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#### STREAMING FLEXIBILITY TO THE POWER SYSTEM



This project has received funding from the European Union's Horizon Europe research and innovation programme under the grant agreement N° 101075654.

## STREAM IN ONE SENTENCE

The ambition of STREAM is the creation of an innovative and robust flexibility ecosystem that enhances the utilization of small scale flexibility and enables its connection to the existing wholesale power markets.



## **Project information**



**PROJECT KICK-OFF** 

October 2022







DURATION



BUDGET 10.4 mio € (7.9 mio € from EC)

6





PARTNERS



(from 6 countries)







## Covering the whole flexibility value chain





#### sPLAN sGRID sMART Device Registry





#### STREAM ECOSYSTEM

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### Tested and verified at 4 pilot sites





SIZE



FINLAND Residental buildings



SLOVENIA industrial park (over 300 industrial & commercial buildings)



SPAIN electric cooperative



ITALY citizen energy community

#### These objectives will be achieved through – STREAM TOOLS







The project will end in September 2026

## **Before we finish**

Current challenges & lessons learned



## **DSO data and external stakeholders**

#### • DSO data:

- Topology and time-series data are needed, but were unrecognized as such at the company level
- Due to changes in the supply connection, need to transition from static to dynamic data models, including configuration history
- Systematic approach is critical for efficient decision making, related to grid management

## **DSO data and external stakeholders**

#### External stakeholders:

- Limited interest in LFM: Most stakeholders focus on financial gain and fear new systems/markets.
- mFRR market participation
  - **Technical limitations**: Ramp-up time of 1.5 MW units is 30 min. Additional tests needed to verify the usability in mFRR.
  - Warranty fears
  - You need additional personnel to be on the clock 24/7 in case there are any issues

#### Difficulty with "plug-and-play" HEMS solutions (like Reduxi)

- PV integration is faster, but other system face delays and cybersecurity concerns
- Small consumers need simplified, quick-to-install solutions
- **Green transition**: Stakeholders are open to participating on the markets but driven primarily by monetisation opportunities.



## **Device Registry and Flexibility**

- For the TSO to verify the response of the VPP, it needs the information on connected assets. DR & location are key for enabling LFM.
- DSOs lack mechanisms to compensate for flexibility activation
- Regulatory agency does not recognize the work of the DSO unless there are changes made to the system → Need for a methodology to compare flexibility costs versus traditional installation costs



## THANK YOU.

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## **QUESTIONS?**



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