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#### Abstract:

The X-FLEX Dissemination and Communication activities Report v1 gathers all the actions on dissemination and communications carried out until M18. This means all the promotional materials created and distributed for dissemination and communication purposes, submitted papers, publications, outcomes from external communication channels, events participation and organisation, networking actions, and activities concerning exchange of knowledge, best practices, etc. with other related projects.

#### Keywords:

Communication, dissemination, results, audience, awareness, impact, media, general audience, networking, clustering, projects, exchange, BRIDGE, User Group, stakeholders.

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## Executive Summary

This document is the Deliverable 9.3 Dissemination and Communication Activities Report V1 of the Work Package 9 – Dissemination, communication and exploitation activities. This report gathers all the actions on dissemination and communications carried out until M18 by the X-FLEX consortium.

This document serves as an updated of the deliverables D9.1 Plan for Exploitation and dissemination of results and D9.2 Communication Master Plan.

All those dissemination materials are being created to exploit X-FLEX related communication and dissemination activities at its fullest. They have been created to ensure that the project's outcomes (concepts, scientific results, tools, solutions, methodologies, best practices, lessons learned, etc.) are widely disseminated/communicated to the appropriate target audiences and that stakeholders who can contribute to the development, evaluation, uptake and exploitation of the X-FLEX outcomes can be identified and encouraged to participate.

The project has been carrying out different actions:

- Creation and design of promotional materials (visual identity, brochure, roll-up, videos, overview presentation, graphics, newsletters, press releases, press kits, etc).
- Creation of a website as a main external communication channel.
- Creation of social media accounts (Twitter, YouTube and LinkedIn) as part of the external communication channels.
- Submission of public deliverables, which will be publicly available on the website.
- Active participation and organisation of events.
- Exchange activities with related projects or initiatives in cluster events, meetings and workshops organised by BRIDGE initiative.

The dissemination and communication actions in the project have been progressing according to the schedule, however some of them have been negatively affected by the COVID-19 crisis. Thus, the document explains the impact and challenges faced because of to the COVID-19 crisis. Particularly, the production of promotional materials, participation in events, and networking possibilities were the actions more damaged.

The project implemented solutions such as boosting online dissemination and communication actions, increasing participation in online events, the enlargement of graphic designs, engaging partners to report updates every month, gaining more presence in networking initiatives, among others.

The document also evaluates the results and impact reached on communicating and disseminating X-FLEX through analytics from the website, social networks, and media presence from 01/10/2019 to 30/03/2021. After the first period, the analytics showed that almost all Key Performance Indicators (KPIs) defined in D9.1 and D9.2 have been achieved. The X-FLEX project has participated in 10 dissemination events and organised 2, partners have participated in 17 BRIDGE meetings, the website has reached 2,797 visits from more than 30 countries around the world, X-FLEX's social networks have 301 followers, Twitter has reached 139,400 impressions, LinkedIn page has gained 2,165 post views, the videos reached more than 285 views, X-FLEX appears in 18 news (both in electronic and in paper form). However, scientific publications could not carry out because X-FLEX is still facing its first stage and no preliminary results have been obtained yet.



The document concludes with the next steps. The pilot sites will start planning future workshops addressed to their stakeholders, partners will start working on scientific publications and boosting media relations, best efforts will be put into participating in events and exchanging activities.



## Index

<b>1</b>	<b>INTRODUCTION.....</b>	<b>12</b>
1.1	Purpose of the Document .....	12
1.2	Scope of the Document.....	12
1.3	Structure of the Document .....	12
<b>2</b>	<b>CHALLENGES AND COVID-19 IMPACT .....</b>	<b>13</b>
2.1	Promotional materials .....	13
2.2	Participation in events and organisation of workshops .....	13
2.3	Networking opportunities.....	13
2.4	Online visibility .....	13
<b>3</b>	<b>PROMOTIONAL MATERIALS.....</b>	<b>14</b>
3.1	Corporate Identity.....	14
3.2	Brochure .....	18
3.3	Roll-up banner .....	19
3.4	Promotional presentation.....	21
3.5	Graphics for social media .....	21
3.6	Newsletter .....	22
3.7	Videos.....	27
3.8	Press releases .....	30
3.9	Press kit .....	30
<b>4</b>	<b>SCIENTIFIC PUBLICATIONS .....</b>	<b>31</b>
<b>5</b>	<b>PUBLIC DELIVERABLES .....</b>	<b>31</b>
<b>6</b>	<b>NON- SCIENTIFIC PUBLICATIONS .....</b>	<b>33</b>
6.1	Brochure: BRIDGE 2020.....	33
<b>7</b>	<b>NEWS CLIPPING .....</b>	<b>35</b>
<b>8</b>	<b>DISSEMINATION AND COMMUNICATION CHANNELS .....</b>	<b>56</b>
8.1	Website .....	56



<b>8.2</b>	<b>Social Networks .....</b>	<b>66</b>
8.2.1	Twitter.....	66
8.2.2	YouTube .....	69
8.2.3	LinkedIn.....	70
<b>8.3</b>	<b>Partner websites.....</b>	<b>70</b>
<b>9</b>	<b>EVENTS AND WORKSHOPS .....</b>	<b>75</b>
<b>9.1</b>	<b>Events organised by X-FLEX partners.....</b>	<b>76</b>
9.1.1	EVENT: Sustainable Places 2020 Conference- “Sustainable Digital Tools for All Energy Actors Workshop” .....	76
9.1.2	EVENT: X-FLEX Kick-off Meeting networking event.....	77
<b>9.2</b>	<b>Participation in Events .....</b>	<b>79</b>
9.2.1	EVENT: INDIA Smart Utility Week 2021 (ISUW) .....	79
9.2.2	EVENT: 2021 BRIDGE General Assembly .....	79
9.2.3	EVENT: Exploiting the potential of local flexibilities: the role of Energy Communities. Joint online workshop H2020 projects FEVER, Platone, edgeFLEX and DECIDE. Hosted by BRIDGE and SES taskforce on Energy Communities .....	81
9.2.4	EVENT: STORY Final Event: The future of local energy storage in Europe What are the major problems and how to tackle them? .....	81
9.2.5	EVENT: ETIP SNET Virtual Workshop: Energy Transition in 2050 .....	82
9.2.6	EVENT: CA-RES CT2 – May Sessions. Session 1- Sector Integration: Heat + Electricity Webinar .....	83
9.2.7	EVENT: InteGrid Scalability and Replicability results and Replication .....	84
9.2.8	EVENT: En.Odmev 20.....	84
9.2.9	EVENT: India Smart Utility Week 2020 (ISUW) and 9th Eu – India Smart Grid Workshop- Session .....	85
9.2.10	EVENT: BRIDGE GENERAL ASSEMBLY 2020.....	86
<b>10</b>	<b>EXCHANGE ACTIVITIES WITH RELATED PROJECTS, INITIATIVES AND RELEVANT BODIES .....</b>	<b>88</b>
<b>10.1</b>	<b>BRIDGE initiative.....</b>	<b>88</b>



<b>10.1.1</b>	<b>Meeting and events chaired by BRIDGE.....</b>	<b>88</b>
10.1.1.1	MEETING: 2021 BRIDGE General Assembly .....	90
10.1.1.2	MEETING: WG Data Management plenary meeting .....	90
10.1.1.3	MEETING: R&S TF – Subroutine 3 (KPIs) – Meeting 5 .....	90
10.1.1.4	MEETING: R&S TF – Subroutine 3 (KPIs) – Meeting 4 .....	91
10.1.1.5	MEETING: R&S TF – Subroutine 3 (KPIs) – Meeting 3 .....	91
10.1.1.6	MEETING: Regulation WG .....	91
10.1.1.7	MEETING: R&S TF – Subroutine 3 (KPIs) – Meeting 2 .....	92
10.1.1.8	MEETING: R&S TF – Subroutine 3 (KPIs) – Meeting 1 .....	92
10.1.1.9	MEETING: WG Data Management.....	93
10.1.1.10	MEETING: Use Case repository presentation .....	93
10.1.1.11	MEETING: WG Data Management .....	94
10.1.1.12	MEETING: Webinar Use Case Repository .....	94
10.1.1.13	MEETING: Replicability/Scalability TF Members .....	95
10.1.1.14	MEETING: Regulation WG .....	95
10.1.1.15	EVENT: European Union Pavilion at the India Smart Utility Week 2020 .....	95
10.1.1.16	MEETING: BRIDGE GENERAL ASSEMBLY 2020 .....	95
10.1.1.17	EVENT: EU UTILITY WEEK 2019- BRIDGE session “SGAM for the analysis of the scalability and replicability” .....	96
<b>10.1.2</b>	<b>Publications and Newsletters .....</b>	<b>97</b>
<b>10.2</b>	<b>NETWORKING EVENTS WITH OTHER RELEATED PROJECTS AND STAKEHOLDERS.....</b>	<b>98</b>
<b>10.3</b>	<b>HORIZON RESULTS BOOSTER INITIATIVE .....</b>	<b>98</b>
<b>11</b>	<b>DISSEMINATION AND COMMUNICATION KEY PERFORMANCE INDICATORS .....</b>	<b>100</b>
<b>12</b>	<b>CONCLUSIONS AND NEXT STEPS .....</b>	<b>102</b>
<b>13</b>	<b>REFERENCES.....</b>	<b>104</b>
<b>14</b>	<b>ACRONYMS.....</b>	<b>105</b>
<b>15</b>	<b>ANNEX I: X-FLEX PRESENTATION .....</b>	<b>106</b>



## List of Figures

Figure 1 - X-FLEX logo.....	14
Figure 2 - Icon X-FLEX.....	14
Figure 3 - Images created for promotional purposes. ....	15
Figure 4 - Figures of the X-FLEX products. ....	16
Figure 5 - Figures of the X-FLEX pilot sites. ....	17
Figure 6 - X-FLEX brochure.....	19
Figure 7 - X-FLEX roll-up banner. ....	20
Figure 8 - First slides of the X-FLEX promotional presentation .....	21
Figure 9 - Graphics for Social Media .....	22
Figure 10 - X-FLEX Newsletter: October 2020 .....	26
Figure 11 - Introduction video of X-FLEX (English version).....	27
Figure 12 - Introduction video of X-FLEX (Spanish version).....	28
Figure 13 - Pilot sites animated videos of X-FLEX. ....	28
Figure 14 - BRIDGE brochure June 2020. ....	34
Figure 15 - Article “ÉTER: Gestión avanzada de Smart Grids como catalizador de la transición energética en las ciudades europeas” .....	35
Figure 16 - Article “Preliminary tests for manual secondary activation frequency adjustment through the flexible installations in kk Albena - part one” .....	36
Figure 17 - Article “Ali se lahko industrija uspešno sooči s (korona) krizo in vztraja na poti v nizkoogljičnost?” .....	37
Figure 18 - Article “Digitalne restive so gonilo razvoja” .....	38
Figure 19 - Article “HOLISDER team in two workshops during sustainable places 2020”. ....	39
Figure 20 - Article “Elektro Celje sodeluje v evropskem projektu X-FLEX” .....	40
Figure 21 - Article “Pilotni primer energetske samooskrbe” .....	41





Figure 22 - Article “S partnerstvom do trajnostnih energetske in okoljske” .....	43
Figure 23 - Article “Zaradi nove zakonodaje bo marsikdo kupil električni avto” .....	45
Figure 24 - Article “X-FLEX project partners visited pilot site LUČE” .....	46
Figure 25 - Article “Luče in Slovenia gets power storage in EU-backed project” .....	47
Figure 26 - Article “Projekt X-Flex bo prinesel orodja za lažjo uporabo prožnosti v elektroenergetskem sistemu” .....	48
Figure 27 - Article “Tako bodo v daljinsko ogrevanje Raven vključili tudi obnovljive vire energije” ..	50
Figure 28 - Article “ The X-FLEX project – An excellent example of cooperation between the Slovenian academia and industry at EU level” .....	51
Figure 29 - Article “Petrol sodeluje s študenti Fakultete za elektrotehniko” .....	52
Figure 30 - Article “GRUPOETRA ha sido adjudicatario de tres nuevos Proyectos H2020 en el ámbito de las Smart Grids y las energías renovables” .....	53
Figure 31- Article “X-FLEXH2020 project kick-off” .....	54
Figure 32 - Article “ X-FLEX bo s tehnološkimi rešitvami omogočil lažji prehod v nizkoogljično družbo” .....	55
Figure 33 - Overview of the X-FLEX website. ....	57
Figure 34 - Overview of the Products on the X-FLEX website. ....	58
Figure 35 - Overview of the Consortium Page on the X-FLEX website. ....	59
Figure 36 - Overview of the pilot sites page on the X-FLEX website. ....	62
Figure 37 - Overview of the Library page on the X-FLEX website.....	63
Figure 38 - Overview of the News page on the X-FLEX website.....	64
Figure 39 - Overview of the Event page on the X-FLEX website.....	65
Figure 40 - X-FLEX website total visits from October 2020 until March 2021. Source: Jetpack. ....	65
Figure 41 - Countries of visitors. Source:Analytify.....	66
Figure 42 - Most visited web sections M18. Source: Jetpack.....	66
Figure 43 - X-FLEX Twitter Account.....	67



Figure 44 - Twitter activity in January- February 2021. Source: Twitter Analytics.....	68
Figure 45 - Examples of tweets.....	69
Figure 46 - Overview of X-FLEX YouTube Channel.....	69
Figure 47 - Overview of X-FLEX LinkedIn Page.....	70
Figure 48 - ETRA website [8]. ....	70
Figure 49 - Faculty of Electrical Engineering of the University of Ljubljana website [9]. ....	71
Figure 50 - PETROL website [10].....	71
Figure 51 - ELEKTRO CELJE website [11] .....	72
Figure 52 - ESO website [12] .....	72
Figure 53 - SUITE 5 website [13] .....	73
Figure 54 - BLUEPRINT ENERGY SOLUTIONS website [14] .....	73
Figure 55 - JOANNEUM RESEARCH website [15] .....	74
Figure 56 - Sustainable Digital Tools for All Energy Actors Workshop .....	77
Figure 57 - X-FLEX kick-off meetin .....	78
Figure 58 - INDIA Smart Utility Week 2021 .....	79
Figure 59 - 2021 BRIDGE General Assembly .....	80
Figure 60 - STORY project Final Event.....	82
Figure 61 - ETIP SNET Virtual Workshop.....	83
Figure 62 - CA-RES Session- Sector Integration: Heat + Electricity .....	84
Figure 63 - En.Odmev 20.....	85
Figure 64 - India Smart Utility Week 2020.....	86
Figure 65 - BRIDGE General Assembly .....	87
Figure 66 - BRIDGE NEWLETTER June 2020 .....	97
Figure 67 - BRIDGE NEWLETTER December 2019 .....	98



## List of Tables

Table 1 - List of X-FLEX videos produced until M18.....	30
Table 2- Public deliverables submitted in M18. * R = report .....	32
Table 3 - Twitter figures M18. Source: Twitter Analytics. ....	68
Table 4 - List of total events where X-FLEX has participated.....	75
Table 5 - Dissemination actions and meetings under BRIDGE coordination, where X-FLEX has participated by period 1.....	89
Table 6 - BRIDGE publications where X-FLEX has participated.....	97
Table 7 - KPI targets in M18.....	101



## 1 INTRODUCTION

### 1.1 Purpose of the Document

The presented report “Dissemination and Communication Activities report v1” includes all dissemination and communication actions carried out by all partners during the first period of the project. Besides, this document serves as an updated of D9.1 Plan for Exploitation and dissemination of results [1] and D9.2 Communication Master Plan [2].

The main objective of this document is to present all actions carried out but also to evaluate the dissemination outcomes reached, to outline main successful actions and detected shortcomings -in order to improve the Communication and Dissemination Plan-.

ETRA, who is leading this deliverable, together with the rest of the partners have contributed to achieve the dissemination and communication actions showed in this document.

The objective of this document is not to explain again the differences between communication and dissemination, as it has already been detailed in [1] [2], but to present all the actions carried out to achieve the objectives set in both areas.

### 1.2 Scope of the Document

The presented Deliverable D9.3 is the third document produced within Work Package 9 (WP9) and results from the proposed actions in both D9.1 and D9.2.

The document compiles all actions made in the scope of X-FLEX dissemination and communication. Besides, a part of this document collects suggestions and needs from the targeted audience to improve the defined dissemination strategy.

### 1.3 Structure of the Document

The document presents in Chapter 2 the impacts and challenges during the first period. Then, the document gathers all actions carried out: promotional materials, communications channels, scientific publications, publications, public deliverables, media presence, events, and exchange activities with related projects, initiatives and relevant bodies, and BRIDGE actions. The report ends with the Key Performance Indicators (KPIs) and the conclusion and next steps section in Chapter 12.



## 2 CHALLENGES AND COVID-19 IMPACT

Despite the fact that dissemination and communication actions in the project have been progressing according to the planned schedule during the first reporting period, some actions planned have been impacted by the COVID-19 crisis. However, this crisis allows to reformulate some actions and turn actions into an online format. Thus, online communication and dissemination actions had more emphasis, and this new approach was transmitted to all the partners.

The following subsections present the main dissemination and communication actions impacted.

### 2.1 Promotional materials

Production and designed of new promotional materials have been created accordingly.

Because of the COVID-19 crisis, other extra promotional materials - normally generated during on-site consortium meetings or other events - such as videos, live-tweeting, pictures, etc. could not be produced. Therefore, alternatives have been sought to alleviate the lack of this type of content, which means:

- Every month partners, especially pilot sites, report updates to be posted on X-FLEX communication channels.
- To increase the creation of graphics for social media.
- Production of online webinars will be carried out to present X-FLEX progress.
- To consider other approaches on how to disseminate X-FLEX demonstration actions.

In order to adapt the creation of new dissemination materials according to the new situation, Dissemination and Communication Manager (DCOM) is already rethinking and reformulating the way those materials will evolve.

### 2.2 Participation in events and organisation of workshops

The COVID-19 crisis has impacted mainly participation in events. From March 2020, this motivated the cancellation or rescheduling of events where X-FLEX should have participated such as: InnoGRID2020+ (April 2020), Energy Days and Energy Talk of the European Sustainable Energy Week 2020 - (June 2020), EU Utility Week 2020 (November 2020) and EDSO events.

Fortunately, many other events have reinvented themselves and turned into online events, an alternative that X-FLEX partners have already embraced to disseminate the project. For instance, by participating in the online Sustainable Places Conference 2020.

### 2.3 Networking opportunities

The impossibility of having on-site events due COVID-19 crisis has also impacted on networking opportunities since most of them take place during conferences and events. Even though, online events and actions have increased networking opportunities have not reached the same impact as on-site used to have. Also, the creation of networks beyond clusters of projects and relevant bodies has been more difficult.

### 2.4 Online visibility

Since the beginning of the pandemic, the content in general terms that is published on the Internet has increased. This fact has affected the visibility of X-FLEX's communication channels, since it now finds more competitors creating online content. With this atmosphere it seems more challenging to gain visibility and engagement. However, analytics collected on X-FLEX communication channels still show good figures (see section 8.1).



### 3 PROMOTIONAL MATERIALS

To contribute to the promotion, communication and dissemination of the project's objectives and outcomes, promotional materials have been designed.

#### 3.1 Corporative Identity

Defining the visual identity of X-FLEX was the first step to start designing and developing the dissemination materials. Thus, X-FLEX has designed a corporate identity, which is the manner the project presents itself to the public. This visual identity is part of the X-FLEX's branding that communicates the overall message, values, and promise of its brand through anything that is visual. The visual identity, already explained in the D9.1, includes logos, typography, colours, packaging, rules of editing, typography, graphics and figures, and messaging, and it complements and reinforces the existing reputation of the brand.

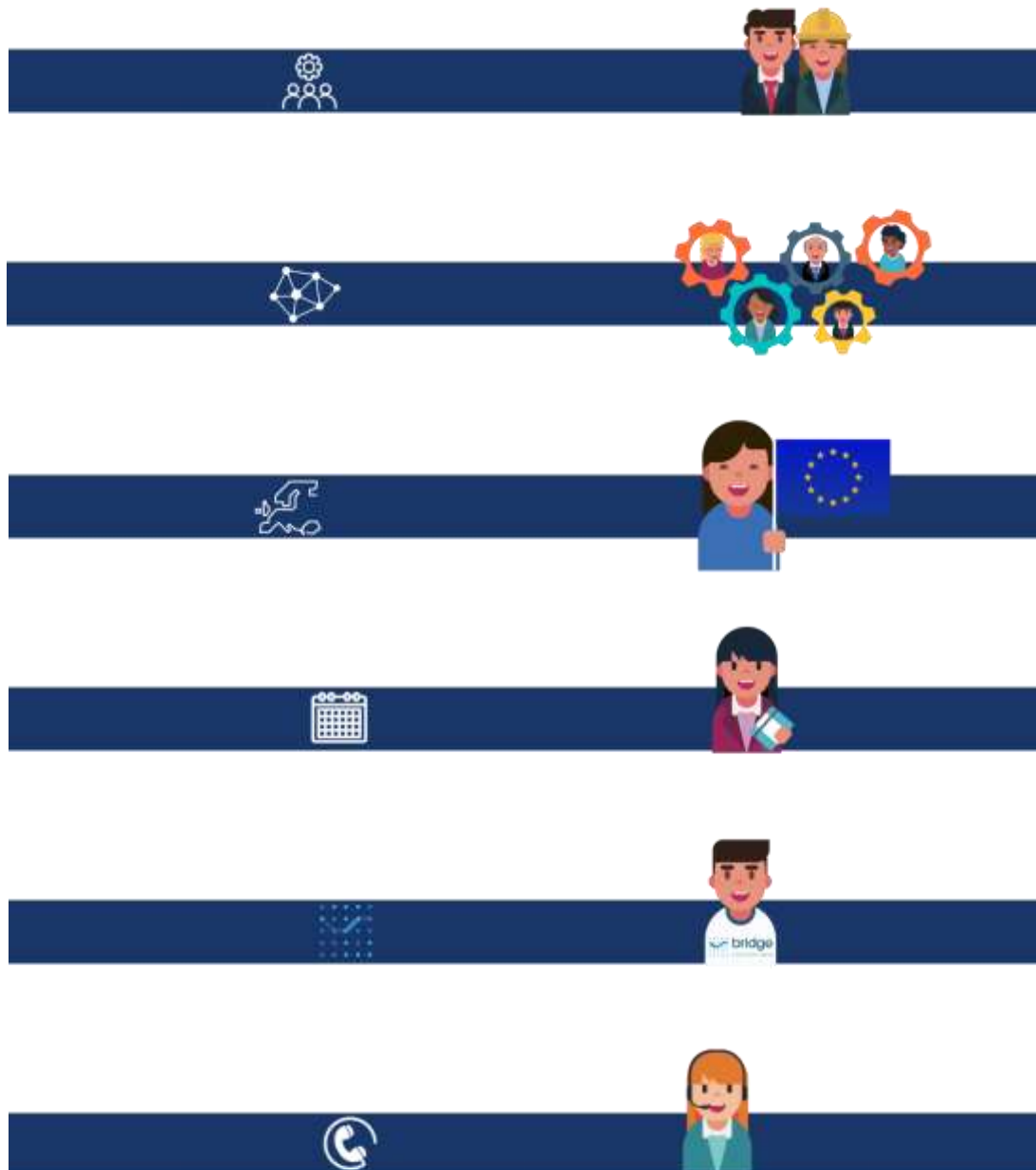
After submitting D9.1 new graphics were created and designed to reinforce the visual identity and to be implemented on the website (Figure 3, Figure 4 and Figure 5).



Figure 1 - X-FLEX logo.



Figure 2 - Icon X-FLEX.



*Figure 3 - Images created for promotional purposes.*

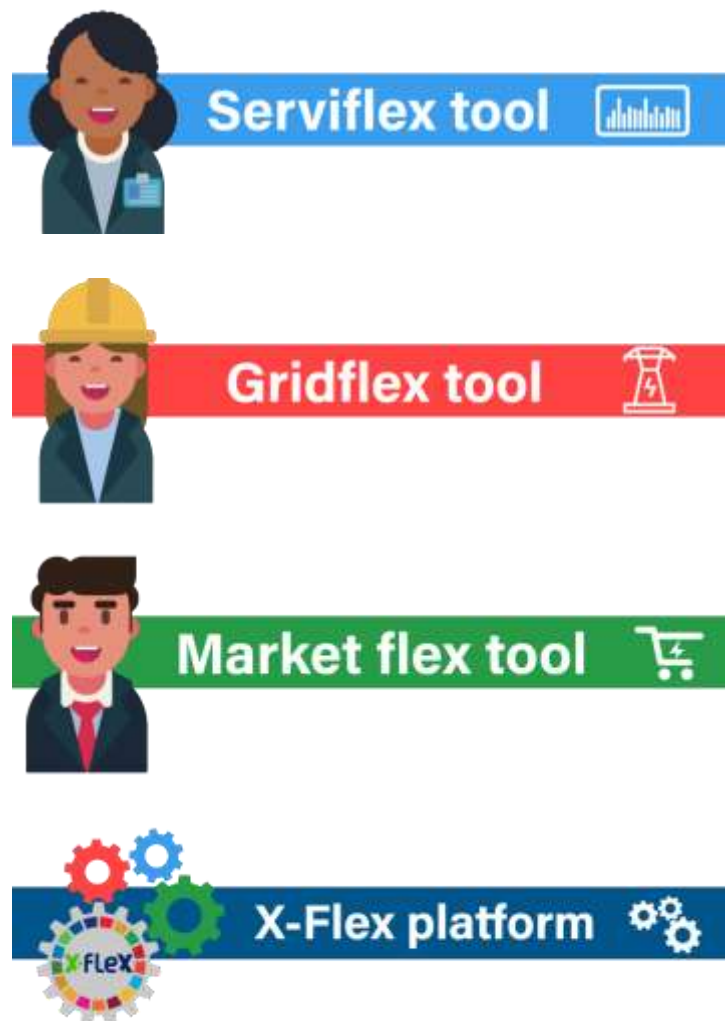


Figure 4 - Figures of the X-FLEX products.





Figure 5 - Figures of the X-FLEX pilot sites.



### 3.2 Brochure

X-FLEX has designed a brochure following the visual identity. The brochure is a promotional document, primarily used to introduce the project, the consortium, products, and scenarios and inform prospective end-users and the public of the benefits of the project.

The brochure is in both digital and physical format. It is available on the website [3] but it can be also distributed at conferences, meetings, exhibitions, etc by the partners.





**Products**

- Scaliflex tool**  
**INTEGRATED FLEXIBILITY MANAGEMENT TOOL**  
Enables flexibility managers to optimally leverage the value of flexibility from the different flexible sources.
- Gridflex tool**  
**ADVANCED TOOLS FOR AUTOMATIC CONTROL AND OBSERVABILITY OF THE GRID**  
Allows network and microgrid operators to monitor the grid in a simple and safe way, responding to supply quality problems.
- Market flex tool**  
**ENERGY FLEXIBILITY TRADING PLATFORM**  
Used by consumers and intermediaries to access the energy market and interact with wholesalers and distributors.
- X-Flex platform**  
**FLEXIBLE AND SCALABLE INTEGRATED PLATFORM**  
Integrates all the X-FLEX solutions to provide services for all the energy actors and ensure more secure, stable, and clean energy supply.

**Coordinate**  
**etra I+D**

**Consortium**

**Pilots**

Starting date: 1/10/2019  
Duration: 48 months  
Budget: 9,5 M€

**Luče (Slovenia)**  
Flexibility of local energy community  
X-FLEX facilitates the flexibility management of a local energy community through the use of batteries, electric vehicles and photovoltaic and wind systems.

**Ravne Na Koroškem (Slovenia)**  
Flexibility of the Power to heat on an industrial site  
X-FLEX provides flexibility on the electricity grid by using synergies with RES Power2Heat and heat network operation to lower the imbalances in the network.

**Xanthi (Greece)**  
Green flexibility for network resilience  
X-FLEX facilitates the optimal management of Renewable Energy Sources and the reinforcement of the network to face problems caused by adverse conditions.

**Albena (Bulgaria)**  
Flexibility on a commercial site and micro grid/TSO cooperation  
X-FLEX increases the grid reliability and resilience and creates flexibility market mechanisms with the provision of financial incentives as a motivation for future flexibility efforts and collaborations.

**Consortium Members:** PIETROL, ESO, SUNLIGHT, Suite5, JOHANNES RESEARCH, HEDNO, albena, Elektro Ginja, d.d., and others.

Figure 6 - X-FLEX brochure.

### 3.3 Roll-up banner

X-FLEX has designed a roll-up banner following the visual identity. This element is a very important resource for any exhibitor looking to stand out at an exhibition or trade show. Since the roll up's goal is to generate impact, the content gets straight to the point.

So far, the roll-up could not be used in on-site events because of the COVID-19 crisis.



Figure 7 - X-FLEX roll-up banner.





### 3.4 Promotional presentation

A promotional presentation was created in order to introduce the key points of the project to the target audience. Besides, it could be adapted for each event where X-FLEX will be presented. During the first period minor changes have been made. The overview presentation is available on the website [3]. ANNEX I: X-FLEX PRESENTATION shows the entire presentation recently updated.

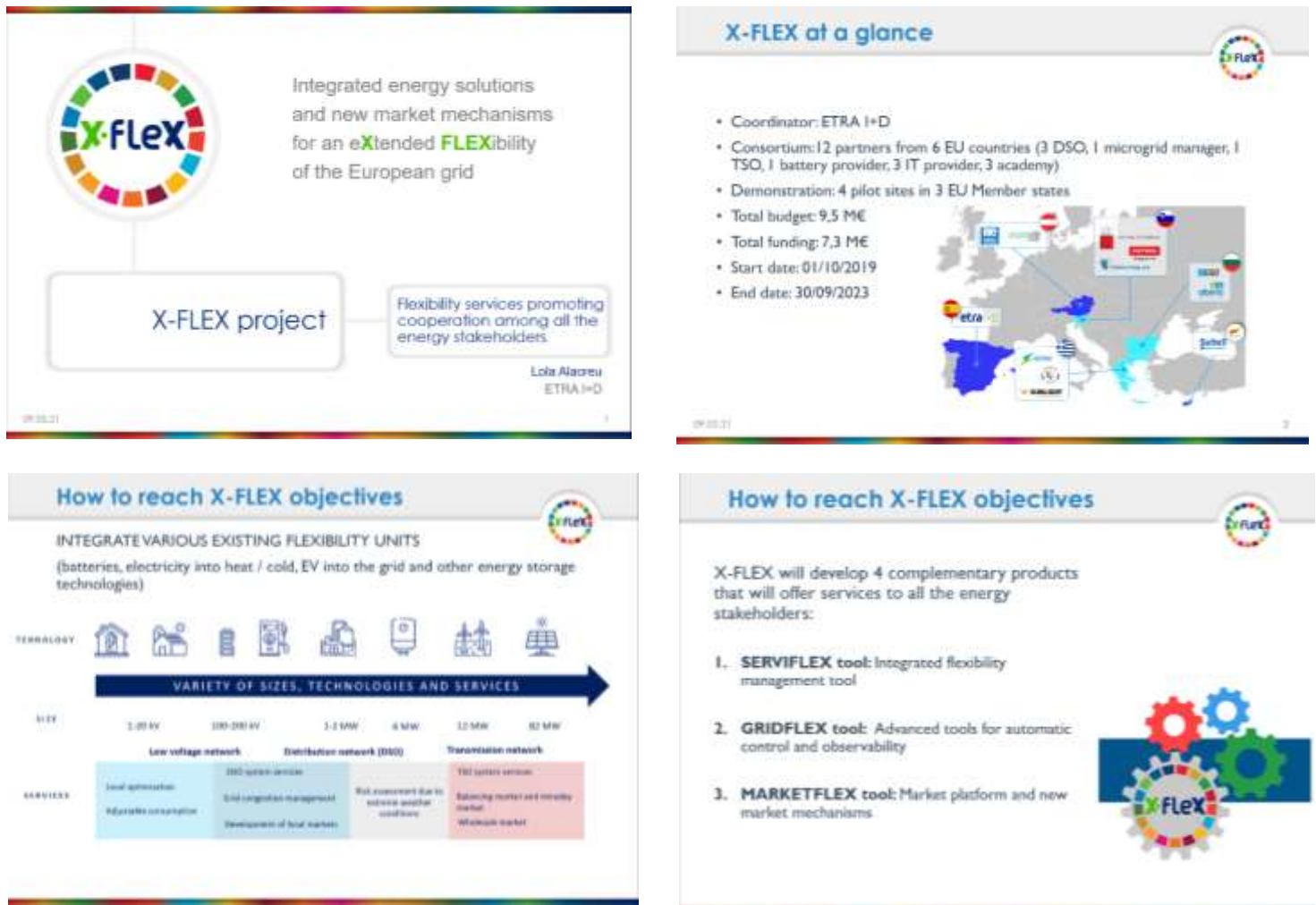


Figure 8 - First slides of the X-FLEX promotional presentation

### 3.5 Graphics for social media

To improve X-FLEX social media strategy, visual content helps establish its online identity. Thus, by creating appealing and engaging social media graphics X-FLEX can attract the target audience and citizens on social networks. The graphics are designed for Twitter and LinkedIn.



Figure 9 - Graphics for Social Media

### 3.6 Newsletter

X-FLEX has published one Newsletter in October 2020 (Figure 10). Newsletters offer a view of the main activities of the project. The newsletters are prepared and sent to the subscribers and X-FLEX network twice per year.

The newsletter includes:

- **News:** Main news during the period of time covered by the newsletter.
- **Next steps:** The bullet points of next steps will be addressed in the coming months.
- **Pilot sites & partners:** Each issue will introduce each pilot site and partner.
- **Events:** Past events where X-FLEX participated or organised.



[Open email in your web browser.](#)



## What is X-FLEX project about?

The need for more flexible electricity markets to match demand with supply is becoming more urgent as renewables are comprising a larger portion of Europe's energy supply. The EU-funded X-FLEX project is supporting this new era of energy generation. It proposes a set of integrated solutions that will facilitate the optimum combination of decentralised flexibility assets. This will offer grid operators and prosumers flexible grid solutions in the local and wholesale market, creating benefits along the smart grid value chain. X-FLEX solutions will be tested in four pilot sites in three member states – Bulgaria, Greece, and Slovenia. Such flexibility options are instrumental in achieving a secure, flexible, and sustainable grid that can handle supply-demand variability.

Watch the video.

VIDEO

## Latest News

### Project Progress

During this period, the project has been focused mainly on the definition of the project foundations and obstacles to innovation analysis and specifically in the use cases and requirements. These use cases identified will be the basis for the definition of the demonstration activities, and the requirements will be the starting point for the development of the project solutions, which means: SERVIFLEX tool, GRIDFLEX tool, MARKETFLEX tool, and X-FLEX Platform.





## How has COVID-19 affected X-FLEX?

General meeting of the project consortium planned for May 2020 in Valencia was finally virtual due to COVID-19 crisis. In addition, some dissemination activities such as presentations at conferences or the organization of workshops, could not take place for the same reason. Some of these activities have been organized virtually, and some others have been cancelled or postponed.

On the other hand, it has been also detected a risk in the impact of the COVID-19 crisis on the deployment of new systems and installations for proper demonstration and evaluation of X-FLEX developments.



In order to reduce this impact, we will adjust the schedule and move all work requiring on-site and gathering of people to a later stage if necessary, ensuring uptake of safety measures. Moreover, the consortium will ensure timely and transparent communication between the involved partners, notify them of any drastic and notable changes to the original plan.



### EVENT |

## Sustainable Places 2020

On 29th October (11:00am-12:30pm) X-FLEX will organise and chair the workshop "Sustainable Digital Tools for All Energy Actors Workshop" during the Sustainable Places 2020, which will take place 27-30 October in a digital format. FLEXCoop, Holisder, Synergy, and Flexgrid H2020 projects will also participate in this session.

The objective of this workshop is to present a set of tools ICT tools developed in these H2020 projects that will increase energy efficiency and the use of renewable energies. Each project will present the digital tools developed in order to provide ICT services and functionalities to the different actors of the energy value chain, which will make them more sustainable and efficient. Sustainable Places prides itself on being an ideal platform for the dissemination of research, the conduct of workshops, EU project clustering, and networking between stakeholders of all types. SP2020 will be held over four days in a digital event format. Between the opening and closing keynote sessions, parallel technical sessions and project-organized workshops will be held on conference topic areas.

Registrations [here](#).





### X-FLEX At The India Smart Utility Week 2020

[Read more](#)



### Introducing X-FLEX To BRIDGE Members

[Read more](#)



### X-FLEX Kick Off Meeting In Valencia

[Read more](#)

## Next steps



1. Definition of the project architecture, based on the project use cases and requirements
2. Definition of the Key Performance Indicators that will be necessary later for project monitoring.



3. Completion of surveys by the pilot site partners, in order to gather the information needed for the development of the project solutions and the proper validation in the demo sites.
4. Preparation of the preliminary pilot sites activities planning.

## Pilot-sites

### Luče (Slovenia)

Luče is a remote alpine village with 400 inhabitants in Slovenia. It has a low local network capacity with weak middle voltage overhead line connection from near-by town Ljubno. This results in two major problems:

- limited local RES production
- frequent power outages usually due to weather events

Inhabitants of Luče are very engaged in energy related topics and are included in the first local energy community in Slovenia with various distributed flexible units. The DSO in Luče is ELEKTRO CELJE, which is middle sized EU DSO.



How will X-FLEX project help Luče? The project will provide in Luče flexibility to the energy grid from DER (Distributed Energy Resources) by means of community battery, home batteries, PV and EV-charging units, to enable further RES (Renewable Energy Systems) penetration in the LV network that will improve the network operating costs and operational reliability inside the area operated by the DSO. As well as, new ways to provide ancillary services to the DSO/TSO with fair remuneration to all actors involved.



etra I+D



This project has received funding from the European Union's Horizon 2020 research and innovation programme Under grant agreement n° 863927

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Figure 10 - X-FLEX Newsletter: October 2020

### 3.7 Videos

X-FLEX has produced its official video presentation in English [4] and Spanish [5], which has been published on all X-FLEX communication channels. All videos produced so far are in the Table 1.



*Figure 11 - Introduction video of X-FLEX (English version).*



*Figure 12 - Introduction video of X-FLEX (Spanish version).*

Furthermore, short, and animated videos per pilot site have been produced. These videos provide in a very simple way information on how each pilot site looks like and what infrastructure it comprises.





Figure 13 - Pilot sites animated videos of X-FLEX.

TITLE OF THE VIDEO	LINK
--------------------	------

#### Video introduction – English



<https://youtu.be/mTVZw8NWaJQ>

#### Video introduction – Spanish



<https://youtu.be/iX7UoMUGp-M>

### Animated video of Luče (Slovenia)



<http://xflexproject.eu/scenarios/luce/>

### Animated video of Xanthi (Greece)



<http://xflexproject.eu/scenarios/xanthi/>

Table 1  
X-FLEX

### Animated video of Ravne Na Koroškem (Slovenia)

- List of  
videos



<http://xflexproject.eu/scenarios/ravne-na-koroskem/>

### Animated video of Albena (Bulgaria)



<http://xflexproject.eu/scenarios/albena/>

*produced until M18.*



### 3.8 Press releases

Under the communication actions, ETRA has prepared different press releases to be used by the partners. Also, new press releases will be prepared whenever it is required. After any relevant event or action by the project, those press releases are being issued to the main national and international press media.

### 3.9 Press kit

As part of the communication action a press kit has been created and it is available on the website [3]. The press kit is a pre-packaged set of general X-FLEX information and materials that can be used by anyone that is interested in writing about the project.

## 4 SCIENTIFIC PUBLICATIONS

Since X-FLEX is in its first stage and no preliminary results have been obtained yet - and on top of this, the COVID-19 crisis has impacted dissemination actions through - scientific publications have not been issued yet. However, partners are already working on this dissemination action.

## 5 PUBLIC DELIVERABLES

Deliverables are developed by X-FLEX project team members in alignment with the overall objectives of the project. They are the building block of X-FLEX and the ones defined as ‘public’ must be shared in order to disseminate developments and results properly. Therefore, the website serves as an open library for sharing those public deliverables with a broad network of relevant stakeholders.

The Table 2 shows the public deliverables submitted until M18. So far, deliverables submitted are still pending for approval from the European Commission; afterwards, they will be published on the website.

N°	Deliverable name	WP	Leader	Type	Date
D1.1	Project Management Plan v1	WP1	ETRA	R	M6
D1.2	Data Management Plan	WP1	ETRA	R	M6
D1.3	Risk assessment report	WP1	UL	R	M6
D1.6	Project Management Plan v2	WP1	ETRA	R	M18
D2.1	Project inception plan and best practices analysis	WP2	BPE	R	M8
D2.2	Use cases and requirements definition	WP2	HEDNO	R	M12
D2.3	Obstacles to innovation analysis (BRIDGE)	WP2	ETRA	R	M18
D2.4	System architecture definition	WP2	ICCS	R	M18
D2.5	KPI identification and monitoring preparation	WP2	UL	R	M18
D3.1	Flexibility Sources Mapping, Analysis and Classification	WP3	S5	R	M18
D4.1	Analysis of grid infrastructure conditions and pilot sites formal analysis	WP4	BPE	R	M18
D5.1	Overview and outlook of market mechanisms	WP5	JR	R	M18
D6.1	Standards and data models	WP6	ICCS	R	M18
D7.1	Pilot sites detailed project plan	WP7	PETROL	R	M18
D9.1	Plan for Exploitation and Dissemination of Results (PEDR)	WP9	ETRA	R	M3
D9.2	Communication Master Plan	WP9	ETRA	R	M3



<b>D9.3</b>	Dissemination and Communication activities Report v1	WP9	ETRA	R	M18
<b>D9.6</b>	Exploitation and commercialization strategies activities Report v1	WP9	JR	R	M18

*Table 2- Public deliverables submitted in M18. \* R = report*





## 6 NON- SCIENTIFIC PUBLICATIONS

X-FLEX has also participated in other categories of publications for dissemination aimed at other stakeholders but also more at the general audience. So far, X-FLEX consortium has participated in the BRIDGE brochure, as shown below. All the non-scientific publications are and will be available on the website [6].

### 6.1 Brochure: BRIDGE 2020

Date: June 2020

Published by: BRIDGE Initiative

Overview: The new BRIDGE Brochure includes 20 new H2020 projects: the brochure describes the initiative in some numbers, presenting the different areas that the project members address in terms of technologies or enabled services, their project partners, their geographical coverage, and their fact sheets.

Link: [https://www.h2020-bridge.eu/wp-content/uploads/2020/06/Brochure-of-BRIDGE-projects\\_2020\\_VF\\_web3.pdf](https://www.h2020-bridge.eu/wp-content/uploads/2020/06/Brochure-of-BRIDGE-projects_2020_VF_web3.pdf)



Cooperation between Horizon 2020 Projects in the fields of Smart Grid, Energy Storage, Islands, and Digitalisation

**The BRIDGE initiative and  
project fact sheets**

June 2020





**bridge**  
HORIZON 2020

H2020 call: LC-343-ES-1-2018 - Flexibility and retail market options for the distribution grid

**X-FLEX**

Integrated energy solutions and new market mechanisms for an eXtended FLEXibility of the European grid

**X-FLEX** aims at designing, developing and demonstrating a set of tools to integrate the emerging decentralized ecosystem of RES and flexibility systems into the existing European energy system, in an efficient and cost-effective manner, to create more stable, secure and sustainable smart grid, with special attention to extreme weather conditions. The project addresses all the actors of the smart grid value chain, from DSO to final consumers, including microgrid operators and utilities, considering flexibility in both on the generation and on the demand side, on an individual or aggregated level.

From 2019 To 2023	Project total cost	EU contribution	Website
	9.4 M€	7.3 M€	<a href="http://info.x-flex.eu/">http://info.x-flex.eu/</a>

**Technologies and services deployed**

Technologies for consumers	Technologies for DSOs
✓ Demand response	✓ Network management and control tools
✓ Grid technologies	✓ Power to Gas
✓ Large-scale storage technologies	✓ Batteries
✓ Distributed storage technologies	✓ Thermal energy storage
✓ Generation technologies	✓ PV ✓ Biogas
✓ Market	✓ Electricity market
	✓ Ancillary services

**Project partners' countries**

**Coordinator:** ETRA INVESTIGACION Y DESARROLLO SA (Spain)

**Other partners:**

- UNIVERZA V LJUBLJANI (Slovenia)
- PETROL SLOVENSKE ENERGETSKA DRUŽBA DO LJUBLJANA (Slovenia)
- ELEKTRO CELJE D.O.O. (Slovenia)
- ALPHA AD (Bulgaria)
- ELEKTROENERGIEN SYSTEMEN OPERATOR DAD (Bulgaria)
- INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS (Greece)
- DIACHRISTIS ELINIKOU DIKTYOU DIANOMIS ELEKTRIKIS ENERGIAS AE (Greece)
- SUITES DATA INTELLIGENCE SOLUTIONS LIMITED (Cyprus)
- BLUEPRINT ENERGY SOLUTIONS GMBH (Austria)
- SYSTEMS SUNLIGHT INDUSTRIAL & COMMERCIAL COMPANY OF DEFENSIVE ENERGY ELECTRONIC AND TELECOMMUNICATIONS SYSTEMS S.A. (Greece)
- JOANNIDIS RESEARCH FORSCHUNGSGESELLSCHAFT MBH (Austria)

BRIDGE Brochure June 2020

138

**bridge**  
HORIZON 2020

**Project Description**

**Context.** The increasing share of Distributed Renewable Energy Sources (DRES) in the energy grid has become key for the decarbonization of the European electricity system and, thus, for the achievement of the EU energy and climate change policy goals. The variability and uncertainty of these distributed sources pose important risks and challenges to the stability and security of the European, national and local grids, but at the same time they open new opportunities to the energy value chain. This overall picture is completed by an emerging decentralized ecosystem where new energy systems, such as batteries, power to heat/cold, vehicle to grid and other storage solutions, are offering a large flexibility potential to the grid.

**Scope.** X-FLEX project proposes a set of efficient, cost-effective, integrated solutions, that will facilitate the optimum combination of decentralized flexibility assets, both on the generation (DER) side and on the demand side (V2G, power-to-heat/cold/gas, batteries, demand response), enabling all parties, including final consumers, to offer their flexibility in the market creating benefits to all the actors in the smart grid value chain.

X-FLEX is unique in its multi-technology, multi-actor approach which, in an increasingly RES-powered grid, will ensure security, resilience and stability for all, even under grid-stressing scenarios such as extreme climate events.

**Technical description and implementation.** X-FLEX aims to develop 4 complementary products that offer services to all the energy stakeholders, from network operators (TSO, DSO, microgrid operators) to final consumers/prosumers and flexibility providers, including other intermediate players, such as retailers and aggregators.

- SERVIFLEX** tool (Integrated flexibility management tool). It is the tool for flexibility managers to take advantage of the value of energy storage along with other demand flexibility resources towards the establishment of a holistic framework for flexibility extraction, profiling, forecasting, classification, clustering and management to serve different market and grid needs.
- GRIDFLEX** tool (Advanced tools for automatic control and observability). It is the tool for grid and microgrid operators in order to prevent congestion (voltage and current issues) and power quality problems with the increasing share of intermittent RES, giving special attention to the potential grid problems due extreme climate events.
- MARKETFLEX** tool (Market platform and new market mechanisms). This tool enables final consumers and prosumers (generation, DER, flexibility providers) to access the market individually, through an aggregator or through a Balancing Responsible Party to participate on different markets: wholesale market, local energy market or ancillary services market for TSO or DSO.
- X-FLEX** platform (Flexible and scalable integrated platform). This platform integrates all the X-FLEX solutions in order to provide services for all the energy actors and ensure more secure, stable and clean energy supply.

These solutions are tested in real conditions in 4 pilot sites in 3 EU Member states: Bulgaria, Slovenia and Greece.

**Impact.** Replicability: The complementarity of the project pilot sites facilitate the replicability since it is including different conditions, infrastructure and stakeholders, and therefore it facilitates the analysis for the recommendation of future implementation of the solutions after the end of the project.

**Socio-economics.** By means of the commercialization, deployment and implementation of the X-FLEX solutions is expected to generate 55,480 (direct and indirect) jobs related to RES after 3 years of the X-FLEX commercialization.

**Environment.** X-FLEX predicts to increase the RES production in the 3 pilot countries by 6,992 GWh over the next 5 years of the project. This increase in the RES production will entail a reduction of 5 Mtn CO2eq of CO2 emissions in the pilot countries after the commercialization of the X-FLEX solutions.

**Market Transformation.** It is expected that X-FLEX will enable the increase of 28% of energy renewable into the distribution grid of the four project pilot sites by end of the project, in 2023.

BRIDGE Brochure June 2020

139

Figure 14 - BRIDGE brochure June 2020.

## 7 NEWS CLIPPING

The presence of X-FLEX on media is also a factor to be presented as dissemination impact of the project. In this chapter, X-FLEX presence in articles and news from 2020 is presented. Also, the website gathers all the news clipping [7]. The X-FLEX project appears in 18 news (both in electronic and in paper form) in Slovenia, Bulgaria, Spain, and Austria. With a total of 13 news, Slovenia is the country where X-FLEX has gained more media presence.

Date: March 2021

Source: EnerTIC

Location: Spain

Language: Spanish

Title: “ÉTER: Gestión avanzada de Smart Grids como catalizador de la transición energética en las ciudades europeas”

Link: <https://enertic.org/eter-gestion-avanzada-de-smart-grids-como-catalizador-de-la-transicion-energetica-en-las-ciudades-europeas/>



Figure 15 - Article “ÉTER: Gestión avanzada de Smart Grids como catalizador de la transición energética en las ciudades europeas”.



Date: February 2021

Source: Magazine “Enegetika” (ESO)

Location: Bulgaria

Language: Bulgarian

Title: “ПРЕДВАРИТЕЛНИ ТЕСТОВЕ ЗА АКТИВИРАНЕ НА РЪЧНО ВТОРИЧНО РЕГУЛИРАНЕ НА ЧЕСТОТАТА (РВРЧ) ЧРЕЗ ГЪВКАВИТЕ ИНСТАЛАЦИИ В К. К. АЛБЕНА - ЧАСТ ПЪРВА” / “Preliminary tests for manual secondary activation frequency adjustment through the flexible installations in kk Albena - part one”

Link: <http://www.eso.bg/fileObj.php?oid=3053>



Figure 16 - Article “Preliminary tests for manual secondary activation frequency adjustment through the flexible installations in kk Albena - part one”

Date: 09/12/2020

Source: Finance

Location: Slovenia

Language: Slovenian

Title: Ali se lahko industrija uspešno sooči s (korona) krizo in vztraja na poti v nizkoogljičnost? (Can the industry successfully face a (corona) crisis and insist on a path to low carbon?)

Link: NA (paper format)



# Ali se lahko industrija uspešno sooči s (korona) krizo in vztraja na poti v nizkoogljičnost?

Pametno in učinkovito upravljanje energije pomaga pri znižanju stroškov tudi v industriji, to pa pomembno vpliva na konkurenčnost in poslovno uspešnost



■ Petrolov nadzorni center v ZGO Ravne na Koroškem

topijo z energetskega pregledom podjetja. Tako industrijskim podjetjem pomagajo prepoznati priložnosti za konkretne ukrepe, ki pomagajo dosegati večjo konkurenčnost.

## Evropski »da« inovativnim pristopom in povezovanju

Evropska komisija spodbuja in podpira različne inovativne pristope ter nove tehnologije za doseganje energetske učinkovitosti, predvsem povezovanje v partnerstva in digitalizacijo. Tega so se lotili tudi v Petrolu, ko so povezali industrijo z lokalnim okoljem. V sodelovanju s podjetjem SIJ Metal Ravne so odvečno toploto, ki nastaja pri hlajenju elektroobločne peči v podjetju, uporabili kot vir za daljinsko ogrevanje mesta Ravne na Koroškem in celotne gospodarske skupnosti Ravne. Tako se industrijsko gospodarsko okolje razvija v sodelovanju z lokalno skupnostjo, kar je tudi primer dobre prakse krožnega gospodarjenja.

Industrija lahko kot velik odjemalec električne energije pomembno pripomore k stabilnosti in fleksibilnosti elektroenergetskega sistema. S projekti pametnega upravljanja energije, kot je projekt X-Flex, je možno oblikovanje

integriranih tehnoloških rešitev, ki bodo omogočale optimalne kombinacije decentraliziranih virov prožnosti tako na strani proizvodnje kot tudi porabe. Pri tem gre za kombinirano uporabo sistemov so-proizvodnje toplote in električne energije in električne energije kotla ter rešitev za shranjevanje energije.

## Razvojbo usmerjala digitalizacija

Tempo bo v prihodnje še bolj narekovala digitalizacija, s katero je upravljanje energetskih sistemov lažje in bolj učinkovito. V Petrolu so za ta namen razvili lastno tehnično informacijsko IIoT-platforno Tango, ki temelji na najsodobnejših tehnologijah. Tango podatke najprej preveri in obdela, nato jih pretvori v uporabne informacije, kar omogoča učinkovitejšo upravljanje in sprejemanje boljših poslovnih odločitev.

Krizni časi so za industrijo tudi priložnost, če smo dovolj aktivni in se okrevanja po koronakrizi lotimo s povezovanjem in partnerstvi. Z digitalizacijo je izpolnjevanje vse večjih okoljskih zahtev lažje, odstira pa tudi številne priložnosti zaradi povezovanja tehničnih in tržnih podatkov, menijo v Petrolu.

Figure 17 - Article "Ali se lahko industrija uspešno sooči s (korona) krizo in vztraja na poti v nizkoogljičnost?"

**Date:** 04/11/2020

**Source:** Moj dom - priloga Dnevnika

**Location:** Slovenia

**Language:** Slovenian

**Title:** Digitalne rešitve so gonilo razvoja (Digital solutions are the prime movers of development)

**Link:** NA (paper format)

Energetika

## Digitalne rešitve so gonilo razvoja

Digitalizacija je zadnja leta v skokovitem vzponu in trend rasti še kar vztraja. K temu je prav gotovo pripomogla tudi pandemija koronavirusne bolezni (covid-19), ki je pospešila spletne sestanke in vođenje različnih sistemov na daljavo. Tudi energetskih sistemov, kjer informatizacija poslovnih procesov prinaša boljše energetske učinkovitost in boljše poslovne odločitve.

Moderne IoT/NT platforme, v katere se vključujejo različne energetske naprave, so tiste, ki pomagajo povežati energetske sisteme, vizualizirati podatke in ki omogočajo lažje upravljanje. Tovrstna povežljivost razpoložljivih podatkov prinaša hitrejšo prednost pri poslovnih odločitvah, česar se zavedajo tudi v **Enelja**, kjer so se upravljanja energetskih sistemov lotili s platformo **Tango**, ki so jo razvili s lastnim znanjem.

### Procesi v energetiki vse bolj podatkovno vodeni

V **Enelju** v sklopu svojih storitev zvezo, obremenit, inženirij in podjetjem pomagajo do zmanjševanja rabe energije in učinkovitejšega upravljanja infrastrukturnih sistemov, kot so vodovodni sistemi, **čistilne** **na** **prave**, sistemi daljinskega ogrevanja, učinkovite razsvetljave in upravljanje energetske prenosilnih starih. Pri tem se osredotočajo na uporabo novih prijemnih rešitev.



Enelja nadzorni center za energetske upravljanje (na sliki desno).

odstotnost sistemov na potrebe končnih uporabnikov ter zmanjševanje okoljskih obremenitev.

sklepi so smo izbrali, ki so podrobno predstavljajo v informatizacijo, na podlagi katerih lahko upravljamo procese z namenom zniževanja stroškov in oblikovnih upravljanj, karani pri maksimizaciji poslovne rezultatne, a pravijo v **Enelju**, kjer digitalne rešitve vidijo kot ključno za zeleno okolišarstvo gospodarstva. Tako, na primer, s projektirane energetske prenosne javne razsvetljave v več kot 20 mestih v regiji upravlja preko 45.000 energijskih učinkovitih svetilk javne razsvetljave in občinam omogočajo več kot 70 odstotkov prihrankov električne energije.

### Potencial je v povezovanju sektorjev in pilotnih projektih

V **Enelju** potencial prepoznajo predvsem v povezovanju sektorjev v integriran energetski sistem. Zato skleni partnerstva razvijajo številne pilotne projekte za pametno in prečno upravljanje energije, kot sta na primer projekta **X-Flex in Comble** v Lačah. Sodobne informacijske rešitve skupaj z novimi tehnologijami in znanji, kot so umetna inteligenca, strojno učenje in Internet stvari, prinašajo mnoge možnosti in avtomatizacijo. In ravno tu je potencial razvoja, sicerji ne seveda prihrankov, na čemer bodo delali še naprej, dodajajo v **Enelju** test.

Figure 18 - Article "Digitalne rešitve so gonilo razvoja"

**Date:** 23/10/2020

**Source:** Holisder project website

**Location:** Europe

**Language:** English

**Title:** HOLISDER team in two workshops during sustainable places 2020

**Link:** <http://holisder.eu/holisder-team-in-two-workshops-during-sustainable-places-2020/>

#### HOLISDER TEAM IN TWO WORKSHOPS DURING SUSTAINABLE PLACES 2020

Posted on October 23, 2020 in [News](#)

This year Sustainable Places conference gives Holisder team two opportunities to present the project's achievements after 3 years of hard work. Workshops „Flexibility 2.0“ and „Sustainable digital tools for all energy actors“ will not take place without us!

„Sustainable Digital Tools for All-Energy Actors Workshop“ will present the ICT tools developed in H2020 projects that will increase energy efficiency and the use of renewable energies.

The presentation on HOLISDER project will be focused on the end-user oriented tools for their DR engagement and empowerment, and how they are being implemented in the Serbian pilot site. The project representatives will be Pablo de Agustin from TECHNIA (as project coordinator) and Milan Vukovic from BELIT (as Serbian technical partner).

Exchange of experiences among the participating projects: X-Flex, FlexCoop, Synergy and Flexgrid projects is the key goal of this workshop!

Save the date: 29th October at 11.00 – 12.30 CET

For details visit: <https://www.sustainableplaces.eu/home/ep20-workshops-events/sustainable-digital-tools-for-all-energy-actors/>



„Flexibility 2.0: Demand Response and Self Consumption Workshop“ will foster knowledge transfer between several EU projects in terms of demand response and energy flexibility fields. This time Holisder will be presented in detail by Arun Subramanian from THO. Together with TABEDE, eDREAM, DRIVE, DELTA, AMBIE+De, NOVICE and EBalanceplus project we will debate about the problems that have occurred during projects duration and technologies developed.

Save the date: 29th October at 15.30 – 18.00 CET

For details visit: <https://www.sustainableplaces.eu/home/ep20-workshops-events/flexibility-2-0-demand-response-and-self-consumption/>

Figure 19 - Article “HOLISDER team in two workshops during sustainable places 2020”.

Date: 02/06/2020

Source: [www.nas-stik.si](http://www.nas-stik.si)

Location: Slovenia

Language: Slovenian

Title: Elektro Celje sodeluje v evropskem projektu X-FLEX (Elektro Celje participates in the European project X-FLEX)

Link: <https://www.nas-stik.si/Politikazasebnosti.aspx>



## Članki

### Elektro Celje sodeluje v evropskem projektu X-FLEX

Datum: 2. 6. 2020 Besedilo: povzeto po spletni strani

**Distribucijsko podjetje Elektro Celje bo v okviru projekta X-Flex zagotavljalo poligon za preizkušanje, demonstracijo in ovrednotenje rešitev.**

Cilj evropskega raziskovalnega projekta X-Flex je oblikovati integrirane tehnološke rešitve, ki bodo omogočale optimalne kombinacije decentraliziranih virov prožnosti, tako na strani proizvodnje (porazdeljeni proizvodni viri) kot tudi na strani porabe električne energije. S tem se bo omogočilo vsem deležnikom, vključno s končnimi porabniki - proizvajalci, da ponudijo svojo prožnost na trgu in s tem ustvarjajo dobrobiti vsem deležnikom v vrednostni verigi pametnih omrežij.

#### Enajst partnerjev iz vse Evrope

Elektro Celje v projektu sodeluje z 11 partnerji iz Evropske unije. Poleg njih, v projektu sodelujeta še dva slovenska partnerja, Petrol in Univerza v Ljubljani, preostali partnerji pa prihajajo iz Španije, Cipra, Avstrije, Grčije in Bolgarije. Projekt je vreden 9,5 milijona evrov in je v pretežnem deležu financiran s strani Evropske unije, poteka pod okriljem olivnega programa Evropske unije za raziskave in inovacije Horizon 2020, trajal pa bo do konca septembra 2023.

Množična elektrifikacija osebnega prometa z električnimi vozili, ogrevanje s toplotnimi črpalkami ter potreba uporabnikov po samozadostnosti z električno energijo in lastnimi obnovljivimi viri energije (OVE) bo močno vplivala predvsem na delovanje distribucijskega omrežja. Slednje s tehničnimi in finančnimi omejitvami ne omogoča priključitve nemejenega števila porabnikov ali proizvodnih naprav. Tako kot pride do "zamašitev" na primer v prometu, so tudi prenosni vodi vedno omejeni in končni. V primeru, da so na voljo alternativne poti, lahko govorimo o določeni prožnosti ali fleksibilnosti v distribucijskem omrežju. Če smo v danem trenutku, ko se električno omrežje bliža meji zmogljivosti oziroma zaskrbenju, pripravljeni in sposobni omejiti ali izključiti del porabe, potem govorimo o prožnem oziroma fleksibilnem omrežju. Takšen način odpira tudi možnosti za nove poslovne modele, kjer je jasno, da je potrebno sočasno stremeti h koristi odjemalca kot tudi sistema oziroma vseh deležnikov. Glede na to, da določene tehnične rešitve že obstajajo, je največji izziv ravno takšen dogovor med deležniki.

V okviru projekta se bodo razvila orodja za nudenje storitev vsem energetskim deležnikom. Poleg naprednega orodja za samodejno krmiljenje in nadzorovanje omrežja, GridFlex, bo razvito tudi integrirano orodje za upravljanje prožnosti, ServiceFlex, tekom projekta pa je načrtovana tudi tržna platforma, MarketFlex, ki bo spodbujala nove tržne mehanizme in omogočala različne načine upravljanja s kapacitetami v distribucijskem omrežju. Z omenjenimi orodji bo odjemalcem omogočena možnost priključitve novih tehnologij, obenem pa se jim bodo odprle nove možnosti dodatnega zasluga ali zmanjšanja operativnih stroškov, ki jih ob trenutnih rešitvah nimajo. Ta orodja bodo preizkušali na štirih pilotnih lokacijah v treh različnih evropskih državah, in sicer v Sloveniji v Lučah in Ravnah na Koroškem ter v Grčiji in Bolgariji.

#### Prva samozadostna energetska skupnost na pilotni lokaciji Luče

Na pilotni lokaciji Luče, kjer nastaja prva samozadostna energetska skupnost v Sloveniji, bo potekala nadgradnja projekta COMPIL s tržnim pristopom zagotavljanja prožnosti. Eden izmed ciljev je razviti že omenjeno platformo MarketFlex za lokalni trg, ki bi pri svojem delovanju upoštevala omejitve prenosnih zmogljivosti nizkonapetostnega omrežja. V Lučah bodo razvijali in preizkušali tudi sistem Semaforja v povezavi s SCADA sistemom, ki bo omogočil učinkovito sodelovanje operaterja distribucijskega omrežja in potencialnih agregatorjev oziroma ponudnikov prožnosti. To pomeni, da bo sistem Semaforja vsak trenutek signaliziral stanje nizkonapetostnega distribucijskega omrežja. V primeru zelene signalizacije bo distribucijsko omrežje



Figure 20 - Article "Elektro Celje sodeluje v evropskem projektu X-FLEX"

Date: 05/05/2020

Source: Večer

Location: Slovenia

Language: Slovenian

Title: Pilotni primer energetske samooskrbe (Energy self-supply pilot)

Link: NA (paper version)



## LUČE Pilotni primer energetske samooskrbe

Del gospodinjstev v oddaljenem naselju Luč ni več energetske odrezan od sveta ob večjem neurju, vetrolomu, žledolomu. Ne le s sončnimi elektrarnami, podkrepitvi so tudi s hranilniki energije – baterijami

Rozmari Petek

**M**ed idiličnimi, a oddaljenimi kraji, ki jih vsaka večja vremenska ujma odreže od elektrificiranega sveta, so Luče. Naj bodo to žledolom, poplave, vetrolom, že samo neurje, mnogi v teh krajih v takšnih razmerah ostanejo brez elektrike. Elektro Celje je sicer po velikem žledolomu leta 2014, ko so sprva morali začasno električne kable, ki so prej potekali po drogovi, speljati kar po tleh, te spravili v zemljo in tako deloma že izboljšali zanesljivost oskrbe. Največji korak pa so skupaj s partnerji, družbo Petrol in ljubljansko Fakulteto za elektroniko naredili pred letom dni, ko so se v sklopu projekta Compile odločili, da bodo prav v Lučah vzpostavili prvo slovensko samooskrbno skupnost.

*Z razvojem tehnologije bi v prihodnosti to lahko bila rešitev za vsa področja, ki so bolj oddaljena*

### Hranilniki energije v hišah in transformatorski postaji

V tem času sicer projekt že skorajda zaključujejo. "Zadeve so sedaj že zelo dobro videti in delujejo. Motenj z oskrbo ni več," opisuje domačin Rok Suhodolnik, sicer direktor podjetja Biomasa, ki je tudi vključeno v projekt. Kot opisuje, so sprva v sklopu projekta postavili enajst individualnih sončnih elektrarn (posamezniki so sicer del naložbe morali sofinancirati), v drugi fazi pa so vgradili še baterije oziroma hranilnike energije za čase, ko sončne elektrarne ne dajejo energije. Druga faza je pravzaprav nadgradnja prve, poimenovana je X-Flex, dodatno pojasnjujejo v Elektru Celje. In ne gre le za hranilnike energije pri posameznih gospodinjstvih, temveč tudi za hranilnik v transformatorski postaji, ki odjemalce avtonomno napaja v primeru izpada električne energije. "Takšno obratovanje je izredno specifično in

zahtevno, zato se ga v Sloveniji trenutno še ne uporablja," poudarjajo v Elektru Celje. Izjema so sedaj Luče, ki so se s tem vpisale kot prvi primer v državi, kjer je hranilnik električne energije priključen na distribucijsko omrežje. "Trenutno je sicer to velika naložba, a z razvojem tehnologije bi v prihodnosti to lahko bila rešitev za vsa področja, ki so bolj oddaljena in kjer so izpadi električne energije relativno pogosti. Predvsem za samotne kmetije tako na savinjskem kot koroškem območju," dodaja tiskovna predstavnica Elektra Celje Maja Ivančič.

A da bo v prihodnje šlo vse bolj gladko, potrebujejo testni poligon,

Figure 21 - Article "Pilotni primer energetske samooskrbe"

Date: 31/03/2020

Source: EOL - embalaža, okolje, logistika

Location: Slovenia

Language: Slovenian

Title: S partnerstvom do trajnostnih energetske in okoljske resitve (Through the partnership to sustainable energy and environmental)

Link: NA (paper format)

## S partnerstvom do trajnostnih energetske in okoljskih rešitev

Podnebne spremembe danes krogijo smer razvoja; vse več podjetij se zato nanje aktivno odziva in pripravlja. Podobno tudi v Petrolu, kjer s celovitimi energetskimi in okoljskimi rešitvami ustvarjajo napredek na področju energije, infrastrukture, stavb, ravnanja z vodo in mobilnosti ter vzpostavljajo sodelovanje z mesti, občinami in lokalnimi skupnostmi, gospodarstvi, industrijo ter z javnim in storitvenim sektorjem. Pri projektih stremijo k čim bolj trajnostnim rešitvam in poskušajo uvesti čim več elementov krožnega gospodarstva. Pri tem jih vodi zavedanje, da imamo samo en planet, ki ga želimo ohraniti tudi za prihodnje generacije.



Dvalet obnovljivih virov energije se je pri projektu EOL-1 po prenehi povečati z 37 % na 51 %, pri projektu EOL-2 pa z 27 % na 56 %.

### Energetska prenova Ljubljane – s partnerstvi do zmanjševanja ogljičnega odtisa

Trajnostni razvoj je že vrsto let ena izmed pomembnejših vrednot Mestne občine Ljubljane. V prizadevanjih za zmanjšanje ogljičnega odtisa mesta je bilo izvedenih veliko ukrepov, ki izboljšujejo sedanjost in prihodnost življenja v prestolnici. Med njimi so tudi ukrepi energetske prenove stavb v javni lasti.

V sklopu dveh projektov Energetske obnove Ljubljane (EOL-1 in EOL-2) so v Petrolu v sodelovanju z Mestno občino Ljubljana in v konzorciju še dveh družb izboljšali energijsko učinkovitost v skoraj šestdesetih ljubljanskih stavbah po modelu energetskega pogodbenišтва.

Energetska prenova je potekala v dveh sklopih: v prvem je bilo prenovljenih 48 stavb, v drugem še dodatnih 11 stavb. V prenovi so bili med drugim vključeni številni ljubljanski vrtci in šole, centralno kopališče v Tivoliju, Hala Tivoli, dvorana športnega parka na

Kodeljevem, strelšče na Rudniku in bešgrajska enota Mestne knjižnice Ljubljana. Med izvedenimi ukrepi so bili prenova sistemov ogrevanja, ventilacije in klimatizacije, menjava notranje razsvetljave z energetsko učinkovitimi različicami, menjava obstoječih sistemov ogrevanja s sistemi, ki izkoriščajo obnovljive vire energije, menjava oken in vrat, prenova fasad in izolacija streh.

Energetska prenova je stavbam omogočila opremo s sodobno in okolju prijazno energetsko infrastrukturo za učinkovitejšo rabo energije in znižanje izpustov emisij toplogrednih plinov v okolje. Med najbolj izpostavljenimi prednostmi projekta so prav gotovo zagotovljeni energetski prihranki, ki znašajo 9 milijonov kilovatnih ur letno, kar je več kot 1,3 mio evrov in zadosti za pokritje energetskih stroškov 585 gospodinjstev. Poleg tega je bil obsežen tudi prispevek k znižanju emisij



Figure 22 - Article "S partnerstvom do trajnostnih energetskih in okoljskih"

Date: 07/03/2020

Source: zurnal24

Location: Slovenia

Language: Slovenian

Title: Zaradi nove zakonodaje bo marsikdo kupil električni avto (Under the new legislation, many will buy an electric car)

Link: <https://www.zurnal24.si/avto/zaradi-nove-zakonodaje-bo-marsikdo-kupil-elektricni-avto-342928>

## Zaradi nove zakonodaje bo marsikdo kupil električni avto

AVTOR Matija Janežič 7. MAREC 2020, OB 7:26

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Like Share Tweet

*V prihodnje bo na cestah veliko več električnih avtomobilov, kot jih je danes.*



## Samozadostna energetska skupnost

Govorniki na okrogli mizi so poudarili, da bo za prihodnost električne mobilnosti potreben aktivni odjemalec, ki mu bo za to potrebno ponuditi potrebna orodja. Nekatera so že na voljo.



Figure 23 - Article "Zaradi nove zakonodaje bo marsikdo kupil električni avto".



**Date:** 05/02/2020

**Source:** Compile project website

**Location:** Slovenia

**Language:** English

**Title:** X-FLEX project partners visited pilot site LUČE

**Link:** <https://www.compile-project.eu/news/x-flex-project-partners-visited-pilot-site-luce/>

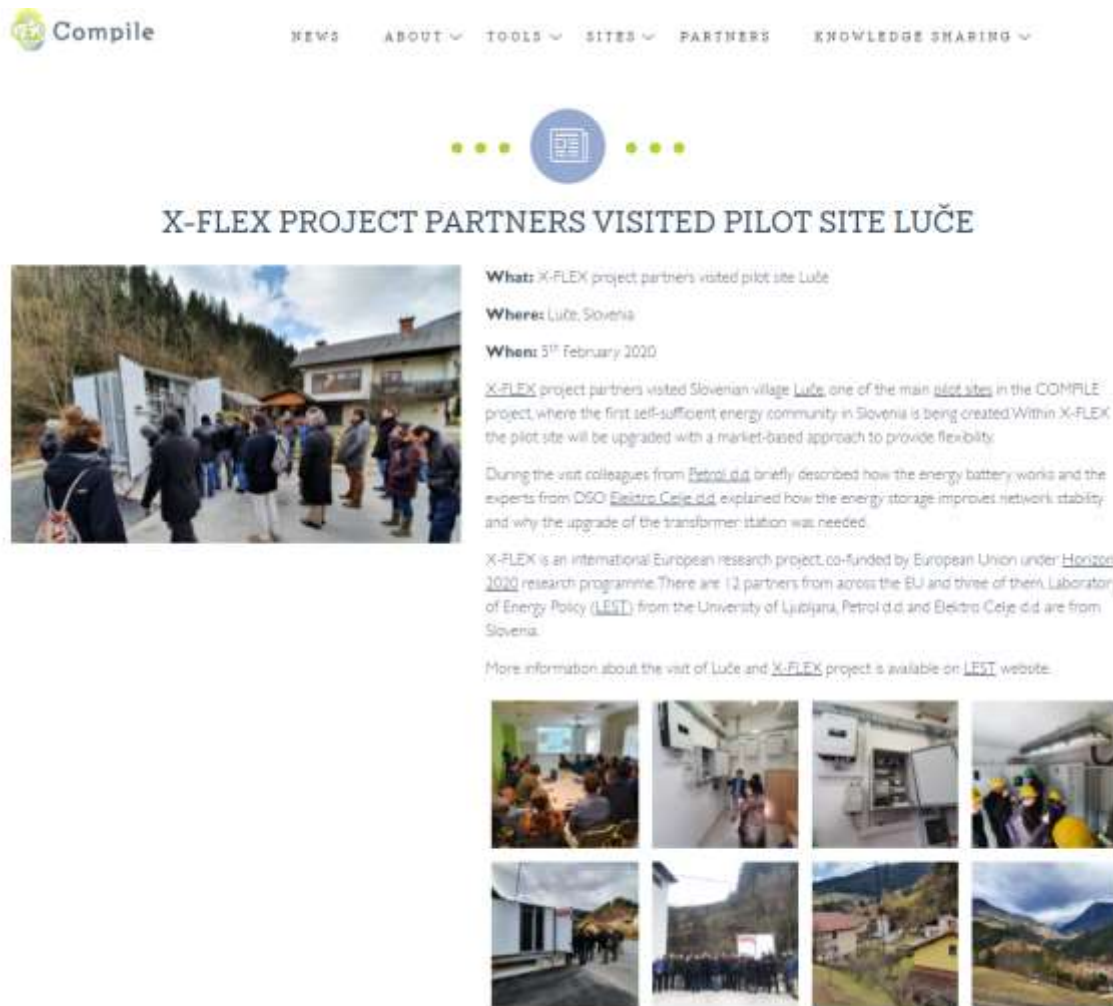


Figure 24 - Article "X-FLEX project partners visited pilot site LUČE".

**Date:** 31/01/2020

**Source:** Balkan Green Energy News

**Location:** Slovenia

**Language:** English

**Title:** Luče in Slovenia gets power storage in EU-backed project

**Link:** <https://balkangreenenergynews.com/luce-in-slovenia-gets-power-storage-in-eu-backed-project/>

## Luče in Slovenia gets power storage in EU-backed project



Published  
January 31, 2020

Country  
Slovenia

Author  
Igor Todorović

Comments  
0

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**Fuel retailer and energy services company Petrol mounted three household batteries in the municipality of Luče. The University of Ljubljana is the coordinator in Compile project, which brought the power storage solutions to the test site.**

A community battery is being installed in a village northeast of Ljubljana, close to the border with Austria. Engineers are at the pilot site Luče in the Compile project, funded through the European Union's Horizon 2020 research and innovation program. At the test site in Slovenia, earlier they connected household power storage units to the grid.

The University of Ljubljana and its Laboratory of Energy Policy, LEPT, are coordinating the works, which also include Croatia and Greece.

The scheme is being implemented in Križevci, located just northeast of Zagreb, and Rafina near Athens. The partners there are the Green Energy Cooperative, also known as ZEE, and the Institute of Communication and Computer Systems, respectively. The latter operates within the School of Electrical and Computer Engineering (ECE) of the National Technical University of Athens (NTUA).

The remaining partner countries are Austria, Belgium, Portugal and Spain. Luče will also be part of the XFlex project.





Piso, Campanar, València

179.900 €



Piso, Campanar, València

165.000 €



Piso, Campanar, València

258.000 €



Piso, Nou Campanar, València

259.000 €

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### MOST POPULAR

Figure 25 - Article "Luče in Slovenia gets power storage in EU-backed project".

Date: 24/1/2020

Source: energetika.net

Location: Slovenia


Language: Slovenian


Title: Projekt X-Flex bo prinesel orodja za lažjo uporabo prožnosti v elektroenergetskem sistemu (X-Flex project will provide tools to facilitate the use of flexibility in the electricity system)


Link: <https://www.energetika.net/eu/novice/trading/x-flex-project-to-deliver-tools-that-facilitate-flexibility>





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## Projekt X-Flex bo prinesel orodja za lažjo uporabo prožnosti v elektroenergetskem sistemu

Datum: 24. januar 2020 Avtor: Tanja Štremelj Kategorija: Članek

Tema: Električna energija, OVE in URŠ, Nove tehnologije

Zaradi elektrifikacije različnih segmentov življenja in uvajanja obnovljivih virov energije (OVE) v električno omrežje, postaja slednje vedno bolj obremenjeno, kar vpliva med drugim na zanesljivost oskrbe z električno energijo. Ta problem naslavlja evropski projekt X-Flex, v katerem sodelujejo tudi trije slovenski partnerji - Petrol, Elektro Celje in Univerza v Ljubljani - in katerega cilj je razvoj orodij, ki bodo omogočila in olajšala uporabo prožnosti v elektroenergetskem sistemu s ciljem povečanja stabilnosti in zanesljivosti oskrbe v normalnih pogojih dela in izrednih vremenskih pogojih, je na svoji spletni strani zapisal Petrol. V projekt bodo vključili tudi operater prenosnega omrežja, operater mikroomrežij, ponudniki prožnosti (agregatorji) in lokalne skupnosti, saj so »aktivni odjemalci ključni pri prehodu v nizkoogljično družbo«.

Lučé; Foto: Petrol

Med cilji projekta X-Flex je po besedah Petra oblikovati integrirane tehnološke rešitve, ki bodo omogočale optimalne kombinacije decentraliziranih virov prožnosti tako na strani proizvajalce kot tudi na strani porabe in s tem olajšale uporabo prožnosti v sistemu. »Obenem pa bomo s prožnostjo, ki jo bo nudil celoten sistem, nudili sistemske storitve in pomagali slovenskemu elektroenergetskemu omrežju,« pojasnjuje Petrol strokovnjak, dr. Gašper Artač.

V projekt bodo v ta namen vključene različne že obstoječe enote s prilagodljivim odjedom, kot so baterije, naprave za ogrevanje oz. hlajenje, tehnologija 'vehicle to grid' oz. V2G in druge rešitve za shranjevanje energije.

### Moči združili trije slovenski partnerji

Projekt X-Flex, ki poteka pod okriljem programa Obzorje 2020, s pričetkom oktobra 2019 in zaključkom septembra 2023, je vreden 9,5 milijona evrov, od tega je sofinanciranih 7,3 milijona evrov. Poleg Petrola sodelujeta v projektu še dva slovenska partnerja, Univerza v Ljubljani in Elektro Celje, preostali partnerji so iz Avstrije, Grčije, Cipra in Bolgarije.

Petrol ima v projektu vlogo vodje delovnega sklopa demonstracijskih projektov ter vodje pilotnih lokacij v Sloveniji. Medtem je Univerza v Ljubljani (UL) - natančneje Fakulteta za elektrotehniko, Laboratorij za energetske strategije (LEST), in Fakulteta za računalništvo in informatiko, Laboratorij za integracijo informacijskih sistemov (LIIS) - v projekt vstopila kot tehnični koordinator. Med drugim skrbi za skladnost razvoja različnih tehničnih orodij s cilji projekta in koordinacijo med partnerji.

Distribucijsko podjetje Elektro Celje pa je v okviru projekta X-Flex zagotavljal poligon za preizkušanje, demonstracijo in ovrednotenje rešitev, ki bodo omogočile vključevanje večjega deleža razpršenih virov in njihovo fleksibilnost oziroma prožnost; pojasnjuje dr. Miran Roser iz Elektro Celje. Pravi, da razpršeni viri ob tem ne predstavljajo več samo proizvodnih enot, kot so na primer fotovoltapnestne elektrarne, temveč jih kombiniramo tudi z uporabo hranilnikov električne energije.

### Razvite rešitve oziroma orodja bodo testirali na štirih pilotnih lokacijah

Orodja, ki bodo razvita tekom projekta, bodo po pojasnilih Petrola nudila storitve vsem energetskim deležnikom. »Poleg naprednega orodja za samodejno krmljenje in nadziranje omrežja, GridFlex, bo razvito tudi integrirano orodje za upravljanje prožnosti, ServiceFlex, tekom projekta pa je načrtovana tudi tržna platforma, MarketFlex, ki bi spodbujala nove tržne mehanizme in omogočala različne načine upravljanja s kapacitetami v distribucijskem omrežju,« pravijo.

Z omenjenimi orodji bo po besedah dr. Artača odjemalcem omogočena možnost priklučitve novih tehnologij, obenem pa se jim bodo odprle nove možnosti dodatnega zaslužka ali zmanjšanja operativnih stroškov, ki jih ob trenutnih rešitvah nimajo. »V sklopu projekta bomo razvili in demonstrirali orodja, ki bodo poskrbeli za tehnično stran novih konceptov, obenem pa se bomo dotaknili tudi regulatornih oz. zakonskih okvirjev, ki se bodo morali spremeniti oz. prilagoditi, da bi tehnične rešitve začele tudi izven pilotnih lokacij.«

Načrtovana pa je tudi t.i. X-Flex platforma, pri kateri bo šlo za prilagodljivo in razširljivo integrirano platformo. Rešitve, omenjena orodja, bodo preizkušena v realnih pogojih na štirih pilotnih lokacijah v treh državah članica EU: Ravne na Koroškem (SI), Luče (SI), Kanthi (GR) in Albena (BG), ki se med seboj razlikujejo po potrebah ter družbeno-ekonomskih in tehnoloških okoljih.

Na pilotni lokaciji Luče, kjer nastaja prva samozadostna energetska skupnost v Sloveniji, bo potekala nadgradnja projekta COMPILe s tržnim pristopom zagotavljanja prožnosti. Eden izmed ciljev je razviti platformo MarketFlex za lokalni trg, ki bi pri svojem delovanju upoštevala omejitve prenosnih zmogljivosti nizkonapovednega omrežja. V Lučah se bo razvijal in preizkušal tudi sistem Semaforja v povezavi s SCADA sistemom, ki bo omogočil učinkovito sodelovanje operatorja distribucijskega omrežja in potencialnih agregatorjev oziroma ponudnikov prožnosti, pravijo v Petrolu.

Razvili pa bodo tudi rešitve za upravljanje domače polnilne infrastrukture za električna vozila (V2G ali 'vehicle to grid') na območju z

Figure 26 - Article "Projekt X-Flex bo prinesel orodja za lažjo uporabo prožnosti v elektroenergetskem sistemu"

Date: 23/01/2020

Source: oe.finance

Location: Slovenia

Language: Slovenian

Title: Tako bodo v daljinsko ogrevanje Raven vključili tudi obnovljive vire energije (This will also include renewable energy sources in district heating)

**Link:** <https://oe.finance.si/8957219/Tako-bodo-v-daljinsko-ogrevanje-Raven-vkljucili-tudi-obnovljive-vire-energije?cctest&>

## Tako bodo v daljinsko ogrevanje Raven vključili tudi obnovljive vire energije

Čas branja: 2 min



0

23.01.2020 23:45

Petrol, Univerza v Ljubljani in Elektro Celje sodelujejo v mednarodnem projektu, s katerim bodo na Ravnah in v Lučah okrepili vključevanje obnovljivih virov energije v elektroenergetski sistem.



**BORUT HOČEVAR**

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Ravne na Koroškem

Foto: Shutterstock

**SIJ Metal Ravne in Petrol** sta leta 2015 **zmagala na okoljskem razpisu Financ** v kategoriji okolju prijazen postopek, in sicer za projekt izkoriščanja odpadne toplote iz Metalove elektroobločne peči pri daljinskem ogrevanju Raven na Koroškem. To je bil prvi takšen projekt pri nas.

Vendar pa se projekt s tem ni ustavil. Razširili ga bodo v okviru mednarodnega projekta X-Flex. Razvili bodo model za pridobivanje toplote iz obnovljivih virov energije, projekt pa so opisali na **Petrolovi spletni strani**.

Kaj načrtujejo? Kombinirali bodo uporabo enot za sproizvodnjo toplote in električne energije z visokim izkoristkom (SPTE) in električnega kotla, ki bo nameščen v industrijskem kompleksu.

Kotel bodo deloma napajali iz obnovljivih virov energije, v toploto pa bodo pretvorili presežke električne energije. »Tako lahko izboljšamo zanesljivost in učinkovitost daljinskega ogrevanja,« so na spletni strani navedli pojasnilo **Gašperja Artača** iz Petrola. Z električnim kotlom bodo dobili rezervni vir za proizvodnjo toplote.

Z optimizacijo SPTE in električnega kotla bodo izboljšali učinkovitost proizvodnje toplote, zmanjšali izpuste ogljikovega dioksida in trdih delcev in tudi pomagali elektroenergetskemu sistemu.

Projekt X-Flex poteka pod okriljem programa Obzorje 2020. Izvajati so ga začeli oktobra 2019, končali bodo septembra 2023, vreden je 9,5 milijona evrov, od tega je sofinanciranih 7,3 milijona evrov. Poleg Petrola sodelujeta v projektu še dva slovenska partnerja, **Univerza v Ljubljani** in **Elektro Celje**, drugi partnerji so iz Avstrije, Grčije, Cipra in Bolgarije.

Med cilji projekta je razvoj orodij, ki bodo omogočila in olajšala uporabo prožnosti v elektroenergetskem sistemu. Z orodji bodo povečali stabilnost in zanesljivosti oskrbe z energijo.

Petrol vodi v projektu delovni sklop demonstracijskih projektov in pilotne lokacije v Sloveniji. Univerza v Ljubljani opravlja naloge tehnične koordinacije. Laboratorij

Figure 27 - Article "Tako bodo v daljinsko ogrevanje Raven vključili tudi obnovljive vire energije"



Date: 22/01/2020

Source: Laboratory of Energy Policy (LEST)

Location: Slovenia

Language: English

Title: The X-FLEX project – An excellent example of cooperation between the Slovenian academia and industry at EU level

Link: <https://lest.fe.uni-lj.si/news/the-x-flex-project-an-excellent-example-of-cooperation-between-the-slovenian-academia-and-industry-at-eu-level/>



News

Laboratory

Projects

For students

Services

## News

### The X-FLEX project – An excellent example of cooperation between the Slovenian academia and industry at EU level

January 22, 2020

X-FLEX is an international European research project, co-funded by European Union under Horizon 2020 research programme. There are 12 partners from across the EU and three of them, Laboratory of Energy Policy from the University of Ljubljana, Petrol d.d. and Elektro Celje d.d. are from Slovenia. X-FLEX will create and integrate synergies across all energy flexibility sources and technologies, promoting cooperation among all the actors of the smart grid and energy market, in an efficient and cost-effective manner. Through this holistic approach, X-FLEX aims to create the optimal combination of decentralised flexibility assets located along the whole energy value chain, providing benefits to all the actors of the smart grid, energy retail and wholesale market, offering an all-win scenario.



LEST (UL) is the technical coordinator of the project and is responsible for content development and specification and, together with the Laboratory for Integration of Information Systems (LII, FR), also for the technical implementation of the tools. Petrol plays the role of the leader of a working set of demonstration projects managing pilot sites in Slovenia. The distribution company Elektro Celje provides a testing ground for demonstration and evaluation of solutions that will enable the inclusion of a greater share of dispersed resources and their flexibility.

The implemented solutions will be tested at Slovenian pilot locations in Ljubljana and Ravne na Koroškem. At the pilot site Ljubljana, where the first self-sufficient energy community in Slovenia is being created, the COMPILE project will be upgraded with a market-based approach to provide flexibility. One of the goals is to develop the MarketFlex platform for the local market, which would take into account the limitations of the transmission capacity at the low-voltage distribution network. In Ravne na Koroškem, the partners plan to develop and test a model of how to generate heat from RES – so called Power2Heat. The combined use of high efficiency cogeneration units (CHP) and an electric boiler, installed in an industrial complex and partly powered by RES and converting excess electricity into heat can improve the reliability and efficiency of district heating.

More about the project is available on its website and in a press release on the Petrol website (only in Slovenian language).

Figure 28 - Article “The X-FLEX project – An excellent example of cooperation between the Slovenian academia and industry at EU level”.



Date: 12/12/2019

Source: PETROL website

Location: Slovenia

Language: Slovenian

Title: Petrol sodeluje s študenti Fakultete za elektrotehniko (Petrol cooperates with students of the Faculty of Electrical Engineering)

Link: <https://www.petrol.eu/sl/objave/2019/12/petrol-sodeluje-s-studenti-fakultete-za-elektrotehniko.html>



## Petrol sodeluje s študenti Fakultete za elektrotehniko

12.12.2019

Pomembnost sodelovanja s fakultetami in bodočimi intelektualci se zaveda tudi Petrol. Zato v ta namen že tretje leto zapored v sodelovanju s Fakulteto za elektrotehniko na Univerzi v Ljubljani razpisuje magistrske teme ter s tem odpira vrata do novega znanja in izkušenj. Najboljše magistrske naloge so tudi nagrajene. Razglasitev letošnjega prejemnika priznanja je bila v sredo, 12. decembra 2019, obenem pa je bila to priložnost še za predstavitev novih magistrskih tem.

Uvodni pozdrav udeležencem je pripadal **Borutu Kozanu**, vodji razvoja električne energije in zemeljskega plina v Petrol, ki je predstavil Petrol, njegovo prisotnost na trgu in dejavnosti. »Sodelovanje med podjetjem, fakulteto in študenti ima razvojni vidik, saj bodočim magistrskim omogoči vpogled v industrijo in ustvarjanje zanimivih projektov,« še doda Kozan.

Letošnje leto so se za ustvarjanje magistrskih tem, pod mentorstvom Fakultete za elektrotehniko na univerzi v Ljubljani in Petrola, odločili štiri študenti, eden izmed njih pa je v sredo, 12. decembra, prejel posebno priznanje za najboljšo magistrsko nalogo. Priznanje je prejel **Jovancho Grozdanovski**, podelil pa mu ga je **Gašper Artač**, vodja Centra upravljanja energij v Petrolu in obenem somentor magistrske naloge. »Študentom, ki sodelujejo z nami, omogočimo, da raziskujejo nova področja, ki so

*Figure 29 - Article "Petrol sodeluje s študenti Fakultete za elektrotehniko"*

Date: 30/10/2019

Source: ETRA website

Location: Spain

Language: Spanish

Title: GRUPOETRA ha sido adjudicatario de tres nuevos Proyectos H2020 en el ámbito de las Smart Grids y las energías renovables

Link: <https://www.grupoetra.com/grupoetra-ha-sido-adjudicatario-de-tres-nuevos-proyectos-h2020/>



**etra** GRUPO ETRA Líneas de Negocio Tecnología e Innovación

**GRUPOETRA ha sido adjudicatario de tres nuevos Proyectos H2020 en el ámbito de las Smart Grids y las energías renovables. Estos nuevos proyectos refuerzan el posicionamiento de GRUPOETRA como líder tecnológico europeo en esta área.**

GRUPOETRA ha sido adjudicatario de tres nuevos Proyectos Europeos H2020 en el ámbito de las Smart Grids y las energías renovables. Estos proyectos, dos de los cuales son coordinados por GRUPOETRA, movilizan un total de 26ME, involucrando a más de 30 socios de 16 países europeos.

Por un lado, el proyecto X-FLEX –coordinado por GRUPOETRA–, tiene como objetivo principal desarrollar nuevas herramientas que faciliten la integración de los diferentes sistemas distribuidos en la red eléctrica, generando beneficios a todos los actores de la cadena de valor del sistema energético. Sus resultados se demostrarán en Eslovenia, Bulgaria y Grecia, fomentando el uso eficiente de energías renovables en dichos países.

El siguiente proyecto es TRINITY, también liderado por GRUPOETRA, que desarrollará soluciones que mejoren la cooperación y coordinación entre todos los agentes de la red de transmisión, incluyendo su integración en un mercado eléctrico paneuropeo. Como resultado del proyecto se realizarán actividades de demostración en 9 países del Sudeste de Europa, lo que refuerza el posicionamiento de ETRA como líder tecnológico europeo.

Por último, GRUPOETRA llevará la dirección técnica del proyecto FLEXGRID, el cual tiene como objetivo principal desarrollar una nueva arquitectura para Smart Grids que optimice la gestión de nuevos servicios energéticos para futuros modelos del mercado eléctrico.

En resumen, estos tres proyectos se suman a todos los que GRUPOETRA viene desarrollando en el ámbito de las tecnologías avanzadas aplicadas al sector de la energía, consolidando su posicionamiento como actor de referencia en este campo dentro de la UE.

Figure 30 - Article “GRUPOETRA ha sido adjudicatario de tres nuevos Proyectos H2020 en el ámbito de las Smart Grids y las energías renovables”.





Date: 30/10/2019

Source: BLUEPRINT website

Location: Austria

Language: English

Title: X-FLEXH2020 project kick off

Link: <https://www.blueprintenergy.at/post/design-a-stunning-blog>



## X-Flex H2020 project kick off

On 7th and 8th of October Blueprint Energy Solutions experts have attended the kick off meeting of H2020 project X-FLEX in Valencia, Spain. Blueprint Energy Solutions is one of the 12 partners in consortium.

Blueprint Energy Solutions is a member of consortium, lead by the project coordinator ETRA from Spain, working on X-FLEX project which proposes a set of efficient, cost-effective, integrated solutions that will facilitate the optimum combination of decentralised flexibility assets, both on the generation (DER) side and on the demand side (V2G, power-to-heat/cold/gas, batteries, demand response), enabling all parties, including final prosumers, to offer their flexibility in the market creating benefits to all the actors in the smart grid value chain.

X-FLEX project outcomes will be tested in real conditions at 4 pilot sites in 3 EU Member states (Bulgaria, Slovenia and Greece), with different needs, socioeconomic and technological boundaries, involving multiple existing flexibility assets and all complementary actors of the energy network (DSO, TSO, microgrid operators, utilities, flexibility providers, local communities).



Figure 31- Article “X-FLEXH2020 project kick-off”.



Date: NA

Source: PETROL website

Location: Slovenia

Language: Slovenian

Title: X-FLEX bo s tehnološkimi rešitvami omogočil lažji prehod v nizkoogljično družbo (X-FLEX will make it easier to transition to a low-carbon society through technological solutions)

Link: <https://www.petrol.si/znanje-in-podpora/2020/clanki/x-flex-bo-s-tehnoloskimi-resitvami-omogocil-lazji-prehod-v-nizkoogljično-družbo.html>

ZNANJE IN PODPORA

## X-Flex bo s tehnološkimi rešitvami omogočil lažji prehod v nizkoogljično družbo

Zaradi elektrifikacije različnih segmentov življenja in uvajanja obnovljivih virov energije v električno omrežje, postaja slednje vedno bolj obremenjeno, kar vpliva med drugim na zanesljivost oskrbe z električno energijo. Različne tehnološke rešitve omogočajo odzivnejše oz. bolj prožno omrežje, eden ključnih elementov za uspešno zeleno tranzicijo elektroenergetskega sistema pa so tudi odjemalci, ki morajo postati aktivni deležniki. Med cilji projekta X-Flex, v katerem v Petrolu sodelujemo z 11 partnerji iz Evropske unije, je razvoj orodij, ki bodo omogočila in olajšala uporabo prožnosti v elektroenergetskem sistemu s ciljem povečanja stabilnosti in zanesljivosti oskrbe v normalnih pogojih dela in izrednih vremenskih pogojih.

Masovna elektrifikacija osebnega prometa z električnimi vozili, ogrevanje s toplotnimi črpalkami ter potreba uporabnikov po samozadostnosti z elektriko in lastnimi obnovljivimi viri energije (OVE), bo močno vplivala predvsem na delovanje distribucijskega omrežja, pojasnjuje dr. Miran Roser iz distribucijskega podjetja Elektro Celje. Glede na tehnične in fizikalne omejitve ni mogoča priključitev neomejenega števila porabnikov ali proizvodnih naprav. Tako kot pride do "zamaštev" na primer v prometu, so tudi prenosni vodi vedno omejeni in končni, pojasnjuje sogovornik.

V primeru, da so na voljo alternativne poti, lahko govorimo o določeni prožnosti ali fleksibilnosti v distribucijskem omrežju. Če smo v danem trenutku, ko se električno omrežje blizu mej zmogljivosti oziroma zasičenja, pripravljeni in sposobni omejiti ali izključiti del porabe, potem govorimo o prožnem oziroma fleksibilnem omrežju, prida dr. Roser. "Takšen način odpira tudi možnosti za nove poslovne modele, kjer je jasno, da je potrebno sočasno stremeti h koristi odjemalca kot tudi sistema oziroma vseh deležnikov. Glede na to, da določene tehnološke rešitve že obstajajo, je največji izziv ravno takšen dogovor med deležniki."

**Bodite vedno na tekočem**

Izbor najpomembnejših vsebin iz naše zbirke znanja vam enkrat na mesec brezplačno pošljemo v vaš elektronski nabiralnik.

**PRILJAVTE SE NA E-NOVICE**

Figure 32 - Article "X-FLEX bo s tehnološkimi rešitvami omogočil lažji prehod v nizkoogljično družbo".



## 8 DISSEMINATION AND COMMUNICATION CHANNELS

The online and off-line channels where X-FLEX promotional materials will be disseminated and communicated are key within the deliverables D9.1 Plan for Exploitation and dissemination of results and D9.2 Communication Master Plan. Because of that, in this deliverable they are described, as well as their analytics for the period 01/10/2019-30/03/2021.

### 8.1 Website

The website is aimed to reach all the audiences of the X-FLEX project, although a greater number of visits is expected from those groups that are more technical and related to the subject matter of the project.

<http://xflexproject.eu/>

The main communication objectives of the X-FLEX website are:

- To provide relevant and current information to a wide audience.
- To ensure information is provided in an accessible and usable manner.
- To be a common documentation base, containing the main project documentation and public deliverables.
- To be an information database of all the activities and deliverables carried out by X-FLEX project and partners.

The proposed sections of the website are the following ones:

- **About us.** This section is the home page and contains a general and brief description of the project including the project objectives and the work plan.
- **Consortium.** Brief description of the 12 partners linked to their websites.
- **Products.** The 4 complementary products of XFLEX are presented.
- **Pilots.** The 4 pilot sites of XFLEX are defined, as well as the demonstration scenarios, objectives and key activities which will take place in each one.
- **Library.** This section makes available all X-FLEX public documents., which means:
  - Newsletter
  - Promotional materials
  - Videos
  - Deliverables (public)
  - Scientific publications
  - Publications
  - Media presence
  - Press kit
  - X-FLEX presentation. A very brief presentation on X-FLEX context, objectives, concept and contact details, in pdf format will be available for quick dissemination of the project.
- **News.** This section allows the publication of existing news directly related to X-FLEX objectives and technologies, as well as other adding value news to the project.
- **Events.** This section contains all the events internal and external to the project that keep a tight relation with X-FLEX, including the project workshops. Before a workshop takes place, the section will contain the workshop agenda, the registration form, and the logistics information. After the workshop, the agenda will contain links to each one of the presentations made. There will be one section per workshop.



- **BRIDGE H2020.** As X-FLEX is a member of the BRIDGE initiative, this is a section explaining the initiative and X-FLEX's role.
- **Contact.** Coordinator brief profile and contact details.

Also, the website is linked to the Twitter, LinkedIn Page and the YouTube Channel. There is also a “Twitter Feed” that embeds the Twitter feeds on the website to showcase what users are posting and sharing about the project on Twitter and thus generate social proof and build brand authenticity.

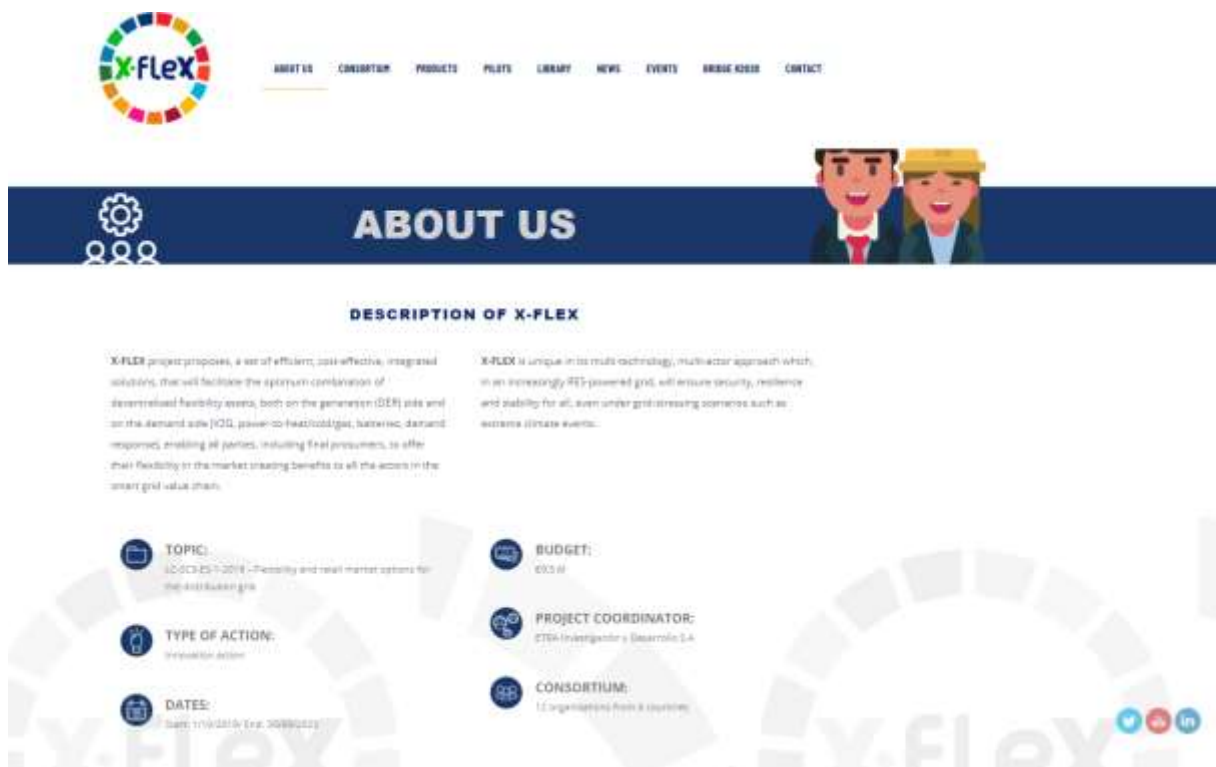


Figure 33 - Overview of the X-FLEX website.



## PRODUCTS

X-FLEX develops 4 complementary products that offer services to all the energy stakeholders, from network operators (TSO, DSO, microgrid operators) to final consumers/prosumers and flexibility providers, including other intermediate players, such as retailers and aggregators. These solutions will be tested in real conditions in 4 pilot sites in 3 EU Member states: Bulgaria, Slovenia and Greece.



### Serviflex tool



#### SERVIFLEX TOOL: INTEGRATED FLEXIBILITY MANAGEMENT TOOL

The tool for flexibility managers to take advantage of the value of energy storage along with other demand flexibility resources towards the establishment of a holistic framework for flexibility extraction, profiling, forecasting, classification, clustering and management to serve different market and grid needs.



### Gridflex tool



#### GRIDFLEX TOOL: ADVANCED TOOLS FOR AUTOMATIC CONTROL AND OBSERVABILITY

The tool for grid and microgrid operators that prevents congestion (voltage and current issues) and power quality problems, with the increasing share of intermittent RES, giving special attention to the potential grid problems due to the impact of extreme climate events. The tool will use flexibility as an alternative to network reinforcement when it is more cost-efficient than traditional reinforcement of the network.



### Market flex tool



#### MARKETFLEX TOOL: MARKET PLATFORM AND NEW MARKET MECHANISMS

This tool enables final consumers and prosumers to access and participate, individually or through an intermediate party, on different energy markets, such as wholesale market, local energy market or ancillary services market for TSO or DSO.



### X-Flex platform



#### X-FLEX PLATFORM: FLEXIBLE AND SCALABLE INTEGRATED PLATFORM

The platform integrates all the X-FLEX solutions in order to provide services for all the energy actors and ensure more secure, stable and clean energy supply.

Figure 34 - Overview of the Products on the X-FLEX website.





## CONSORTIUM



ETRA is the Project Coordinator and is responsible for design and development of the GRIFLEX tool. ETRA is also the leader of WP4 "Dissemination, communication and exploitation activities" also the Dissemination and Communication Manager (DCM) and Legal and Policy Issues Officer (LPI). ETRA actively participates in all the X-FLEX tasks, having also the leader of some tasks in different WPs.



UNIVERSITY OF LJUBLJANA is the Technology Manager (TM) of the project and will lead the WP5 "New energy market mechanisms" and WP6 "Impact assessment and policy study".



PETROL, SLOVENIAN ENERGY COMPANY D.D., LJUBLJANA is responsible to coordinate the WP7 "Demonstration activities". Additionally, Petrol will be responsible to lead and implement the Slovenian pilot case and will be the Demonstration activities Manager (DM).



ELEKTRO CELJE is bringing technical knowledge and experience in grid development, maintenance and operation in the development of a-FLEX tools. They are also the DCO in the area of the pilot site of Lufe and they are also contacted to pilot site Lufe.



ALBENA AD is the responsible of Bulgarian pilot site and actively contribute to the development of the solution with X-FLEX is passing to address.



ELEKTROENERGIJSKI SISTEMSKI OPERATOR ESO participates actively in the Bulgarian pilot site in order to enhance TSO and microgrid operator cooperation.



INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS is responsible for the development of the WP5 "Flexible and scalable integrated platform". Moreover they provide technical support to the Greek pilot site.



HELLENIC ELECTRICITY DISTRIBUTION NETWORK OPERATOR S.A. in the end user (EU) and operates the electrical network of the Greek pilot site. HEDNO leads WP2 "Foundations of the project".



SUITE5 DATA INTELLIGENCE SOLUTIONS LIMITED leads the work in WP3 about the delivery of a flexibility management and management framework towards providing electricity grid services. In addition, SUITE5 actively contributes to the rest of the work in the a-FLEX project.



BLUEPRINT ENERGY SOLUTIONS is responsible for selection pilot and benchmark analysis under WP2 and integration of distributed RES supporting grid flexibility under WP6.



SUNLIGHT SOLUTIONS is a microgrid operator and provides the necessary infrastructure for the development and testing of the JouleGrip flexibility system in the Greek pilot site in Lufe.



JOANNEUM RESEARCH FORSCHUNGS-UND GEFÜHRTE AG is responsible for environmental and social impact assessment as well as business model development and regulatory fit in the business and innovation manager (BIM).

Figure 35 - Overview of the Consortium Page on the X-FLEX website.



## PILOTS



The project solutions will be demonstrated in four pilot sites in three EU Member states, focusing in different types of networks and complementary stakeholders, demonstrating at the same time bigger impact and replicability potential of the project in every type of energy grid.





## Luče (Slovenia)

### Flexibility of local energy community

Luče is a remote alpine village with 400 inhabitants in Slovenia. It has a low local network capacity with weak middle voltage overhead (five connection from near-by town Ljubno). This results in two major problems, first is limited local RES production and the second is frequent power outages usually due to weather events. Inhabitants of Luče are very engaged in energy related topics and are included in the first local energy community (developing in Europe project in Slovenia with various distributed flexible units. The DSO in Luče is ELCE, which is member since EU 2020.



### PILOT SITE INFRASTRUCTURE

- Community battery: 130kWh / 330 kWh
- Several home batteries (2x 10 kWh / 20 kWh, 10 kWh / 11.6 kWh, 5 kWh / 9.3 kWh in 3.5 kW / 7 kW)
- Solar PV (152 kW PV panels)
- Wind generation
- EV charging points (community and home)
- 50 Smart meters
- 5x Home Energy Management System
- Micro-grid controller
  - EV charging points
  - Battery generators: 600 kW
  - Smart meters



### X-FLEX PILOT SITE

XFLEX project will provide in Luče flexibility to the energy grid from DER (Distributed Energy Resources) such as community battery, home batteries, PV and EV charging units, to enable further DER (Renewable Energy Systems) generation in the LV network that will improve the network operation (cost and operational reliability) inside the area operated by the DSO. It will also allow ways to provide ancillary services to the DSO/TSO with fair remuneration to all actors involved.

## Xanthi (Greece)

### Green flexibility for network resilience

The city of Xanthi is the capital of Xanthi prefecture, which is in the northern part of Greece. The city of Xanthi has a population of 42,000 (according to 2011 inventory). The area experiences harsh winters and extreme weather events, mainly including snowfall and strong rain storms.

In terms of its distribution network, the area is being supplied by the HV-HV substations of Xanthi and Maglio (220 kV) in town, while part of its loads is being served by the substations of Larnaki and Karakida. The length of the overhead HV and LV network is 1,302 km and 1,830 km respectively. The HV underground network has length of 42 km, while the LV underground network has a total length of 115 km, most of which can be found within the city of Xanthi. There are more than 1,900 MV/LV distribution substations with total capacity amounting 244,000 kVA.

For the pilot site of Xanthi, two local partners shall cooperate involving their assets for the implementation of the developed tools: HEDND S.A., as the network operator, and Systems Sunlight S.A., with the microgrid installed in their facilities. For the scope of the pilot, a part of the distribution network of Xanthi will be involved with certain MV lines, selected according to specific criteria providing a representative part of the network capable to clearly demonstrate the tool operation and effectiveness of the proposed solutions.



### PILOT SITE INFRASTRUCTURE

- PV Under 10kW (roof)
- PV (Hydron 40 and 10 level total installed power 2 MW)
- Distribution network assets (3 MV lines from 3x50MVA substations with 211 MV/LV substations)
- RD-powered microgrid of Sunlight S.A (AC loads, PV generation, small wind turbines, lead-acid batteries, diesel generator, Polymer Electrolyte Membrane (PEM) electrolyser, PEM fuel cell, SOFC)



### X-FLEX PILOT SITE

XFLEX tool and GRIDFLEX tool will be demonstrated at Xanthi and the main users will be Sunlight and HEDND, respectively. The goals are to facilitate the optimal operation of storage devices at the microgrid, to contribute to the increased resilience of the system under extreme weather events, to achieve power losses reduction and to increase voltage stability through RD scheduling and smart grid automation devices deployment in the field.

## Ravne Na Koroškem (Slovenia)

Flexibility of the Power to heat on an industrial site

Ravne na Koroškem is a small remote town (population 7,288) with poor transport connection in the north-east part of Slovenia, known for its steel industry. The town is divided into residential, where ELCE is the Distribution system operators (DSO), and industrial area, where PETROČ, has a role of the DSO. PETROČ also owns and operates electricity and heat production, operates district heating and sanitary hot water distribution for the town Ravne na Koroškem. The areas are linked with 2x20kV between each other (DSO-DSO) and both have a direct connection to the TSO 110kV level (DSO-TSO). They also share the same district heating and hot sanitary water system. The medium voltage grid consists of 32 20/0.4 kV substations and one 110/20/5 kV substation, with approximately 10 km of 20 kV cable and 2 km of 5 kV cable.



### PILOT SITE INFRASTRUCTURE

- 4 MW CHP units
- 358 kW PV power plant
- District heating system (residential & industry)
- Sanitary hot water system
- Natural gas distribution network
- Power and heat network dispatch operation centre
- 6 MW electrode boiler, to provide a fast-responding, flexible load-on-demand together with heat for the consumers
- 6 MW cooling system, to improve district heating operation, help with the industrial waste heat management, and facilitate provision of ancillary services
- Smart meters



### X-FLEX PILOT SITE

X-FLEX project will provide flexibility on the electricity grid of Ravne na Koroškem by using synergies with the heat production (RES-Flower2Heat) and heat network operation to lower the imbalances in the network, to improve the reliability of electricity and heat supply and to demonstrate cooperation among key actors (DSO-DSO, DSO-TSO).

## Albena (Bulgaria)

Flexibility on a commercial site and micro grid/TSO cooperation

Albena, Bulgaria, is an area on the Black Sea coast, which consists entirely of hotel resorts whose main purpose is to provide hospitality services to guests. Its most active season is during the summer when it can accommodate up to 20,000 people. On site, there are 43 hotels, 23 restaurants, bars, swimming pools, an aqua park, and many more. Altogether, along with the electrical and water grids, communications and street infrastructure, are owned by Albena AD.



### PILOT SITE INFRASTRUCTURE

- 27MWp PV panel
- Multiple convertible loads converted legacy boiler's system stations
- 200kWh Battery
- 1 MW Bifacial power plant



### X-FLEX PILOT SITE

In Albena, X-FLEX solutions will increase the reliability of energy monitoring and grid resilience and create flexibility market mechanisms with the provision of a model for financial incentives as a motivation for future flexibility efforts and collaborations. Being a predominantly summer resort, Albena is subject to a fluctuating energy demand throughout the year. X-FLEX solutions are further expected to utilize this seasonal difference and improve energy consumption and efficiency.

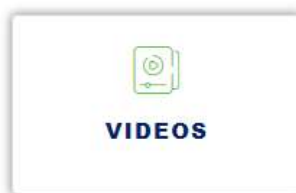
Figure 36 - Overview of the pilot sites page on the X-FLEX website.



This page contains a list of dissemination actions performed by **X-FLEX project**. This includes scientific workshops and conferences. Furthermore, it includes presentations of X-FLEX PROJECT as part of industrial fairs and trade shows. If you are interested in getting regular updates on X-FLEX project, join our user group today – as a benefit, you will get access to all papers and publications!



**NEWSLETTER**



**VIDEOS**



**DISSEMINATION  
MATERIAL**



**DELIVERABLES**



**PUBLICATIONS**



**MEDIA  
PRESENCE**

Figure 37 - Overview of the Library page on the X-FLEX website.



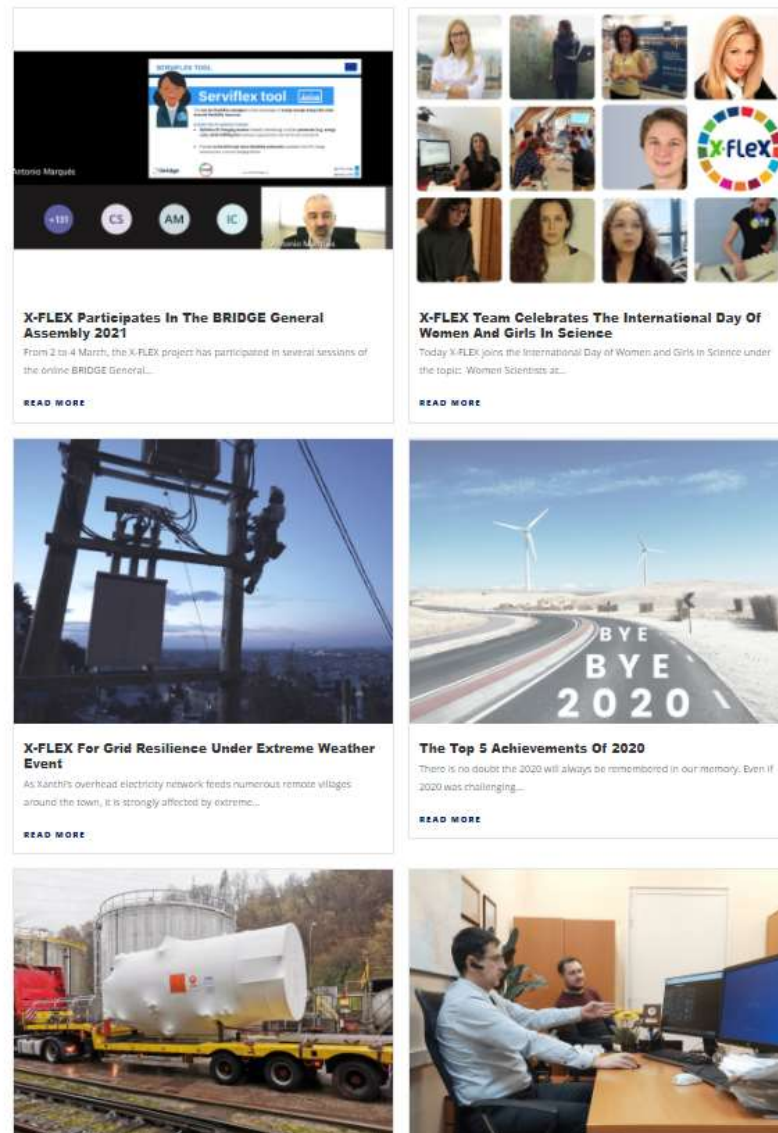


Figure 38 - Overview of the News page on the X-FLEX website.

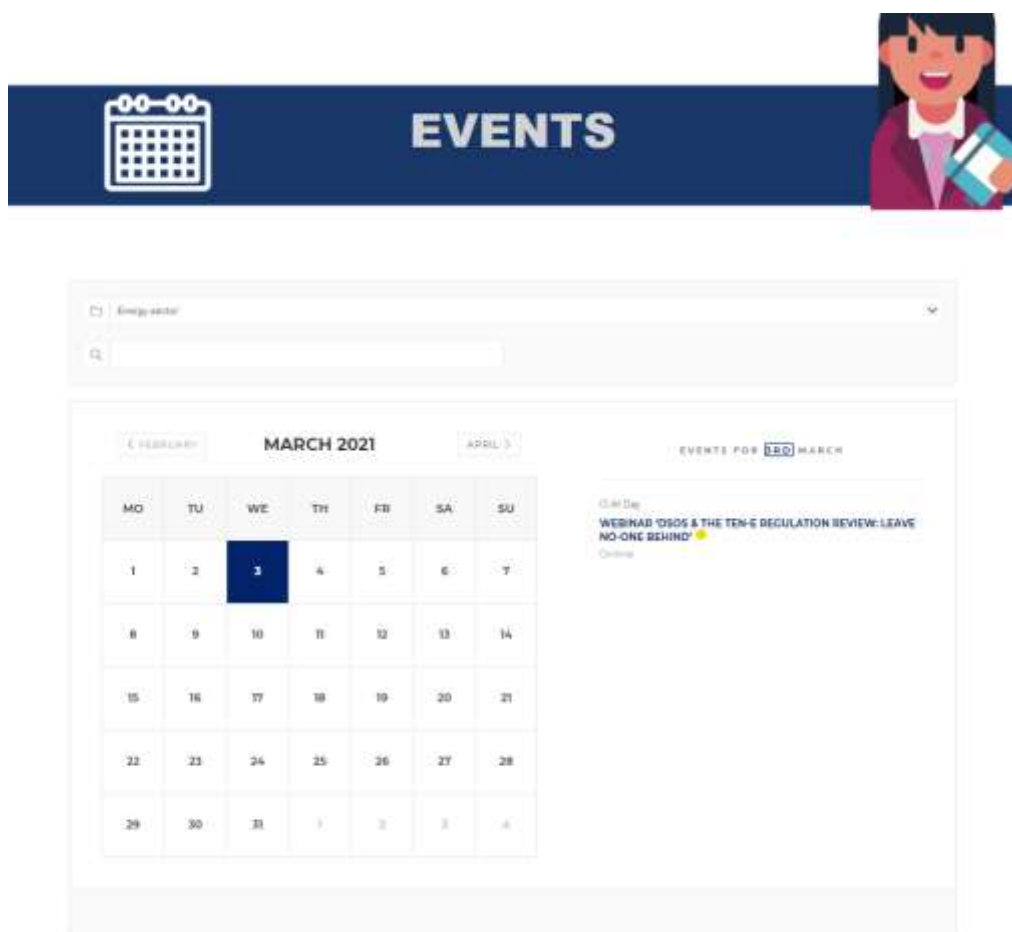


Figure 39 - Overview of the Event page on the X-FLEX website.

During the first period, the number of visits to the website has reached 2,797 visits. February 2021 has reached the highest number of visits: 646.

The website has been visited by users from more than 30 different countries from different continents. The website receives more visits from the following countries: Spain, Greece, Slovenia, Austria, and Bulgaria.

Besides, the most visited web sections are the Home page, Library, Products, Consortium, About us, News, and Pilots.

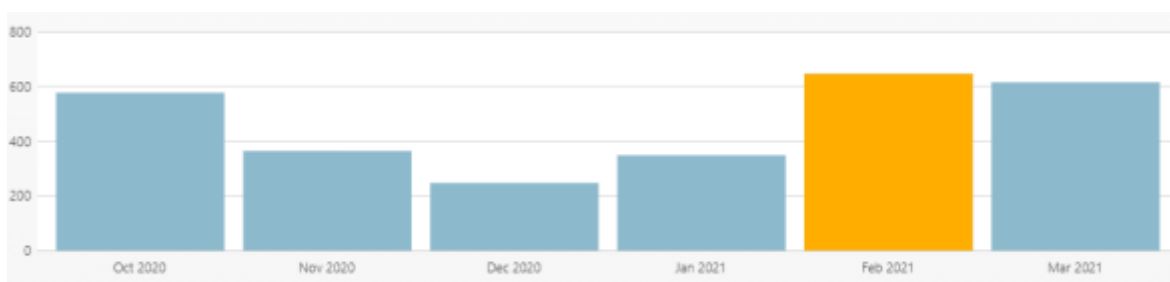


Figure 40 - X-FLEX website total visits from October 2020 until March 2021. Source: Jetpack.

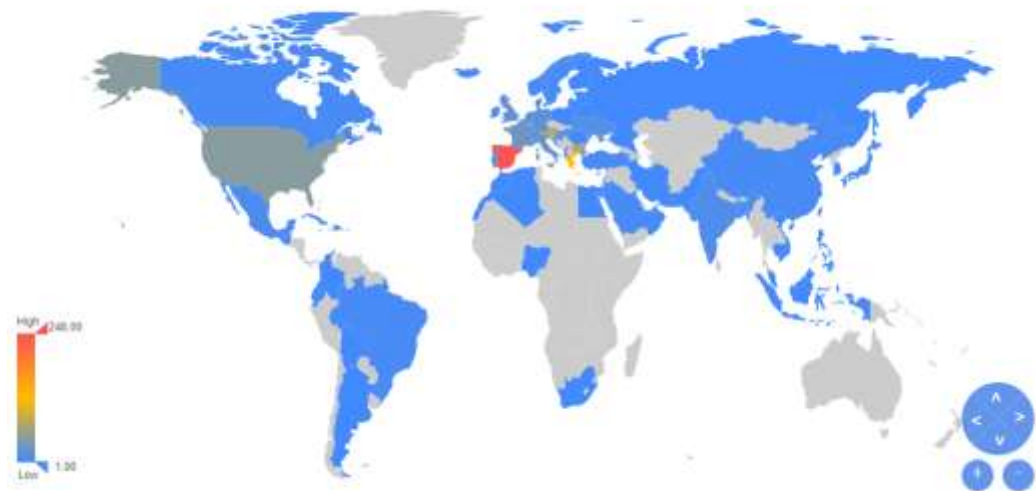


Figure 41 - Countries of visitors. Source: Analytify

Title	Views
Home	363
Library	170
Products	169
Consortium	166
About us	160
news	139
Pilots	86
X-FLEX team celebrates the International Day of Women and Girls in Science	74
Dissemination Material	62
Lutla (Slovenia)	60
Ravne na Koroskem (Slovenia)	43
Albera (Bulgaria)	39
Kanthy (Greece)	38
X-FLEX participates in the Sustainable Places 2020	38
X-FLEX video introduction	37
Bridge H2020	36
Albera AD and ESO SAD performing tests in the Bulgarian pilot	33
Contact	32
Agenda	32
Ensuring the best fit of X-FLEX platform	26
Home page / Archives	26
Working on the BRIDGE Use Case Repository Tool	22
Successful workshop for All-Energy Actors	21
X-FLEX for grid resilience under extreme weather event	20
Videos	19
Latest news from the X-FLEX pilots	17

Figure 42 - Most visited web sections M18. Source: Jetpack.

## 8.2 Social Networks

### 8.2.1 Twitter

Because the clean energy community on Twitter is quite important, it provides the perfect platform to reach the X-FLEX target audience among others, as well as European citizens. X-FLEX launched its Twitter account in October 2019 following the visual identity guide.

[https://twitter.com/XFlex\\_H2020](https://twitter.com/XFlex_H2020)

Main aspects:

- An editorial calendar was defined as a guide or a structure for all the content that will be crafted to deliver on X-FLEX strategic content communication and dissemination goals.
- The messages are targeted and use the right hashtags according to the subject.
- All the dissemination materials, website content, events, etc. are shared on Twitter thus their impact and visibility are maximized, as well as the project itself.
- The use of graphics and images is essential to attract and engage visitors.
- Sharing news related to the project and retweet adds value.
- Tagging followers and influencers on clean energy in the tweets.



Figure 43 - X-FLEX Twitter Account

To measure the success of the X-FLEX Twitter activity is essential to assess results. Then, Twitter analytics can help support X-FLEX messages or refine its approach, as well as it can help in the planning process, providing valuable insight into X-FLEX own account, followers, and the Twitter community as a whole.

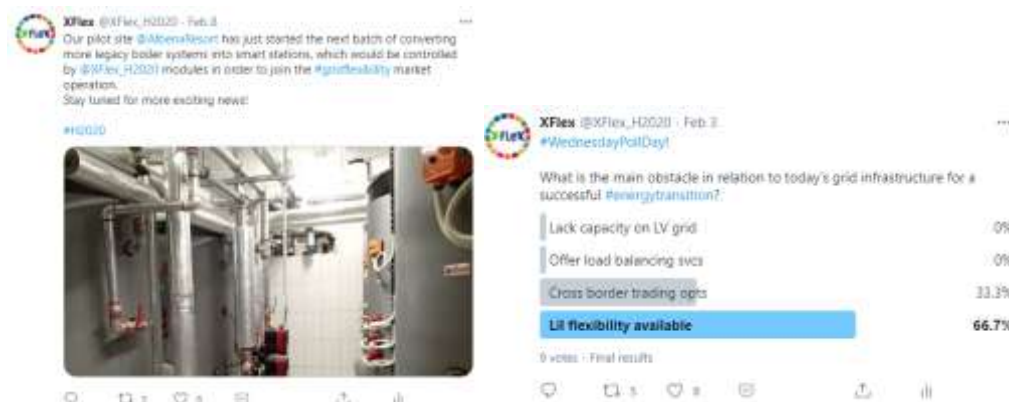
Analytics reached until M18 show 139,400 total impressions, 320 total tweets, 276 followers, 593 total retweets and 903 total likes.

Twitter Figures	Period: M18
	(10/2019-30/03/2021)
Total Tweets	320
Followers	276
Following	313
Impressions	139,400
Engagement average rate	1.2%
Total retweets	593
Total likes	903
Total Link clicks	153

Table 3 - Twitter figures M18. Source: Twitter Analytics.



Figure 44 - Twitter activity in January- February 2021. Source: Twitter Analytics.





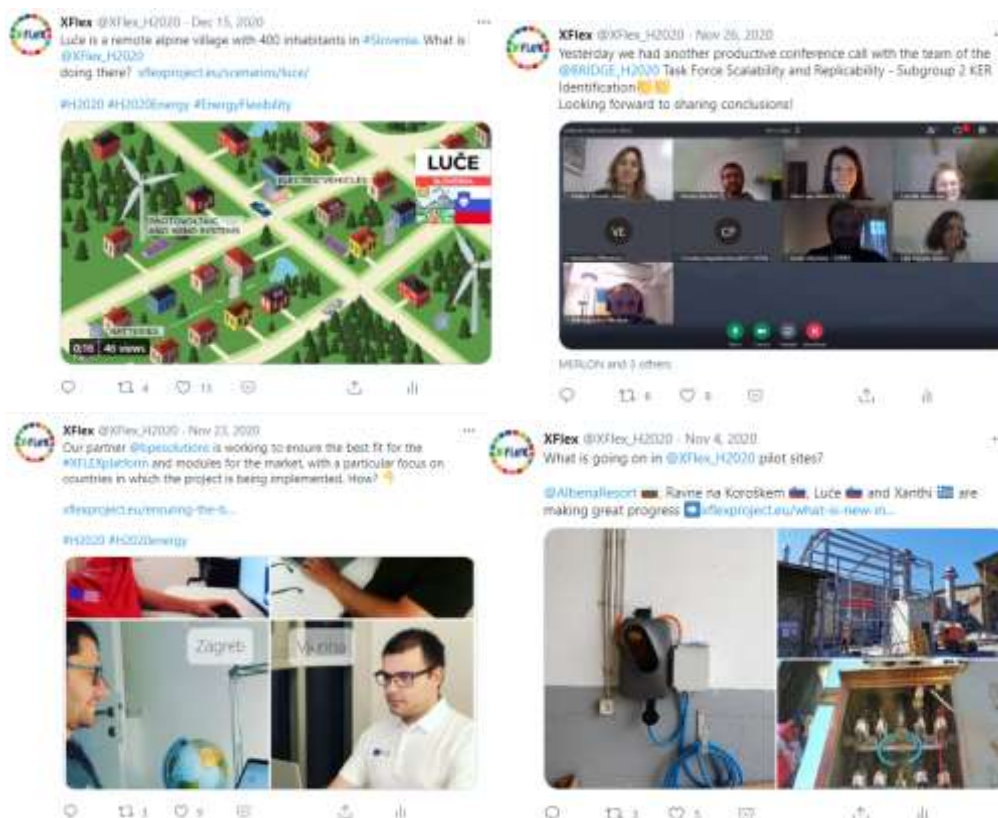


Figure 45 - Examples of tweets.

### 8.2.2 YouTube

The X-FLEX YouTube channel was created to gather all the audiovisual content. For the time being, two videos are published: the official video presentation in English and Spanish. In total, the videos of YouTube have reached up to 285 views and 16 subscribers.

<https://www.youtube.com/channel/UCDJYg3hzezg-NVcCxdgWzA>



Figure 46 - Overview of X-FLEX YouTube Channel.



### 8.2.3 LinkedIn

In March 2021 a LinkedIn page has been created, as the third social network to disseminate and communicate the project. The goals of handling a user page on LinkedIn network are: make meaningful connections, publish content and promote X-FLEX. Even though the LinkedIn page has recently created 4 posts has been published, and 9 followers, 52 likes and 2,165 post views have been reached.

<https://www.linkedin.com/in/xflex-h2020/>



Figure 47 - Overview of X-FLEX LinkedIn Page

### 8.3 Partner websites

Other important online channels are the partner websites, through them partners also contribute to maximise the X-FLEX's visibility and online impact.



Figure 48 - ETRA website [8].



Figure 49 - Faculty of Electrical Engineering of the University of Ljubljana website [9].



Figure 50 - PETROL website [10]



**Evropski projekt X-FLEX**

Cilj evropskega raziskovalnega projekta X-Flex je oblikovati integrirane tehniške rešitve, ki bodo omogočale optimalno kombinacijo decentraliziranih virov proizvodnje, tako na strani proizvajalcev (porazdeljena proizvodna vira) kot tudi na strani porabe električne energije. S tem se bo omogočilo vsem deležnikom, vključno s končnimi porabniki - proizvajalci, da ponudijo svojo proizvodnjo na trgu in s tem ustvarjajo dobrobiti vsem deležnikom v vrednotni verigi pametnih omrežij.

V projektu sodelujemo z 11 partnerji iz Evropske unije. Poleg Elektro Celje v projektu sodelujeta še dva slovenska partnerja, Petrol, s.d. in Univerza v Ljubljani, preostali partnerji pa prihajajo iz Španije, Cipe, Avstrije, Grčije in Bolgarije. Projekt, ki je vreden 9.5 milijona evrov in je v pretežnem deležu financiran s strani Evropske unije, poteka pod okriljem skovinega programa Evropske unije za raziskave in inovacije Horizon 2020, trajal pa bo do konca septembra 2023.

Množična elektrifikacija osebnega prometa z električnimi vozili, ogrevanje s toplotnimi črpalkami ter potreba uporabnikov po kakovostni elektrini energiji in lastnem sklopujenem viru energije (OVC), sta močna vzbujala preseljen na daljinske distribucijske omrežja. Glede na tehnološki in fiskalni izzivi omrežijev ne omogoča pridrževanja navedenega števila porabnikov ali proizvodnih naprav. Tako kot prišlo do "zametkov" na primer v prometu, so tudi prenosni vodi vedno omejeni in končni. V primeru, da so na voljo alternativne poti, lahko govorimo o dovozu proizvodnje ali fleksibilnosti v distribucijskem omrežju. Če smo v danem trenutku, ko se električno omrežje bliža meji zmogljivosti oziroma zasvoženju, pripravljeni in sposobni omesti ali izboljšati del porabe, potem govorimo o prostem curku fleksibilnih omrežij. Takšen način odpira tudi

Figure 51 - ELEKTRO CELJE website [11]

**X-FLEX - Интегрирани енергийни решения и нови пазарни механизми за по-голяма гъвкавост на европейската мрежа**

**Тема:**  
IE-SEC-ES-1-2019 - отворен за гъвкавост и пазар на дребно за разпределителната мрежа

**Вид дейност:**  
Иновационна дейност

**Старт на проекта:**  
1-ви октомври 2019

**Продължителност:**  
48 месеца  
от 01.10.2019 до 30.09.2023

**Проектен координатор:**  
ETRA INVESTIGACION Y DESARROLLO SA

**Консорциум:**  
12 организации от 5 държави

Figure 52 - ESO website [12]

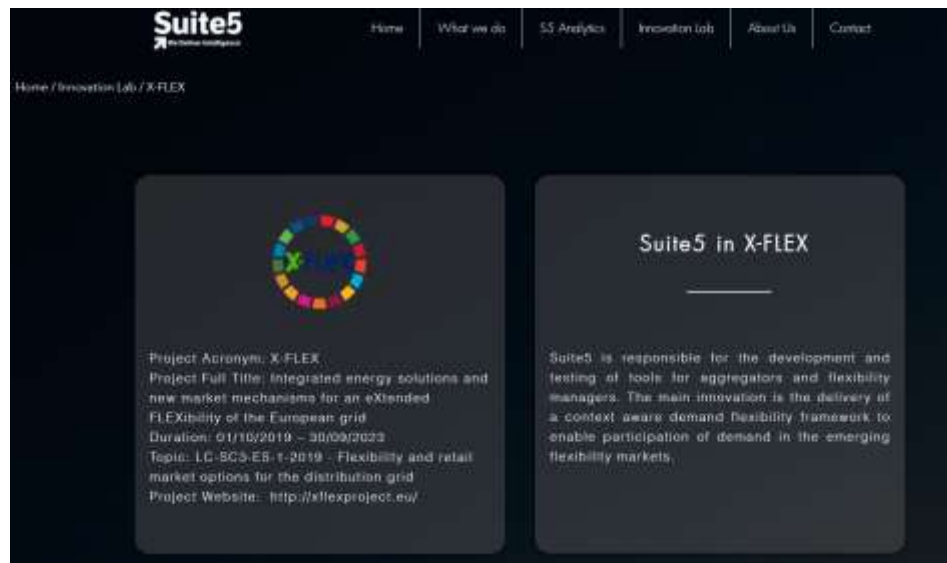


Figure 53 - SUITE 5 website [13]



Figure 54 - BLUEPRINT ENERGY SOLUTIONS website [14]





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LIFE POLICY

## Integrated energy solutions and new market mechanisms for an eXtended FLEXibility of the European grid

Laufzeit: 01/10/2019 - 30/09/2023

Das Projekt X-FLEX beschäftigt sich mit der Integration von erneuerbaren dezentralen Energiequellen und Flexibilität in das europäische Energiesystem. Ziel ist es, diese Flexibilität effizient und dezentral zu integrieren und somit zu einem stabilen, sicheren und nachhaltigen System beizutragen.

Um dies zu erreichen werden 4 verschiedene Tools entwickelt:

- SERVIFLEX
- GRIDFLEX
- MARKETFLEX und die
- X-FLEX PLATFORM

SERVIFLEX unterstützt Flexibilitätmanager beim Profiling, Vorhersage, Klassifikation und Clustering von Flexibilität. GRIDFLEX erleichtert es Netzebetreibern aktuelle Netzprobleme mit alternativen Flexibilität zu beheben. MARKETFLEX erlaubt es Nutzern, am day-ahead / intraday Markt, auf lokalen Flexibilitätsmärkten oder auf Märkten für Systemdienstleistungen teilzunehmen. Die X-FLEX PLATFORM vereint diese drei Tools. Diese Lösungen werden an vier verschiedenen Standorten in drei EU-Ländern (Slowakei, Bulgarien und Griechenland) getestet.

### Die Rolle von JR

Die Forschungsgruppe Informations- und Energie-Systeme der JOANNEUM RESEARCH ist für die Entwicklung neuer Geschäftsmodelle sowie für die Analyse regulatorischer Rahmenbedingungen verantwortlich. Weiters berechnen JOANNEUM RESEARCH die sozialen und ökologischen Auswirkungen und nimmt die Rolle des Business und Innovation Managers in X-FLEX ein.

**LIFE**  
Institut für Klima, Energie und Gesellschaft

1. Zielsetzung
2. Leistung
3. Status
4. Beschäftigungsstellen
5. Weiter- und Klimaforschungsmanagement
6. Zukunftsplanung Energiesysteme und Lebensstile
7. Internationale Klimapolitik und -ökonomie
8. Kompetenzgruppen Urban Living Lab
9. Team
10. Standorte
11. Partner werden
12. Forschungsbereiche
13. Forschungsbereich Smart Tech Research Space
14. Produkte/Leistungen
15. Publikationen
16. Aktivitäten
17. Kontakt

**x-flex**

Zur Webseite

Figure 55 - JOANNEUM RESEARCH website [15]

## 9 EVENTS AND WORKSHOPS

Participation and presentation of X-FLEX in events and workshops is a key channel under the non-media communication actions, while disseminating results to the targeted audience.

This deliverable presents in detail all events where X-FLEX was showcased. Since the beginning of the project, 2 dissemination activities (workshops/panels/events) have been organised by X-FLEX partners. Partners have participated in 12 events and 10 of them were networking/clustering events (see 10.2). Table 4 lists all the events where X-FLEX has participated, including events organised by X-FLEX partners.

Besides, all events are announced on the website before happening, when relevance is high a specific article is posted on the “News” section.

However, as presented above in section 2.2 the COVID-19 crisis has impacted mainly the participation in events and some planned events have been cancelled.

Name of the event	Date	Venue	Role
INDIA Smart Utility Week 2021 (ISUW)	02-05/03/2021	Online	Exhibitor
2021 BRIDGE General Assembly	2-4/03/2021	Online	Speaker
Exploiting the potential of local flexibilities: the role of Energy Communities. Joint online workshop H2020 projects FEVER, Platone, edgeFLEX and DECIDE	19/11/2020	Online	Speaker
Sustainable Places 2020 Conference- “Sustainable Digital Tools for All Energy Actors Workshop”	29/10/2020	Online	Organiser and chair
STORY project Final Event	21/10/2020	Online	Speaker
ETIP SNET Virtual Workshop: Energy Transition in 2050	18/06/2020	Online	Participation
CA-RES CT2 – May Sessions. Session 1- Sector Integration: Heat + Electricity Webinar	27/05/2020	Online	Speaker
InteGrid Scalability and Replicability results and Replication	20/05/2020	Online	Speaker
En.Odmev 20	5/03/2020	Ljubljana (Slovenia)	Participant
India Smart Utility Week 2020	4-6/03/2020	New Delhi (India)	Speaker
BRIDGE GENERAL ASSEMBLY	11-12/02/2020	Brussels (Belgium)	Speaker
X-FLEX Kick-off Meeting networking event	7-8/10/2019	Valencia (Spain)	Organiser

Table 4 - List of total events where X-FLEX has participated.



## 9.1 Events organised by X-FLEX partners

This section shows events organised by X-FLEX partners until M18.

### 9.1.1 EVENT: Sustainable Places 2020 Conference- “Sustainable Digital Tools for All Energy Actors Workshop”

- a) Dates: 29/10/2020
- b) Type of event (workshop, conference, fair, submit...): workshop.
- c) Objective of the event: X-FLEX organised and chaired the workshop “Sustainable Digital Tools for All Energy Actors Workshop” during the Sustainable Places 2020 conference. FLEXCoop, Holisder, Synergy, and Flexgrid H2020 projects also participated in this session. The objective of this workshop was to present a set of tools ICT tools developed in these H2020 projects that will increase energy efficiency and the use of renewable energies. Each project presented the digital tools developed in order to provide ICT services and functionalities to the different actors of the energy value chain, which will make them more sustainable and efficient.
- d) Organisers: ETRA
- e) Webpage of the event: <https://www.sustainableplaces.eu/>
- f) Number of participants: 30
- g) Partner who participated: ETRA
- h) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): presentation
- i) Press release: <http://xflexproject.eu/successful-workshop-for-all-energy-actors/>
- j) Main conclusions (after the event): The projects, that are in different stages, have shown different approaches. In the case of FLEXCOOP and HOLISDER, first results of the demonstration activities have been shown, which have been very useful for the other projects (X-FLEX, Synergy, and Flexgrid) which are now starting with the design of the developments and with the preparation of the demo sites.
- k) Video: <https://youtu.be/Q1uUVwhfZY4>
- l) Photos:

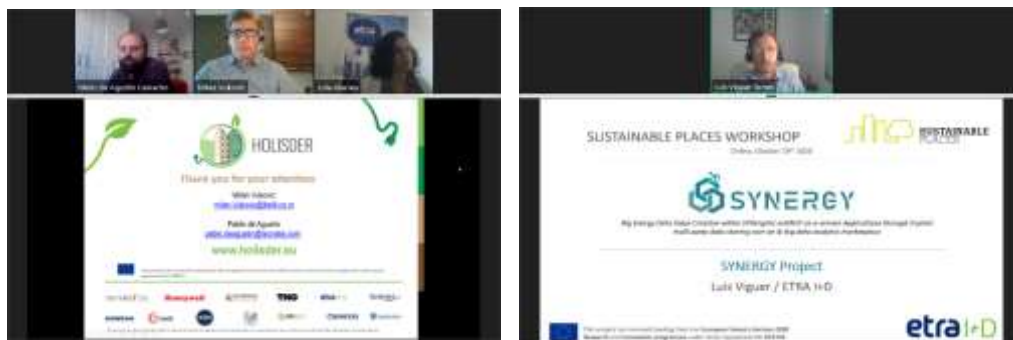


Figure 56 - Sustainable Digital Tools for All Energy Actors Workshop

### 9.1.2 EVENT: X-FLEX Kick-off Meeting networking event

- Place (City and Country): Valencia
- Dates: 7-8/10/2019
- Type of event (workshop, conference, fair, submit...): Kick-off meeting and networking action.
- Objective of the event: The X-FLEX consortium officially started its activities with a General Assembly hosted by ETRA GROUP at the Valencia Institute for Business Competitiveness (IVACE). The opening session counted with the welcome of IVACE's General Director, Júlia Company Sanus, and its Head of Unit of EU Programs & Services, Francisco Ferrando. Also, there was an open session called "Synergies and collaboration session with other H2020 projects". The participating projects were: WiseGRID, CoordiNet, INVADe, FLEXCoop, Holisder and Compile. Those projects have shared their goals and benefits within the smart grid. Even the most advanced projects, like WiseGRID, INVADe and FLEXCoop shared results achieved, and lessons learned.
- Organisers: ETRA
- Webpage of the event: <http://xflexproject.eu/>
- Number of participants: 30

- h) Partner who participated: X-FLEX consortium
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): presentation
- j) Press release: <http://xflexproject.eu/x-flex-kick-off-meeting-in-valencia/>
- k) Main conclusions (after the event): Very fruitful event where X-FLEX project presented its integrated energy solutions and new market mechanisms for an extended flexibility of the European grid to Authorities of Valencia, as well, as share knowledge with other Horizon 2020 projects.
- l) Photos:



Figure 57 - X-FLEX kick-off meetin



## 9.2 Participation in Events

X-FLEX partners have participated in the following events:

### 9.2.1 EVENT: INDIA Smart Utility Week 2021 (ISUW)

- a) Place (City and Country): Online
- b) Dates: 02-05/03/2021
- c) Type of event (workshop, conference, fair, submit...): Conference
- d) Objective of the event: ISUW 2021 was conducted on a DIGITAL PLATFORM as an International Conference and Exhibition on Smart Energy and Mobility for Smarter Cities. The 3-D Exhibition Booths at ISUW 2021 offered never before experience to exhibitors and visitors. ISUW 2021 virtually brought together India's leading Electricity, Gas and Water Utilities, Policy Makers, Regulators, Investors and world's top- notch Smart Energy Experts and Researchers to discuss trends, shared best practices and showcase next generation technologies and products in smart energy and smart cities domains.
- e) Organisers: Indian Smart Grid Forum
- f) Webpage of the event: <http://www.isuw.in/>
- g) Number of participated: 1000
- h) Partner who participates: ETRA
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): Exhibition area
- j) Press release: NA
- k) Photo:



Figure 58 - INDIA Smart Utility Week 2021

### 9.2.2 EVENT: 2021 BRIDGE General Assembly

- a) Place (City and Country): Online
- b) Dates: 02-04/03/2021
- c) Type of event (workshop, conference, fair, submit...): Conference
- d) Objective of the event: Presentation of the actions done during 2020 including the reports produced by BRIDGE Working Groups and Task Forces, discovered the new BRIDGE projects and heard the

feedbacks and lessons learned from ended projects. Also, parallel session were organized to strengthen the collaboration between projects and discuss about future BRIDGE actions in 2021.

- e) Organisers: BRIDGE secretariat
- f) Webpage of the event: <https://www.h2020-bridge.eu/2021-bridge-general-assembly-takes-place-on-march-2nd-3rd-and-4th/>
- g) Number of participants: 150
- h) Partner who participated: ETRA, UL
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): Presentation in the sessions “Data Management” Working Group and the session Electric Vehicle Energy Flexibility.
- j) Press release: <http://xflexproject.eu/x-flex-participates-in-the-bridge-general-assembly-2021/>
- k) Conclusion: During the Plenary meeting of BRIDGE in March 2021 the final version of the Use case repository was presented, created as part of the Action 1 of the Data Management Working Group. After the discussion with different stakeholders, some conclusions and next steps of this Action were identified:
  - The repository will be hosted within EIRIE platform (<https://pantera-platform.eu/european-interconnection-for-research-innovation-entrepreneurship-eirie/>)
  - The plan is to expand the repository to other WGs of BRIDGE but also to other initiatives and stakeholders, such as ETIP SNET.
  - The tool will be managed by SPRING project representatives.
  - The content will be under Creative Commons license for Excel and XML use case files and Apache2 for the tools to process the input and generate the website. This will allow the redistribution and modification of written code, so that anyone can not only use it, but also adapt/improve.
  - Some additional features will be included in the near future:
    - Export the use cases to Word.
    - Include UC diagram files in the Excel workflow (already included in XML workflow).
    - Categorization / indexing for advanced search.
    - Potential use of the repository beyond use-cases.

l) Photo:

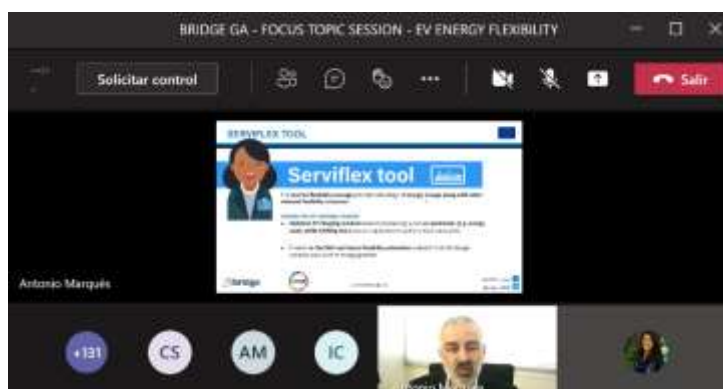


Figure 59 - 2021 BRIDGE General Assembly



### 9.2.3 EVENT: Exploiting the potential of local flexibilities: the role of Energy Communities. Joint online workshop H2020 projects FEVER, Platone, edgeFLEX and DECIDE. Hosted by BRIDGE and SES taskforce on Energy Communities

- a) Place: Online
- b) Dates: 19/11/2020
- c) Type of event: Workshop
- d) Objective of the event: Networking event between related projects
- e) Organisers: BAUM consulting
- f) Webpage of the event: NA
- g) Number of participants: 80
- h) Partner who participated: JR
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): presentation
- j) Press release: <https://www.fever-h2020.eu/news/2200/horizon-2020-joint-online-event-kick-off-for-a-closer-collaboration>
- k) Main conclusions (after the event): Partners of the different consortia discussed in three parallel breakout sessions using virtual visualisation how to cooperate in developing standards and technical solutions, how to align efforts in communicating joint messages and how to set the stage for business eco-systems beyond the funded projects. Aim is to continue this dialogue.
- l) Photos : NA

### 9.2.4 EVENT: STORY Final Event: The future of local energy storage in Europe What are the major problems and how to tackle them?

- a) Place (City and Country): Online
- b) Dates: 21/10/2020
- c) Type of event (workshop, conference, fair, submit...): Final event of a project and networking action.
- d) Objective of the event: The large-scale implementation of local energy storage solutions is still in its infancy and faces several practical and legal barriers, for which both technical solutions and far-reaching agreements among stakeholders are needed. This online event provided solutions here and is part of the final stakeholder workshop of the STORY project.
- e) Organisers: STORY project
- f) Webpage of the event: <http://horizon2020-story.eu/the-future-of-local-energy-storage-in-europe-what-are-the-major-problems-and-how-to-tackle-them-online-event-20-22-october-2020/>
- g) Number of participants:
- h) Partner who participated: ETRA, JR, UL
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): Presentation
- j) Press release: <https://www.prospex-institute.org/post/story-videos>
- k) Main conclusions (after the event): The online event was split in 9 short interactive sessions, spread over 3 days, each one with a different focus, including Interoperability, Customer Engagement and DSO Involvement in Storage. In every session, synergies were created among STORY project and

other H2020 projects, such as X-FLEX, in order to exchange best practices and knowledge from their projects.

l) Photos :



Figure 60 - STORY project Final Event

#### 9.2.5 EVENT: ETIP SNET Virtual Workshop: Energy Transition in 2050

- Place (City and Country): Online
- Dates: 18/06/2020
- Type of event (workshop, conference, fair, submit...): Conference presentation
- Objective of the event: R&I priorities strategy Agendas for a common path toward Energy Transition in
- Organisers: ETIP SNET
- Webpage of the event: NA
- Number of participants: NA
- Partner who participated: Albena
- Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): gathering information
- Press release: NA
- Main conclusions (after the event): NA
- Photos :



Figure 61 - ETIP SNET Virtual Workshop.

#### 9.2.6 EVENT: CA-RES CT2 – May Sessions. Session 1- Sector Integration: Heat + Electricity Webinar

- a) Place (City and Country): Online
- b) Dates: 27/05/2020
- c) Type of event (workshop, conference, fair, submit...): Internal meeting/workshop and networking action.
- d) Objective of the event: This session aimed to explore the possible options for supporting sector integration in the Member States. The discussions aimed to take a deeper dive into the questions of how sector integration is considered and the role it plays within existing long-term scenarios for 2050 across Europe; how sector integration can decarbonise the heating sector in a faster and cheaper manner; and how district heating (DH) can be linked to electricity and the distribution system operator (DSO) assessment.
- e) Organisers: CA-RES
- f) Webpage of the event: <https://www.ca-res.eu/>
- g) Number of participants: 30
- h) Partner who participated: ETRA
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): presentation
- j) Press release: NA
- k) Main conclusions (after the event): X-FLEX presented the goals of the project related with gas and heat integration. Thus, the presentation was focused on the Ranve pilot site.
- l) Photos:





Figure 62 - CA-RES Session- Sector Integration: Heat + Electricity

### 9.2.7 EVENT: InteGrid Scalability and Replicability results and Replication

- a) Place (City and Country): Online
- b) Dates: 20/05/2020
- c) Type of event (workshop, conference, fair, submit...): results presentation meeting
- d) Objective of the event: results presentation
- e) Organisers: InteGrid
- f) Webpage of the event: NA
- g) Number of participants: 25
- h) Partner who participated: Albena
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): gathering information
- j) Press release: NA
- k) Main conclusions (after the event): NA
- l) Photos : NA

#### 9.2.8 EVENT: En.Odmev 20

- Place (City and Country): Ljubljana, Slovenia
- Dates: 05/03/2020
- Type of event (workshop, conference, fair, submit...): 13th Strategic Energy Conference
- Objective of the event: The conference addressed different topics such as:

- What We Mean When We Talk About the Ancillary Services Market Flexibility: A Foundation for a Modern Energy System;
  - The Supply-Side of the Energy Future;
  - The Demand-Side Energy Future;
  - The Trends Shaping the Future of Energy;
  - The Trends Shaping Tomorrow's Economies
- e) Organisers: MONTEL Energetika.NET
- f) Webpage of the event: <https://www.energetika.net/eu/events/announcements/en-odmev-020>
- g) Number of participants: 150
- h) Partner who participated: Petrol, UL
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): presentation
- j) Press release: <https://www.energetika.net//eu/novice/trading/en-odmev-020-demand-side-energy-future>
- k) Main conclusions (after the event): In the future, the active consumer will play a vital role, especially in terms of flexibility. As part of the X-FLEX project, the consortium of partners including Petrol will, among other things, demonstrate the effects that the active consumer can have. The loads on the power system have implications for security of supply and it is not the largest units that can expect to be most effective in the future; it is the flexible, quick response generation units.
- l) Photos:



Figure 63 - En.Odmev 20.

#### 9.2.9 EVENT: India Smart Utility Week 2020 (ISUW) and 9th Eu – India Smart Grid Workshop- Session

- a) Place (City and Country): New Delhi, India
- b) Dates: 4-6/03/2020
- c) Type of event (workshop, conference, fair, submit...): Conference and fair.
- d) Objective of the event: The ISUW 2020 brought together India's leading Electricity, Gas and Water Utilities, Policy Makers, Regulators, Investors and world's top-notch Smart Energy Experts, and Researchers to discuss trends, shared best practices and showcased next-generation technologies and products in smart energy and smart cities domains. ISUW 2020 included plenaries, keynotes, interactive workshops, high-level roundtables and technical sessions on a variety of topics.

- e) Organisers: ETSI, CEN & CENELEC on behalf of Project SESEI
- f) Webpage of the event: <https://euindiabusinesssupport.eu/>
- g) Number of participants: More than 1000
- h) Partner who participated: ETRA
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): Presentation and exhibition area. X-FLEX participates in the European Pavilion at the India Smart Utility Week 2020 and in the session of "Presentation on EU-India joint call on Smart and Integrated Local Energy Systems, Presentations by Bridge projects and EU Companies"
- j) Press release: <http://xflexproject.eu/x-flex-at-the-india-smart-utility-week-2020/>
- k) Photos:



Figure 64 - India Smart Utility Week 2020

#### 9.2.10 EVENT: BRIDGE GENERAL ASSEMBLY 2020

- a) Place (City and Country): Brussels, Belgium
- b) Dates: 11-12/02/2020
- c) Type of event (workshop, conference, fair, submit...): Internal Meeting and networking action.
- d) Objective of the event: The event was the occasion to present the 4 reports produced by BRIDGE Working Groups and Task Forces in 2019, discovered the new BRIDGE projects and listen to the feedbacks and lessons learned from ended projects. Also, 8 parallel sessions were organized to strengthen the collaboration between projects and discuss about future BRIDGE topics in 2020.
- e) Organisers: The Innovation & Networks Executive Agency of the European Commission in Brussels (INEA)
- f) Webpage of the event: [https://www.h2020-bridge.eu/event/bridge-general-assembly/?instance\\_id=46](https://www.h2020-bridge.eu/event/bridge-general-assembly/?instance_id=46)
- g) Number of participants: More than 50
- h) Partner who participated: ETRA, UL
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): presentation

- j) Press release: <http://xflexproject.eu/introducing-x-flex-to-bridge-members/>
- k) Conclusion: X-FLEX was part of the poster exhibition area, as well as, of the pitching session together with other Horizon 2020 projects. The project introduced its goals, solutions, and benefits but also its potential contribution within the European Initiative BRIDGE.
- l) Photo:



*Figure 65 - BRIDGE General Assembly*

## 10 EXCHANGE ACTIVITIES WITH RELATED PROJECTS, INITIATIVES AND RELEVANT BODIES

This section presents the dissemination activities carried out during the first period of the project in order to exchange knowledge, best practices, experiences etc. with other related projects and relevant bodies such as the BRIDGE initiative and the Horizon Results Booster.

### 10.1 BRIDGE initiative

BRIDGE is a European Commission initiative which unites Horizon 2020 Smart Grid, Energy Storage, Islands, and Digitalisation Projects to create a structured view of cross-cutting issues which are encountered in the demonstration projects and may constitute an obstacle to innovation. The BRIDGE process fosters continuous knowledge sharing amongst projects thus allowing them to deliver conclusions and recommendations about the future exploitation of the project results.

X-FLEX partners have participated actively in several activities in different Working Groups (WG) and Task Force (TF) of this initiative during this period:

- WG: DATA MANAGEMENT
- WG: REGULATION
- TF: ENERGY COMMUNITIES & SELF-CONSUMPTION
- TF: REPLICABILITY & SCALABILITY

The deliverable D2.3 Obstacles to innovation - BRIDGE activities [16] explains in detail all information concerning X-FLEX's members, activities, and contributions within BRIDGE.

#### 10.1.1 Meeting and events chaired by BRIDGE

During the first period (M1-M18) the X-FLEX project has participated in BRIDGE meetings as is detailed below. Also Table 5 - Dissemination actions and meetings under BRIDGE coordination, where X-FLEX has participated by period 1 Table 5 shows the main BRIDGE internal meetings where X-FLEX has participated.

Action			Date	Venue	Contribution	Link
2021 BRIDGE General Assembly			2-4/03/2021	Online	Presentation	<a href="https://www.h2020-bridge.eu/2021-bridge-general-assembly-takes-place-on-march-2nd-3rd-and-4th/">https://www.h2020-bridge.eu/2021-bridge-general-assembly-takes-place-on-march-2nd-3rd-and-4th/</a>
MEETING: Management	WG	Data	05/02/2021	Online	Presentation	-
MEETING: R&S TF – Subroutine 3 (KPIs) – Meeting 5			21/01/2021	Online	Leading the meeting, writing down minutes	-
MEETING: R&S TF Subroutine 3 (KPIs) Meeting 4			15/12/2020	Online	Leading the meeting, writing down minutes	-





MEETING: R&S TF Subroutine 3 (KPIs) Meeting 3	07/12/2020	Online	Leading the meeting, writing down minutes	-
MEETING: Regulation WG	17/11/2020	Online	Work Programme update	-
MEETING: R&S TF Subroutine 3 (KPIs) Meeting 2	4/11/2020	Online	Leading the meeting, writing down minutes	-
MEETING: R&S TF Subroutine 3 (KPIs) Meeting 1	8/10/2020	Online	Leading the meeting, writing down minutes	-
MEETING: WG Data Management	30/09/2020	Online	Presentation of the use case repository (Action 1)	-
MEETING: Use Case repository	17/09/2020	Online	Presentation of the idea for the use case repository	-
MEETING: WG Data Management	28/08/2020	Online	Preliminary telco to present the status of the progress	-
MEETING: WG Data Management Meeting	30/06/2020	Online	Presentation of the approach taken in X-FLEX to identify Use cases	-
MEETING: Webinar Use Case Repository	30/06/2020	Online	Presentation of the approach taken in X-FLEX to identify Use cases	-
MEETING: Replicability/Scalability Members	Tf 22/04/2020	Online	Presentation	-
MEETING: Regulation WG	21/04/2020	Online	Presentation	-
EVENT: India Smart Utility Week 2020	04/03/2020	New Delhi	Booth and presentation	<a href="http://xflexproject.eu/xflex-at-the-india-smart-utility-week-2020/">http://xflexproject.eu/xflex-at-the-india-smart-utility-week-2020/</a>
MEETING: BRIDGE general Assembly	11/02/2020	Brussels (Belgium)	Presentation	<a href="https://www.h2020-bridge.eu/wp-content/uploads/2020/03/BRIDGE-GA2020_Conclusions-and-next-steps.pdf">https://www.h2020-bridge.eu/wp-content/uploads/2020/03/BRIDGE-GA2020_Conclusions-and-next-steps.pdf</a>
EVENT: EU UTILITY WEEK 2019-BRIDGE session "SGAM for the analysis of the scalability and replicability"	12/11/2019	Paris (France)	Presentation	<a href="https://www.h2020-bridge.eu/wp-content/uploads/2020/01/D3.12.g_BRIDGE_Scalability-Replicability-Analysis.pdf">https://www.h2020-bridge.eu/wp-content/uploads/2020/01/D3.12.g_BRIDGE_Scalability-Replicability-Analysis.pdf</a>

Table 5 - Dissemination actions and meetings under BRIDGE coordination, where X-FLEX has participated by period 1



#### 10.1.1.1 MEETING: 2021 BRIDGE General Assembly

See the section 9.2.2.

#### 10.1.1.2 MEETING: WG Data Management plenary meeting

- a) Place (City and Country): Online
- b) Dates: 05/02/2021
- c) Type of event (workshop, conference, fair, submit...): Meeting
- d) Objective of the event: To present the activities and results of the Data management WG during 2020 and the plan for 2021.
- e) Organisers: BRIDGE secretariat
- f) Webpage of the event: <https://www.h2020-bridge.eu/>
- g) Number of participants: 50
- h) Partner who participated: Lola Alacreu (ETRA), Kostas Tsatsakis (Suite5), Elena Boskov-Kovacs (Blueprint Energy Solutions), Alberto Zambrano (ETRA)
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): Presentation of the use case repository (Action 1). Participation in the discussions that took place in the context of data management working group. Instructions were considered for revised contribution about X - FLEX project
- j) Press release: NA
- k) Conclusion: The activities done so far in the Data Management WG has been very productive, but some other actions should take place in the near future.

#### 10.1.1.3 MEETING: R&S TF – Subroutine 3 (KPIs) – Meeting 5

- a) Place: Online
- b) Dates: 21/01/2021
- c) Type of event: internal meeting
- d) Objective of the event: Wrapping up results from activities in the subroutine
- e) Organisers: Chloe Fournely (UL) / BRIDGE R&S TF
- f) Webpage of the event: NA
- g) Number of participants: 10
- h) Partner who participated: Chloe Fournely (UL)
- i) Type of participation from X-FLEX side: Leading the meeting, writing down minutes
- j) Press release: NA
- k) Conclusion:
  - Preliminary KPI list gathered for the projects under focus
  - Chloe Fournely (UL) will be in touch with the leaders of the taskforce to write the report on subroutine activities and conclusions



#### 10.1.1.4 MEETING: R&S TF – Subroutine 3 (KPIs) – Meeting 4

- a) Place: Online
- b) Dates: 15/12/2020
- c) Type of event: internal meeting
- d) Objective of the event: Monitoring of activities
- e) Organisers: Chloe Fournely (UL) / BRIDGE S&R TF
- f) Webpage of the event: NA
- g) Number of participants: 11
- h) Partner who participated: Chloe Fournely (UL), Lola Alacreu (ETRA)
- i) Type of participation from X-FLEX side: Leading the meeting, writing down minutes
- j) Press release: NA
- k) Conclusion: Defining final steps before last meeting

#### 10.1.1.5 MEETING: R&S TF – Subroutine 3 (KPIs) – Meeting 3

- a) Place: Online
- b) Dates: 07/12/2020
- c) Type of event: internal meeting
- d) Objective of the event: Monitoring of activities
- e) Organisers: Chloe Fournely (UL) / BRIDGE S&R TF
- f) Webpage of the event: NA
- g) Number of participants: 6
- h) Partner who participated: Chloe Fournely (UL)
- i) Type of participation from X-FLEX side: Leading the meeting, writing down minutes
- j) Press release: NA
- k) Conclusion: The activities are put on pause while waiting the final outcomes of the preceding subroutine

#### 10.1.1.6 MEETING: Regulation WG

- a) Place (City and Country): Online
- b) Dates: 17/11/2020
- c) Type of event (workshop, conference, fair, submit...): workshop
- d) Objective of the event: General Assembly Regulatory Working Group: midterm meeting
- e) Organisers: BRIDGE secretariat
- f) Webpage of the event: NA
- g) Number of participants: 15
- h) Partner who participated: Andreas Tuerk (JR)



- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): oral contributions
- j) Press release: NA
- k) Conclusion: Work Programme update
- l) Photo: NA

#### 10.1.1.7 MEETING: R&S TF – Subroutine 3 (KPIs) – Meeting 2

- a) Place: Online
- b) Dates: 04/11/2020
- c) Type of event: internal meeting
- d) Objective of the event: Monitoring of activities – Finalising ‘Step 1’ and organizing ‘Step 2’
- e) Organisers: Chloe Fournely (UL) / BRIDGE R&S TF
- f) Webpage of the event: NA
- g) Number of participants: 11
- h) Partner who participates: Chloe Fournely (UL), Lola Alacreu (ETRA)
- i) Type of participation from X-FLEX side: Leading the meeting, writing down minutes
- j) Press release: NA
- k) Conclusion: Discussion to link outcomes of the preceding subroutine (identifying KERs) with the inputs for our subroutine

#### 10.1.1.8 MEETING: R&S TF – Subroutine 3 (KPIs) – Meeting 1

- a) Place: Online
- b) Dates: 08/10/2020
- c) Type of event: internal meeting
- d) Objective of the event: Starting the activities of Subroutine 3 of the taskforce – Identifying quantifiable KPIs
- e) Organisers: Chloe Fournely (UL) / BRIDGE S&R TF
- f) Webpage of the event: NA
- g) Number of participants: 7
- h) Partner who participated: Chloe Fournely (UL)
- i) Type of participation from X-FLEX side: Leading the meeting, writing down minutes
- j) Press release: NA
- k) Conclusion:
  - a. Defining the goal of the subroutine
  - b. Proposing a work plan
  - c. Assigning BRIDGE projects review to each participating partner



#### 10.1.1.9 MEETING: WG Data Management

- a) Place (City and Country): Online
- b) Dates: 30/09/2020
- c) Type of event (workshop, conference, fair, submit...): Workshop
- d) Objective of the event: To present the activities and results of the Data management WG during last months and the next steps.
- e) Organisers: BRIDGE secretariat
- f) Webpage of the event:
- g) Number of participants: 75
- h) Partner who participated: Lola Alacreu (ETRA), Kostas Tsatsakis (Suite5), Elena Boskov-Kovacs (Blueprint Energy Solutions), Alberto Zambrano (ETRA)
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): Presentation of the use case repository (Action 1). The internal meeting where the progress of the work was reported. Acting as a participant in this meeting with a focus on the Interoperability of flexible assets WG
- j) Press release: NA
- k) Conclusion:
  - Start to populate the intermediate version of the repository
  - Have a final version of the repository by the next GA
  - Include next advanced features to:
    - Enable to switch between repository versions and use case revisions and have them visualised into the website,
    - Categorise/indexing the use cases to allow an advanced search, and
    - Support for including diagram files within the Excel workflow

#### 10.1.1.10 MEETING: Use Case repository presentation

- a) Place (City and Country): Online
- b) Dates: 17/09/2020
- c) Type of event (workshop, conference, fair, submit...): Workshop
- d) Objective of the event: Presentation of the proposal for the Use case repository to all the members of the Data Management WG
- e) Organisers: BRIDGE secretariat
- f) Webpage of the event: NA
- g) Number of participants: 25
- h) Partner who participates: Lola Alacreu (ETRA), Kostas Tsatsakis (Suite5), Elena Boskov-Kovacs (Blueprint Energy Solutions), Alberto Zambrano (ETRA)
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): presentation of the idea for the use case repository





- j) Press release: NA
- k) Conclusion: The attendants agreed with the idea presented. Then, the work to be done was distributed among the members.

#### 10.1.1.11 MEETING: WG Data Management

- a) Place (City and Country): Online
- b) Dates: 28/08/2020
- c) Type of event (workshop, conference, fair, submit...):
- d) Objective of the event: Status update before the meeting on September
- e) Organisers: BRIDGE secretariat
- f) Webpage of the event: NA
- g) Number of participants: NA
- h) Partner who participated: Kostas Tsatsakis (Suite5),
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): Preliminary telco to present the status of the progress of the work in data management group, prior to the meeting in September. Acting as a participant to the call with a focus on Subgroup “Interoperability of flexible assets”.

#### 10.1.1.12 MEETING: Webinar Use Case Repository

- a) Place (City and Country): Online
- b) Dates: 30/06/2020
- c) Type of event (workshop, conference, fair, submit...): Workshop
- d) Objective of the event: To identify the different approaches taken so far from different BRIDGE Projects in order to identify and describe Use cases
- e) Organisers: BRIDGE secretariat
- f) Webpage of the event: NA
- g) Number of participants: 30
- h) Partner who participated: Lola Alacreu (ETRA), Kostas Tsatsakis (Suite5), Elena Boskov-Kovacs (Blueprint Energy Solutions), Alberto Zambrano (ETRA)
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): Presentation of the approach taken in X-FLEX to identify Use cases
- j) Press release: NA
- k) Conclusion: The combination of the approaches taken in X-FLEX and Platone project to define Use cases, will be analysed in order to get the common use case repository.
- l) Photo: NA



#### 10.1.1.13 MEETING: Replicability/Scalability TF Members

- a) Place (City and Country): Online
- b) Dates: 22/04/2020
- c) Type of event (workshop, conference, fair, submit...):
- d) Objective of the event: To identify and define the specifications for a common repository with relevant information helping projects to implement the methodological guidelines
- e) Organisers: BRIDGE secretariat
- f) Webpage of the event: NA
- g) Number of participants: 28
- h) Partner who participated: Manuel Serrano (ETRA), Elena Boskov-Kovacs (Blueprint Energy Solutions)
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): Presentation
- j) Press release: NA
- k) Conclusion: The answers to the questionnaire sent will be used for the defining the guidelines of the TF.
- l) Photo: NA

#### 10.1.1.14 MEETING: Regulation WG

- a) Place (City and Country): Online
- b) Dates: 21/04/2020
- c) Type of event (workshop, conference, fair, submit...): Internal Meeting
- d) Objective of the event: Validate timing for actions 1-2-7 and inform WG members about expectations for the next weeks.
- e) Organisers: BRIDGE secretariat
- f) Webpage of the event: NA
- g) Number of participants: More than 10
- h) Partner who participated: JR
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): presentation
- j) Press release: NA
- k) Conclusion: The answers to the questionnaire will be used for defining the guidelines of the TF.
- l) Photo: NA

#### 10.1.1.15 EVENT: European Union Pavilion at the India Smart Utility Week 2020

See section 9.2.9.

#### 10.1.1.16 MEETING: BRIDGE GENERAL ASSEMBLY 2020

See the section 9.2.10.



#### 10.1.1.17 EVENT: EU UTILITY WEEK 2019- BRIDGE session “SGAM for the analysis of the scalability and replicability”

- a) Place (City and Country): Paris, France
- b) Dates: 12/11/2019
- c) Type of event (workshop, conference, fair, submit...): Conference
- d) Objective of the event: NA
- e) Organisers: The Innovation & Networks Executive Agency of the European Commission in Brussels (INEA)
- f) Webpage of the event: [https://www.h2020-bridge.eu/wp-content/uploads/2020/01/D3.12.g\\_BRIDGE\\_Scalability-Replicability-Analysis.pdf](https://www.h2020-bridge.eu/wp-content/uploads/2020/01/D3.12.g_BRIDGE_Scalability-Replicability-Analysis.pdf)
- g) Number of participants:
- h) Partner who participated: Manuel Serrano (ETRA)
- i) Type of participation from X-FLEX side (Presentation, exhibition area, training, etc.): presentation
- j) Press release: NA
- k) Photo: NA

## 10.1.2 Publications and Newsletters

Below Table 6 presents BRIDGE publications where X-FLEX has participated.

Action	Date	Link
Draft methodological guidelines to perform a scalability and replicability analysis	12/2019	<a href="https://www.h2020-bridge.eu/wp-content/uploads/2020/01/D3.12.g_BRIDGE_Scalability-Replicability-Analysis.pdf">https://www.h2020-bridge.eu/wp-content/uploads/2020/01/D3.12.g_BRIDGE_Scalability-Replicability-Analysis.pdf</a>
BRIDGE Brochure June 2020	06/2020	<a href="https://www.h2020-bridge.eu/wp-content/uploads/2020/06/Brochure-of-BRIDGE-projects_2020_VF_web3.pdf">https://www.h2020-bridge.eu/wp-content/uploads/2020/06/Brochure-of-BRIDGE-projects_2020_VF_web3.pdf</a>
BRIDGE Newsletter 9 – June 2020	06/2020	<a href="https://www.h2020-bridge.eu/wp-content/uploads/2020/06/BRIDGE-June-2020-Newsletter_FINAL.pdf">https://www.h2020-bridge.eu/wp-content/uploads/2020/06/BRIDGE-June-2020-Newsletter_FINAL.pdf</a>
BRIDGE Newsletter 8 – December 2019	12/2019	<a href="https://www.h2020-bridge.eu/wp-content/uploads/2019/12/20191211-BRIDGE-December-2019-Newsletter_FINAL.pdf">https://www.h2020-bridge.eu/wp-content/uploads/2019/12/20191211-BRIDGE-December-2019-Newsletter_FINAL.pdf</a>

Table 6 - BRIDGE publications where X-FLEX has participated



Figure 66 - BRIDGE NEWLETTER June 2020



Figure 67 - BRIDGE NEWLETTER December 2019

## 10.2 NETWORKING EVENTS WITH OTHER RELEATED PROJECTS AND STAKEHOLDERS

The events mentioned before in sections 9.1.1, 9.1.2, 9.2.5, 9.2.6, 9.2.7, 9.2.6, 9.2.9, 9.2.10, 9.2.9, and 9.2.10 show the dissemination efforts put on exchange actions beyond the BRIDGE initiative. During the first period partners of the consortium have participated in exchange activates and events at the European level, as it has been showed.

## 10.3 HORIZON RESULTS BOOSTER INITIATIVE

The Horizon Results Booster (HRB) [17] is a set of 3 tailor-made services aiming at increasing the benefit of the dissemination of results by clustering R&I projects together in a portfolio of similar or complementary project results and at increasing their exploitation potential and access to markets. An initiative of the European Commission implemented by META Group (consortium leader), Trust IT, BDO, iCons and Ecorys.

HRB supports the effective transfer of research and innovation project results to policy-makers, industry and society by offering various services as dissemination, exploitation strategy and business plan development to projects supported under the 7th Framework Programme (FP7) or Horizon 2020 funding schemes.

X-FLEX is participating in this initiative as part of the Project Group: HRB TDX-ASSIST, which is a Project Cluster addressing Smart Grid, Energy storage and digitalization organized under the HRB programme of the European Commission.

X-FLEX has participated in the deliverable “D1.1 Portfolio of Research and Innovation Project Results of TDX-ASSIST”. This confidential report identifies the collective results of the project group to be disseminated, their characteristics and the target stakeholders that can benefit from these results and are ultimately the target audience for the project group dissemination activities.

In this moment, X-FLEX project is working with the rest of the group in order to organize joint dissemination activities. The objectives and benefits of this joint dissemination is:

- Clustering of projects on commonalities a key feature of EC policy and Horizon Europe





- Share knowledge, expand network and increase opportunities for collaboration and responding to future calls
- Effectively address targeted Stakeholders who might benefit from the PG's activities.
- Leverage each projects' networks, communication channels and expertise.
- To raise awareness, especially among Policy Makers and Civil society, on the importance of a more sustainable and citizen-friendly urban and/or district environment in order to promote the shift to healthier mobility choices.
- Bring together results of initiatives operating within the field of Smart, green and integrated transport, will allow to create a portfolio of thematic projects, showing both alternative and complementary results.
- Possibility to broaden the targeted community or network to give a boost to the overall project's outreach (on a European basis).
- Co-organisation of online/offline events or workshops to leverage cross-pollination and effectively showcase PG's outcomes and results.

## 11 DISSEMINATION AND COMMUNICATION KEY PERFORMANCE INDICATORS

Key Performance Indicators (KPI), also known as KSI (Key Success Indicators) helps X-FLEX define and measure progress towards fixed goals for dissemination and communication activities. In this sense, KPI's are the measurements to determine dissemination plan success and achievement of the main objective.

A preliminary list of KPIs has been established in D9.1 and D9.2, and this deliverable shows the results achieved after the period 1 (Table 7).

KPI		Targets set to achieve in month 18	M18
<b>Website</b>	Design and Development of the project's web portal	Fully developed web portal	YES
	Regular update of the website content	Continuous update (2 times/month)	2 posts/month
	Visitor's countries	minimum 8 countries	10
	Nº of post	15	≥ 30
	Nº of visitors	3,500	2,797
<b>Social networks</b>	Twitter and LinkedIn Nº of followers	180	285
	Tweets	≤ 300	320
	Post on LinkedIn	6	6
	YouTube subscribers	16	16
	YouTube videos	2	2
	YouTube views	200	285
<b>Scientific Publications</b>	Nº of scientific papers including one paper about the core of the project	6	-
<b>Newsletters</b>	Nº of newsletter forwarded	1 newsletter issues every six months	1
	Nº of subscribers	70	38
<b>Deliverables</b>	Nº of public deliverables downloaded	50	None public deliverable approved yet
<b>Promotional Material</b>	Nº of brochure designed	1	1
	Nº of roll-up designed	1	1
	Nº of videos produced	4	5
<b>Press releases</b>	Nº of press releases per each project year	3	3



<b>Workshops</b>	Nº of all the workshops	9	1
<b>Participation in events</b>	Nº of events attended	8	12

*Table 7 - KPI targets in M18*

*\*Yellow shaded files of the table indicate those actions have not reached the KPIs set and in green actions that have reached the KPIs.*



## 12 CONCLUSIONS AND NEXT STEPS

### CONCLUSIONS:

- Despite the fact that dissemination and communication actions in the project have been progressing according to the planned schedule during the first reporting period, some actions planned have been impacted by the COVID-19 crisis.
- Online communication and dissemination actions will have more emphasis to adapt the constrictions due to the COVID-19 crisis. All partners should engage in this new strategy.
- All dissemination materials were being successfully designed and adapted according to the COVID-19 crisis impact.
- Almost all KPIs defined in D9.1 and D9.2 have been reached.
- Messages were being conveyed properly through the different target audiences and channels.
- X-FLEX partners have designed different promotional materials such as brochure, roll-up banner, presentation, and an introduction video in English and Spanish.
- Metrics from the website and Twitter show an increase in the number of visits and a high number of impressions earned regarding dissemination materials.
- The website reached more than 2,797 visits.
- A total of 18 posts have been published on the website.
- X-FLEX's social networks have 301 followers (Twitter, LinkedIn and YouTube).
- Twitter has reached 139,400 impressions during the first period.
- The efforts to disseminate X-FLEX news, results, developments, etc. are having a high impact and generating engagement on Twitter.
- Not all partners have included yet the project in their external communication channels.
- X-FLEX has been presented in more than 12 events from the started date, 10 of them as networking actions and 2 were organised by partners.
- Since X-FLEX is the first stage and no preliminary results have been obtained yet and the COVID-19 crisis has impacted dissemination actions through scientific publications could not carry out. However, partners are already working on this dissemination action.
- X-FLEX partners have actively participated in the BRIDGE initiative in the WG: Data Management, WG: Regulation, TF: Energy Communities & Self-Consumption and TF: Replicability & Scalability.
- The COVID-19 international crisis has led to the cancellation of presential BRIDGE meetings. However, those have taken place in an online format to reach the WGs actions. Partners have participated in 17 BRIDGE meetings.
- X-FLEX is participating in the Project Group: Horizon Results Booster TDX-ASSIST, which is a Project Cluster addressing Smart Grid, Energy storage and digitalisation organised under the HRP programme of the European Commission.
- The X-FLEX project has appeared in 19 news (both in electronic and in paper form) in Slovenia, Bulgaria, Spain, and Austria. Slovenia is the country where X-FLEX has gained more media presence with up to 13 news.



#### NEXT STEPS:

- Best efforts will be put into participating in events and organising ones.
- Pilot sites will start planning future workshops addressed to their stakeholders according to their needs.
- To solve constraints from the COVID-19 crisis online exchange activities will gain more emphasis, and partners should engage them. But it has been detected that this new online strategy is more time consuming for partners.
- More audio-visual materials will be produced due to an increase in the digitization of communication actions.
- Partners will start working on scientific publications.
- Partners will boost media relations in order to increase the media presence in their countries.



## 13 REFERENCES

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## 14 ACRONYMS

Acronym List	
ALBENA	ALBENA AD
BPE	BLUEPRINT ENERGY SOLUTIONS GMBH
BRP	Balancing Responsible Party
CIM	Common Information Model
DCOM	Dissemination and Communication Manager
DoA	Description of Agreement
DSO	Distribution System Operators
DSO	Distribution System Operator
EL CELJE	ELEKTRO CELJE D.D.
ESO	ELEKTROENERGIEN SISTEMEN OPERATOR EAD
ETRA	ETRA INVESTIGACION Y DESARROLLO
EU	European Union
H2020	Horizon 2020 Programme
HEDNO/DEDDIE	DIACHEIRISTIS ELLINIKOU DIKTYOU DIANOMIS ELEKTRIKIS ENERGEIAS AE
HEMRM	Harmonized Electricity Market Role Model
ICCS	INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS
ICT	Information and Communications Technology
ID	Intraday
JR	JOANNEUM RESEARCH FORSCHUNGSGESELLSCHAFT MBH
KPI	Key Performance Indicator
KSI	Key Success Indicators
M18	Month 18
PETROL	PETROL SLOVENSKA ENERGETSKA DRUZBA DD LJUBLJANA
R	Report
R&I	Research and Innovation
R&S	Replicability & Scalability
SEE	South-Eastern Europe
SGAM	Smart Grid Architecture Mode
SLS	SYSTEMS SUNLIGHT INDUSTRIAL & COMMERCIAL COMPANY OF DEFENSIVE, ENERGY, ELECTRONIC AND TELECOMMUNICATION SYSTEMS AND MANAGEMENT AND TREATMENT OF RECYCLING MATERIALS AND TRADING OF RECOVERED MATERIALS
SUITE5	SUITE5 DATA INTELLIGENCE SOLUTIONS LIMITED
TF	Task Force
TSO	Transmission System Operators
UL	UNIVERZA V LJUBLJANI
US	Use Case
WG	Working Group
WP	Work Package


## 15 ANNEX I: X-FLEX PRESENTATION



### X-FLEX at a glance



- Coordinator: ETRA I+D
- Consortium: 12 partners from 6 EU countries (3 DSO, 1 microgrid manager, 1 TSO, 1 battery provider, 3 IT provider, 3 academy)
- Demonstration: 4 pilot sites in 3 EU Member states
- Total budget: 9,5 M€
- Total funding: 7,3 M€
- Start date: 01/10/2019
- End date: 30/09/2023



The map shows the geographical distribution of the project's pilot sites and partners across Europe. Callouts point to specific locations: 'etra i+d' in Spain, 'SUNLIGHT' in Germany, 'Sulites' in Italy, and 'E.ON' in the UK. Other callouts include 'E.ON Energy Research Center', 'E.ON Energy Research Center', 'E.ON Energy Research Center', 'E.ON Energy Research Center', 'E.ON Energy Research Center', 'E.ON Energy Research Center', 'E.ON Energy Research Center', 'E.ON Energy Research Center', 'E.ON Energy Research Center', 'E.ON Energy Research Center', 'E.ON Energy Research Center', 'E.ON Energy Research Center'.

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## X-FLEX Project objectives



1. Development of tools that would enable and facilitate the **use of flexibility in the power system** with the aim of **increasing the stability and security of supply** in normal working conditions and **extreme weather conditions**.
2. Demonstrate **technological, economic and social benefits** that are created with the participation of various stakeholders in the electricity system of existing energy connections.

## How to reach X-FLEX objectives



### INTEGRATE VARIOUS EXISTING FLEXIBILITY UNITS

(batteries, electricity into heat / cold, EV into the grid and other energy storage technologies)



## How to reach X-FLEX objectives



X-FLEX will develop 4 complementary products that will offer services to all the energy stakeholders:

1. **SERVIFLEX tool:** Integrated flexibility management tool
2. **GRIDFLEX tool:** Advanced tools for automatic control and observability
3. **MARKETFLEX tool:** Market platform and new market mechanisms



## SERVIFLEX TOOL



### Serviflex tool



The **tool for flexibility managers** to take advantage of the value of **energy storage along with other demand flexibility resources** towards the establishment of a holistic framework for flexibility extraction, profiling, forecasting, classification, clustering and management to serve different market and grid needs.

**GRIDFLEX TOOL**





## Gridflex tool





The tool for **grid and microgrid operators** that prevents **congestion (voltage and current issues)** and **power quality problems** with the increasing share of intermittent RES, giving special attention to the potential grid problems due to the impact of extreme climate events.

The tool will use **flexibility as an alternative to network reinforcement** when it is more cost-efficient than traditional reinforcement of the network.


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9

**MARKETFLEX TOOL**





## Market flex tool



This tool enables **final consumers and prosumers** to access and participate, individually or through an intermediate party, **on different energy markets**, such as wholesale market, local energy market or ancillary services market for TSO or DSO.

09.02.21
10



## X-FLEX Project pilot sites



### 4 PILOT LOCATIONS

- RAVNE NA KOROŠKEM, Slovenia
- LUČE, Slovenia
- ALBENA, Bulgaria
- XHANTI, Greece



## X-FLEX Project pilot sites



### Demo site: Ravne na Koroškem (Slovenia)

#### Flexibility of the Power to heat on an industrial site

- Ravne na Koroškem is a **small remote town** (population 7,268) with poor transport connection in the north-east part of Slovenia, known for its steel industry.
- XFLEX project will **create synergies with the heat production (RES Power2Heat) and heat network operation** to:
  - Provide flexibility on the electricity grid.
  - To lower the imbalances in the network.
  - To improve the reliability of electricity.



## X-FLEX Project pilot sites



### Demo site: Luče (Slovenia)

#### Flexibility of local energy community

- Luče is a remote alpine village with 400 inhabitants in Slovenia. It has a low **local network capacity** with weak middle voltage overhead line connection that results in two major problems:
  - Limited local RES production.
  - Frequent power outages usually due to weather events.
- X-FLEX project will provide **flexibility to the local energy community through the use of DER** (batteries, PV, wind systems and EV-charging units), to **improve the network operation costs and operational reliability**.



## X-FLEX Project pilot sites



### Demo site: Xanthi (Greece)

#### Green flexibility for network resilience

- The city of Xanthi, that has a population of more than 60,000, experiences **harsh winters and extreme weather events**, mainly including snowfall and strong rain storms.
- The goals are to facilitate the **optimal operation of Power2Gas and storage devices** at the microgrid, to contribute to the increased **resilience of the system under extreme weather events**, to achieve power losses reduction and to increase voltage stability.





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# Thank you!

## QUESTIONS?



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18

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