

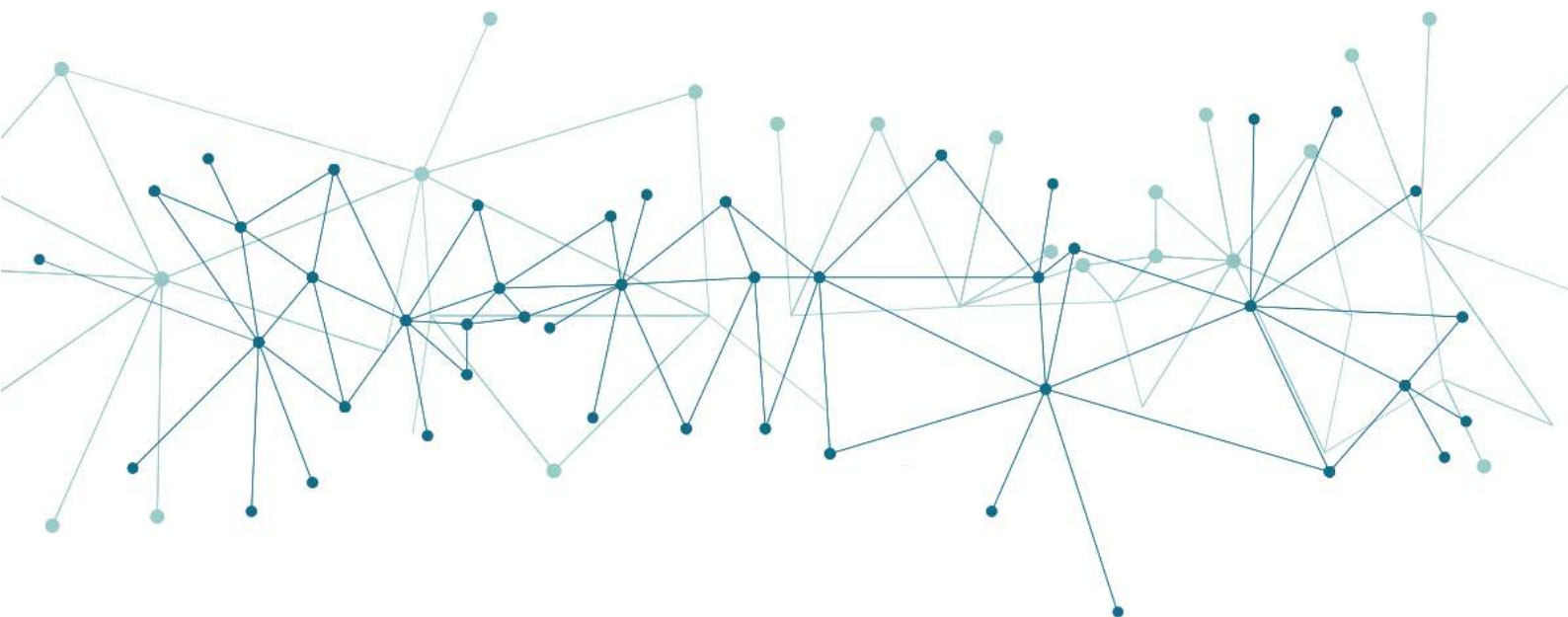


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DELIVERABLE: D8.3 Report on Dissemination Activities V1

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Executive Summary

Deliverable 8.3, “Report on dissemination activities V1”, is the document which reports on the communication and dissemination activities carried out by the project consortium on the first year of the project. This document is closely related to the Deliverable 8.1 – Dissemination, Exploitation & Communication Plan.

The document describes the online, social media and event strategies put in place for the first year of the project for user engagement and related material and also gives an overview of the actions planned for the second year of the project.

The Report concludes the first stage of the communication and dissemination strategy – Preliminary Project Promotion Phase (M1 – M12) – Awareness.

The project consortium used different communication and dissemination activities and channels in order to achieve a high visibility of the project and create initial awareness in the markets related with the project’s objectives and scope, from website and social media to scientific publication and conferences, according to the Dissemination and Communication Strategy presented in Deliverable D8.1. These activities are thoroughly presented in this document.

The first chapter presents the idea behind the eDREAM logo and other materials used in promoting the project.

The second chapter describes the activities realised through website and social media channels from both eDREAM and consortium partners.

Journals papers, conference papers and press release published by consortium members are presented in the third chapter of this document.

Chapter four provides an overview of the conferences attended by consortium members throughout the first year of the project. An analysis of the key performance indicators, which were set in the Deliverable D8.1, is provided in chapter six.

List of Acronyms and Abbreviations

E@W	Energy@Work
eDREAM	enabling new Demand Response Advanced, Market oriented and secure technologies, solutions and business models
ENG	Engineering Ingegneria Informatica S.p.A.
SVT	Servelect
TUC	Technical University of Cluj-Napoca
WP	Work Package
ESCO	Energy Service Company
DOSs	Distribution system operators
TU	Teesside University
CERTH	The Centre for Research & Technology
EMOT	Emotion
R&D	Research and Development
IPR	Intellectual property
EU	European Union
EC	European Commission
H2020	Horizon 2020
KPI	Key Performance Indicators
DR	Demand Response
VPP	Virtual Power Plants
DER	Distributed Energy Resources
IP	Intellectual Property
EV	Electric Vehicles
ITC	Information Technology and Communication

List of figures

Figure 1. eDREAM logo	7
Figure 2. Project roll-up and trifold flyer	8
Figure 3. Caption from eDREAM general presentation.....	9
Figure 4. Caption from document templates.....	9
Figure 5. Screenshot of eDREAM home page	10
Figure 6. Screenshot of eDREAM objectives.....	10
Figure 7. Screenshot of Consortium page.....	11
Figure 8. Screenshot of eDREAM deliverables section	11
Figure 9. Screenshot of eDREAM paper section	11
Figure 10. Screenshot of eDREAM News section.....	12
Figure 11. Screenshot from Google Analytics regarding the audience of eDREAM website	12
Figure 12. eDREAM LinkedIn page	13
Figure 13. eDREAM post in LinkedIn groups	14
Figure 14. eDREAM Twitter profile	14
Figure 15. Screenshot of other H2020 project post on Twitter regarding eDREAM project	15
Figure 16. Twitter Analytics regarding project profile	15
Figure 17. Example of partner website link (ASM)	16
Figure 18. Example of partner website link (EMOT)	16
Figure 19. Example of partner website link (ATOS).....	17
Figure 20. Example of partner website link (TUC)	17
Figure 21. Example of partner website link (SVT)	18
Figure 22. Example of partner website link (ENG).....	18
Figure 23. Example of partner social media post (EMOT and SVT)	19
Figure 24. Example of partner social media post (E@W and TUC).....	19
Figure 25. Screenshot of eDREAM post in Research Gate	20
Figure 26. Extract from eDREAM article on Energynomics website	21
Figure 27. Extract from article in Business Industry Magazine	22
Figure 28. Extract from article in IISole24Ore	22
Figure 29. Extract from journal paper published in Sensors.....	23
Figure 30. Extract from the IEEE & IEEEIC18 paper	24
Figure 31. TUC presenting the IEEE & IEEEIC18 paper.....	24
Figure 32. Photos from Brokerage Event 2018 on Energy System and Smart Cities and Communities	28
Figure 33. Photo from H2020 Smart Grids and Storage projects clustering workshop	29
Figure 34. Photos from Utility Day 2018.....	31
Figure 35. Some eDREAM Slides shown during the ELSA, DR-BOB and inteGRIDy project plenary meeting (1)	32
Figure 36. Some eDREAM Slides shown during the ELSA, DR-BOB and inteGRIDy project plenary meeting (2)	33
Figure 37. ATOS at EU Sustainable Energy Week	34
Figure 38. Extracts from the presentation given at the Electrica Seminar	35
Figure 39. Photos taken at DR-BOB Workshop	36
Figure 40. Photos from Joint workshop on next – generation Demand Response: eDREAM & DELTA, UK – London	38
Figure 41: Photo of : European Utility Week Presentation	39

List of tables

Table 1. KPIs evaluation for the first year of the project	40
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Table of Contents

List of Acronyms and Abbreviations	4
List of figures.....	5
List of tables	5
Preface	7
1 Introduction	7
2 Communication materials	7
2.1 Logo and graphic identity.....	7
2.2 Flyer and Poster	8
2.3 eDREAM general project presentation	9
2.4 Document templates	9
3 Website and social media	10
3.1 Project website	10
3.2 Social media	13
3.2.1 LinkedIn.....	13
3.2.2 Twitter.....	14
3.3 Partners websites.....	16
3.4 Partners social media channels.....	19
3.5 Other online activities.....	20
4 Publications	20
4.1 Press articles	20
4.2 Scientific Publications	23
5 Events	25
5.1 Scientific, Technical & Policy conferences / workshops	25
5.2 Industrial exhibitions, conferences & workshops	33
6 Impact and Key performance indicators evaluation.....	40
7 Conclusions.....	41

Preface

1 Introduction

This deliverable presents the report regarding the communication and dissemination activities carried out in the first year of the project. It is based on the communication and dissemination plan presented in Deliverable 8.1 “Plans for the dissemination, exploitation & communication of project results”. At the beginning of the project the identity and the main communication channels with the stakeholders were built: logo, website, flyer, followed by participation in conference and other online activities. These are described in more detail in the next chapters.

2 Communication materials

2.1 Logo and graphic identity

The eDREAM logo (Figure 1) is an important graphic element which was created at the beginning of the project in order to create a common visual identity to all of the work arising from the project. It is used on all materials and communications issued by members of the project.

eDREAM stands for Enabling new Demand Response Advanced, Market oriented and secure technologies, Solutions and business models. The graphical elements within the logo were design in order to express the project vision. In order to make the logo referable to the project name and innovation there were used different graphical elements.

The graphic elements on top for the “e” letter suggest the innovative part of the project, the blockchain approach within the energy sector and demand response applications. The letter “A” from “DREAM” was suggestively replaced with an electricity tower to indicate the fact that the project envisions to bring a novel approach in the energy market.



Figure 1. eDREAM logo

2.2 Flyer and Poster

In order to support the dissemination and communication activities a flyer and roll-up poster were design (Figure 2). Those materials would be used at industrial, academic exhibitions and conferences.

Also the project tri fold flyer is graphically eye catching and gives an overview about the project. The project tri fold flyer will be used in dissemination events to provide interested parties with base information about the project objectives and technical approach, as well as the Consortium members and the contact points. It is available for downloading and printing at the eDREAM website.



Figure 2. Project roll-up and trifold flyer

2.3 eDREAM general project presentation

In order to create a consistent communication of the project objectives and outcomes a presentation template was created (Figure 3). Each partner can add information to this presentation according to their needs, context or event they are attending. The presentation will contribute to the identity forming and making the project recognisable.



Figure 3. Caption from eDREAM general presentation

2.4 Document templates

Document templates (Figure 4), because much of the deliverables are public, contribute to a consistent identity of the project. The project logo and other graphical elements are used, in order to express the project main goals.

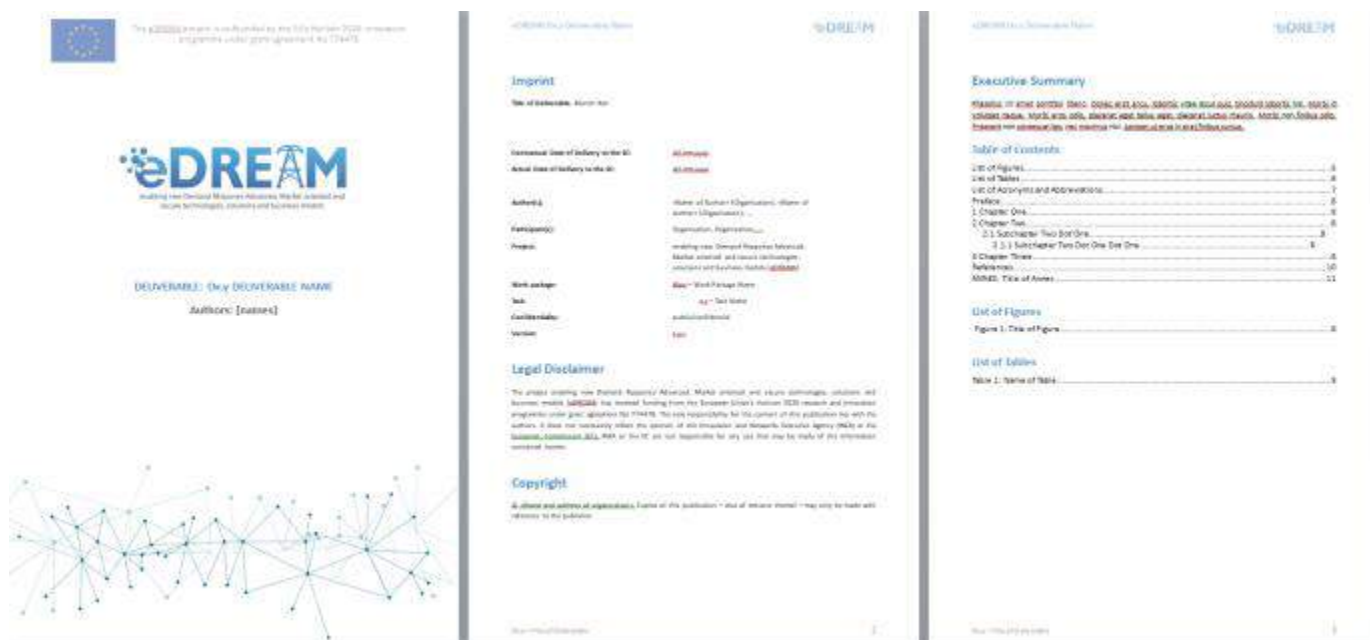


Figure 4. Caption from document templates

3 Website and social media

3.1 Project website

The project website, (<https://www.edream-h2020.eu>), is one of the main communication tools for the project and the primary information source for eDREAM target audience. The purpose of the website is to create awareness about the eDREAM project and its objectives and to proactively promote the project results by providing targeted information to various audiences within and beyond the project's own community.

The structure of the website is design for a very good user experience, based on the latest tendencies on website navigation design. Visitors have access to all public information about the project and almost all pages of the website are accessible by the main page with respective quick links (Figure 5).

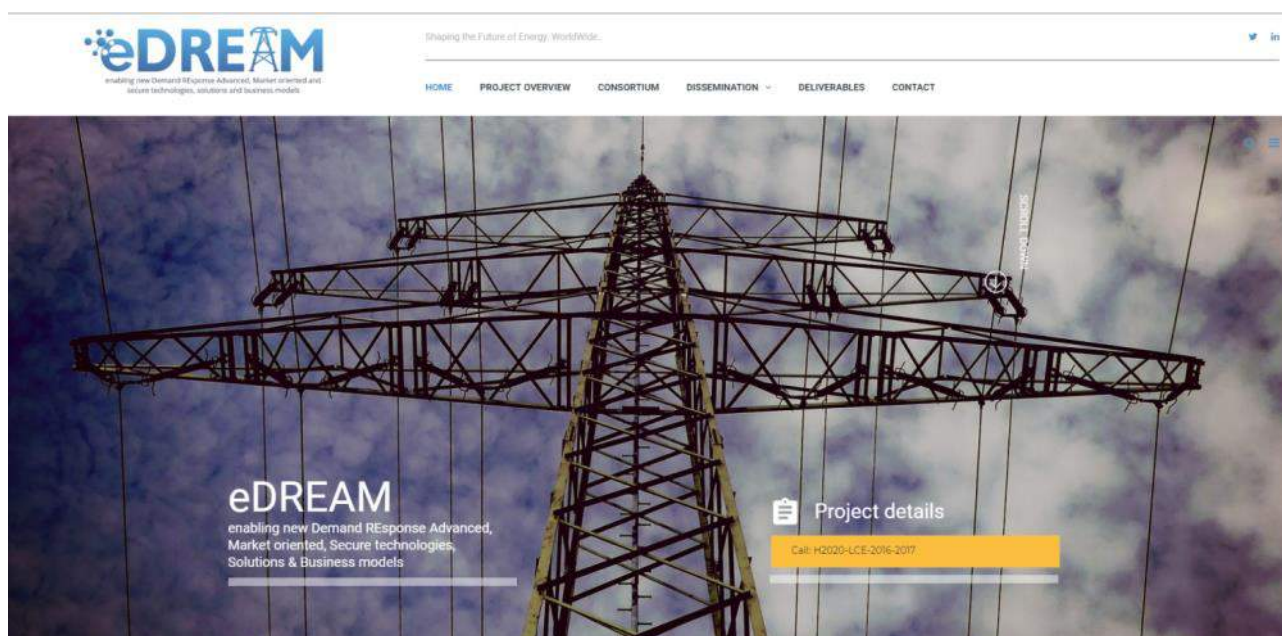


Figure 5. Screenshot of eDREAM home page

The eDREAM website provides detailed information about eDREAM objectives, consortium, deliverables, publications and conferences / events attended.



Figure 6. Screenshot of eDREAM objectives

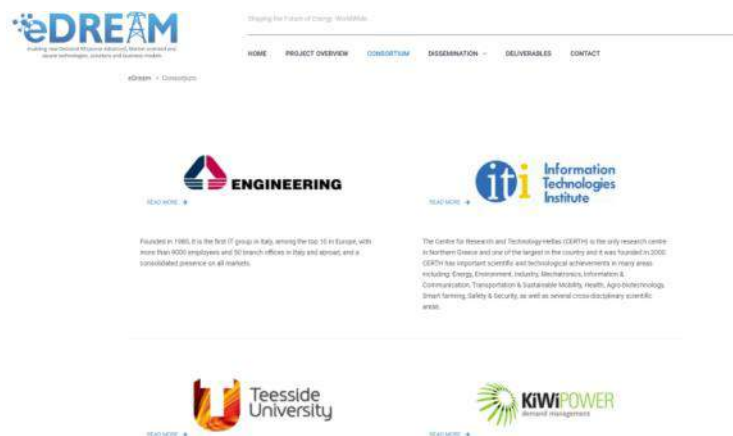


Figure 7. Screenshot of Consortium page

Public deliverables are also available for download at the website since March 2017.

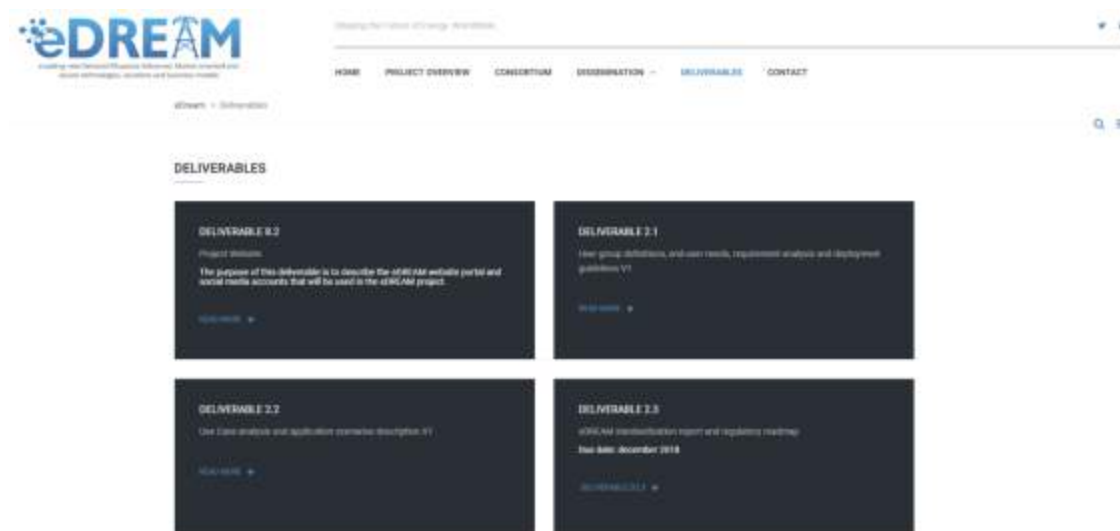


Figure 8. Screenshot of eDREAM deliverables section

The website has a dedicated section where visitors can find for download and reading the latest papers published by consortium members.

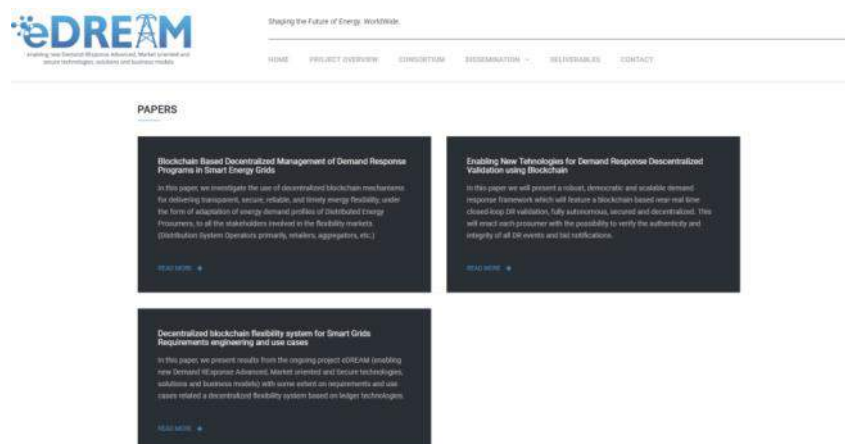


Figure 9. Screenshot of eDREAM paper section

The website is periodically updated with the latest news and events in the “News” section.

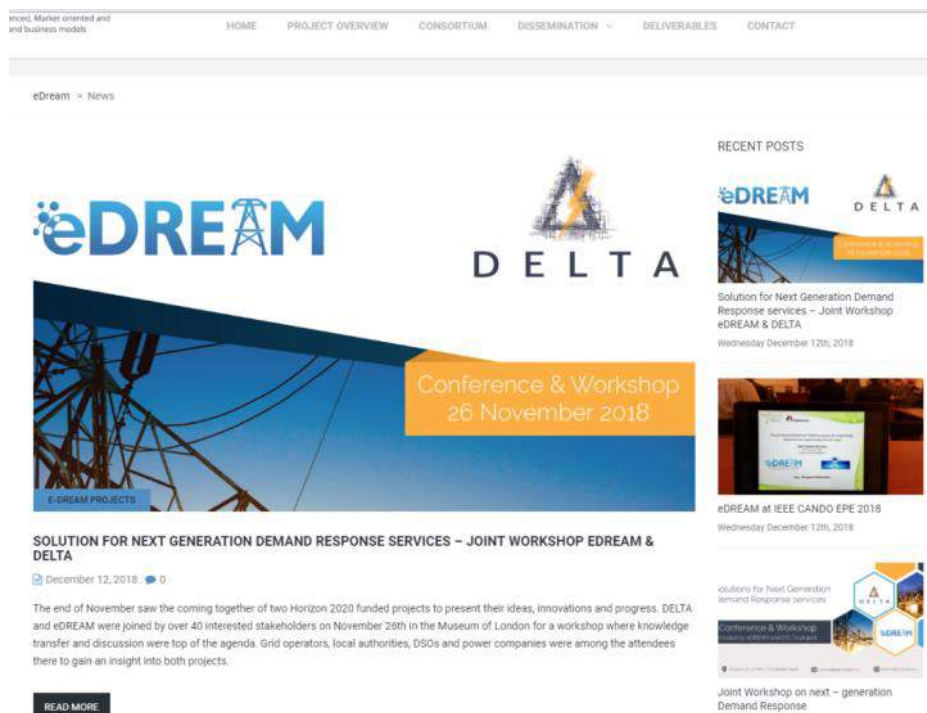


Figure 10. Screenshot of eDREAM News section

The eDREAM website visitors show increasing trends. From the beginning of the project until this document was written (December) the website was visited by 1007 users, 11.2% of those being returning visitors. The average duration of the visits which is considered one of the factors in calculating the audience engagement is around 2 minutes.



Figure 11. Screenshot from Google Analytics regarding the audience of eDREAM website

The project website will continue to be an important tool for dissemination activities in the following period as the project advances and outcomes begin to appear.

3.2 Social media

3.2.1 LinkedIn

A LinkedIn profile was created and updated with the latest eDREAM news and events. Also each partner uses their own or organization profile in order to share and boosts eDREAM posts and interacts with other H2020 projects, in parallel with the Twitter profile.

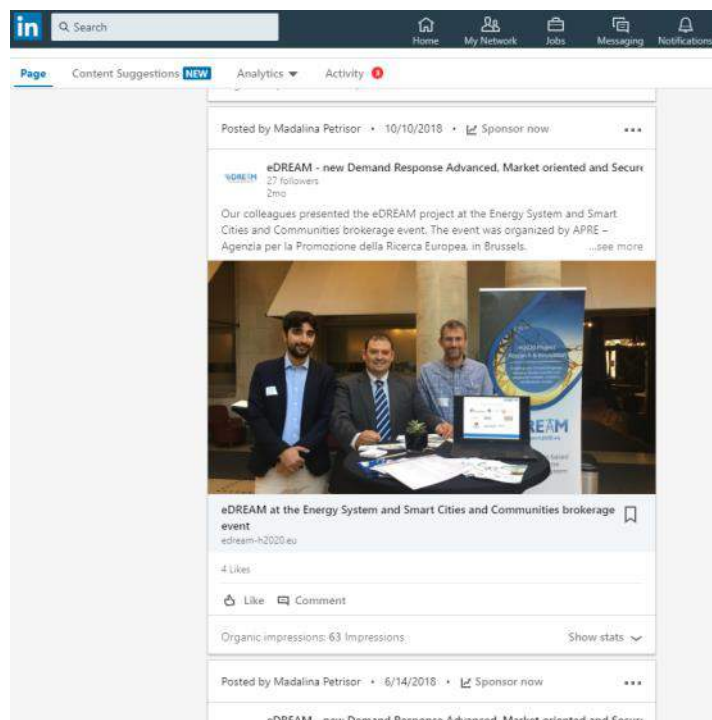


Figure 12. eDREAM LinkedIn page

Moreover, to increase the visibility and engage with the different communities (academic, industrial, etc.) and enable them to actively participate in the professional conversations, we have joined several groups, within relevant content about the project is shared, as follows:

- Smart Grids - Energy & Water – is a group for Smart Grid Professionals. Electric power grids, water, gas. The group covers Smart grid infrastructure, communication, process, and information systems. Generation, distribution, demand response, power utilities, smart grids. It has 20.984 members.
- Distributed Energy Resources (DERs) - is a group for professionals involved in micro grids, distributed generation, energy efficiency, demand response, and energy storage. It has 3.216 members
- Energy Flexibility – Storage, Electric Vehicles (EVs), Demand Response (DSR) & Grid Technologies - The group is an initiative of the 14 following projects funded by the European Commission: FLEXITRANSTORE, inteGRIDy, REFLEX, BestRES, DREAM-GO, TILOS, me², IndustRE, SmarterEMC2, EMPOWER, OrPHEuS, GRID4EU, GridTech, stoRE. It has 5.188 members.
- Energy Efficiency Professionals group - is dedicated to professionals that work on policy, develop programs, market EE technology, or execute EE projects. It has 22.697 members,

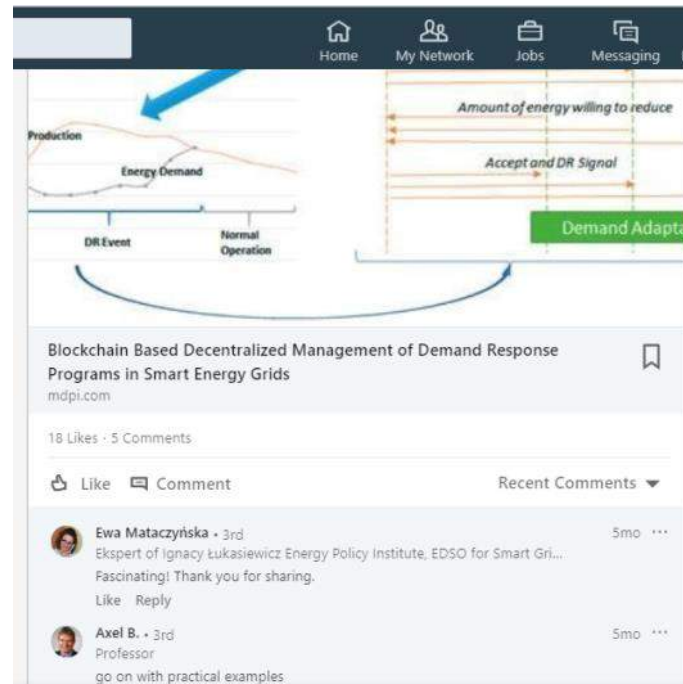


Figure 13. eDREAM post in LinkedIn groups

3.2.2 Twitter

A Twitter profile has been created and used to provide short news updates or items for the project.



Figure 14. eDREAM Twitter profile

And also interact with other H2020 projects, in parallel with the LinkedIn profile.



Figure 15. Screenshot of other H2020 project post on Twitter regarding eDREAM project

Up to the time of creating this document (December 2018) the twitter account had 23 followers and a total of 16 tweets. The eDREAM tweet impressions, as expected do not have a constant number since they are largely dependent on the number and nature of the tweets themselves. However, there is a constant growth of tweet impressions since the profile was created. The last two posts (at the moment this document was created – December 2018) have over 1000 tweet impressions (Figure 16).

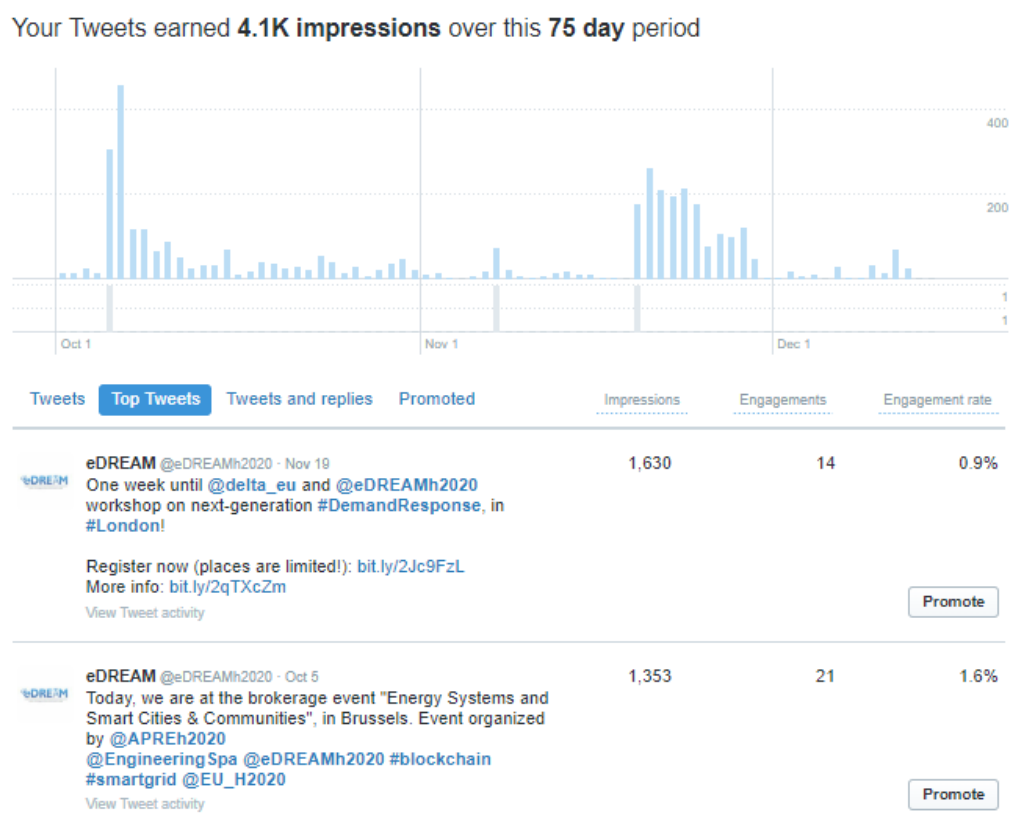


Figure 16. Twitter Analytics regarding project profile

3.3 Partners websites

Partners have added links to the eDREAM website at their own websites, boosting the overall visits (Figures 17 – 22).



Figure 17. Example of partner website link (ASM)

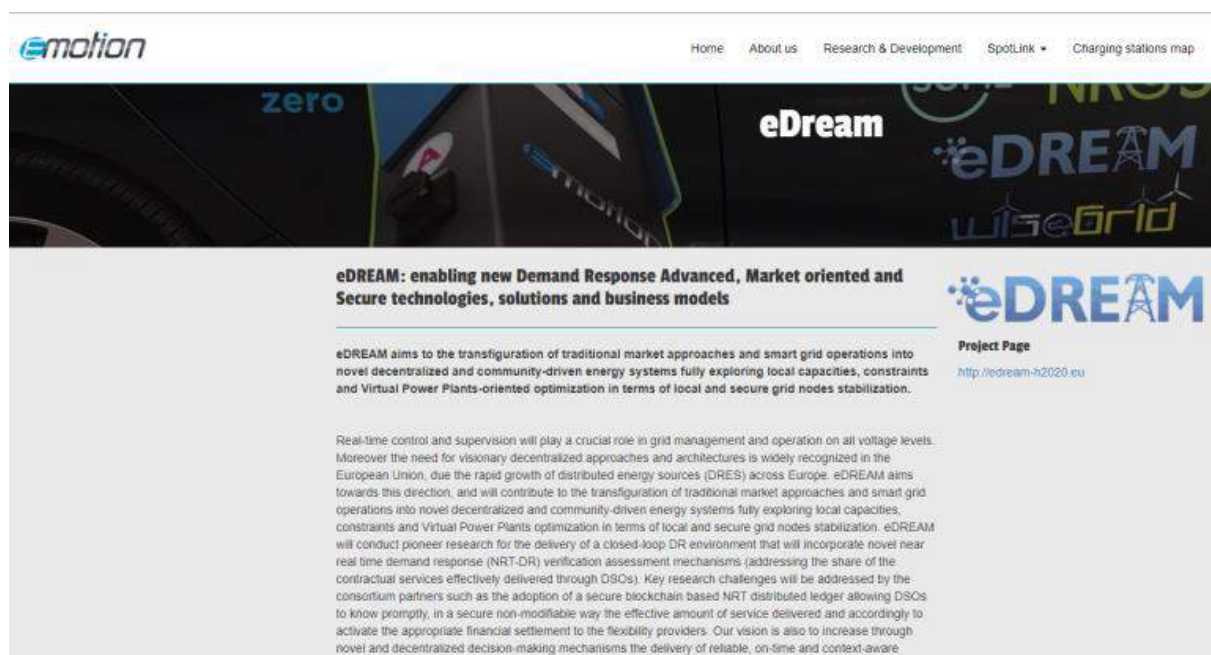
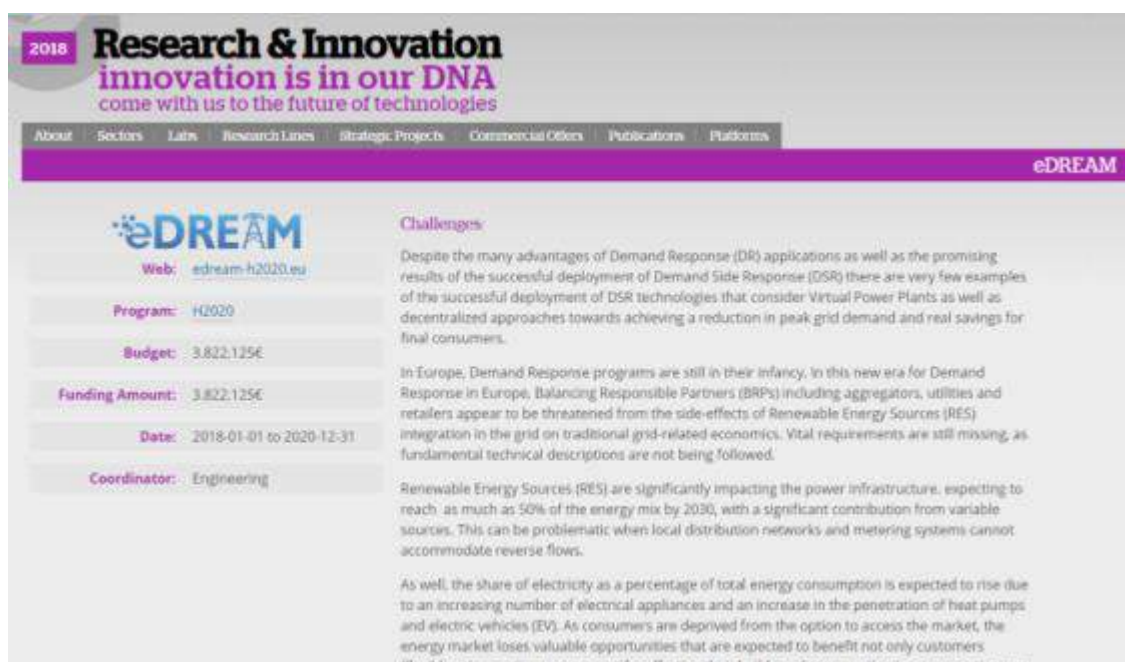


Figure 18. Example of partner website link (EMOT)



2018 Research & Innovation
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 come with us to the future of technologies

About Sectors Labs Research Lines Strategic Projects Commercial Office Publications Platforms

eDREAM
 Web: edream-h2020.eu

Program: H2020

Budget: 3.822.125€

Funding Amount: 3.822.125€

Date: 2018-01-01 to 2020-12-31

Coordinator: Engineering

Challenges:

Despite the many advantages of Demand Response (DR) applications as well as the promising results of the successful deployment of Demand Side Response (DSR) there are very few examples of the successful deployment of DSR technologies that consider Virtual Power Plants as well as decentralized approaches towards achieving a reduction in peak grid demand and real savings for final consumers.

In Europe, Demand Response programs are still in their infancy. In this new era for Demand Response in Europe, Balancing Responsible Partners (BRPs) including aggregators, utilities and retailers appear to be threatened from the side-effects of Renewable Energy Sources (RES) integration in the grid on traditional grid-related economics. Vital requirements are still missing, as fundamental technical descriptions are not being followed.

Renewable Energy Sources (RES) are significantly impacting the power infrastructure, expecting to reach as much as 50% of the energy mix by 2030, with a significant contribution from variable sources. This can be problematic when local distribution networks and metering systems cannot accommodate reverse flows.

As well, the share of electricity as a percentage of total energy consumption is expected to rise due to an increasing number of electrical appliances and an increase in the penetration of heat pumps and electric vehicles (EV). As consumers are deprived from the option to access the market, the energy market loses valuable opportunities that are expected to benefit not only customers (flexible users: active management for affecting their loads and consumption in a more active user

Figure 19. Example of partner website link (ATOS)



ONGOING RESEARCH PROJECTS

▼

eDREAM	CATALYST	MEDGUIDE	AAL PROGRAMME
H2020 LCE-01-2017	H2020-EE-2016-2017	ACTIVE AND ASSISTED LIVING PROGRAMME 2016	ACTIVE AND ASSISTED LIVING PROGRAMME 2017
enabling new Demand Response Advanced, Market oriented and secure technologies, solutions and business models 2018-2021	Converting DCs in Energy Flexibility Ecosystems 2017-2020	ICT Integrated System for Coordinated Polypharmacy Management in Dementia Patients 2017-2019	Robotic ePartner for Multitarget Innovative activation of people with Dementia 2018-2021

Figure 20. Example of partner website link (TUC)

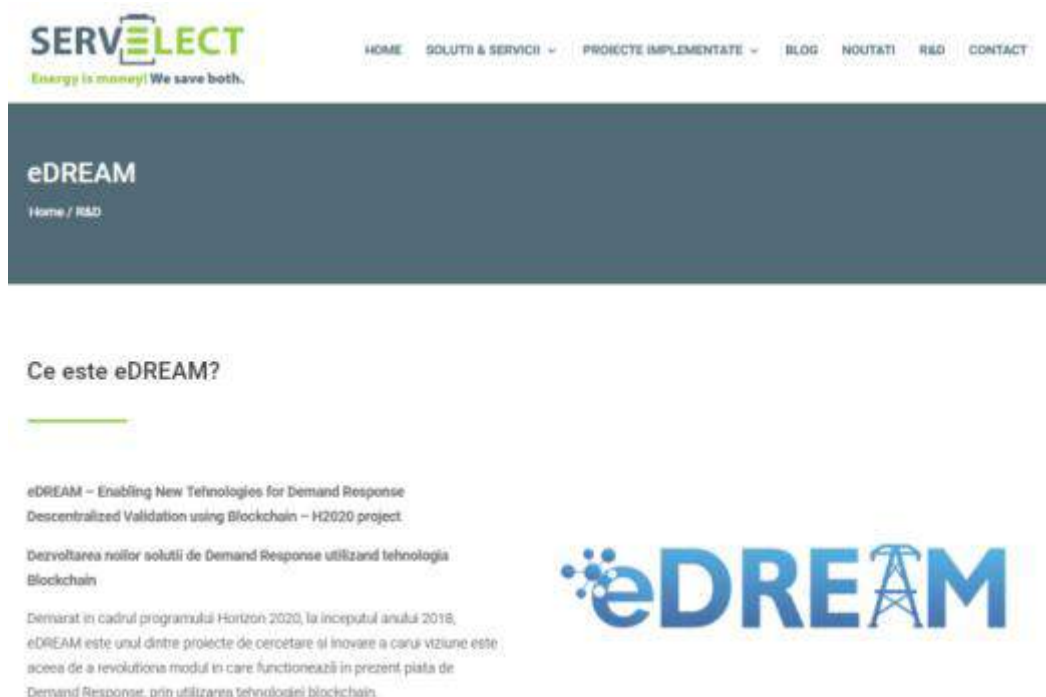


Figure 21. Example of partner website link (SVT)

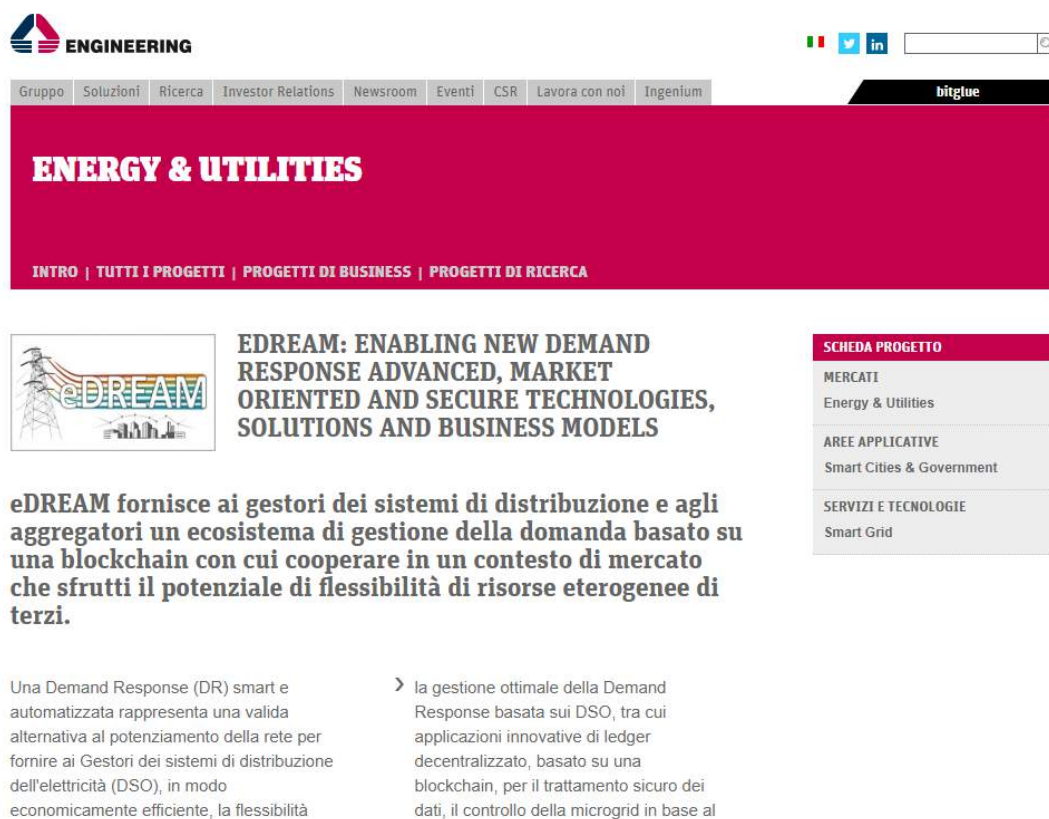


Figure 22. Example of partner website link (ENG)

3.4 Partners social media channels

All project partners use their social media profiles and account in order to boost the communication and dissemination of project activities and achieve a high level of visibility of the project.

There are some examples of partners post on social media platforms such as: Twitter, LinkedIn and Facebook (Figures 23-24).

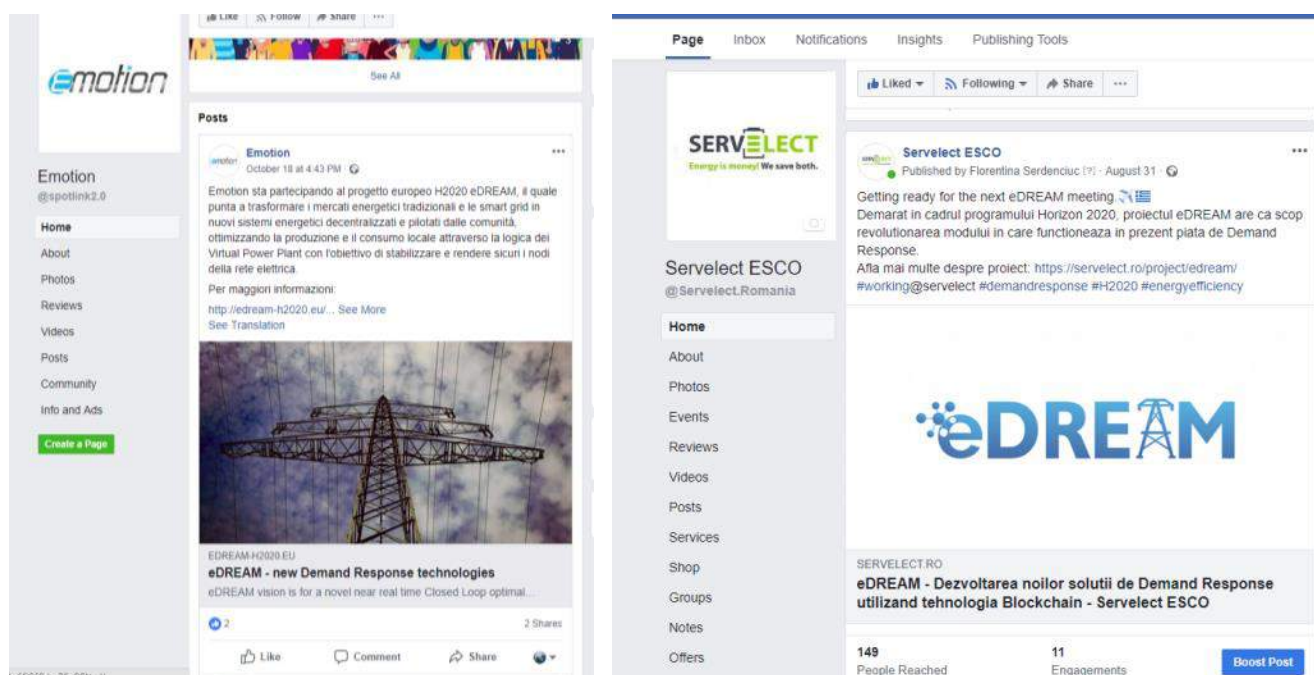


Figure 23. Example of partner social media post (EMOT and SVT)

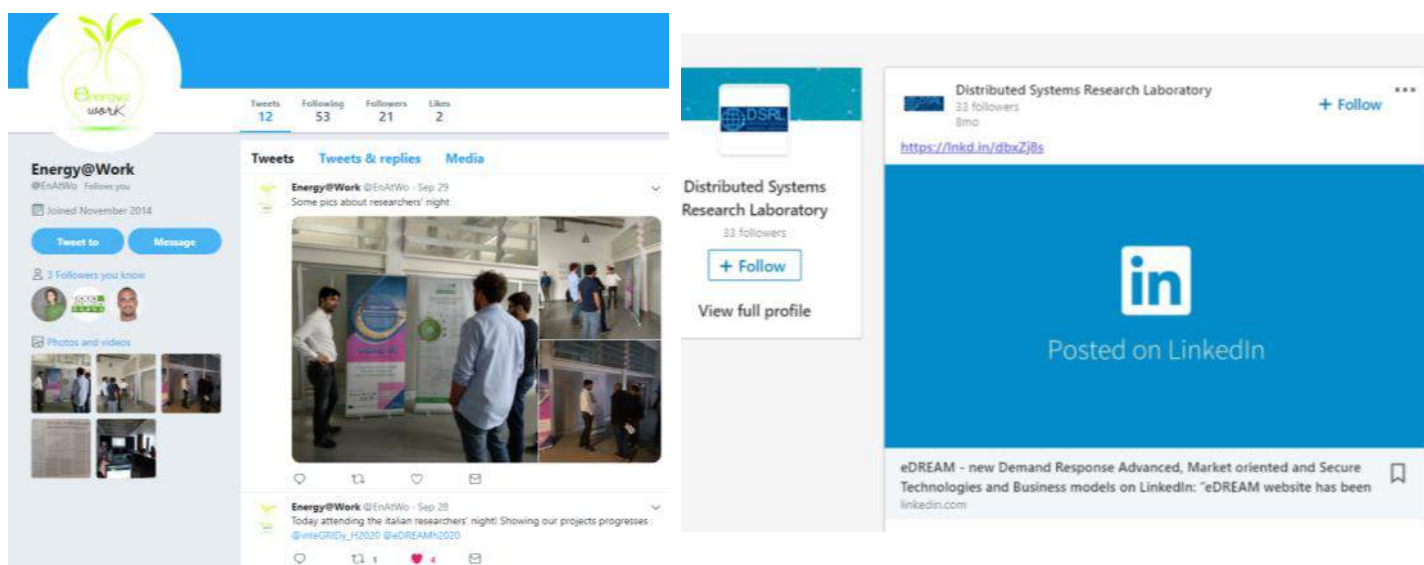


Figure 24. Example of partner social media post (E@W and TUC)

3.5 Other online activities

In order to increase the project awareness and disseminate the project through the academia and scientific community, information about eDREAM project was added to Research Gate platform.

Research Gate is a social networking site for scientists and researchers to share papers, ask and answer questions, and find collaborators (Figure 25).



Figure 25. Screenshot of eDREAM post in Research Gate

ATOS also had the opportunity to promote the project within the ARI (ATOS Research& Innovation) Newsletter (a monthly internal newsletter in Atos Research & Innovation - the R&D department of ATOS which reports the most important achievements and activities ATOS is involved in). The newsletter is shared within a community of approximately 200 people working in R&D ICT area, and all these people are basically involved in research activities and H2020 projects.

4 Publications

4.1 Press articles

The following articles for eDREAM have been published to the press:

- Article published in energynomics.ro online website: <https://www.energynomics.ro/ro/prin-edream-servelect-se-implica-in-dezvoltarea-unor-solutii-de-demand-response-cu-tehnologie-blockchain/>



Figure 26. Extract from eDREAM article on Energynomics website

Energynomics.ro is the sole online platform dedicated to the energy sector in Romania that serves both as news channel and business to business gateway. According with the latest updates, in 2017, the platform had an average of 370.000 page views per month, 16.187 visits per month and over 6000 posts. The main target public is energy sector in Romania, national public authorities etc.

- Article in Business Industry Magazine – printed material



Figure 27. Extract from article in Business Industry Magazine

Business Industry magazine is a printed material issued by Servelect biannual and it is addressed to industry sector in Romania. It is individually delivered by courier to a selected community of experts and managers within the industry sector in Romania.

- Article in *IlSole24Ore* – printed material



Figure 28. Extract from article in *IlSole24Ore*

IlSole24Ore is an Italian national daily business newspaper owned by Confindustria, the Italian employers' federation. The paper reports on business, politics, and developments in commercial and labour law, corporate news, science and technology.

4.2 Scientific Publications

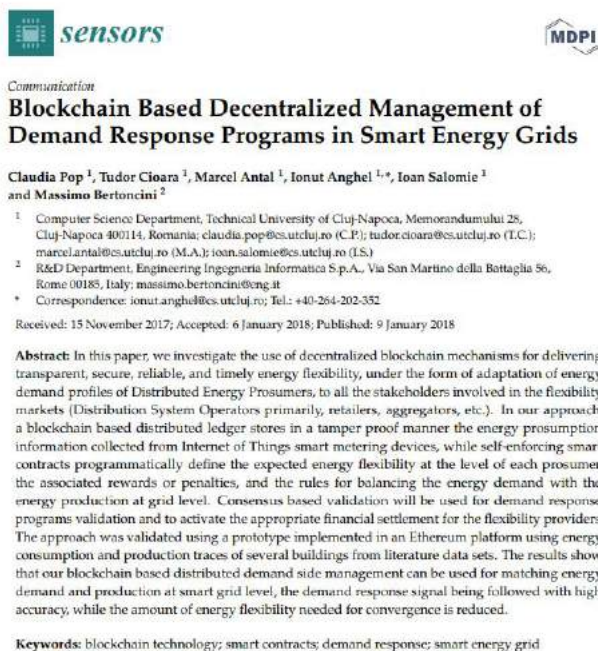
The following articles have been presented in conferences or published in scientific journals:

Authors: Claudia Pop, Tudor Cioara, Marcel Antal, Ionut Anghel, Ioan Salomie and Massimo Bertoncini

Article title: „Blockchain Based Decentralized Management of Demand Response Programs in Smart Energy Grids”,

Publication title: Sensors 2018, 18(1), 162. IF: 2.475, <https://www.mdpi.com/1424-8220/18/1/162>

Action type: Journal Paper



Sensors 2018, 18, 162

2 of 21

for energy storage forcing the Distribution System Operators (DSOs) to frequently curtail (decrease the output of) energy production sources not to endanger the entire grid operation. Of course, this is not an optimal strategy endangering the objectives of increasing the share of renewable energy integration and reducing the emission targets. A better approach to these problems is the demand side management aiming at matching the energy demand with the production by motivating DEPs to shed or shift their energy demand to deal with peak load periods [7,8].

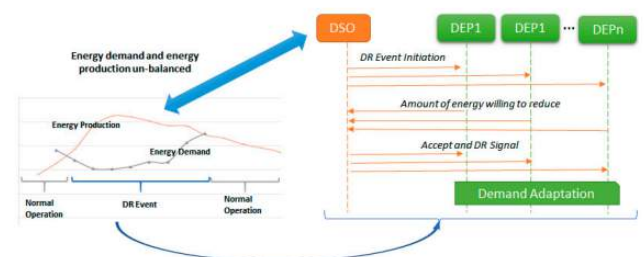


Figure 1. Centralized management of Demand Response (DR) programs in smart grids for energy demand management. DEP = Distributed Energy Prosumers.

In this context, the DSOs have defined Demand Response (DR) programs providing the possibility for DEPs to play a significant role in the operation of the electricity grid by shaping their energy demand to meet various grid level goals and obtain in exchange financial benefits [9]. Typically, the DSO initiates a DR event at the beginning of a billing period by sending a regulation signal [10,11] (DR_{signal}) to each DEP (see Figure 1) specifying a request to modify the consumption (i.e., a desired energy profile) for a limited period and the associated financial incentives (e.g., bills of credit for participating in the program). The DEPs send bids with the amount of energy they are willing to reduce or to increase their demand while the DSO accepts the bids and checks if the balance between the total energy demand and generation at grid level is met. Afterwards, the DEPs will voluntarily schedule their operation for meeting the agreed profiles by time shifting some tasks that require some amount of electric energy or by switching part of their consumption to alternate sources, such as on-site diesel generators. Thus, DR programs offer several benefits to the energy systems, including increased efficiency of asset utilization and greater penetration of renewables without decreasing stability, by easing capacity issues on distribution networks to facilitate further uptake of distributed generation on congested local networks, reducing the required generator margin and costs of calling on traditional reserve, and including the associated environmental benefits through reduced emissions [12].

Figure 29. Extract from journal paper published in Sensors

Authors: Tudor Cioara, Ionut Anghel, Claudia Pop, Massimo Bertoncini, Vincenzo Croce, Dimosthenis Ioannidis, Konstantinos Votis, Dimitrios Tzovaras, Luigi D'Orlando

Article: „Enabling New Technologies for Demand Response Decentralized Validation using Blockchain”

Publication title: IEEE 18th International Conference on Environment and Electrical Engineering and 2nd Industrial and Commercial Power Systems Europe 2018.

http://edream-h2020.eu/wp-content/uploads/2018/06/eDREAMS_EEEIC18_WEB.pdf

Action type: Conference Paper

Enabling New Technologies for Demand Response Decentralized Validation using Blockchain

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Abstract—This paper proposes a demand response framework for smart grid time extension demand response management combined with a distributed market driven pricing scheme. The approach aims to aggregate groups of prosumers and develop new financial services for enabling the prosumers' financial benefits in terms of renewable energy usage, consumption, and generation, etc. The framework features a blockchain-based smart contract development, smart contract validation, fully automated, secured and decentralized. This will enable each prosumer with the possibility to verify the authenticity and integrity of all DR events and their activation.

Keywords—Demand Response, Blockchain, Energy, Smart Contracts.

1. INTRODUCTION

In the past few years the electricity grids have become of revolutionary structure towards smart intelligent systems that incorporate smart and concepts [1] such as distributed renewable energy source, smart metering, communication, automation and optimization mechanisms. The emerging grid technologies give the way to new opportunities in terms of services and business models regarding the smart demand management. An improved management of the energy supply and demand can increase the stability of the entire grid. Variations of the energy production and consumption can lead to overloading the network and thus to power outages. With the integration of distributed renewable resources in the smart grid, more efficient load management mechanisms can be implemented, as well as more energy resources can be utilized [2]. Since the current techniques regarding energy usage capabilities are limited, the only effective solution is to motivate the energy consumers to shift their energy demand according to the renewable energy production peaks to avoid imbalances in the energy grid. The Demand Response (DR) programs were defined, where the Distribution System Operator (DSO) is responsible to provide grid stabilization by

issuing regulation signals and use different pricing schemes to motivate the consumers to follow these signals.

Demand side response (DSR) is widely recognized as a key element in the development of the future optimized, smart grid, encompassing a wide range of both centralized and distributed renewable and conventional power sources. This is particularly evident in the context of smart generation Virtual Power Plants (VPP) as well as in the presence of multiple decentralized energy grids, where managing demand from diverse and complementary loads, or distributed power resources across different portfolios, means to obtain more flexibility in achieving a reduction in peak load demand and move from the community toward lower available virtual resources. Dynamic pricing, incentive-based including direct response-based DR programs [3] appear to be very promising in such applications. However, according to a number of state-of-the-art studies [4], [5], [6] from many DSR trials that indicate that consumers and other generators are effective in changing the specific consumption of smart grid at the future, offering new opportunities and challenges in the whole value chain. Despite the many advantages of DR applications, there are very few examples of successful deployment [7] of DR technologies that consider Virtual Power Plants as a value decentralized approach [4], [6]. Demand response is a solution in peak grid demand and cost savings for first consumers.

The large scale deployment of smart metering devices together with the prospect of adopting a large number of distributed load, side renewable energy source distributed the smart development of distributed energy systems which is their controlled nature. Besides technological reliability problems it may also generate higher fuel cost and overall energy price. This has led towards the adoption of a decentralized energy networks where prosumers can be also energy producers (i.e. prosumers) for selling excess energy back to the grid. This being involved in power market or aggregated marketplace facilities. It is predicted that there will

largest possible extent the flexibility potential of a large variety of heterogeneous third party stationary and movable load assets, while keeping system reliability within prescribed limits and preserving continuity and security of supply. At the same time the blockchain approach to DR and energy transactions will pave the way for secured cryptographic based decentralized management of energy markets.

II. CONCEPT AND APPROACH

A. Framework Layered Architecture

Figure 1 presents a decentralized layered architecture for tackling the challenges of distributed smart grids and the stakeholders involved in the DR added value chain.

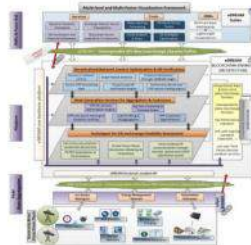


Figure 1. Framework Layered Architecture

Field Data Aggregation - the bottom layer of the architecture dealing with field data collection, streaming and processing for the higher layers. A lambda-based architecture will be used assuring scalability, high communication and computing performance as key enablers for near real-time DR programs. This layer will provide access to near real-time information from existing virtual resources (e.g. VPP data collected in an aggregated manner through automation gateways), through IoT devices metering as well as the provision for third parties' information that will ensure that higher layers all the necessary data to perform their analysis.

Core Backbone Platform - consists of the different technologies and mechanisms to support the delivery of a decentralized ecosystem for closed-loop DR programs such as:

- **Technologies for DR and Energy Flexibility Assessment:** A set of novel electricity consumption and distributed energy resources production forecasting mechanisms. Moreover, a series of PV RES degradation and trend analysis algorithms will be investigated towards improving the short-term forecasting of generation (i.e. support day-ahead and direct

trading and/or coupon-based DR programs). Emphasis will be put on delivery of a group-wise association of resources towards their encapsulation in community-based VPP.

- **Next Generation Services for Aggregators and Customers:** Innovative machine learning techniques for load profiling and disaggregation at multiple scales (e.g. micro-grid level, virtual power plant and in lower loads related to Distributed Energy resources). Also big data analytics engine will be developed for analyzing large streams (including micro-batch level) collected from customers.

- **Decentralized network control optimization & DR verification:** Development of innovative blockchain driven control of the low voltage network, the demand response verification and financial settlement through distributed ledgers. Also it will offer an engine that will support automated closed-loop DR programs to be executed, verified and settled.

HIMs & Front-end - for easy-to-use and accessible HIMs for end-users and operators. They will enable vertical collaboration (from the DSOs and aggregators to prosumers/consumers) and horizontal collaboration (using virtual topologies such as the envisioned community-based virtual power plants) within the smart grid value chain.

B. Blockchain Driven DR Management, Control and Closed Loop Validation

We propose the development of a blockchain based infrastructure for distributed management, control and validation of DR programs in low voltage smart grids with a view of assuring high reliability and decentralized operation by implementing trackable and tamper-proof energy transactions. Using our blockchain infrastructure all interested actors (i.e. prosumers, DSO, TSO, etc.) will be able to coordinate in near real time and support fully decentralized demand-supply matching and stable grid operation.

A distributed ledger [4] will be used for storing and assessing in a secure way which share of the contracted flexibility service has been activated in reality at the grid level. This will make the transactions trackable and tamperproof on distributed systems without the need for centralized monitoring. We model the grid as a network of prosumers, whose monitored energy production and consumption values will be acquired using smart meters and then will be registered, validated and mined in blocks. The blockchain structure holds the key for many problems that can arise in each open energy systems. The blockchain structure is a linked list using hash pointers. Each block contains all the transactions that occurred in the system in a short period of time. It is an append only data structure, that gathers all the benefits of the hashing and cryptographic functions and offers an immutable history of the entire activity of the network.

The blockchain ensures Byzantine fault tolerance through the implementation of distributed consensus based on mining protocols [5]. Each time a new block is propagated in the network, all the peers will check the validity and consistency of each transaction and then of the entire block. Leveraging on that, the DSO may compare the monitored values with the

978-1-5386-5186-5/18/31-00-002018 IEEE

Figure 30. Extract from the IEEE & IEEEIC18 paper

Figure 31. TUC presenting the IEEE & IEEEIC18 paper



Authors: Teodor Petrican, Andreea Valeria Vesa, Marcel Antal, Claudia Pop, Tudor Cioara, Ionut Anghel and Ioan Salomie

Article title: „Evaluating Forecasting Techniques for Integrating Household Energy Prosumers into Smart Grids”

Publication title: ICCP 2018 <http://www.iccp.ro/iccp2018/>

Action type: Conference Paper

Authors: Ferdinando Bosco, Vincenzo Croce, Giuseppe Raveduto

Article title: „Blockchain technology for financial services facilitation in RES investments”

Publication title: 4th International Forum on Research and Technologies for Society and Industry
<http://rtsi2018.ieeeesezioneitalia.it/>

Action type: Conference Paper

Authors: Luigi D'Oriano, Giuseppe Mastandrea, Giuseppe Rocco Rana, Giuseppe Raveduto, Vincenzo Croce, Matteo Verber and Massimo Bertoncini

Article title: “Decentralized blockchain flexibility system for Smart Grids: Requirements engineering and use cases”

Publication title: IEEE CANDO EPE 2018 - International IEEE Conference AND workshop in Óbuda on Electrical and Power Engineering. <http://conf.uni-obuda.hu/Kando2018/>

Action type: Conference Paper

5 Events

The strategy defined for the eDREAM project, consists of a first contact with the stakeholders through questionnaires collected in collaboration with other projects. The participation to an international conference is planned in 2019, leveraging on preliminary projects results together with early feedback and requirements.

Information has been collected by administering specific surveys to the ELSA, DRBOB and Integridy projects meetings. Also liaison with the DELTA project has started, bringing to the joint conference workshop in November.

Moreover, eDREAM was disseminated via the participation of consortium partners to various events.

5.1 Scientific, Technical & Policy conferences / workshops

- **Dissemination event #1:** IEEE 18th International Conference on Environment and Electrical Engineering and 2nd Industrial and Commercial Power Systems Europe 2018

Partner: E@W, ENG, TUC, CERTH

Date: 12 June 2018

Audience/Activity: Academia, scientific community

Description: TUC attended the IEEE 18th International Conference on Environment and Electrical Engineering and 2nd Industrial and Commercial Power Systems Europe 2018 in Palermo, Italy presenting „Enabling New Technologies for Demand Response Decentralized Validation using Blockchain” paper written with E@W, ENG and CERTH.

Webpage: <https://bit.ly/2E5c6o2>

- **Dissemination event #2:** ICCP 2018

Partner: TUC

Date: 6-7 September 2018

Audience/Activity: Academia, scientific community

Description: TUC attended the ICCP 2018 at DoubleTree by Hilton Hotel Cluj – City Plaza, in Cluj-Napoca, Romania presenting "„Evaluating Forecasting Techniques for Integrating Household Energy Prosumers into Smart Grids” paper.

Webpage: <http://www.iccp.ro/iccp2018/>

- **Dissemination event #3: 4th International Forum on Research and Technologies for Society and Industry**

Partner: ENG

Date: 10-13 September 2018

Audience/Activity: Academia, scientific community

Description: RTSI is the premier IEEE Italy Section forum. Its purpose is to foster technological innovation and excellence in the fields of electrical, electronic and information science and engineering, to promote the transition towards a vibrant innovation-based society. ENG attended the conference presenting "Blockchain technology for financial services facilitation in RES Investments" paper.

Webpage: <http://rtsi2018.ieeeesezioneitalia.it/>

- **Dissemination event #4: IEEE CANDO EPE 2018 Conference**

Partner: E@W, ENG

Date: 20-21 November 2018

Audience/Activity: Academia, scientific community

Description: E@W and ENG attended the IEEE CANDO EPE 2018 Conference at Obuda University presenting "Decentralized blockchain flexibility system for Smart Grids: Requirements engineering and use cases" paper, based on the project progress.

Webpage: <http://conf.uni-obuda.hu/Kando2018/>

- **Dissemination event #6: Notte dei ricercatori, Italy**

Partner: E@W

Date: 29 September 2018

Audience/Activity: General Public; Around 80 attendees.

Description: On the 28th of September 2018 took place in the main European cities the 13th edition of the European Researchers Night, promoted by the European Commission. Italy is the country where the initiative took on larger dimensions with the aim of bringing together thousands of researchers and people of all ages

both in universities and laboratories of the main research institutes and in the streets, squares and cultural sites of the national territory. Among the 9 Italian projects that have received funding from the Commission there was the ERN APULIA. It has been coordinated by the University of Salento and involved the University of Bari and all research institutions based in Puglia. Energy @ Work has been invited to participate and present its business reality as one of the most interesting innovative start-ups in the energy sector in Apulia. On this occasion, among the activities presented, reference was made to their role in Horizon 2020 project eDREAM.

Webpage: https://www.opendaydellaricerca.enea.it/images/Brindisi_Poster/flyer-Brindisi-v5.pdf

➤ **Dissemination event #7: PRO INVENT 2018, Romania – Cluj-Napoca**

Partner: TUC

Date: 21 – 23 march 2018

Audience/Activity: Academia, scientific community

Description: The salon brings together universities, institutes, research centres and research centres, companies, inventors' associations, individuals from the country and abroad and represents a chance to meet with potential users and the general public.

Webpage: <https://proinvent.utcluj.ro/>

➤ **Dissemination event #8: EU MERCI project conference, UK – London**

Partner: SVT

Date: 23 January 2018

Audience/Activity: Approximately 60 attendees; Related EU-funded projects, Public Bodies & Environmental Organizations, Facilitators.

Description: The final conference of the EU MERCI project disseminated the final results of the project and highlighted some of the work that EU MERCI stakeholders have been doing in this field. Servelect participated in the conference and presented case studies from Servelect and also eDREAM project to the audience.

Webpage: <http://www.eumerci.eu/proceedings-final-conference/>

➤ **Dissemination event #9: Brokerage Event 2018 on Energy System and Smart Cities and Communities, Brussels**

Partner: ENG, CERTH, E@W

Date: 5 October 2018

Audience/Activity: Companies, universities and researchers

Description: ENG CERTH and E@W presented the eDREAM project at the Energy System and Smart Cities and Communities brokerage event. The event was organized by APRE – Agenzia per la Promozione della Ricerca Europea, in Brussels. The event targeted a wide spectrum of companies, universities and researchers from Europe and beyond to foster the creation of consortia for the upcoming Horizon 2020 Energy Calls.

Webpage: <https://energycall2019.b2match.io/>



Figure 32. Photos from Brokerage Event 2018 on Energy System and Smart Cities and Communities

➤ **Dissemination event #10: H2020 Smart Grids and Storage projects clustering workshop, Italy**

Partner: ENG

Date: 2 October 2018

Audience/Activity: Related EU-funded projects

Description: Engineering presented the eDREAM project at the H2020 Low TRL Smart Grids and Storage Projects' Cluster. The event was organized by the EC's Innovation and Networks Executive Agency (INEA) on October 2, 2018, in Brussels. Vincenzo Croce presented the project concept and scope, with an emphasis on the expected impacts and the main achievements. 26 projects were invited to present their objectives and discuss potential collaborations.



Figure 33. Photo from H2020 Smart Grids and Storage projects clustering workshop

➤ **Dissemination event #11: Digital Assembly 2018**

Partner: CERTH

Date: 26 June 2018

Audience/Activity: High-level policymakers

Description: CERTH/ITI attend The Digital Assembly 2018 event, in Sofia Bulgaria. The event is co-organised by the European Commission and the Bulgarian Presidency of the Council of the European Union. CERTH participated in the discussions regarding the on-going regulations for the use of IOT in the Energy domain and in particular he addressed the challenges for eDREAM use cases (including blockchain technology).

Webpage: <https://ec.europa.eu/digital-single-market/events/cf/digital-assembly-2018/programme.cfm?id=419>

➤ **Dissemination event #12: Workshop: Appuntamento con l'Energia / Citizens meet energy**

Partner: ASM, EMOT

Date: 2 May 2018

Audience/Activity: Approximately 50 people; Related EU-funded projects; Facilitators.

Description: A meeting on the local energy system and on the innovative solutions developed in the Nobel Grid and WiseGRID projects was organised by ASM Terni S.p.A and Emotion. The project partners took the opportunity and also present eDREAM project objectives to the audience. This event has been recognized by the European Commission as a Green Day and an Energy Day.

Webpage: https://ec.europa.eu/info/events/eu-green-week-2019_en; <https://www.asmtorni.it/appuntamento-con-lenergia/>

➤ **Dissemination event #13: Third edition of "Ingegneria R&D: La ricerca vista da vicino", Italy - Rome**

Partner: ASM

Date: 11 May 2018

Audience/Activity: Approximately 20 participants; Academia, scientific community

Description: A day to talk with university professors, researchers and stakeholders and discover the complex and fascinating process of research: from the conception of the idea to the development path up to a level of market-ready.

Webpage: http://www.ing.uniroma1.it/sites/default/files/allegati_notizie/Programma%20RED.jpg

➤ **Dissemination event #14: Utility Day 2018**

Partner: ASM

Date: 25 October 2018

Audience/Activity: Scientific Community/Engineers

Description: During the Utility Day which took place in Milan last month, various arguments have been faced: Start-up Collaboration & Ecosystem, Customer intelligence, Marketing Campaigns, Customer Experience, Blockchain, Smart Metering, and Predictive Maintenance & IoT. Nearly 1000 visitors were present. Many interactive information exchanges have been adopted in order to get an overall knowledge of the topics. The audience was very interested in the confrontation. Generally, it was a paramount forum where to speak about New Technologies and Energy Business.

Webpage: <https://www.utilityday.it/>



Figure 34. Photos from Utility Day 2018

- **Dissemination event #15:** Participation in the ELSA project plenary meeting to present eDream project and sharing the questionnaire, Terni - Italy

Partner: ASM, ENG

Date: 21 June 2018

Audience/Activity: DSOs, ESCOs, Technology providers, Scientific community, Facility managers, System Operators, Stakeholders at the pilot sites, General Public

Description: In order to establish a first contact with the stakeholders and to start a close collaboration with ELSA EU project, ASM intervened during the plenary meeting of the ELSA project presenting the objectives of the eDREAM project and submitting a questionnaire to the ELSA project members. Several of them provided feedback by replying to the proposed questionnaire, in particular one DSO, one ESCO, one technology provider, two members from scientific community, one facility managers, one system operator, one stakeholder at the pilot sites and one general public.

Webpage: <https://www.elsa-h2020.eu/>

- **Dissemination event #16:** Participation in the DR-BOB project plenary meeting to present eDream project and sharing the questionnaire, Nice - France

Partner: TU, SVT, TUC, KIWI

Date: 11 July 2018

Audience/Activity: Aggregators, ESCOs, Technology providers, Scientific community, Prosumers, Commercial and Residential Customers, Facility managers, Stakeholders at the pilot sites, General Public

Description: In order to establish a first contact with the stakeholders and to start a close collaboration with DR_BOB EU project, TU intervened during the plenary meeting of the DR-BOB project presenting the objectives of the eDREAM project and submitting a questionnaire to the DR-BOB project members. Several of them provided feedback by replying to the proposed questionnaire, in particular one aggregator, one ESCO, two technology provider, four members from scientific community, one prosumer, one commercial and residential customer, one facility managers, two stakeholders at the pilot sites and four general public.

Webpage: <https://www.dr-bob.eu/>

- **Dissemination event #17: Participation in the inteGRIDy project plenary meeting to present eDream project and sharing the questionnaire, London - UK**

Partner: E@W, ASM, ENG, ATOS, CERTH, TU

Date: 18 - 19 July 2018

Audience/Activity: DSOs, Technology providers, Energy Retailers, Scientific community, Prosumers, Commercial and Residential Customers, Facility managers, System Operators, Stakeholders at the pilot sites

Description: In order to establish a first contact with the stakeholders and to start a close collaboration with inteGRIDy EU project, E@W intervened during the plenary meeting of the inteGRIDy project presenting the objectives of the eDREAM project and submitting a questionnaire to the inteGRIDy project members. Several of them provided feedback by replying to the proposed questionnaire, in particular three DSOs, three technology providers, one energy retailer, one member from scientific community, one prosumer, three commercial and residential customer, one facility managers, one system operator and one stakeholders at the pilot sites.

Webpage: <http://www.integridy.eu/>



Figure 35. Some eDREAM Slides shown during the ELSA, DR-BOB and inteGRIDy project plenary meeting (1)

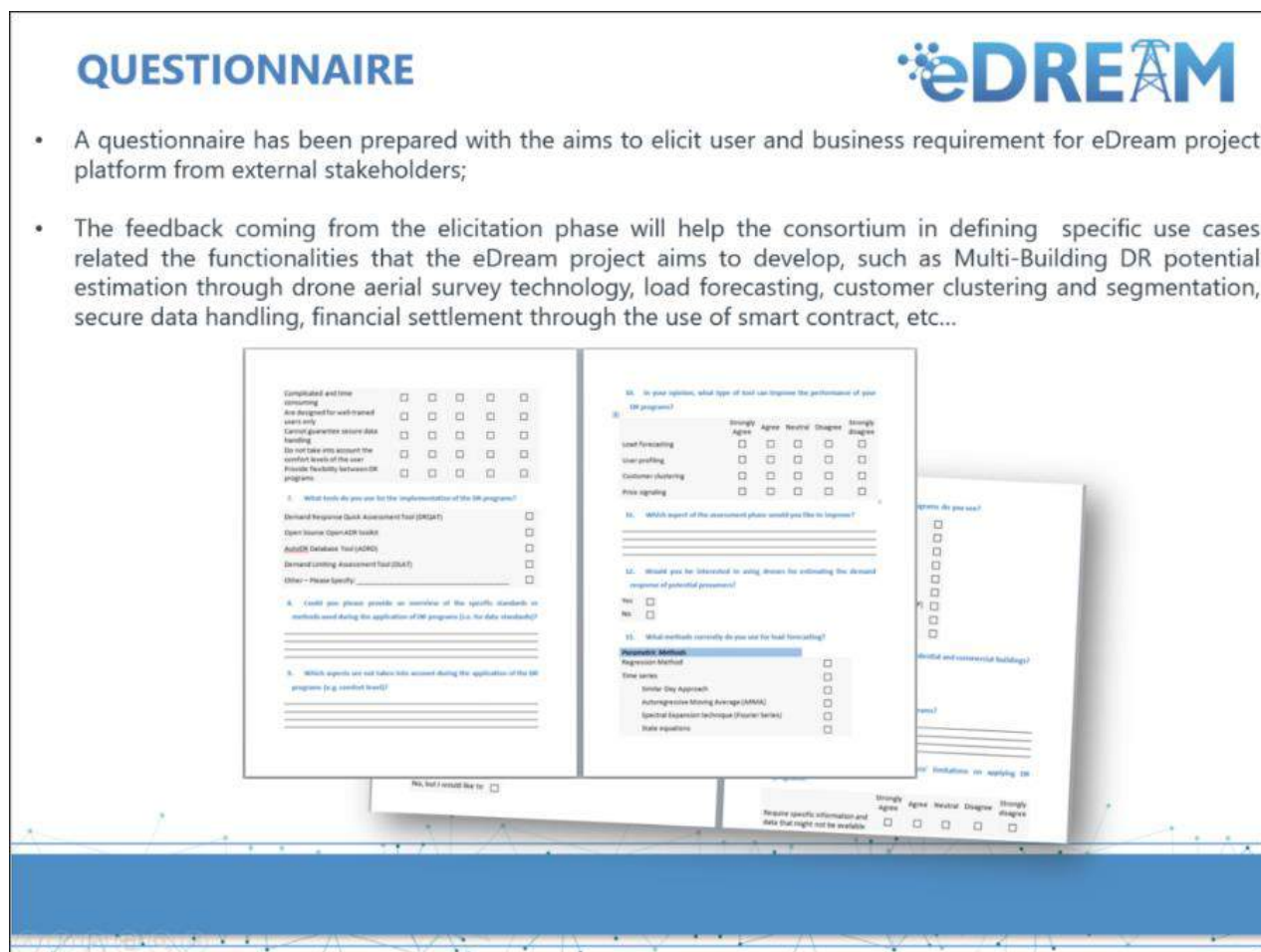


Figure 36. Some eDREAM Slides shown during the ELSA, DR-BOB and inteGRIDy project plenary meeting (2)

5.2 Industrial exhibitions, conferences & workshops

- **Dissemination event #1: Apulian Lifestyle congress, Italy - Taranto**

Partner: E@W

Date: 8 - 9 June 2018

Audience/Activity: General Public, Local Public Authorities, Investors, Policy Makers, Research Organizations, local SMEs and start-ups, in the field of agro-food, healthcare, big data science and green economy; Approximately 1,000 for the general event and around 50 attendees during the speech section.

Description: The Apulian Lifestyle is a project promoted by the Presidency of the Apulian regional council and coordinated by the Health Marketplace. In synergy with local institutions, the project promoted two days (8-9/06/2018) characterized by local actions, for the promotion and enhancement of innovative paths (already tested positively in certain territories able to guarantee a health offer), and by global tools, with information, training, communication and innovative forms of co-working, essential for setting up the entire project. Energy @ Work has been invited to participate and present its business reality as one of the most interesting innovative start-ups in the energy sector in Apulia. On this occasion, among the activities presented, reference was made to their role in Horizon 2020 project eDREAM.

Webpage: http://apulianlifestyle.thcs.it/img/apulianlifestyle_programma_taranto.pdf

- **Dissemination event #2: EU Sustainable Energy Week: Big data, platforms and reference architecture for smart energy services of the future** European Commission, Brussels

Partner: ATOS

Date: 7 June 2018

Audience/Activity: Energy operators, end users, facilitators, academics and general public.

Description: Atos made a presentation at EUSEW18 – European Sustainable Energy about “Collaborative approaches for boosting Smart Energy Ecosystems”.

EU Sustainable Energy Week is the annual flagship event uniting policy makers, authorities, industry, stakeholders, NGOs, researchers and academia in the European sustainable energy sector. EUSEW debates energy policy, creates networking opportunities and spreads the word about the latest developments on the sustainable energy market and in research. Juan also offered the audience a short presentation about eDREAM objectives and expected impact of the project.

Webpage: <https://www.eusew.eu/>



Figure 37. ATOS at EU Sustainable Energy Week

- **Dissemination event #3: Meda Consulting conference - Energy Efficiency, Essential Condition for Sustainable Development "- 12th Edition, Romania – Bucharest**

Partner: SVT

Date: 28 March 2018

Audience/Activity: Approximately 60 attendees; Industry, energy sector

Description: The 2018 edition aimed to continue the previous debates, as energy efficiency plays a very important role in the industry, being a basis for sustainable development. The discussions in the event create a platform for exchange of ideas and information between the specialists present and the competent authorities in the field. Servelect attended the event promoting eDREAM.

Webpage: <http://medaconsulting.ro/ee12/>

➤ **Dissemination event #4: Electrica Seminar, Romania**

Partner: SVT

Date: 23 March 2018

Audience/Activity: Approximately 100 attendees; Energy sector.

Description: Servelect participated in a seminar organised by Electrica Group promoting eDREAM. Electrica Group is a key player in the electricity distribution and supply market in Romania, as well as one of the most important players in the energy services sector.



Figure 38. Extracts from the presentation given at the Electrica Seminar

➤ **Dissemination event #5: DR - BOB Workshop, Romania – Brasov**

Partner: SVT

Date: 27 October 2018

Audience/Activity: Approximately 70 attendees; Energy sector, Industry

Description: Servelect organized an event in order to disseminate the project outcomes of H2020 project DR-BOB and took the opportunity to promote eDREAM to the audience through flyers, roll-up banner and discussions with the participants.



Figure 39. Photos taken at DR-BOB Workshop

➤ **Dissemination event #6: The Energy Management Exhibition London**

Partner: KIWI

Date: 21-22 November 2018

Audience/Activity: Energy sector; Energy managers

Description: EMEX is designed in partnership with the EMA, by energy managers for energy managers, to appeal to the people that are responsible for managing their organisations energy use and its cost. KIWI attended the event and distributed brochures with the project to relevant parties

Webpage: <https://www.emexlondon.com/exhibitors/emex-2018/>

➤ **Dissemination event #7: Participation to the cross-border event “Apulian Life Style” workshop in Tirana (Albania)**

Partner: E@W

Date: 19 November 2018

Audience/Activity: SMEs and General Public (Around 80 attendees)

Description: Event organized by the Apulia Region with Scientific Conference, Temporary co-working and b2b meetings between Italian innovative companies and start-ups, expression of the local economy engaged in sustainable development, and Albanian companies operating in the following sectors: agri-food, green economy, health and ICT. Energy@Work has been invited to participate and present its business reality as one of the most interesting innovative start-ups in the energy sector in Apulia. On this occasion, among the activities presented, reference was made to E@W role in Horizon 2020 project eDREAM.

Webpage: <https://www.ice.it/it/mercati/albania/apulian-life-style-tirana-19-novembre-2018>

➤ **Dissemination event #8: Joint workshop on next – generation Demand Response: eDREAM & DELTA, UK – London**

Partner: KIWI, ENG, E@W, TUC

Date: 26 November 2018

Audience/Activity: End users (Facility Managers, building owners) – 10; DNO – 2; DSO – 1; Energy Retailers – 3; Local Authorities – 3; Aggregators – 5; Academia – 3; Local Authorities; Consultants – 3; ESCO 1; research and academia – 7 and partners from DELTA project (who are external to eDREAM).

Description: On November 26th a joint workshop and conference was held in London between two EU funded research and innovation projects, DELTA and eDREAM. Working on the next generation of demand response technology and innovation, DELTA and eDREAM invited all those interested in smart grids and the future of energy markets to join them in discussing the latest trends in energy flexibility. Guests had the opportunity to learn about the innovative areas of research which the projects are pioneering including edge devices, self-managing virtual nodes and smart contracts to settle energy flexibility transactions. Discussions on the project

findings and how they will impact the next generation of energy markets took place throughout the day allowing guests to provide feedback which will assist in the validation of user requirement and business cases.

Furthermore, the conference has represented a good opportunity to propose to the conference participants the eDREAM questionnaire for Stakeholders requirements elicitation, in order to assess the requirements already defined in the first eight months of the project. Several of the conference participants provided feedback by replying to the proposed questionnaire, in particular two energy retailers, five members from scientific community, one prosumer, three commercial and residential customers and one Distributed Generation Providers.

Webpage: <https://www.eventbrite.com/e/solutions-for-next-generation-demand-response-services-conference-and-workshop-tickets-51398235506>

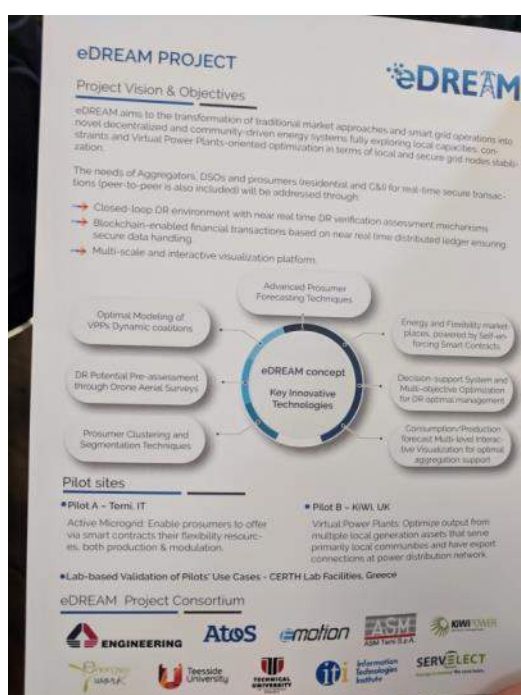


Figure 40. Photos from Joint workshop on next – generation Demand Response: eDREAM & DELTA, UK – London

➤ **Dissemination event #9: European Utility Week, Austria – Vienna**

Partner: ENG

Date: 7 November 2018

Audience/Activity: experts from utilities, network operators, vendors, consultants, startups and system integrators covering the entire smart energy value chain. 12,000 industry experts, 650+ exhibitors, 450+ speakers and 550+ utilities & grid operators.

Description: Massimo Bertoncini presented the eDREAM project at the European Utility Week 2018, with a presentation titled **“DLTs and blockchain-enabling P2P decentralized marketplaces for optimal demand response management”**, explaining how DLTs, blockchain and smart contracts can contribute to effective decentralized management of smart grids, increasing energy value chain democratization via larger energy consumers active participation to Demand Response and local flexibility marketplaces and reducing the cost of Demand Response transactions through DLTs/blockchains automated built-in trust.



Figure 41: Photo of : European Utility Week Presentation



Webpage: <https://www.european-utility-week.com/hub-sessions-presentations/coffee-break-19#/>

6 Impact and Key performance indicators evaluation

The Key Performance Indicators are presented in Deliverable 8.1 Plans for the dissemination, exploitation & communication of project results. It is worth to mention the high rate of success of the dissemination and communication activities, all the targets being achieved or overachieved.

Table 1. KPIs evaluation for the first year of the project

Dissemination Channel	KPIs	Stakeholders addressed	Year 1 KPI target	Status	
Website (3.1)	No. of visitors to the eDREAM website (per year)	ALL	600	1007 (in December)	Achieved
	No. of blog post on eDREAM website “News” section	ALL	8	10	Achieved
Social media (3.2)	No. of posts on social media platforms via eDREAM channels (LinkedIn & Twitter)	ALL	8	9 posts on Twitter (without retweets) 6 posts on eDREAM LinkedIn project page (without post on LinkedIn groups that we have joined)	Achieved
Partners’ websites (3.3), social media channels (3.4) & other online activities (3.5)	No. of articles / posts in consortiums’ newsletter / website / social media / other communication platforms	ALL	4	6	Achieved
Press media & articles (4.1)	No. of press releases & articles (online & printed)	ALL	2	3	Achieved
Scientific publications (4.2)	Journal papers	Academia / scientific community	1	1	Achieved
	Conference papers	Academia / scientific community	2	4	Achieved
Events (5)	No. of Scientific, Technical & Policy conferences and workshops at which partners will promote eDREAM (5.1)	Academia / scientific community - Research groups, other H2020 projects and initiatives	10	17	Achieved
	No. of Industrial exhibitions, conferences & workshops at which partners will promote eDREAM (5.2)	Energy market sector, End users, Facilitators	7	8	Achieved
	Organization of one international conference	Energy market sector, End users	N/A	N/A	N/A

7 Conclusions

The project has overall conducted various dissemination activities for the first year. The KPIs for the period have been achieved and some of them overachieved.

The next stage of the project communication and dissemination strategy is the Project Pre-Commercialisation Phase (M12 – M30): Understanding and interest

The project consortium will focus on: create more “targeted awareness” regarding eDREAM technologies with key players and potential users; inform the target market about the technological benefits of eDREAM, through:

- Project website: upload relevant content for the target audience, assure a good visibility in search engines (such as Google) taking on page and off page SEO actions.
- Press release: create relevant content and find the suitable publications in order to achieve a high impact.
- International conference: An international conference will be organized in the second year of the project in order to disseminate the project and especially to collect needs and requirements coming from the identified target groups and to adjust the requirements defined in the first version of the deliverable 2.1 “User group definitions, end-user needs, requirement analysis and deployment guidelines V1” and collect additional needs and requirements coming from a number of stakeholders much higher than the stakeholders involved in this first stage of the task. The conference will target more than 100 stakeholders around Europe.
- Presentations at industrial exhibitions, conferences & workshops: Participation at relevant conferences, Create targeted presentations according to the audience presented at the events, Promote the event using the relevant communication and dissemination channels.
- Presentations at scientific, technical & policy conferences and workshops: Participation at relevant conferences, Create targeted presentations according to the audience presented at the events, Promote the event using the relevant communication and dissemination channels.
- Journal & conference papers: Address several publication options. Foster partner collaboration and dissemination. Identification of appropriate events.

The project will continue to intensify these activities during the next year, especially since more results will be available that can be demonstrated.

The next report on communication and dissemination activities will be on month 24 of the project, in Deliverable D8.5 Report on Dissemination Activities V2.