



Proceedings of yearly workshops towards DSOs, regulatory bodies and other stakeholders - 2nd year

Deliverable D4.4

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EXECUTIVE SUMMARY

Deliverable 4.4 summarizes the various actions organized during the second year of the project in order to reach the European DSO community, the regulatory bodies, and the professional associations and public bodies related to the energy sector.

Six events are detailed in this document, listed in chronological order:

The CEER Workshop on Use of Flexibility at DSO level

- Around 50 participants attended the workshop
- 2 main topics were discussed:
 - Barriers for the flexibility providers to offering flexibility
 - TSO and DSO coordination

The T&D Europe Smart Grids & Microgrids Working Group Meeting

- 1 hour presentation in the "Smart Grids and Microgrids" Working Group meeting

The Innogrid2020+ annual conference:

- More than 350 organizations from the energy industry
- 1 theatre presentation
- 1 panel discussion
- 1 roll-up was designed

The EASE Storage Technology and Value Assessment Committee presentation

- 1 hour and a half time slot at the EASE Storage Technology and Value Assessment Committee

The European Utility Week 2018:

- More than 13 000 participants
- 1 stand on the Horizon 2020 project zone
- 1 theatre presentation
- Participation in panel discussions

The Second InterFlex Community Meeting in Hanover on the 11th of October:

- More than 40 participants, from 12 European countries
- A wide variety of stakeholders from different horizons: municipalities, regulators, energy industry associations, DSOs and aggregators, researchers, project managers, consultants and other smart grids experts
- A full day of presentations, round tables and discussions with external stakeholders

A list of events (conferences, seminars, etc) where InterFlex members actively participated is also given in a last section.

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1. INTRODUCTION

1.1. Scope of the document

Deliverable 4.4 summarizes the various actions organized by the project during its second year to reach the European DSO community, the regulatory bodies, and the professional associations and public bodies related to the energy sector.

1.2. Notations, abbreviations and acronyms

The table below provides an overview of the notations, abbreviations and acronyms used in the document.

CEER	Council of European Energy Regulators
DSO	Distribution System Operator
ESCO	Energy Service Company
EC	European Commission
EC-GA	European Commission Grant Agreement
EU	European Union
GA	General Assembly
GWP	General Work Package
KPI	Key Performance Indicator
PC	Project Coordinator
SC	Steering Committee
TC	Technical Committee
TD	Technical Director
TSO	Transmission System Operator
WP	Work Package
WPL	Work Package Leader

Figure 1 - List of acronyms

2. MAIN EVENTS & WORKSHOPS

2.1. CEER Workshop on Use of Flexibility at DSO level

Date	1 st of March 2018
Location	Brussels, Belgium
Participants	Project members (ENGIE) and external stakeholders

Figure 2 - CEER Workshop on Use of Flexibility at DSO level ID

InterFlex, via ENGIE, contributed to a Workshop on Flexibility Use at DSO Level organized by the Council of European Energy Regulators (CEER) on March the 1st in Brussels.

This workshop has been an opportunity to share the view at the European level between the different companies and public authorities, on the following topics:

- What are the barriers for the flexibility providers to offering flexibility and how can we overcome them?
- TSO and DSO coordination: What are the pros and cons of TSOs and DSOs jointly procuring flexibility, as opposed to having a 'cascaded collaboration', where DSOs manage flexibility use at DSO level?



Figure 3 - CEER workshop - Break-out discussions

The agenda of CEER workshop on Use of Flexibility at DSO level is presented in the figure below.



CEER Workshop on Flexibility Use at DSO Level

Thursday 1 March 2018

CEER Secretariat, Cours Saint-Michel 30a (5th floor), 1040 Brussels

Agenda

9:45 – 10:15 Registration and welcome coffee

10:15 – 10:30	Welcome address <i>Opening remarks, including an overview of the Flexibility Use at DSO level consultation</i>	Remko Bos, Chair of CEER Distribution Systems Working Group (DS WG)
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10:30 – 11:40	Agenda item 1: Introductory presentations	
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The importance of the use of flexibility at DSO level: findings from the Tipping Point study, a study that spans Member States.	Representative from the Tipping Point study – Albert Cheung, Bloomberg
The use of flexibility at the DSO level: The European Commission's view	Kostas Stamatis, Policy Officer – Smart Grids, DG ENER
Case studies of flexibility use – evidence from consultation responses	Stefan Vögel, E-Control/CEER DS WG

11:40 – 12:30	Agenda item 2: Break-out discussion #1	
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For potential providers of flexibility (including household and business customers), what are the barriers to being able to offering flexibility, and what is needed to overcome them?	Moderator: Andrew Burgess, Vice-Chair of DS WG
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12:30 – 13:15 *Lunch Break*

13:15 – 14:05	Agenda item 3: Break-out discussion #2	
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What are the pros and cons of TSOs and DSOs jointly procuring flexibility, as opposed to having a 'cascaded collaboration', where DSOs manage flexibility use at DSO level?	Moderator: Louise van Rensburg, Ofgem/CEER DS WG
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Figure 4 - Agenda of the CEER Workshop on Flexibility Use at DSO Level

2.2. T&D Europe Smart Grids & Microgrids Working Group Meeting

Date	19 th of April 2018
Location	Conference Call
Participants	Project Members and external stakeholders
Representatives of the following organizations were present: T&D Europe, Schneider Electric, Siemens, Ormazabal, GE Power, BEAMA, ZIV Automation	

Figure 5 - T&D Europe Workshop ID

A joint workshop with **T&D Europe**, the European association of the electricity transmission and distribution equipment and services industry, was organized in order to reach the Professional association & public bodies target. A one hour time slot was dedicated to InterFlex during the association "Smart Grids and Microgrids" Working Group meeting on the 19th of April 2018.

Structure & Strategy areas

GENERAL ASSEMBLY			
4 VICE-PRESIDENTS	PRESIDENT Gerhard Seyrling	EXECUTIVE COMMITTEE	
		SECRETARY GENERAL Diederik Peereboom	
ENERGY POLICY VP Jochen Kreusel	INNOVATION VP Yann Fromont	INDUSTRIAL POLICY VP Andreas Luxa	COMMUNICATION VP Guillermo Amann
WG Energy Policy	WG Smart Grids and MicroGrids TF Cybersecurity TF Grid Codes	WG Industrial Policy	WG Communication
TF Harbours	WG Gas for Switchgear	WG Macroeconomic Indicators	WG Advocacy
Large Power Systems - Supergrids	WG Standardisation/ Technical legislation		
Smart Cities	WG Transformers Sub Technical WG Transformers TF Large Power Transformers		
	TF REACH		
	TF Environmental Footprint		

Figure 6 - T&D Europe Structure including the targeted working group

Participants from InterFlex:

- Christian Dumbs, Enedis
- Thorsten Gross, Avacon,
- Anatole Weill, Accenture

During this time slot, the Project Coordinator (Christian Dumbs) presented the InterFlex project and its different innovation streams, giving insights on what is being implemented in each demonstrator. The German demo Work Package Leader (Thorsten Gross) also gave a brief introduction to the Smart Grid Control Hub being implemented by Avacon. The presentation was followed by a fruitful Q&A session, and should trigger further collaboration with this Working Group.

2.3. Innogrid 2018

Date	15 th - 16 th of May 2018
Location	Brussels, Belgium
Participants	Project Members and external stakeholders

Figure 7 - Innogrid 2018 ID

InnoGrid2020+ is the EU event on innovation in electricity networks, co-organised by the European Network of Transmission System Operators for Electricity (ENTSO-E) and the European Distribution System Operators for Smart Grids (EDSO). The event focused on the next decade's challenges for the power grids and provide insights and solutions through innovative projects, demonstrators and pilots.

InterFlex had the opportunity to showcase its work taking part to the poster exhibition of Innogrid 2018.

A roll-up was designed and presented during the 2 days event to inform the audience about the project scope and main innovation streams to be explored. Flyers were also produced and distributed to the visitors.

In the afternoon of the first day, the 15th of May, InterFlex' Project Coordinator, Christian Dumbs, participated to a session on "Buildings, transport and electricity". The InterFlex' objectives and the work achieved so far in the project demonstrations were presented in this session. 3 other innovative projects (MONICA, SmartNet and SHAR-Q) were also sharing their experience during this session which was followed by a panel discussion, moderated by Yannick Jacquemart, vice-chair of the Research and Development Committee, ENTSO-E.



Figure 8 - Roll-up used for the presentation at Innogrid 2018



Figure 9 - Presentation of InterFlex project at Innogrid 2018

2.4. EASE Storage Technology and Value Assessment Committee presentation

Date	27 th of June 2018
Location	EASE Headquarters, Brussels
Participants	Project Members and external stakeholders

Figure 10 - EASE Storage Workshop ID

In order to reach professional bodies of the storage sector, the association EASE Storage was also targeted. A one hour and a half time slot has been reserved at the association next Technology and Value Assessment Committee meeting on the 27th of June 2018. This committee deals with questions related to R&D in storage, energy storage technology developments, storage applications (technical capabilities, opportunities for “stacking” applications), and business cases for storage.

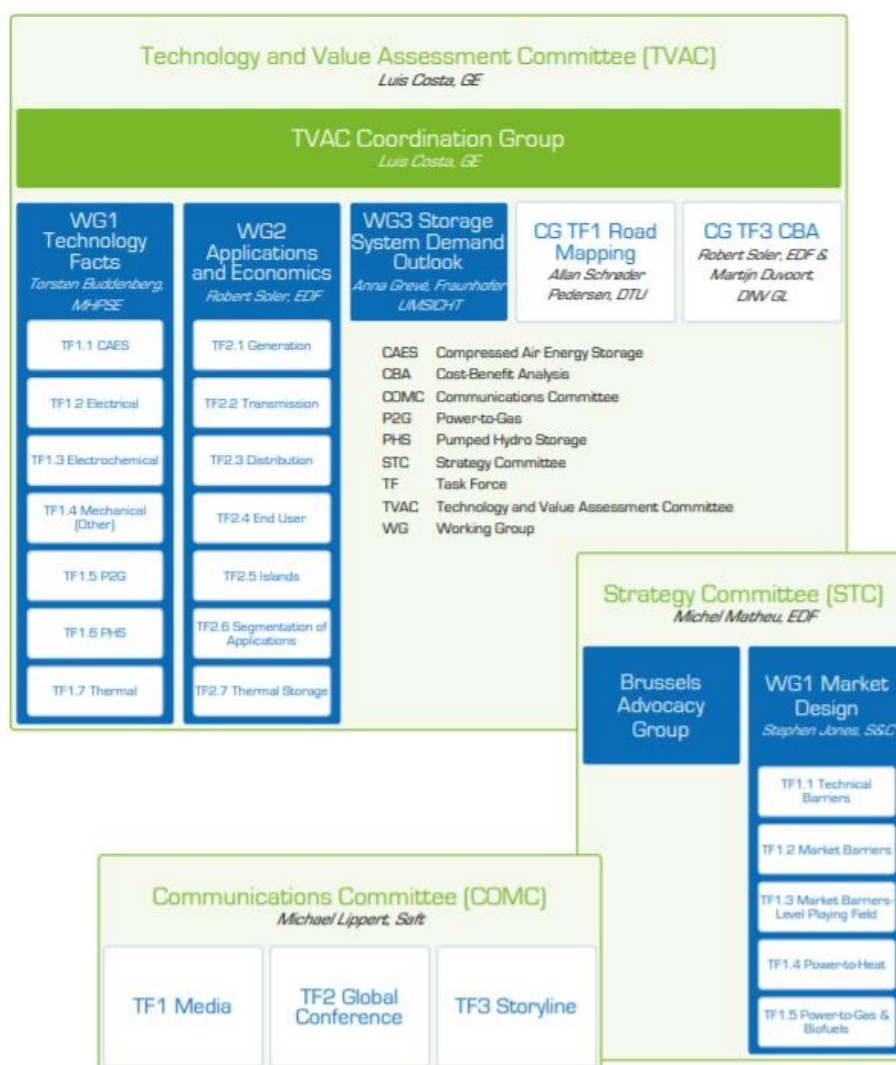


Figure 11 - Overview of the EASE Storage organisation, including the TVAC

Participants from InterFlex:

- Gregory Jarry, Accenture
- Sharmistha Bhattacharyya, Enexis

Below is the agenda of the presentation

1. InterFlex project presentation

- Project key figures.
- Overview of the partners involved in the 6 demonstrators, and of the innovation streams being investigated
- Role of batteries in InterFlex

2. Overview of storage applications in other demos

- At Simris, battery systems are tested to maintain frequency and voltage of a Local Energy System
- Nice Smart Valley mutualizes storage capacities designed for islanding purposes with other uses
- Storage in German & Czech demos

3. Focus on the Dutch demo

- Demonstrator overview: This demo is dealing with a storage unit being installed in a buzzing neighbourhood with EV charging stations & PV installation. A flexibility market will be created based on these sources of flexibility.
- Overview of the storage unit applications
- Technical details of the site installation
- Use Cases overview: 2 use cases are dedicated to gather technical knowledge (on the storage unit use and on smart EV charging schemes) and another one is dedicated to economic assessment through the creation of a flexibility market.
- Expected benefits

2.5. InterFlex 2nd Community Meeting

Presentation of the event



Date	10 th & 11 th of October 2018		
Location	Hanover (Germany), Museum of Energy History		
Participants	Project Members and external stakeholders		
Number of participants	41	Number of countries	12

Figure 12 - InterFlex Second Community Meeting ID

This Community Meeting was the occasion to gather for the second time the InterFlex Replicability Board and Advisory Board members to share viewpoints and discuss future challenges and current project findings.

The goals of the event were multiple:

- Present the event scope and latest news to the Boards members
- Build InterFlex international notoriety and give networking opportunities
- Foster replicability discussions with external stakeholders
- Foster discussions on the business models being developed by InterFlex
- Foster discussions on findings and the evolution from the 1st community meeting one year ago
- Give opportunities to exchange with regulatory bodies

The event was organized in Germany, in the very center of Hanover, at the Museum of Energy History, close to the Central Train Station. The museum of Energy History is a technical museum operated by Avacon. It was founded in 1979 by one of the five predecessor companies of Avacon. It shows nowadays a diverse collection of historic and recent exhibits about electricity history.

A wide variety of stakeholders from different horizons were present: energy industry associations, DSOs, energy providers, aggregators, researchers, equipment providers, consultants and other smart grids experts.

The event lasted two days. The first day (10th of October), the participants visited the Grid Control Center of Avacon in Salzgitter, followed by a guided tour in Hanover with a Common Dinner in the evening.

The second day (11th of October), the participants shared their views on the use of flexibilities at local level based on the presentation of the projects and panel discussions.

The number of attendants was: 41.

Agenda - October 10th 2018

Avacon's Grid Control Center visit

2.00 pm

Startpoint: Hannover, Museum für
Energiegeschichte
Humboldtstraße 32, 30169 Hannover

6.15 pm

Guided Tour in Hanover

Common Dinner

7.30 pm

Address: Pier 51 Betriebs GmbH & Co. KG
Rudolf-von-Bennigsen-Ufer 51
30173 Hannover

Agenda - October 11th 2018

8.30 am	Welcome Coffee
9.00 am	<p>Welcome</p> <p>Introduction by Christian Dumbs, InterFlex Project Coordinator (Enedis)</p> <p>Welcome address by Frank Aigner (Avacon Board Member)</p>
9.30 am	<p>Panel discussion 1 Moderator: Christian Dumbs (Enedis)</p> <p>“The future of Flexibility at a local scale”</p> <ul style="list-style-type: none"> - Marielle Lahti (Swedish Smartgrid Forum) - Dieter Hirdes (Smart Innovation Norway) - Marcel Steinbach (BDEW) - Luc L’Hostis (EDF) - Rémy Garaude Verdier (Enedis)
10.30 am	<p>The EU BRIDGE initiative</p> <p>Regulatory challenges (Grégory Jarry, Accenture)</p>
10.50 am	Coffee break
11.15 am	<p>InterFlex presentations</p> <p>How to reduce the potential impact of EV charging on the distribution grid? (Patrick Rademakers, ElaadNL)</p> <p>How does grid automation allow for a more flexible network and reduce grid congestion? (Stanislav Hes, CEZ Distribuce)</p> <p>How will InterFlex guarantee replicability of the solutions and exploitation of the results? (Marco Cupelli, RWTH Aachen)</p>
12.00 pm	Lunch
1.30 pm	<p>Guided tour in Avacon’s Museum of Energy History</p> <p>Open Discussions with the Community</p>
2.40 pm	<p>Panel discussion 2 Moderator: Stanislav Hes (CEZ Distribuce)</p> <p>“Business models and stakeholder’s roles for distributed energy storage”</p> <ul style="list-style-type: none"> - Thomas Pock (Uniper Energy, Germany) - Andreas Tuerk (STORY project, Joanneum Research, Austria) - Thibaut Wagner (French InterFlex demo leader, Enedis) - Peder Kjellen (Swedish InterFlex demo leader, E.ON)
3:45 pm	Coffee break
4.00 pm	<p>InterFlex presentations</p> <p>How to optimize grid efficiency & reliability with demand response? (Thorsten Gross, Avacon)</p> <p>What are the challenges for islanding of embedded microgrids? (Peder Kjellen, E.ON Sweden)</p>
4.30 pm	Questions & Answers of the day and Conclusions
5.00 pm	- End of the Community Meeting -

Figure 13 - InterFlex Second Community Meeting Agenda

InterFlex Community Participants

Name	Company
Consortium Members	
Gregory Jarry, Veronika Kozachenko	Accenture
Sergio Potenciano Menci, Mihai Calin	AIT
Frank Aigner, Heike Weber, Thorsten Gross, Benjamin Georg Petters	Avacon
Stanislav Hes	CEZ Distribuce
Petr Kotrba	CEZ Solarni
Peder Kjellen, Pauline Ahlgren	E.ON Sverige
Luc L'Hostis	EDF
Patrick Rademakers	Elaad NL
Rémy Garaude Verdier, Stanislas Genty, Christian Dumbs, Thibaut Wagner	Enedis
Marcel Willems	Enexis
Guillaume Lehec, Cécile Cordier	Engie
Louise Rullaund	Eurelectric
Christoph Winter	Fronius
Alexandre Henry	GE
Marco Cupelli, Amir Ahmadifar, Martina Josevski	RWTH Aachen
Karel Vaclavicek, Leos Kabat	Schneider Electric SRO
Jiri Kratky, Jan Daskocil, Josephine Zetterman	Siemens
Joost Laarakkers, Wilco Wijbrandi	TNO

Figure 14 - InterFlex Community Meeting - Community Participants

Name	Company
Erik Persson, Jorgen Wingren	ABB
Marcel Steinbach	BDEW
Christian Folke	EASE/ Uniper
Louise Rullaund	Eurelectric
Francesco Fusco	IBM Research Ireland, project GOFLEX
Dieter Hirdes	Smart Innovation Norway, Project INVADÉ
Andreas Tuerk	Joanneum Research
Marielle Lahti	Swedish Smartgrid Forum
Jonas Maasmann	TU Dortmund

Figure 15 - InterFlex Community Meeting - Participants from the project Consortium

2.5.1. Proceedings of the event

Disclaimer

This section intends to reflect, in a structured manner and as accurately as possible, the key messages delivered during the second Community Meeting of the InterFlex project on 11th October 2018 in Hanover, Germany.

Therefore, it should not be considered as:

- a full transcript of the event
- a comprehensive and state-of-the-art description of addressed issues
- a position paper of the project on addressed issues.

If you consider that a message has been misinterpreted or overlooked, please send your comments to: info@interflex-h2020.com

2.5.1.1. Day 1: 10th october 2018

The event begun with Avacon's Grid Control Center visit on Tuesday at 2pm. In Salzgitter, both the electricity grid control center and the gas control center are operated by Avacon engineers and technicians. This location is the only control center for all Avacon's grid. The participants also had the opportunity to get a better understanding of the smart grid hub deployed by Avacon.



Figure 16- InterFlex Community meeting at Avacon Grid Control Center

Startpoint: Hannover, Museum für Energiegeschichte Humboldtstraße 32, 30169 Hannover
Then the participants went for a guided tour on the city of Hanover: City Hall, pedestrian city center, etc.

The day ended with a common dinner with all the participants of the community.

2.5.1.2. Day 2: 11th October 2018

2.5.1.2.1. Welcome presentations

After a short introduction of the day by Christian Dumbs, InterFlex Project Coordinator, a welcome address was then performed by Frank Aigner, Board Member of Avacon, one of the project member and the host of the event. He also named the 6 innovation streams and the importance of each demo.

He highlighted some of the characteristics that make InterFlex such a special project: the high level of collaboration between 5 electricity DSOs, 1 Gas DSO & other experts, as well as a good representation of European countries, inducing a large variety of conditions for the demonstrators (Northern Europe with Simris and Malmö, South-Western with Nice, Eastern with Czech Republic and Central with Eindhoven and Lüneburg).



Figure 17 - Community Meeting opening by Frank Aigner

2.5.1.2.2. First Panel Discussion

The first panel discussion was focusing on the future of flexibility at a local scale. It was chaired by Christian Dumbs, Project Coordinator.

The members of this first panel discussion were:

- Marielle Lahti, Director Smart Grids and Electricity markets of the Swedish SmartGrid Forum
- Dieter Hirdes, Coordinator of INVADE project representing Smart Innovation Norway.
- Luc L'Hostis, Head of the collectivities, Territories and Solidarity Department in South of France at EDF.
- Remy Garaude Verdier, Head of European Affairs at Enedis
- Marcel Steinbach, Head of Energy Trading Department, BDEW

Christian Dumbs, InterFlex Project Coordinator, introduced this panel discussion with emphasizing the main questions and existing problems related to flexibility markets.

The session was very dense and addressed the main challenges around local energy markets. In particular, the participants shared their views on the main solutions to mobilize effectively flexibilities at local level:

- Pricing mechanisms set up by Nord Pool were presented by Marcel Steinbach and Marielle Lahti
- Local flexibility markets operated by DSOs, such as the market set up in the InterFlex French Demo, were mentioned by Remy Garaude-Verdier from Enedis
- The cloud flexibility trading platform operated by an aggregator in the INVADE project was presented by Dieter Hirdes

2.5.1.2.1. The EU BRIDGE Initiative

Gregory Jarry (Accenture) opened this session with a presentation focused on regulatory issues and recommendations identified in the EU BRIDGE initiative, which highlighted the following points:

- A definition and the goal of the BRIDGE Initiative: a single voice gathering all H2020 Smart grids and Storage projects to foster continuous knowledge sharing amongst projects and deliver conclusions and recommendations about the future exploitation of the project results.
- Focus on the “regulations” working group organized in 3 main topics: Grid, Storage and Island
- Recommendations from the 3 issues:
 - How to take into account locational aspect in the market organization?
Recommendations: Introduce local aspects in the organization of the market to prevent local congestion, take into account that resources connected to distribution allowed to provide services to DSO, exemption from unbundling should be used carefully and Europe should harmonize those local concepts.
 - How DSOs can provide new services to the electricity system?
Recommendations: extend the role of the DSO to provide additional services to the TSO and extend the role of the DSO to provide services to other market participants such as aggregators and local energy communities.
 - How to maximize the use of flexibilities connected to distribution grids?
Recommendations: there is some common objectives in the grid remuneration fee related to the procurement of flexibility, additional coordination is needed in the forecasted and actual state of the grid and finally the data sharing must be in a transparent framework and supported by standards.

2.5.1.2.2. InterFlex Presentations -Part 1

Patrick Rademakers (ElaadNL) opened this session with a presentation focused on the challenges and opportunities related to the impact of EV charging on the distribution grid. In particular, the examples from the InterFlex Dutch Demo were presented. In the Netherlands, the peak load could move from 30 GW to 105 GW if the charge of EV is not managed. In the other hand, the flexible load and storage provided by EV can be a solution to balance local supply and demand with smart charging solutions.

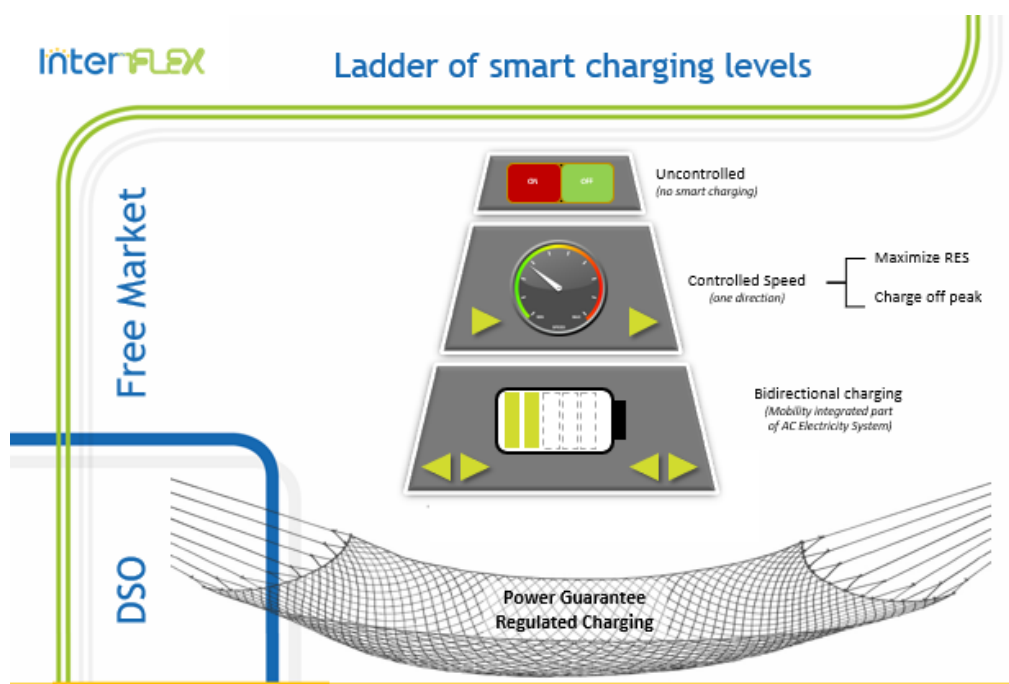


Figure 18 - Ladder of smart charging levels (ElaadNL)

Stanislav Hes (Cez Distribuce) followed with a presentation focused on “How does grid automation allow for a more flexible network and reduce grid congestion?”. A highlight on 3 InterFlex demos were made:

- In Germany, Avacon completed end-2-end integration of grid control and smart meter framework enabling automatic activation of small scale flexibility
- In the Netherlands, smart equipment so called “DALI box” were deployed by Enexis to collect additional data such as voltage, active and reactive power
- In Czech Republic, autonomous Q(U) and P(U) functions of PV inverters connected to LV grids proved the potential for increasing DER hosting capacity and Volt/Var control system implemented on DER connected to MV grids proved the potential for increasing DER hosting capacity

Marco Cupelli (RWTH Aachen University) closed this session with a presentation focused on: “How will InterFlex guarantee replicability of the solutions and exploitation of the results?”. A methodology on Smart Grid Architecture Model (SGAM) is used to compare interfaces of different use cases.

2.5.1.2.3. Guided Tour and Open Discussions

The second part of the meeting started with an "open discussion" session and a guided tour at the Museum of Energy History.

Representatives of the project Work Packages were invited to answer questions from the audience. The participants took this opportunity to ask questions and share their views on the topics addressed by the InterFlex project:

- How do we decide which price signals will incentivize flexibility and how can we get these policies in place fast enough?
- Is there any use of flexibility possible with high power charging stations?
- If the DSO provides services to the TSO, aren't they in competition with market players?

- What is the size of the local markets we are talking about? Region, city, district?
- After characterized flexibilities at the customer-side, what kind of incentives are considered by DSOs to engage more customers into the market?
- If we go away from the centralized model how can we guarantee security of supply?
- I hear there is no clear business model. But is there may be a good model for prevented cost that flexibility can bring for the DSO?
- Is there an indication on residential customers willingness to participate in local markets?

2.5.1.2.4. Second Panel Discussion: Business models and stakeholder's roles for distributed energy storage

This round table was chaired by Stanislav Hes from Cez Distribuce.

The participants of this panel discussions where:

- Christian Folke (EASE Storage / Uniper Energy, Germany)
- Andreas Tuerk (STORY project, Joanneum Research, Austria)
- Thibaut Wagner (French InterFlex demo leader, Enedis)
- Peder Kjellen (Swedish InterFlex demo leader, E.ON)

They had the opportunity to share their views with the participants on distributed energy storage business models and valorization. They illustrated their comments with hands on experience from H2020 projects STORY and InterFlex and a broader overview from the European association for storage of energy.



Figure 19 - InterFlex Community Meeting - Panel Discussion on business models for storage

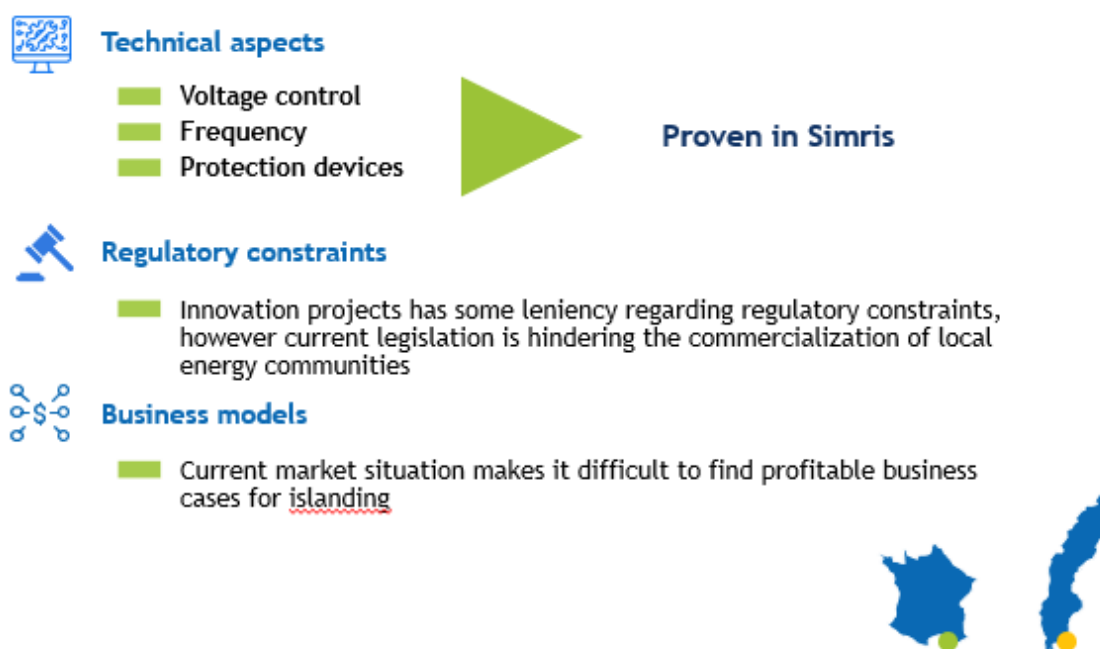
2.5.1.2.5. InterFlex presentations - Part 2

Thorsten Gross (Avacon, German Demo leader), has presented the project work on the solutions to optimize grid efficiency & reliability with demand response. The various demonstrators explore the technical and economic potential in advanced demand side management strategies. First lessons and feedbacks on demand response were shared:

- Customer acceptance in residential segment exists but largely depends on an attractive and transparent commercial model.
- Technical replicability relies on open platforms and a functioning smart meter framework.

- Powerful DSM mechanisms can support the integration of new technologies and enable novel energy supply models.
- Efficient pricing and definition of value streams requires a look beyond today's regulation.
- DSM can create value for DSO operation and on the customer's side alike.

Peder Kjellen closed the presentation session with his visions on the challenges for islanding of embedded microgrid focusing on the Swedish demo example. He presented the challenges faced, barriers & obstacles and the first lessons coming from InterFlex regarding to islanding.



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2nd Community Meeting - 11 October 2018

Figure 20 - Challenges faced on islanding topics

During Q&A of the day, Guillaume Lehec has opened several discussions concerning demand response and gave some examples of its implementation in the French Demo.

Christian Dumbs gave a closing speech, giving his view on the importance of customer empowerment and the future roles of the DSO. He highlighted that the demonstration phases have started for most demonstrators and that there will soon have new opportunities to discuss further on the project outcomes.

2.5.2. Dissemination material produced in the scope of the event

Roll-ups

Several roll-ups were produced to inform about the project scope and main innovation streams to be explored.

Brochure

A brochure was designed to give information on the project consortium, outcomes, innovation streams and challenges. It can be found below.

InterFLEX

Local use of flexibilities for an increasing share of renewables on the distribution grid

2017-2019	Total budget of
3 Years	22.8M€
Gathering	Through
20 industrial partners	6 real-scale demonstrators

Ambitions and expected impacts of InterFlex:

- Environmental benefits**
 - Optimal use of renewable power generation assets
 - Transport decarbonisation
 - Increased share of renewables
- Socio-economical value**
 - New offers & activities (aggregation, use of flexibility levers and assets)
 - Local balance optimization
 - Potential savings for end customers
- Policy framework evolution**
- Replicability of the solutions**

Ambitions and expected impacts of InterFlex:

- Environmental benefits**
 - Optimal use of renewable power generation assets
 - Transport decarbonisation
 - Increased share of renewables
- Socio-economical value**
 - New offers & activities (aggregation, use of flexibility levers and assets)
 - Local balance optimization
 - Potential savings for end customers
- Policy framework & Replicability**
 - Regulatory evolutions to foster the efficient utilization of flexibilities
 - Recommendations for micro grid operations
 - Regulatory framework for self-consumption and storage solutions

5 Electricity Distribution System Operators involved in the project

Project Coordinator	Technical Coordinator	Chairman of the General Assembly
ENEDIS <small>L'ÉLECTRICITÉ EN RÉSEAU</small>	DISTRIBUCE	e-on
ENEXIS GROEP	avacon	

A consortium of 20 industrial partners

SIEMENS
Ingenuity for life

Schneider Electric

Fronius

socomec
INNOVATIVE POWER SOLUTIONS

EDF

ČEZ SOLÁRNÍ

GRDF

ENGIE

AIT
ENERGIES

TNO
innovation for life

ElaadnI

TRIALOG

accenture

RWTH AACHEN UNIVERSITY

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Figure 21 - InterFlex Community Meeting - Brochure 1/2



Figure 22 - InterFlex Community Meeting - Brochure 2/2

2.6. European Utility Week 2018

Date	6 th - 9 th of November 2018
Location	Vienna, Austria
Participants	Project Members and external stakeholders

Figure 23 - European Utility Week 2018 ID

2.6.1. InterFlex booth at the EU Project Zone

After a first participation in 2017, InterFlex attended the European Utility Week for the second time in 2018. Christian Dumbs, InterFlex' Project Coordinator, had the opportunity to present InterFlex, with a dedicated booth, reaching a very broad audience during the 3 days of the event.

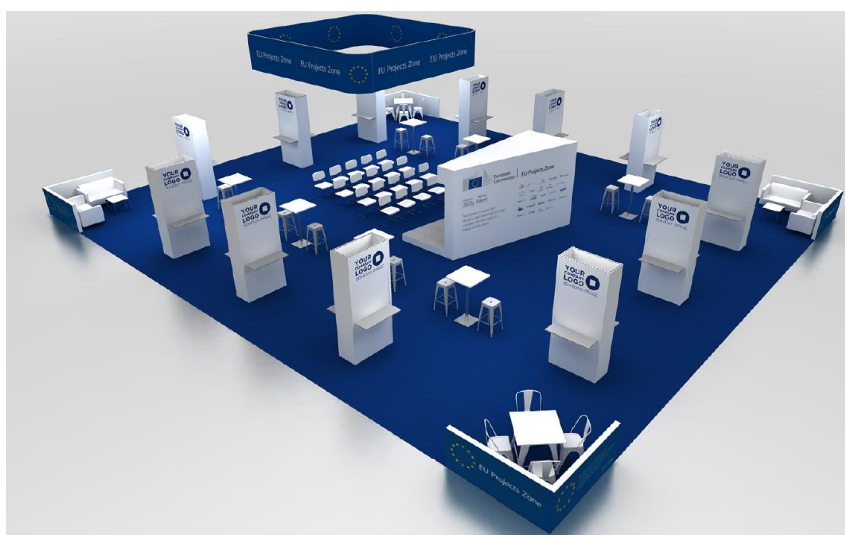


Figure 24 - Design of the EU Project Zone - EUW 2018



Figure 25 - InterFlex' booth at the EU Project Zone - EUW 2018

2.6.1. BRIDGE Hub session on DSO's platform

InterFlex participated to the BRIDGE session on the 6th of November in the afternoon, whose topic was “Interoperable platforms and data exchange for energy services: practical experience from the BRIDGE projects”.

Several H2020 projects participating in the BRIDGE initiative were participating: FuturFlow, GOFLEX, FLEXICIENCY, INTERFLEX, INTEGRID, WiseGRID, RE-SERVE, ELSA, INVADE, SENSIBLE, inteGRIDy, SmartNet, MIGRATE, ELECTRIFIC, UPGRID.

The following questions were addressed during each project's presentation:

- Who is best suited to deploy and run a platform that aims to enable market competition, from a business-model point of view?
- How do you ensure interoperability between platforms, both in terms of interoperability with other DSOs/TSOs, and in terms of interoperability with other markets (e.g. mobility, health or home-security services)?
- What works best to ensure that market parties have an interest in participating in a platform?

InterFlex's Project Coordinator, Christian Dumbs addressed those questions by presenting DSO's platforms that are used in 4 demonstrations of InterFlex: German, Swedish (Simris), Dutch and French demos.



Figure 26 - Presentation of DSO's platforms in InterFlex demonstrations at the BRIDGE session, European Utility Week 2018

All presentations were very fruitful and led to some meaningful discussions regarding technological, business and regulatory aspects. The slide hereunder was presented by Christian Dumbs (Project Coordinator, Enedis), identifying the main challenges for the use of flexibility at a DSO level.

Next frontier

Exponential solutions for flexibility need market design and regulation

CONTEXT

- **Large and heterogeneous set of flexibilities:**
 - Residential, commercial, industrial
 - Uni-, bi-directional
 - Part-time, full-time
 - Single revenue, multi revenue models
- **Competition between different market players** (TSO, DSO, Retail, Wholesale, New Players, Aggregators)
- **Development of technical solutions via IoT and AI** that foster grid autonomy, autarky, capacity, peer-to-peer energy exchange, etc

CHALLENGE

How to set up a regulation that fosters distributed renewable energy meanwhile protecting consumers, personal data, collective interest...?

bridge HORIZON 2020 InterFLEX

Figure 27 - Presentation of next frontier for InterFlex project at the BRIDGE session, European Utility Week 2018

The presentations were followed by 30 minutes panel discussions with the participation of each project's representative. InterFlex participated in the panel discussion on platforms which established not only a highly interesting exchange among panellists, between TSO/DSO, but also with the audience. The topic has shown to be of major relevance.

3. LIST OF EVENTS

The table below summarized the major events in 2018 where members of the InterFlex project participated actively through oral or poster presentations, round table participations, etc.

Name of the event	Place	Date	Involved Partners	Link
Industry research forum	Malmö, Sweden	24/01/2018	E.ON	Link
Innovation Summit on Nano Sensors and Power Electronics	Lund, Sweden	31/01/2018	E.ON	
CEER Workshop on Use of Flexibility at DSO level	Brussels, Belgium	01/03/2018	Engie	Link
EU - India Smart Grids 2018 Workshop	New Delhi, India	06/03/2018	Cez Distribuce	Link
Conference "Smart Grids : vers de nouveaux services énergétiques ?" organized by AGRION	Paris, France	14/03/2018	Enedis, GRDF	Link
Start Up Energy Transition Tech Festival	Berlin, Germany	16/04/2018	E.ON	
Swedish smart Grid Forum	Stockholm, Sweden	17/04/2018	E.ON	
T&D Europe Smart Grids & Microgrids Working Group Meeting	Conference Call	19/04/2018	Enedis, Accenture, Avacon	-
China-EU Green and Smart Energy Cooperation Symposium	Shanghai, China	23/04/2018	RWTH, Avacon	-
Hannover Trade Fair (Panel Discussion "Life Needs Power")	Hannover, Germany	25/04/2018	Avacon	-
International Hybrid Power Systems Workshop in Tenerife	Tenerife	08/05/2018	E.ON	
Innogrid 2018 (conference presentation)	Brussels, Belgium	15/05/2018	Enedis, Accenture	Link
CEM 9 /MI3 Nordic Clean Energy Week - Smart Grid Areana Johan Mörnstam presentation	Malmö, Sweden	22/05/2018	E.ON	
CEM 9 /MI3 Nordic Clean Energy Week - LES project showcase	Malmö, Sweden	22/05/2018	E.ON	
CEM 9 /MI3 Nordic Clean Energy Week - CEM9	Copenhagen, Denmark	24/05/2018	E.ON	
Smart Energy Expo 2018: presentation on multi-energy grids	Paris, France	05/06/2018	Enedis, GRDF, Accenture	Link
European Union Sustainable Energy Week 2018 : "BATTERIES' ROLE IN ENERGY TRANSITION" BRIDGE Pannel	Brussels, Belgium	06/06/2018	Enedis, Accenture	Link
CIRED 2018 Oral Presentation (Theme 1: Business models, roles, responsibilities and regulatory aspects)	Ljubljana, Slovenia	07/06/2018	Enedis, Accenture	Link
Energy Flexibility Forum	Copenhagen, Denmark	12/06/2018	E.ON	Link
Digital Utility Transformation	Amsterdam, Netherlands	13/06/2018	Avacon	-
Power2Drive Europe Conference - Part of the "Overview of European Renewable E-Mobility" session	Munchen, Germany	19/06/2018	Elaad	Link
EASE Storage Technology and Value Assessment Committee presentation	Brussels, Belgium	27/06/2018	Accenture, Enexis	-
Nice Smart Valley Presentation at Nice Côte d'Azur Metropolis Stand during Innovative City 2018	Nice, France	27/06/2018	Enedis	-
SECURING THE SMART GRID TOWARDS UP TO 100% RENEWABLES	Bucharest, Romania	28/06/2018	Avacon	-

European Annual EduNet Conference 2018	Geleen, Netherlands	04/07/2018	Enexis	-
IEEE INDIN	Porto, Portugal	18/07/2018	Avacon, RWTH, Trialog	
Training of GRDF Members at Nice Smart Valley's showroom	Nice, France	19/07/2018	GRDF	
Supervision of enedis's agents (Cannes-Grasse Agency) at Nice Smart Valley's showroom	Nice, France	26/07/2018	Enedis	
Environmental department (Malmö city, Göteborgs city, Stockholms city)	Malmö, Sweden	21/08/2018	E.ON	
BUCHAREST 2018 SYMPOSIUM ON MICROGRIDS	Bucharest, Romania	03/09/2018	E.ON, Enedis	Link
UPEC2018	Glasgow, UK	05/09/2018	Enexis	Link
SEST 2018	Sevilla, Spain	10/09/2018	Cez Distribuce	Link
EDSO for smart grid (EXCOM) visited the showroom Nice Smart Valley	Nice, France	12/09/2018	Enedis	-
Asset Management Forum for DSO	Berlin, Germany	13/09/2018	Enedis	Link
Win Win conference	Malmö, Sweden	13/09/2018	E.ON	-
SGTF EG1+EG3 joint workshop	Brussels, Belgium	01/10/2018	Trialog	-
2nd Community Meeting	Hanover, Germany	11/10/2018	All partners	-
IEEE IECON	Washington DC, USA	21/10/2018	Avacon, RWTH	
ISGT Europe	Sarajevo Bosnia and Herzegovina	21/10/2018	Enexis	-
Member of development and reform commission China visited the showroom NSV	Nice, France	23/10/2018	Enedis	-
Member of Zhuhai's delegation visited the showroom NSV	Nice, France	23/10/2018	Enedis	-
Green Building Sustainability Counsel	Stockholm, Sweden	24/10/2018	Enedis, E.ON	-
ICUE 2018 on Green Energy for Sustainable Development	Phuket, Thailand	24/10/2018	Cez Distribuce	Link
Usef experiences in Interflex	Eindhoven, NL	01/11/2018	Enexis, Elaad, TNO	-
European Utility Week 2018	Vienna, Austria	06/11/2018	Enedis	Link
CK CIRED 2018	Tabor, Czech Republic	06/11/2018	Cez Distribuce, Schneider Electric	Link
CroonWolter&Dros smart energy transitie seminair	Zest, Netherlands	08/11/2018	Enexis	Link
Congrès des 40 ans de l'ATEE	Bordeaux, France	23/11/2018	Enedis, GRDF, EDF	Link
Flexcon	Brussels, Belgium	26/11/2018	Enexis	Link
Distributed Energy Resources: Digitalization & IOT	Vienna, Austria	28/11/2018	Enexis	-
European Power Strategy & Systems Summit	Amsterdam, France	29/11/2018	Enedis	Link
Conference of the Armand Peugeot Chair	Paris, France	06/12/2018	Elaad	-

Figure 28 - List of other events

