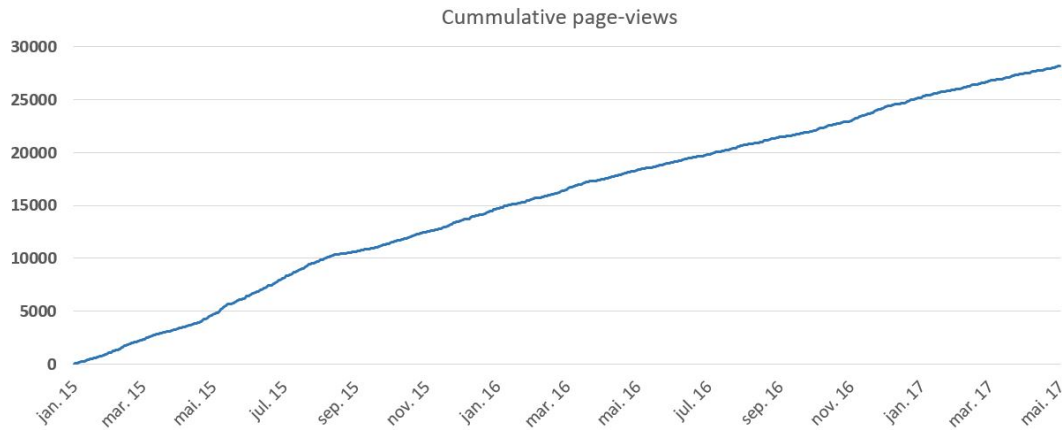
The structure of the website was described in deliverable D8.1 and in the first year report (D8.2).

Figure 5 shows the number of accumulated visits along the project time-line. It shows a near linear increase in total number of site-visits, which means that the number of day-to-day visits have been more or less constant. There are of course a few exceptions, as seen in May 2015, where there is a small jump in visits, clearly visible in Figure 6. Data on returning vs new visitors is presented in Figure 7, and it shows that more than three quarters of the visitors are new visitors.

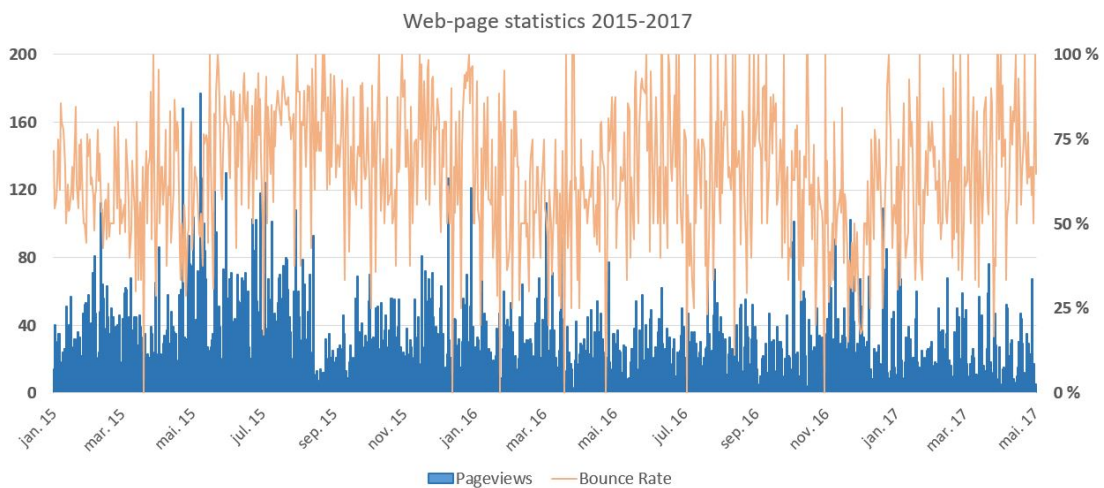
Looking at Figure 6, it is revealed that the site bounce-rate (number of people that only look on the front-page) is quite high, over 60% on average through the project lifetime. Investigating this further in Google's analytic tool, reveal that the



bounce-rate is much higher for new visitors than returning visitors. Returning visitors also spend more time on the page than first-time-visitors.



**Figure 5:** Cumulative page visits through the project period



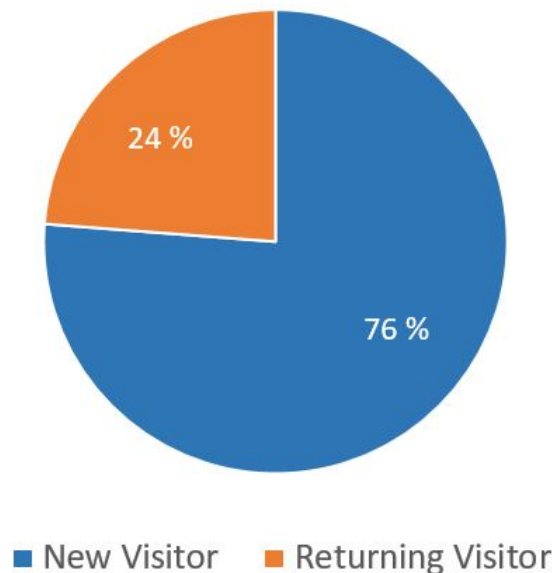
**Figure 6:** Web-page page-views (blue, left y-axis) and bounce rate<sup>2</sup>(orange, right y-axis) from January 1<sup>st</sup> 2015 to May 1<sup>st</sup> 2017.

### 3.3.1 Google search statistics

An important part of disseminating the work, is visibility and ranking in Google-searches. Previous dissemination-reports have assessed the ranking of Smart

<sup>2</sup>Bounce rate is the percentage of visitors who navigate away from the site after viewing only one page.

## Visitor breakdown



**Figure 7:** Break-down of returning and new visitors. About one quarter of the visitors are returning ones, and the remaining 3/4 are new visitors.

Rural Grid and connected activities and publications for a selected number of search-queries.

The query and resulting rank is presented in Table 2. It shows that the project has advanced its' ranking, or kept its number one position for the most part.

It can be mentioned that for in the past decade, really a lot has been done regarding microgrids. It is therefore no big surprise that Smart Rural Grid is not amongst the top #100 hits on this topic, as the keyword "microgrid" has not been extensively used and marketed throughout the project. A small advice for coming projects would be to specifically target and work on gaining rank on a selected few keywords.

To produce the table below, the query has been entered in the Google-search engine, and then the counting has been done manually from the first hit to the ones relating to the SRG-project.

Query	2015	2016	2017	Remarks
Smart Rural Grid	#1	#1	#1	And the next 10 hits
Smart Grid & Power Router	#46	#19	#16	Web page is #16 and Bernt's paper is #19.
Intelligent Distribution Power Router	#4	#1,2,3,4	#1,2,3,5	
Intelligent Power Router	#40	#7	#17	
Rural Grid	-	-	#1 - 6	
Microgrid	-	-	unknown	No results among the 100 first results

**Table 2:** Ranking of the projects in Google-search

### 3.4 Social media

The project applies a small array of different social media in its dissemination effort. Twitter, Facebook, LinkedIn, YouTube and Vimeo are all part of this. Each has assigned a particular role in terms of information and promotion. The different channels can be accessed from the front page of the web site. In contrast to the website social media allows a greater extent of interaction with an audience. Most of them have the ability to pick-up news and relay this in a simple way. Despite their agile characteristics only a few the social media tools can work on its own without an anchor. The very brief form of tweets, for instance, will in most cases require a reference to a source where more information can be found i.e. a blog. In the beginning such references were made to different parts of the website and press coverage. Successful use of social media is dependent on substance and news value. Mere mirroring of what others produce can build an extensive group of followers, but yield little long term value that can be applied for future exploitation. Content must be genuine and original.

The roles of the different social channels in the project have been adjusted to support each other instead of overlapping. Twitter has been by far the most important Internet channel next to the website itself. Due to its brief format and easy to use concept on a phone it has served as a principal news-wire for the project to reach a wide audience. But Twitter is an elusive medium and requires continuous monitoring on behalf of the recipient. Facebook has been more a channel for the bigger events and a way to post images in an easy way to create a permanent time-line for the project's history. LinkedIn has been a forum for

members of the technical advisory group (TAG) and the most interested people. Vimeo has served as a platform for the videos made. They all come together through the web site and through constant cross-referencing.

### **3.5 Twitter (@SmartRuralGrid)**

The project uses Twitter both as a standalone tool as well as a news ticker on the front page of the website. It has also been applied in conjunction with LinkedIn. Our Twitter account is promoted through different channels, including the flyer and presentations. Twitter is an extremely good instrument for soliciting active followers that will yield instant feedback to the project's progress and relay important messages to a broader audience.

Twitter has been used extensively throughout the project lifetime in both in promoting its' own material, as well as interacting with other users and promoting partners and project related topics.

By May 1<sup>st</sup> 2017, SmartRuralGrid had posted and retweeted more than 1140 tweets. About 160 of these were original tweets from the project, and not retweeted from other accounts.

Using the analytic-tool in Twitter to look at the response for the tweets, reveals that for the 160 tweets, there was 612 "engagements". Engagement is a measure of how many users interacted with the tweet, i.e. retweeted it, favoured it, clicked on the link etc. This is about 5 interactions per tweet.

Project promotion along with the help of engagements has led to project-tweets been shown to more than 922 000 users, either in their news-feed or as a search-result. Adding the retweets to this number, it is safe to say the twitter-activity has reached well over 1 million persons, which is a significant impact.

### **3.6 Facebook (Smart-Rural-Grid)**

In the Smart Rural Grid project Facebook is used as a complementary resource to the project's home pages. Like Twitter it can be accessed from the project's website. Its basic function is to allow all members of the consortium to pitch in and share documentation in a familiar and easy way.

The basic idea is to make the dissemination through this channel visual. By posting relevant images and document participation in meetings and events it allows web visitors and others to gain insight in a simple way. Unlike Twitter, Facebook provides a stationary and easily accessible time-line. It is therefore easy to follow the progress of the project.

Concepts, prototypes, activities and people are easily portrayed and filed on a continuous basis by such means. Its basic function is not to generate a great number of “likes”, but to support the web and other channels. Quick and easy updates from tablet, phone or PC combined with the stationary time-line and almost unlimited space for update, makes it well suited as an instrument for chronological reporting. In that way it can also work occasionally as a blog and a support for other channels such as Twitter.

### **3.7 LinkedIn**

LinkedIn has been added because of its support for online discussions. Unlike Facebook, which typically addresses connections as “friends” the general use of LinkedIn is more inclined towards business. People tend to maintain their professional network by means of LinkedIn while Facebook is typically used to maintain social relationships of a more informal character. Since some time LinkedIn has enabled uploading of images and news updates.

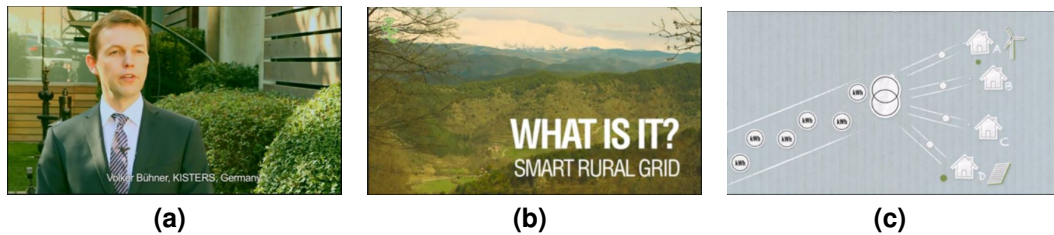
### **3.8 Videos**

A series of videos have been produced to highlight the concept as well as the project. Both English and Spanish/ Catalan language have been used. The videos have been published both on YouTube and Vimeo, and can be found using the search query “smart rural grid”. The most prominent videos are also presented on the SRG website.

It is clear that using videos to explain the project, both to project partners and to externals has had an exclusively positive effect. Both in terms of aligning internal understanding of the project, as well as giving a simple presentation to the general public.

Some lessons to carry into future projects is to only use one media for films,

either YouTube, or Vimeo to ease the search for information. And if it is decided to use more than one channel, all of these should be presented on the project home page. Furthermore we recommend establishing a video-channel for the project, which makes it easier to gather all films from the project, along with an option of disseminating videos of relevance to the project easily accessible for interested parties.



**Figure 8:** **a)** Video presenting the consortium members in 2014 **b)** Video that explains the concept of Smart Rural Grid (2014) **c)** Third video is a simple, but fascinating cartoon. It explains in a popular and highly visual form the rationale behind the Smart Rural Concept and what the Smart Rural Grid concept can do.

Three of the project videos are all accessible from the project's home pages. In different ways, each of them has been helpful in explaining the project and its goals. They have presented the consortium and the people behind it and they have reached out to regular people who should better understand what the R&D conducted by the project can achieve. The launch of the second video that described the Smart Rural Grid concept and the pilot site resonated well with the electricity domain worldwide and stirred favourable buzz on social media (Bremdal 2015).

The third video presents the Smart Rural Grid concept and its rationale with an outstanding artistic simplicity. It is a cartoon movie using very simple means to explain a complicated issue. This video was launched on the web in the fall of 2016 and harvested immediate positive response from the project's followers on social media. An article in the 3<sup>rd</sup> Newsletter featured this video too.

### 3.9 Workshops and webinars organized by the project

Throughout the project there has been arranged webinars and workshops as means to both disseminate project findings, and to collaborate important cases.

Table 3 holds and overview of the arrangements, with the details for each event.

Event	Focus	Organizer Place /	Audience	Main contributors from project	Date
Workshop	Project scope and objectives	GEODE, Brussels	GEODE, small and medium sized DSOs	All WP leaders	12.05.14
Symposium	Intermediate results, IDPR, and potential impact	UPC, Barcelona	DSOs, TSOs, ESCOs, equipment suppliers, researchers and students	All WP leaders	9.06.15
Webinar		UPC	Researchers and students	WP 2 and 3	Oct 15
Webinar	Smart Rural Grid, Digitalising the Electric Grid	ENGERATI	DSOs, equipment suppliers, ESCOs, researchers	Project leader, WP7	08. 09.16
Webinar	SRG concept, IDPR, results and pilot	ENGERATI	DSOs, equipment suppliers, ESCOs, researchers	Project leader, WP7	22. 11.16
Workshop	SRG , IDPR, concept	Estabanell	DSOs, equipment suppliers, ESCOs, researchers, students	All WP leaders	23.05.17

**Table 3:** List of webinars and workshops throughout the project

### 3.10 Conferences, workshops and symposia

In addition to the aforementioned webinars and workshops arranged by the Smart Rural Grid-project, representatives has been presenting at numerous of other events across Europe during the entirety of the project period.

The full scope of entries and events attended can be found in Table 4. It can also be observed that all partners have been involved in this type of dissemination activity.

Event	Title or nature of contribution	Responsible partner(s)	Principal audience	Project month
KISTERS Praxisforum	Report on the SRG project; project aims, scope	Kisters	250 attendees with mainly DSOs, ESCOs	M5
Fira de Sant Miquel, 2014	Microxarxes elèctriques al món rural: un canvi irreversible	EYPESA	Stakeholders within agriculture and rural development	M8
PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe), 2014 IEEE	Experimental validation of a single phase intelligent power router	UPC	Researchers, suppliers, DSOs	M9
ISGT 2014, Turkey	Necessitas de les telecomunicacions per se explotades a les xarxes intel·ligents rurals	UPC	Researchers, suppliers, DSOs, ESCOs	M9
IX International Conference on Energy Innovation "Power Electronics in the grid: HVDC	Power Converters for Energy Storage Systems and FACTS", Barcelona	UPC	Researchers, DSOs, smart city, developers, suppliers	10
GEODE AUTUMN SEMINAR	Efficient Energy Markets – The Role of Local Energy Companies	EYPESA	GEODE members (DSOs)	M10
Informa: Telco and Energy & Infrastructure Efficiency, London	The Smart Rural Grid: Steps Towards Greater Integration of Energy Systems	EYPESA		M10
European Utility Week 2014	Smart Rural Grid	EYPESA	DSOs, TSOs, ESCOs, suppliers	M10
XOC Yearly seminary		XOC	XOC staff with invited guests	M12
INTPOW 2015	New solar business models	SmartIO	Finance industry, investors, researchers, solar power suppliers	M13
Smart Grids in Practice, Innsbruck	Smart Rural Grid eine mögliche Alternative	SWRO	DSOs: Likely candidates for exploitation of the IDPR potential	13
Sunseed Project Event, Univ. of Aalborg		EYPESA		M14



Event	Title or nature of contribution	Responsible partner(s)	Principal audience	Project month
Von Smart Grids zu Smart Markets 2015 - Beiträge der ETG-Fachtagung (VDE)	Querverbund und Virtuelle Kraftwerke – Betriebsoptimierung von Strom, Wärme, Gas, E-Mobilität unter Einbeziehung der Speicher und Märkte Konferenz	KISTERS, SWRO	DSOs	M14
Fremtidskonferansen - The future conference, Halden 2015	Selvbalanserende energiceller, mikromarkeder og adresserbar strøm	SmartIO	Researchers, DSOs, TSO, regulator, telecom, suppliers	M15
Symposium ENERGIA, IKEM	Lösungen für Smart Grids - Vorstellung einer europäischen Studie zu Smart Grids	KISTERS, EYPESA	Researchers, suppliers, DSOs	M15
KISTERS Praxisforum	Netzsicherheitsanalyse im Projekt Smart Rural Grid	Kisters	250 attendees with mainly DSOs, ESCOs	M17
European Conference on Power Electronics and applications (EPE/ECCE)	Inverter design for four-wire microgrids	UPC	Researchers, DSOs, ESCOs, suppliers	M20
14a Diada de les Telecommunications de Catalunya	Necessitas de les telecommunications per se explotades a les xarxes intelligents rurals	EYPESA	Telecom companies, suppliers	M20
European Conference on Power Electronics and applications (EPE/ECCE)	Stability analysis of current and voltage resonant controllers for Voltage Source Converters	UPC	Researchers, suppliers, DSOs	M20
Meeting of technical directors of Bavarian DSO companies	Smart Rural Grid	SWRO	Bavarian DSOs	M21
DREAM Workshop, Grenoble	Smart Rural Grid (FP7): Smart and Micro-Grids for Rural Area	UPC	Researchers, DSOs, suppliers	M22
LCNI Conference		CGA	DSOs, TSOs	M24
1st international Community Electricity Storage Workshop (iCES)	Why are Community Electricity Storages (GES) a game changer and the now role of the prosumer	UPC	Researchers, DSOs, solar power suppliers	M24
Customer presentations at NIE (Northern Ireland Electricity)		CGA		M26
Customer presentations at WPD (Western Power Distribution)		CGA		M27
Customer presentations at SSE (Scottish and Southern Electricity)		CGA		M28
Customer presentations at ESB (Electricity Supply Board)		CGA		M28
Customer presentations at SPEN (Scottish Power Energy Networks)		CGA		M28

Event	Title or nature of contribution	Responsible partner(s)	Principal audience	Project month
Customer presentations at UKPN (UK Power Networks)		CGA		M28
Customer presentations at NPG (Northern Power Grid)		CGA		M29
CIGRE 2016	Smart Grids for rural conditions and e-mobility -	KISTERS, EYPESA, UPC	Researchers, DSOs, ESCOs, suppliers	M31
GEODE seminar, Helsinki	Applying power routers, batteries and virtual power plants digitalising the electric grid	EYPESA	GEODE members (DSOs)	M32
Customer presentations at ENW (Electricity North West)		CGA		M32
Niagara 2016 Symposium on Microgrids	The SmartRuralGrid EU project: Power Router and VPP enabling coupled LV Microgrids	Kisters	DSOs	M33
PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe), 2016 IEEE	Demonstration and Experience of the Smart Rural Grid Project	UPC	Researchers, suppliers, DSOs, ESCOs	M33
KSU seminar, NVE, Bodø	Mikronett (Microgrids)	SmartIO	DSOs, TSOs and Norwegian regulator	M33
European Utility Week 2016	Smart Rural Grid	EYPESA	DSOs, TSOs, ESCOs, suppliers	M34
Singapore International Energy Week	Opportunities in VPP, Energy Management, and Microgrid	Kisters	ESCOs, DSOs,	M34
	Presentation SRG in Expo Smart city Barcelona Generalitat de Catalonia stand	Estabanell		M34
	Presentation SRG in EUW pavilion -5	Estabanell		M34
	Interview by Engerati at Santi	Estabanell		M34
	SRG is in the EUW Awards as a finalist	Estabanell		M34
	Presentation to KIC select about SRG business cases	Estabanell		M34
DSO forum of German DSO Bayernwerk		SWRO		M39
GEODE seminar, Brussels	The customer journey considering the digital DSO	EYPESA	GEODE members (DSOs)	M40
ICR-ERA IEEE		UPC	Researchers, DSOs, ESCOs	

**Table 4:** List of conferences and other events where the project has been presented

### 3.11 Scientific and professional articles

The production of scientific and professional is on track. The list so far can be seen in Table 5. The rate of publication has been pretty high given the short life of the project. Normally, acceptance of such contributions requires presentation of significant results. However, the novelty of the concepts studied and the bold mission that the project has set out on have triggered interests among conference organizers and publishers.

Authors	Title of publication	Publisher/ Event	Place and period
Ramon Gallart	Digitalizing the Electrical Grid: The Smart Rural Grid	IEEE Smart Grid, smartgrid.ieee.org/newsletters	November 2016
Francesc Girbau-Llistuella, Andreas Sumper, Daniel Heredero-Peris, Marc Pages Gimenez, Cristian Chillon Anton, Josep-Andreu Vidal-Clos, and Francisco Diaz-Gonzalez, Ramon Gallart	Demonstration and Experience of the Smart Rural Grid Project	ISGT Europe 2016	Torino, Italy, October 2016
Daniel Heredero-Peris, Cristian Chillon-Anton, Enric Sánchez-Sánchez, Daniel Montesinos-Miracle	Fractional proportional-resonant current controllers for Voltage Source Converters	Journal of Electric Power Systems Research	Submitted September 2016, Preprints available
V.Bühner, P. Franz, J. Hanson, S. Martinez, A. Sumper, F. Girbau-Llistuella	Smart Grids for rural conditions and e-mobility – Applying power routers, batteries and virtual power plants	CIGRE 2016	
Francesc Girbau-Llistuella, Francisco Diaz-Gonzalez, Andreas Sumpera, Ramon Gallart-Fernandez	Smart Grid architecture for rural distribution networks: application to a Spanish Pilot	Submitted for review June 2016	Preprints available
Andreas Sumper	Smart and Micro-Grids for Rural Area	DREAM Workshop	Grenoble, December 2015
Volker Bühner, Sebastian Raner, Thaddäus Müller	Querverbund und Virtuelle Kraftwerke – Betriebsoptimierung von Strom, Wärme, Gas, E-Mobilität unter Einbeziehung der Speicher und Märkte	Von Smart Grids zu Smart Markets 2015	Kassel, March 2015
Enric Sánchez-Sánchez, Daniel Heredero-Peris, Daniel Montesinos-Miracle	Stability analysis of current and voltage resonant and voltage resonant controllers for Voltage Source Converters	17th European Conference on Power Electronics and Applications (EPE'15 ECCE-Europe), 2015	September 2015
Thaddäus Müller	How partner Stadtwerke Rosenheim Netze sees the project	Presentation for German DSOs	Stadtwerke Rosenheim, 2015
Thaddäus Müller	Smart Rural Grid eine mögliche Alternative	Presentation for German DSOs	Stadtwerke Rosenheim, 2015
Volker Bühner	SmartRuralGrid: KISTERS beteiligt sich an europäischem F&E-Projekt	KISTERS's Newsletter	February, 2015
Andreas Sumper	El valor real de las redes inteligentes y las microrredes	Automatica e Instrumentacion.com	January 2015

Authors	Title of publication	Publisher/ Event	Place and period
Bernt Bremdal	PROSUMER CELLS – Building energy infrastructure "bottom-up" by means of Smart Grid technologies	INTPOW Solar Day	Oslo, February 2015
Volker Bühner and Thaddäus Müller	Intelligenz auf dem Land	Energie und Management	January, 2015
Santi Martinez and Ramon Gallart	The Smart Rural Grid: Steps towards a greater integration of Energy Systems	Telco & Energy Infrastructure Efficiency	London, November 2014
Santi Martinez	Microxarxes elèctriques al món rural: un canvi irreversible – Evitar la Tercera Fractura Digital	Agronomes	Lleida, Spain, September 2014
Ramon Gallart and Santi Martinez	A Smart Meter at the top of the hill	European Utility Week	November 2014
Ramon Gallart	La distribució energètica al món rural	In Smart City Cap al municipi intelligent p.225	Diputacio Barcelona Documents de Treball, 2014
Fernando Castro	Implementación de Smart Grids en Entornos Rurales	CIGRÉ Spanish Chapter	Madrid, November 2014
Daniel Heredero-Peris, Marc Pagès-Giménez and Daniel Montesinos-Miracle	Inverter design for four-wire micro-grids	IEEE ISGT 2014	Istanbul, October 2014
Fernando Castro, Ramon Gallart, Santi Martínez, Andreas Sumper, Volker Bühner, Steve Channon, Thaddaeus Muller, Bernt A. Bremdal, Jordi Soler	Implementación de Smart Grids en Entornos Rurales	CIDEL Congress	Buenos Aires, October 2014
Francesc Girbau-Llistuella, Andreas Sumper, Francisco Diaz-Gonzalez, Antoni Sudrià-Andreu and Ramon Gallart	Local performance of the Smart Rural Grid through the Local Energy Management System	IEEE, ICCP 2017	Cluj, Romania, September 2017
Philipp Kassing, Andreas Sumper, Thaddäus Müller and Max Heißwolf	Battery Storage Systems Feasibility Study for Revenue Models in Germany	IEEE, ICCP 2017	Cluj, Romania, September 2017
SWRO	<i>Planned publication for DSOs regarding integrating distributed energy</i>		July 2017

**Table 5:** List of all publications in the project

### 3.12 Other deliverables

In addition to the scientific and professional articles that have been written and published in different journals, the project has had its' own deliverables. These are sorted by work-package in Table 6.

Deliverable number	Deliverable name	Planned		Delivered	
		M3	April '14	M3	23.04.2014
D1.1	Quality Plan	M3	April '14	M3	23.04.2014
D2.1	Electrical network specifications	M3	April '14	M16	05.05.2014
D8.1	Project website	M3	April '14	M4	05.05.2014

Deliverable number	Deliverable name	Planned		Delivered	
		Milestone	Month	Milestone	Date
D1.2	Risk management and contingency plan	M4	May '14	M16	05.05.2014
D2.2	Operational environment specifications	M4	May '14	M4	31.05.2014
D3.1	IDPR conceptual design	M4	May '14	M5	30.06.2014
D2.3	Specifications for a resilient electrical operation	M5	June '14	M5	29.06.2014
D2.4	Data and values specifications, managing procedures, v1	M6	July '14	M6	31.07.2014
D4.1	Specifications of PLC and Wireless Transmission System	M6	July '14	M18	31.07.2014
D5.1	Database concept	M8	September '14	M8	29.09.2014
D1.3	First year progress report	M12	January '15	M17	11.06.2015
D3.2	Functional IDPR prototype	M12	January '15	M12	03.02.2015
D5.2	Release of the Forecasting Software Prototype	M12	January '15	M12	03.02.2015
D6.1	System Integration and Validation Test Plan	M12	January '15	M12	03.02.2015
D8.2	Dissemination report year 1	M12	January '15	M15	30.04.2015
D3.3	IDPR test report	M14	March '15	M17	06.07.2015
D7.1	Operation modes and metrics	M16	May '15	M16	02.06.2015
D4.2	Prototype of PLC System	M18	July '15	M18	31.07.2015
D4.3	Wireless Transmission System	M18	July '15	M18	29.07.2015
D5.3	Release of the Optimization Software Prototype	M18	July '15	M18	29.07.2015
D5.4	Release of the Optimal Power Flow Software Prototype	M18	July '15	M18	30.07.2015
D6.2	System Integration and Validation Report	M18	July '15	M25	05.03.2016
D3.4	IDPR initial prototype	M20	September '15	M24	19.01.2016
D1.4	Second year progress report	M24	January '16	M25	23.02.2016
D4.4	Telecommunications System performance report	M24	January '16	M25	05.03.2016
D8.3	Initial Exploitation plan	M24	January '16	M25	17.02.2016
D7.2	Pilot preliminary evaluation	M27	April '16	M28	30.05.2016
D6.3	System Field Trials Readiness Assessment Report	M31	August '16	M34	30.11.2016
D4.5	Final prototype of PLC System	M36	January '17	M39	27.04.2017
D4.6	Final Wireless Transmission System	M36	January '17	M39	13.04.2017
D2.5	Data and values specifications, managing procedures, final	M39	April '17	M39	26.04.2017
D3.5	Validated IDPR prototype	M39	April '17	M39	20.04.2017
D6.4	Final System Integration and Validation Report	M39	April '17		
D6.5	Final System Field Trials Readiness Assessment Report	M39	April '17		
D5.5	Release of the Forecasting Software Prototype, final	M40	May '17		

Deliverable number	Deliverable name	Planned		Delivered	
D5.6	Release of the Optimisation Software Prototype, final	M40	May '17		
D5.7	Release of the optimal power flow Software Prototype, final	M40	May '17		
D1.5	Last period progress report	M42	July '17		
D1.6	Final project report	M42	July '17		
D7.3	Pilot final evaluation	M42	July '17		
D8.4	Dissemination report, final	M42	July '17		
D8.5	Final Exploitation and Market Plan	M42	July '17		

**Table 6:** Chronological-by-date list of all project deliverables

### 3.13 TV and press

Press and TV coverage have been achieved, mostly on a regional level, and predominantly in the Catalan and Spanish languages. One aim has been to educate and inform the local community in around the pilot site. However, local industry has also been a target. Municipalities, which are working with smart city projects have also been informed through the media. The gallery of images shown in Figure 9 shows some of the coverage achieved.

Through its project management the Smart Rural Grid project has also been able to achieve sufficient attention in Catalanian television.

### 3.14 Other communication channels

As part of an internal survey related to exploitation, business leaders in the different partner organizations were asked about how they would approach stakeholders and create a basis for future capitalization of the partner's and the collective effort in the project. They were given 6 alternatives, whereas the sixth could be specified by the user himself. The alternatives are shown in Figure 11. This describes the preferred channels of communication with stakeholders that could influence exploitation. 53.3% of the respondents saw one-to-one meetings with customers as an important means. 46.7% stated that they had already initiated a dialogue with a customer or customer representative. This places emphasis on bilateral channels to achieve dedicated business objectives. In addition to one-to-one meetings with existing or potential customers, similar meetings have been held with representatives for regulatory bodies, TSOs and even



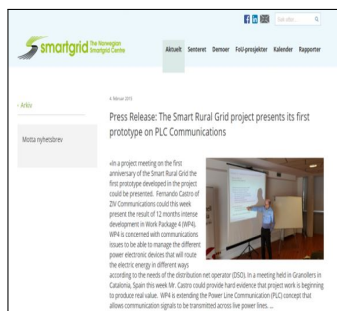
(a) Diari de Girona, Catalunya



(b) Diari de Girona, Catalunya



(c) From the web pages of EI9Nou in Catalunya



(d) Network bulletin from the Norwegian Smart Grid Centre



(e) Press release from Hvaler Municipality, Norway



(f) Article from TU, the Norwegian Technical Periodical

Figure 9: Clippings from digital press



Figure 10: Photos taken during the shooting of footage for a TV slot in 2016.

ENTSO-E.

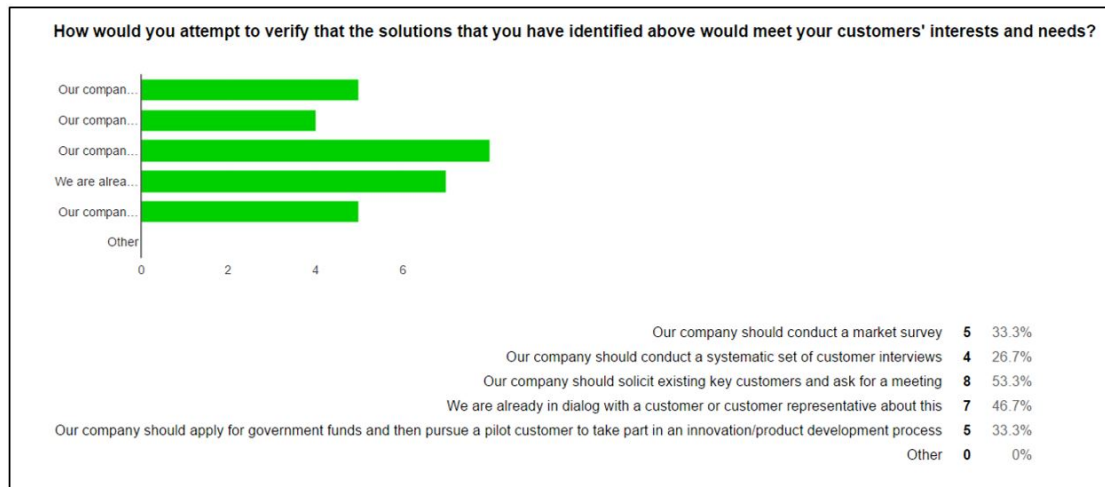


Figure 11: Internal survey

## 4 Dissemination per partner

### 4.1 Estabanell Energia (EYPESA)

#### 4.1.1 Role in dissemination

Estabanell is the project coordinator and leading partner, and has led an extensive array of dissemination activities both in Spain and abroad, utilizing multiple channels. Estabanell has also undertaken a substantial effort to brand the project, and has the second biggest role in work package 8 (WP8). In WP8 EYPESA has been responsible for communicating the results and work with a Technical Advisory Group (TAG). The TAG was composed of different relevant stakeholders, with the aim of informing and initiating a conversation where feedback and comments can be shared.

Furthermore EYPESA is also undertaking several dissemination activities. The biggest of which is the Workshop Demo which Estabanell is organizing to disseminate the final project findings, with the participation of several public figures and stakeholders from the Energy Community (other European DSOs, researchers, professionals)

Other than the above EYPESA has been continuously engaged in the other dissemination tasks utilizing social media, and taking several opportunities to



inform about the project.

#### **4.1.2 Activities**

Estabanell have arranged and participated in numerous dissemination activities throughout the project lifetime. At several events they have participated as speakers and promoted the project. Some of these have been major events, like European Utility Week, and Telco Energy and Infrastructure Efficiency.

Through its role in GEODE, Estabanell has communicated the project to different European DSOs, and introduced the idea to their agenda. Two webinars was hosted for the ENGERATI community, further promoting SRG.

All the field work done has been closely documented and shared on social media, allowing the progress to be viewed by the followers. This way of sharing information about the project has ensured continuous interaction with the local authorities and inhabitants in the pilot area. To increase this interaction and the public understanding of the project, several guided visits to the pilot area has been conducted. The partakers of these tours has typically been students, researchers, businesses, and members of the local population.

Finally, Estabanell has contributed to the production of 3 videos produced on the project, which have stirred a lot of interest, and feedback has been received from different parties (including the local media in Catalonia) about the educational importance of this dissemination activity.

#### **4.1.3 Impact**

Estabanell's activities have produced the following impact:

- Interest in the project from other DSOs, through Estabanell's networks.
- Interest and awareness has been raised in the local community, municipalities and government.
- The project has been integrated into the course project of several master students, further increasing its visibility and audience (where the students have also done presentations themselves).

- The project has set ground for further investigations and plans for development, as it has stirred interest for new projects with additional partners.
- The continuous interaction with stakeholders in the pilot area has been especially important in setting a framework for future expansion and exploitation by allowing a deeper understanding of how micro-grids and similar initiatives are needed, and how they can be conducted.

## **4.2 UPC-CITCEA (UPC)**

### **4.2.1 Role in dissemination**

UPC-CITCEA is the most prominent scientific partner from academy in the project and the leading creator of the IDPR. Their prime target in the project has been the international research community and parties that seek new insight within this community, specially in the field of Power Electronics and Power System engineering. Their contribution in the project has involved PhD students who have been very instrumental in the development and testing of the principal innovation in the project. With this there follows a responsibility along with incentives to produce scientific articles and publish findings in journals and at conferences.

### **4.2.2 Activities**

Individuals from UPC have made different presentations and produced papers for a number of conferences around Europe. The aim has been to share insight on the microgrid approach offered by the Smart Rural Grid project. This includes presentation of technical details and performance of the IDPR both in lab and in the field. Since much of the effort has been associated with the education and training of PhD students the articles presented or submitted to journals have been subjected to scrutinee by external reviewers. This assures that quality holds international cutting edge level. UPC has also been responsible for a good deal of social media activities and networking. The contact with other academic communities around Europe and with the Digital Grid and University of Tokyo have also been important. In June 2015 UPC hosted a major symposium in Barcelona dedicated specifically to the core of the Smart Rural Grid project. The audience consisted of a blend of professionals from Spain and other countries

in Europe along with UPC's own students. This was also a major event where TAG members were present and engaged.

### 4.2.3 Impact

The research results out of the Smart Rural Grid project has been impacting the research community. First, the research on novel power electronic materials as Silicon Carbide and its application in real applications has raised interest in the academic world interest for high performance controllers due to the high switching frequency of such semiconductors. Papers were published at the EPE conference 2015 that raised interest in the community. Papers to journals are submitted or going to be submitted with the field results. Also, the research done on the system architecture got a lot of attention. Papers on this topic were presented in the CIGRE and ISGT Europe (Smart Grid conference of IEEE). Also, the concept of the LEMS and GEMS interaction and the local approach of the energy management has been published. Here, in the papers were presented International Conference on Renewable Energy Research and Applications (ICRERA) and the Modern Power System (MPS) Conference. The resulting research is going to submitted to a peer-reviewed journal.

Apart of the impact at the scientific society, several activities regarding the communication of the project results and its potential has been done. The primary target has been to create awareness in DSOs, manufacturers and industry for the project. The Symposium at the UPC attracted over 100 interested individuals. Apart of this event, the researchers from the UPC attended the DREAM FP7 Winterschool, the TAG workshops, the Workshop on Storage in Berlin and the Innovation Workshop of the SmartNet project. All these events had the objective to contact with industry and also to connect with other European or national funded research projects.

Last, but not least, the UPC participated actively in social media by posting via Twitter, Webinars, posting the videos recorded at the Symposium etc.

## **4.3 KISTERS AG**

### **4.3.1 Role in dissemination**

As a German high-tech institution KISTERS has applied a multi-pronged dissemination strategy. As a commercial company the aim, of course, has been to generate interest in the work that the company is doing in the project and the benefits that this can offer. The traditional stakeholder focus has been DSOs and ESCOs. However, KISTERS see the rise of advanced aggregators as an interesting new segment. At the same time the company has taken advantage of the fact that the Smart Rural Grid represents cutting edge technology, and the job done in WP5 on Data & Energy Management system provides a unique basis for different forms of marketing.

The company's high-tech profile is well aligned with the ambitions that have been realized in the project. KISTERS is also a fast-growing company and now sees a world-wide presence. This expansion has represented an important conveyance opportunity for the project too.

### **4.3.2 Actions**

Consequently, KISTERS have been present at multiple arenas alone or together with other project partners. In Germany they have taken part in major events where relevant stakeholders have been present. They have also produced articles on the project and its own findings in the project. Together with other project partners they have also spearheaded and successfully qualified entries for conferences such as CIGRE 2016. This activity has earned them increased recognition that also lead to an invitation to become a key speaker at the IEEE Symposium on Microgrids Symposium 2016 in Niagara, Canada. This suggests increased interest for the project also among North American interests. The general manager of KISTERS Asia Pacific presented the project together with KISTERS own promotions and vision at an extensive KISTERS event in Singapore in October 2016.

### **4.3.3 Impact**

The CIGRE paper and the presentation at CIGRE Conference and the Microgrid Symposium had generated a lot of international initial contacts and requests. While economics are the main focus in Europe and US especially in Asia Pacific sustainability and resilience are the main drivers for microgrids. Since DSOs, much more than energy retailers or traders, are quite well organized in scientific associations like IEEE and CIGRE it makes sense to present the project here not only for academic reasons but also as a sales measure.

Based on experiences and knowledge from SRG KISTERS was able to join two huge German lighthouse projects (KOPERNIKUS) for energy transition, which also include cellular grid approaches and rural and urban microgrid ideas.

## **4.4 ZIV communications**

### **4.4.1 Role in dissemination**

ZIV has been the head of work package four, “WP4 Communications”. In addition the company has been instrumental in developing the extended PLC module that also constitutes an important landmark achievement. With this innovation the PLC option for long distance communication based on an existing power infrastructure has reached a new level. Consequently, ZIVs responsibility in dissemination has been towards the communication industry as well as utilities that are soliciting low-cost alternatives for monitoring and control of devices along extended and remote power lines.

### **4.4.2 Activities**

ZIV has largely bundled Smart Rural Grid related information as part of its general marketing. The aim has obviously been to create a basis for future capitalization on the R&D results and as part of the exploitation effort. To revitalize interest in PLC based communication in Europe and beyond has been a prime motivation. However, more project specific efforts have also been executed. As an example, WP4 produced the first paper stemming from the project, presented at EUTC (European Utility Telecommunications Council) in Amsterdam,

October 2014. This has been listed among the other publications.

Other papers dealing with the Smart Rural Grid concept and the need for a new PLC system include II Congreso Smart Grids, Madrid October 2014, CIDEL Congress in Buenos Aires (October 2014) and CIGRÉ meetings (CIGRÉ Spanish Chapter, Madrid, November 2014) and CIGRÉ Plenary Session (Paris, August 2016), where a more general discussion on PLC requirements and performance was presented. Also more specific activities focused on industry have been made, such as field tests in other utilities, both at national and international level. Among these, especially relevant are the tests in Endesa, Iberdrola, VIDMAR or distribution companies in Netherlands (Stedin) and Malaysia (TNB), and customer-tailored presentations.

#### **4.4.3 Impact**

Currently the PLC system is in operation in Iberdrola and TNB, with a previous version in service at Stedin. This allows gathering extensive amount of information regarding behaviour at technical level and customer requirements at marketing level under a number of different network configurations and business models. The product has reached an advanced level of development and is stable in its main characteristics, being an important part of daily marketing and sales activities.

### **4.5 CG Power Systems Ireland (CGA)**

#### **4.5.1 Role in dissemination**

CGA has been responsible for the delivery of work package 6, WP6 Platform Integration. CGA's role has also been to support SmartIO in the delivery of WP8 by fulfilling any actions given to them and to work with all partners in any dissemination activities. CGA has experience and expertise in the delivery of Smart Grid solutions such as the SRG and have promoted this project within its own customer base and more widely to DNOs in the UK and Ireland where CGA has a strong presence.

## 4.5.2 Activities

The UK, as with most countries, is investing heavily in renewable energy and is facing the associated complexities of managing its power network with increasing amounts of distributed energy generation. As a result there is extensive investment in automated systems to actively manage the network with various types of generation connected across the network. Utilities are actively investigating and investing in new technologies to help manage their networks. CG is very active in this market, promoting Active Network Management solutions for managing power flows across the networks. In this context CG has been very active in promoting and disseminating information on the Smart Rural Grid Project to all the main Distribution Utilities in the UK market. This has been promoted in CG Presentations to the “Future Networks” and “Innovations” teams at the various DSOs .

CG has presented the SRG Project to all DSOs in the UK in the following presentations:

- Customer presentations at NIE (Northern Ireland Electricity) on 10<sup>th</sup> March 2016
- Customer presentations at WPD (Western Power Distribution) on 11<sup>th</sup> April 2016
- Customer presentations at SSE (Scottish and Southern Electricity) on 05<sup>th</sup> May 2016
- Customer presentations at ESB (Electricity Supply Board) on 17<sup>th</sup> May 2016
- Customer presentations at SPEN (Scottish Power Energy Networks) on 25<sup>th</sup> May 2016
- Customer presentations at UKPN (UK Power Networks) on 31<sup>th</sup> May 2016
- Customer presentations at NPG (Northern Power Grid) on 12<sup>th</sup> June 2016
- Customer presentations at ENW (Electricity North West) on 29<sup>th</sup> September

These DSOs were extremely interested to understand the new technologies being piloted in other regions and how these could be applicable to their network

management systems in the future. WPD were particularly interested as they were also considering a project for a Flexible Power Link

CG presented the SRG project as part of an Active Network Management presentation at a Utility Users Forum for network planning software in Manchester on 05<sup>th</sup> December 2016 with representatives from most UK DSOs being present.

CG has exhibited and promoted the SRG project at the UK LCNI Conference in 2014, 2015 and 2016. This is the primary conference for innovation among the UK Power Utilities and is actually organized by the utilities themselves to share technological innovations and understand what technologies are being trialed in the industry. This was held in Aberdeen on 20-22 October in 2014. It was held in Liverpool on 24-26 November 2015 and in Manchester on 11-13 October 2016. CG was present at all three conferences and promoted the SRG project and technologies.

### **4.5.3 Impact**

The main impact of the dissemination was to raise awareness of the technologies being piloted in the SRG project. The UK DSOs are now implementing the basic Active Network Infrastructures that will necessary to support the technologies piloted in the SRG project in Business as Usual in the future. So the SRG technologies are seen as the next advanced stage of these Active Network solutions of the future, i.e. the platform is now being installed to support the deployment of Smart Rural Grid technologies.

## **4.6 Stadtwerke Rosenheim (SWRO)**

### **4.6.1 Role in dissemination**

As a DSO, the company's participation in the project and its assessments carry a lot of weight. Approval and application of the results serve as an important testimonial. SWRO has primarily worked in work package seven, "WP7 Pilots and evaluation". However, its contributions and influence in other work packages have been important too. In its position as a German DSO and member of the GEODE SWRO plays an important role as a project lighthouse together



with EYPESA. SWRO has intimate knowledge of the challenges a lot of DSOs in Germany currently face, as a result of German energy politics over the past 10-20 years. In terms of dissemination the company is in a unique position to translate the findings of the project to the current situations that many grid owners in Germany and other places find themselves in. Especially grid operators with a high impact of local energy production and local DSO's (German Stadtwerke) were in the focus. Their standing in Bavaria is significant and in that position their voice carries a lot of weight both in the region and on a national level.

#### **4.6.2 Actions**

SWRO has worked alone and together with other partners in order to inform about the project and promote the tangibles developed in the project. It has presented the general concept for other DSOs in Bavaria and beyond. Its work on a viable business case for Smart Rural Grid has been disseminated in different ways. SWRO has used different channels to place the concept and the results of the investigation of the business cases. This cases will be extended continuously based on current developments, like E-mobility and reactive power problems due the shut-down of the big power plants in Germany. One of the most important channels is the membership in a working group of local Bavarian DSO's with the VBEW association. Here the SWRO has presented the general concept and create interest for the SRG solution at several times. Also taking part and create interest for the SRG project in some symposiums and presentations with other DSO' who are active in Smart Grid projects, like the IRENE project of the AÜW (Allgäuer Überlandwerke). Also in April 2017 at a DSO forum of the German DSO Bayernwerk, the interest for the SRG project was high and it could be placed on the correct working group on that bigger DSO company.

Together with KISTERS SWRO published some articles in the technical press and place the activities in the project in the customer journal. SWRO has also made important appearance within a DSO Symposium of GEODE in Innsbruck where participants of Austria and North Italy having taken part. For the conclusion of the project SWRO will publish a publication in the technical press, especially for DSO's and present a use case about integrating distributed energy plants in the grids. The publication is planned for July 2017 in Germany and Austria.

### **4.6.3 Impact**

The influence that SWRO has made on other stadtwerven in Bavaria and in GEODE regarding the Smart Rural Grid has been significant. The information that SWRO has shared on issues faced with and the business case described create more and more interest at local but also now at large-scale DSO' like the German "Bayernwerk". The SWRO will be the first "customer" for the SRG solution and will transport the results further after the conclusion of the project.

## **4.7 Xarxa Oberta (XOC)**

### **4.7.1 Role in dissemination**

XOC is a regional supplier of communication systems in Spain and declared a local focus for its dissemination activities from the outset. It has worked primarily within work package four (WP4). Its specific focus has been fibre communications and wireless.

### **4.7.2 Activities**

The company's original ambition was to keep regional stakeholders within its domain informed about ongoing work in the project and its potential outcome. Regional authorities in the Barcelona area have been a target and informed accordingly. As a commercial player it has set forth to capitalize on its effort in the project in different ways and have reported from an early stage that they use the project as a lever to increase the company's attractiveness as a communication partner. Their basic dissemination strategy has taken advantage of its standing as a well-recognized supplier. This is applied in conjunction with the company's exploitation strategy. The most important channel for the company has thus been customer meetings and one-to-one conferences where references to the project are regularly used to increase attention and interest.

XOC has introduced the project to the Government of Catalonia, in different meetings and presentations, to explain the benefits of SRG project to the country, and has invited people of the Government to the area where the pilot test is performed.

XOC has also been in contact with several local DSO in Catalonia to explain the project, and extend the XOC fibre optic network to these DSOs as a first step to develop SRG project.

XOC has also invited people of interest from the telecom world in Catalonia to the different conferences that had been held of the project, and XOC has used the social media tools, like twitter, to spread the project.

Additionally XOC is in negotiations with the main tv channel in Catalonia (TV3) in order to create a tv report in the daily news.

### **4.7.3 Impact**

The locally oriented dissemination activities done have resonated with the government authorities, because the Government of Catalonia has included this project as one of the most innovative project in Catalonia, explaining it in different international forums.

## **4.8 Smart Innovation Norway (formerly Smart Innovation Østfold - SmartIO)**

### **4.8.1 Role in dissemination**

SmartIO has been responsible for WP8 and has managed the overall dissemination activities of the project. As a representative of the Nordic countries in the project the natural focus beyond its overall responsibilities has been on Scandinavia and the Baltic. This region encompasses extensive rural areas with a scattered population. Energy supplied in the traditional way typical requires long radials across rugged terrain to remote villages and settlements. Investment per electricity user is high and day to day operations are very often exposed to harsh weather conditions. Consequently, the type of Smart Grid research conducted in the Smart Rural Grid project applies well to the distribution situation in the Nordic countries. These countries also enjoy the most liberal electricity market in the world under the supervision of NordPool and the TSOs. The supply is further characterized by a high percentage of hydroelectric power and relatively low energy prices. SmartIO has been conscious about this since the work on the project proposal.

### **4.8.2 Activities**

The task of highlighting the benefits that the project can potentially offer the Nordic communities and countries have been a top priority from day one. Smart IO manages an industrial cluster set up by the Norwegian government named the Norwegian Centre of Expertise for Smart Energy Markets (NCE). It consists of DSOs, municipals, ICT companies, solar power suppliers, suppliers of wind turbines and energy efficiency services, property and building owners and others with an interest and ongoing business in renewable energies, digitalization and Smart Grids. This network has been instrumental in bringing the Smart Rural Grid message out to parties in central positions in the Norwegian and Swedish energy market and government. It has also used its role and influence as a key member in the Norwegian Smart Grid Centre to build attention towards the project, its scope and the pilot in Catalonia. A number of DSOs has been entertained with popular and scientific material stemming from the project. Both the central and regional governments in Norway have been briefed about the activities and the technology developed in the project, notably the IDPR. Government agencies such as ENOVA has embraced the microgrid approach proposed by the Smart Rural Grid. The heads of the Nordic TSOs have been informed orally and in writing. SmartIO has stirred the interest of promoters and builders of solar energy systems and highlighted the Smart Rural Grid way for creating a more robust and resilient energy supply system bottom-up with DER (Distributed Energy Resources) as the principal element. In Norway especially, dissemination activities have been coupled with firm exploitation initiatives. The ambition of the NCE is to bridge R&D and business development. Strict focus on reducing “time-to-market” for R&D results is essential and expertise has been built for this purpose.

### **4.8.3 Impact**

As the principal manager of the social media and the web site Smart IO has helped to stir a debate around new ways for contained excessive surplus energy in Germany. Moreover, it has led to a widespread interest in the project that is also reflected in the number of followers and user engagement. The locally oriented dissemination activities done have resonated with the energy authorities. This peaked when the Norwegian regulator invited members of the project to present the IDPR and the Smart Rural Concept to its staff during their annual strategy conference. It is beyond doubt that the Smart Rural Grid

has put its mark on the Norwegian regulator's plans for the future. Internally the Smart Rural Grid has generated new insight, new competences and novel ideas for further research. This has materialized in new projects. There goes a thick line from the Smart Rural Project to the two H2020 projects EMPOWER and INVADE. Focus on Smart City initiatives also seem to pay off. It has led to the prospect that one of the NCE members are likely to be the first user of the IDPR beyond the project. The impact that the Smart Rural Grid has made on the Nordic energy communities in general and the Norwegian one in particular, is both significant and measurable and still growing. It has placed the IDPR, the smart rural grid project, the use of batteries on multiple agendas including those of DSOs, NVE, municipalities, the TSOs - through its dialogue with the ENTSO-E system, politicians and research agencies.

## 5 Conclusive Discussion

At the time of project termination, the consortium can look back at a successful venture. During the final workshop held in Granoller, Catalonia on May 23<sup>rd</sup>, 2017 the project manager concluded that the goals that were defined for the project had been achieved (see Figure 12). He also pointed out the foresightedness of the project. The objectives and the anticipated impacts were very much in line with the objectives set forth in EU's Winter Package.



**Figure 12:** Project manager Santi Martinez relates the project's achievements to the ambitions of EU's Winter Package (Photo: T. Müller)

Mr. Albert Castellanos, General Director of Economic Promotion and Concurrency with the Government of Catalonia (See Figure 13) declared during his speech during the May 23<sup>rd</sup> event that the Catalan government's objectives were fully aligned with that of the project. He was very impressed with the achievements made and declared that he and the government saw this type of project as a springboard into a future that would be very important for Catalonia, Spain and Europe.

Mrs. Assumpta Ferran, the Director of the Catalan Agency for Energy (Fig-



**Figure 13:** Mr. Albert Castellanos, General Director of Economic Promotion and Concurrence of the Government of Catalonia tells the audience that the government has aligned its goals for the future along the same lines defined by the project (Photo: T. Müller)

ure 14) praised the project for its foresightedness and the consortium's ability to execute. She stated that it was an inspiration for her and her agency in their continued work for stirring interest in e-mobility and renewables. Later similar responses were given by the head of the GEODE, Mrs. Carmen Gimeno, Nissan executive Mr. Xavier Pons. This was followed up too through remarks from the audience during the open sessions of the workshop.

Such feedback cannot be considered a proof of a successful dissemination effort. However, when all feedback from different events, in social media and the growing set of citations are accumulated we dare claim that the project has made a difference in setting and reinforcing the agenda along with the goals of the project. It has served as an inspiration and it has attracted interest. Its pool of ideas and findings have been liberally shared. The dissemination effort has also helped to recruit parties with a serious exploitation agenda. Altogether, we feel comfortable when we claim that the project has influenced numerous



**Figure 14:** Mrs. Assumpta Ferran, the Director of the Catalan Agency for Energy (Photo: T. Müller)

people and companies. It has proven that new ways can alleviate the rural energy supply and shown that feeds from renewable sources at the terminal points in remote areas can be contained and managed for the better of all stakeholders involved. We also have gathered evidence that this message has been received by a diverse set of stakeholders, through many different channels, across Europe and the rest of the world. The activities set forth in the dissemination plan (Appendix A) and many others have been executed.



## A Appendix A

Who to target	Dissemination approach	Objective	Partner in charge
TSOs			
European TSO's To	GEODE can facilitate the contacts with ENTSO-E	To establish contact with ENTSO-E for informing about the project goals to their associates, since they can influence DSO's as well as national regulators	EYPESA
	The project presentation tool will be the Video		
	It is important to be able to make a presentation of the project (in Year 2 or 3) in one of their summits		
Red Electrica de España	Flyer, newsletter, invitation to workshop/conference	Inform about the general purpose of the project and the Smart Rural Grid Concept	UPC
German TSO's (Amprion, 50 Hz Transmission, TenneT TSO and TransnetBW)	CIGRE SC 6, German TaskForce dispersed generation, presentation in the framework of the annual meeting and flyer.	Inform about the general purpose of the project and the Smart Rural Grid Concept	KISTERS
Statnett	Flyer, newsletter, local meeting	Convey the general purpose of project, the Smart_Rural_Grid concept, to highlight the possibilities related to integration of consumer flexibility and prosumers in rural grids	NCE SMART
DSOs			
European DSO's via GEODE	To use the GEODE's communication capabilities, and their yearly seminars to explain the project goals.	To maintain the local European DSO's aware of the project evolution, listening to their proposals	EYPESA
	There is need of the video and the newsletters about the scope and goals of the project.		
	We should present the project and its evolution in Year 1, 2 and 3		
	GEODE To participate in two TAG's workshops		
European DSO's via EDSO	EDSO will provide the contact with European DSO's bigger in turnover and territory than the GEODE's associates. Contact already existing	To cover the contact with European DSO's non associated to GEODE.	EYPESA
Members of the Norwegian Smart Grid Centre (Assembly of 200 DSO's and ICT companies)	Flyer, newsletter, link to web page, social media, presentation at annual summit	General purpose of project, the Smart_Rural_Grid Concept, to highlight the possibilities related to integration of consumer flexibility and prosumers in rural grids	NCE SMART
Nordic and other DSO's	Flyer, newsletter, Conference presentations (CIRED, IEEE AMPS), Technical paper		
German DSO's	KISTERS Praxisforum, the annual customer event with about 250 participants and 50 DSO's		
ENDESA	Flyer,newsletter,Conference presentation, technical paper	General purpose of project, the Smart_Rural_Grid Concept	UPC
Industrials			
Local ESCO's (ES)	The Local ESCO's will play a main role in the development of new business models in the rural areas.	Make them participate in terms of listening to their specific needs and proposals, mainly in the domain of their information needs to manage their business	EYPESA
	To participate in two TAG's workshops.		
	First step at local level, in-site presentations Year 2 and 3		

Who to target	Dissemination approach	Objective	Partner in charge
	To investigate the existence of European associations		
Local ESCO's (DE)	The Local ESCO's will play a main role in the development of new business models in the rural areas.		SWRO
Local ICT providers in Catalunya	Local meeting, presentation at annual summit	General purpose of project and the specific impact in rural telecom service	XOC
Members of the Norwegian Smart Grid Centre (Assembly of 200 DSO's and ICT companies)	Flyer,newsletter, link to web page, social media, presentation at annual summit	To highlight the possibilities related to integration of consumer flexibility in rural grids	NCE SMART
CIRCUTOR	Flyer,newsletter, technical paper, conference publications, local meeting	To highlight the technical feasibility of the IDPR solution	UPC
Public administrations			
Generalitat de Catalunya	Local meeting, presentation at annual summit	General purpose of the project, the Smart_Rural_Grid concept, expected implications for society	XOC
ICAEN	Local meeting, flyer, newsletter, link to web page		UPC
Norwegian Ministry of Energy	Local meeting, flyer, newsletter		NCE SMART
Research community			
IEEE PES	Conference presentations/transactions publication	Publish recent findings about the IDPR	UPC
IEEE AMPS CIREC	Conference presentations	Recent findings in prosumer centric approaches in rural grids	NCE SMART
Press			
Energiteknikk	Press release, technical paper, link to web site	General purpose of the project, the Smart_Rural_Grid concept	NCE SMART
Technical Weekly			
Automatica e Instrumentación			UPC
Other project			
SEMIT SEMAH CASSANDRA	Flyer, newsletter, link to web page, social media, webinar	General purpose of project, the Smart_Rural_Grid Concept, general knowledge sharing, results	NCE SMART

**Table 7:** Stakeholders and interested parties for the project. This table is to map who they are, and how to best approach and interact with them.

Dissemination actions 2015-2017	Why	To whom	When	How	Partner in charge	Evaluation method	Status
Press releases	To spread information regarding the project and technology approach, enabling interactions and feedbacks	All	M2 M12 M24 M36	Sending press release to major newspapers, specialized magazines and Journals	NCE SMART	Publication of the article	M2 Done
Activate the project website and the social networks profiles	To spread information regarding the project and technology approach, enabling interactions and feedbacks	All	M3	Ongoing report concerning the aims and results of the project	NCE SMART	Release of the website, social network profiles opened	Done
Include reference to the project in partners' websites	Inform customers, providers and partners of the projects, expected results and outcomes	All	M3	Information and links in partners' websites	All	Publication	Done
Generate and release the Project Video	To spread information regarding the project and technology approach, enabling interactions and feedbacks	All	M3	Present the project aims, expected results and outcomes	NCE SMART	Release of the video	Done
Generate the Project Flyer and Project Poster	To spread information regarding the project and technology approach, enabling interactions and feedbacks	All	M3	Present the project aims, expected results and outcomes	NCE SMART	Release of the Project Flyer and Poster	Done
Prepare and hold Project workshops in Brussels	To spread information regarding the project and technology approach, enabling interactions and feedbacks	TAG	M4 M13 M19 M25 M33	Present and discuss the obtained results and outcomes of the project	NCE SMART	Number of attendees, number of contributions	Done
Paper presentation at EUTC yearly Conference	Yearly summit of European TSO and DSO	DSO / TSO	M10 M22 M34	Paper proposal	ZIV	Acceptance for publication	Done
Prepare presentation at ZIV Yerly Seminar	Address over 50 Spanish TSO and DSO	DSO / TSO	M10 M22 M34	Oral presentation	ZIV	Oral presentation	Done
Project presentation to be done at the Annual UK DSO roadshow	Address 80% of UK DSOs presenting innovations and new projects	UK DSOs	M10 M22 M34	Project Presentation	CGA	Project Presentation	Done
To prepare a paper to be published in the Barcelona Province trilingual technical magazine (SAM)	To be seen as a technological partner	To technicians and local politicians	M10 M22	Offering them high level technical papers based on application cases	EYPESA	Acceptance for publication	Done

Dissemination actions 2015-2017	Why	To whom	When	How	Partner in charge	Evaluation method	Status
Project presentation at the LNCF Conference UK 2014	Annual ENA Conference	UK DSOs	M11	Exhibiting & promoting the project	CGA	Project presentation	Done
Generate the Project Newsletter	To spread information regarding the project and technology approach	ALL	M12 M24 M36	Newsletter	NCE SMART	Publication and distribution	Done
Prepare presentation at XOC Yearly Seminar	XOC customers to be aware of new coverage area	ALL	M12 M24 M36	Project Presentation	XOC	Oral presentation	Done
Generation of project follow-up report for the Catalonian Government	Inform to Catalunya Government	Government of Catalonia	M12 M24 M36	Paper	XOC	Delivery of Project and progress report	Done
10 minutes of project diffusion in TV news coverage in a Local TV	To have a broader audience	Citizens	2014	To reach notoriety and gain audience	EYPESA	10 minutes in VOTV and 9NouTV	Done
5 minutes of project diffusion in TV news coverage in a Regional TV	To have a broader audience	Citizens	2014	To reach notoriety and gain audience	EYPESA	5 minutes in TV3	Done
Prepare 2 papers to be presented at 5th IEEE PES Innovative Smart Grid Technologies Conference Europe	To spread information regarding the project and technology approach, the conceptual view of the IDPR, including simulations.	DSO / ESCO	2014 2016	Paper proposal	UPC	Acceptance for publication	Experimental Validation of a Single Phase Intelligent Power Router for IEEE ISGT Europe 2014 in Istanbul. Missing the target for the second paper
Publish article in ew-Energiewirtschaft (DE)	To spread information regarding the project and technology approach	DSO	2014	Paper proposal	KISTERS	Acceptance for publication	Unfortunately there was no free slot this year, we will try to place an article in 2015
Publish in KISTERS newsletters	To address about 500 DSO and utilities in Europe	DSO / ESCO	2014 2015 2016	Report concerning the project aims, and the progresses obtained during 2015 and 2016	KISTERS	Publication	Done

Dissemination actions 2015-2017	Why	To whom	When	How	Partner in charge	Evaluation method	Status
Prepare presentation at KISTERS Praxisforum	This is KISTERS yearly the customer event with about 250 participants	DSO / ESCO	2014 2015 2016	Report concerning the project aims, and the progresses obtained during 2015 and 2016	KISTERS	Oral presentation	Done 21/05/2014 in Potsdam, Germany, with approx. 300 participants.
Participation to FP7 Programme meetings, to be organized by the DG Connect	To share information regarding the project and technology approach between the participants	FP7 Programme participants	2014 2015 2016	Presentation	EYPESA	Oral presentation	We have not been requested by the Commission to do so
Preparation of a one-day Symposium/ conference on Active distribution systems	To spread information regarding the project and technology approach	TSO / DSO / ESCO / Producers / Prosumers	M15	Presentation	UPC	>150 assistance	Completed
Prepare presentation for INTPOW 2015	To spread information to highlight the practicable and exploitable aspects of the project	Solar (PV) community in Europe	M18	Presentation	SMARTIO	Oral presentation	Completed
Prepare presentation at CIRED Conference	To spread information to highlight the practicable and exploitable aspects of the project	DSO / TSO	M18	Paper proposal	NCE SMART	Acceptance for publication	Replaced by LCNI Conference in November
Prepare 2 papers to be presented at EPE '15-ECCE Europe, European Conference on Power Electronics and Applications	To spread information regarding the project and technology approach, specially on power electronic findings	DSO / ESCO	M24		CGA	Acceptance for publication	Completed
Generate presentation to the members of EDSOs for Smart Grids	The bigger DSO's are members of EDSO rather than GEODE. The presentation will show the project status.	To the participants in the summit	M21	Paper proposal	EYPESA SWRO	To succeed means to be accepted for making the presentation	Done
Prepare presentation at CIGRÉ (International Council on Large electric Systems) Conference	Yearly event for scientific progress in the field of communications for electricity utilities	DSO / TSO	M21	Presentation of the project by means of the Video and Distribution of the newsletter	EYPESA	Acceptance for publication and / or oral speech at conference	Completed

Dissemination actions 2015-2017	Why	To whom	When	How	Partner in charge	Evaluation method	Status
Present the project to technicians of the 311 towns and Municipalities of the Province of Barcelona	The Towns, when selecting ESCO's can request for a wide range of services if the IDPR's are installed in the territory	To technicians and local politicians	M33	Presentation of the project by means of the Video and Distribution of the newsletter	SWRO	To be able to be accepted for making the presentation	Pending
Generate presentation of the project status to the members of GEODE	DSO's are the potential customers for the IDPR System	To the General Assembly and to the individual members	M22 and M34	Presentation of the project by means of the Video and Distribution of the newsletter, not only within the session but also via GEODE mailing	SWRO	Number of presentations and number of requests for information after the mailing	Presentation of the SRG project April 22 with application cases on the event "Smart Grids in practice" in Innsbruck
To present the project to engineers of different specialities having relation with the rural areas	The engineers working in the rural areas can be interested in developing the new business models, or supporting the local entrepreneurs for its development	Engineers already involved in rural activities	M22 and M34	Technical presentation of the project and diffusion of the website.	SWRO	Participation in the blog and visits to the website	Instead: Presentation of the SRG project on March 23 with application cases on the meeting of technical directors of Bavarian DSO companies; and taking part on the event "Storage in tomorrow's grid" in Wilpoldsried and exchange experiences. (Information about this in Mail from 13.11.2015 to the consortium)
Prepare presentation at VDE Congress, Germany (session or paper)	To spread information to DSO and ESCO and discuss the project	DSO / ESCO	M22	Participating in one of their internal meetings about RES. In Oct 2013 will be invited to join the TAG.	EYPESA	Acceptance for publication and / or oral speech at conference	Completed

Dissemination actions 2015-2017	Why	To whom	When	How	Partner in charge	Evaluation method	Status
Prepare presentation and 2 papers at IEEE PES General Meeting.	To spread information on the findings during the whole project from the power system and power delivery point of view,	DSO / ESCO	M22	Presentation of the project by means of the Video and Distribution of the newsletter, not only within the session but also via GEODE mailing	EYPESA	Acceptance for publication	Published at ICR-ERA IEEE (as IEEE PES was cancelled)
Prepare presentation at Barcelona Smart City EXPO	Knowledge must be spread for the success of the project, specially for the social goal of avoiding a third digital divide	People around the world of the Smart Grids	M34		SWRO	Number of contacts amount the public of the presentation	Replaced by presentation at 14a DIADA DE LES TELECOMUNICACIONES DE CATALUNYA
Prepare presentation at IEEE AMPS Conference	To spread information regarding the project and technology approach	TSO	M22	Technical presentation of the project and discussion of the website.	EYPESA	Acceptance for publication	
Publish article in ew-Energiewirtschaft, Germany	To spread information regarding the project and technology approach	DSO	M34		SWRO	Acceptance for publication	Completed Replaced by presentation/article at VDI
Organization of demonstration in the field	To show the project results, under actual situation and working environment, to interested parties	DSO / TSO / ESCO / All	M23	Paper proposal	KISTERS	Number of demos, number of attendees.	
Generate a paper to be published in "Automática e Instrumentación" magazine or IEEE PES Magazine	To spread out general results and findings of the project	TSO / DSO / ESCO / Citizen	M23	Presentation and proposal for 2 conference papers	UPC	Acceptance for publication	
Publish in different Journals and magazines	To spread findings of the project that could not be published during the project	All	M31	Poster in 2015 Presentation in 2016	EYPESA	Acceptance for publication	

**Table 8:** Dissemination plan and activities

## References

- [1] Bernt Bremdal, Santi Martinez, Steve Channon, Andreas Sumper, and Jordi Tortosa Lapuente. Smart\_Rural\_Grid, preliminary dissemination report. Technical report, 2015.