

# Growing the energy transition by advanced grid management for customer inclusion

**The Platone consortium welcomes you  
at our ENLIT booth 2021**

## Platone in a nutshell



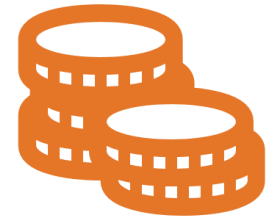
**4 years**  
of project work  
from 2019 until  
2023



**12 project  
partners**  
from Belgium,  
Germany,  
Greece and Italy



**3 demonstrations**  
to test and  
demonstrate the  
Platone solutions



**9 600 957,58 €**  
budget in general  
**7 535 148,02 €**  
EU contribution

## The world envisioned by Platone ...

...will provide a seamless integration of operation and market simplifying the life of customers, distribution grid operator and aggregators.

### How?

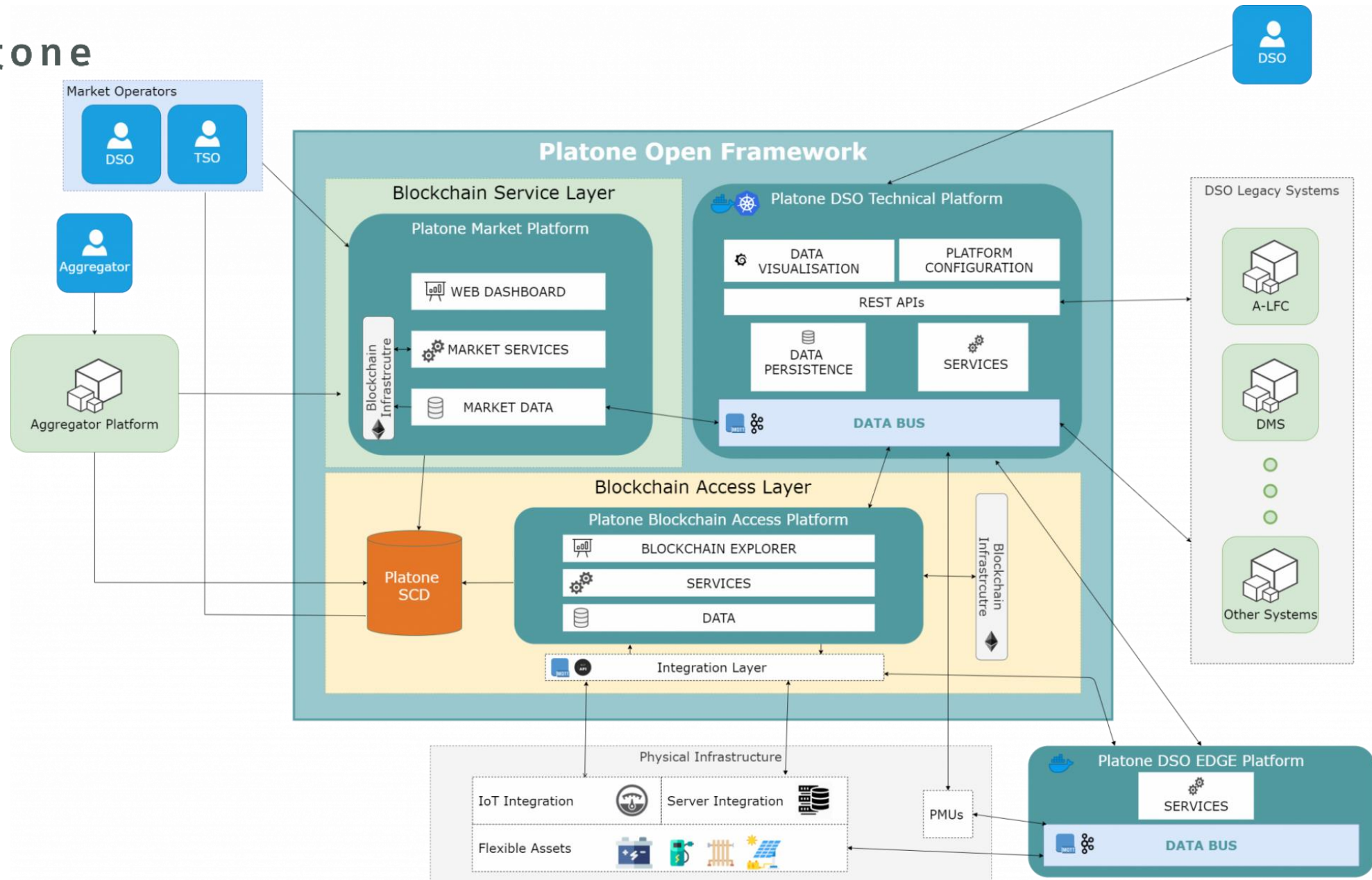
Through a multilayer platform architecture collecting data on the edge and delivering secure information both to Distribution Management Systems and to an open Marketplace for service provision.



# The Platone Consortium





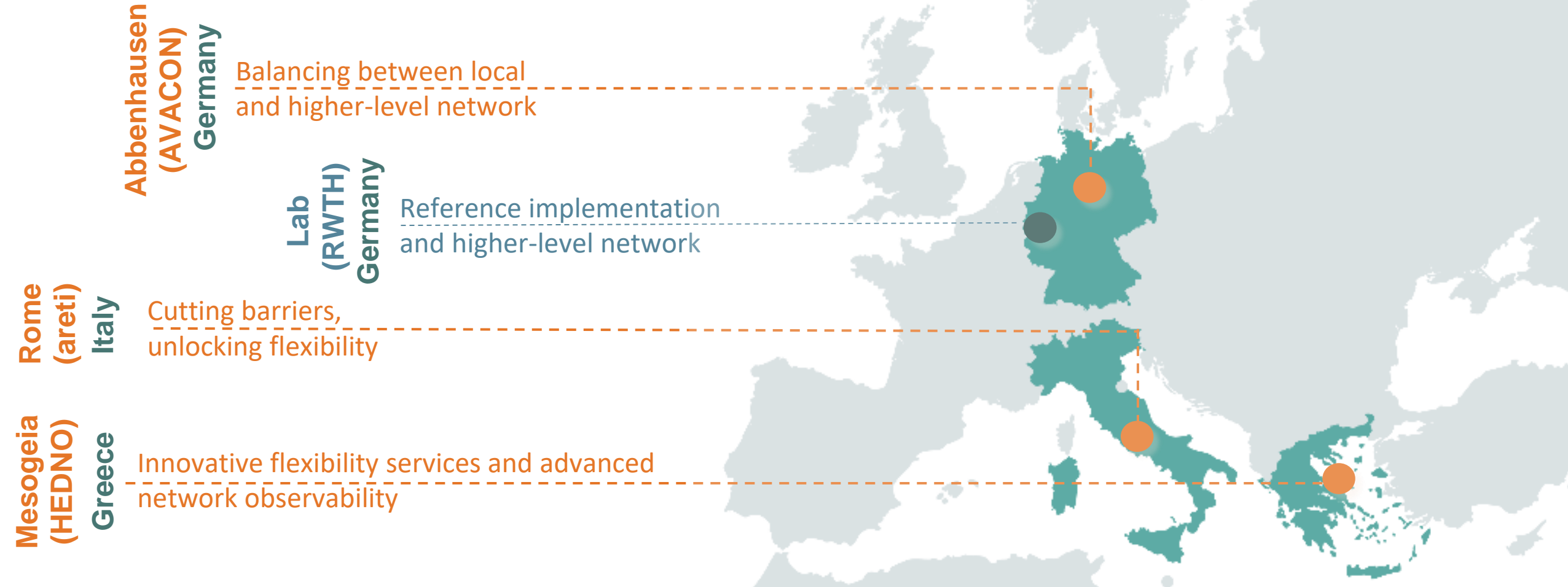


## Putting all together to overcome limits of legacy solutions


Combining the solutions envisioned in the previous architecture, here we have:

- Secure data link thanks to blockchain
- Integration of legacy DMS
- Link to market for dual use of data
- Integrated data bus for flexible integration of new services

# Platone demonstration-sites and simulation





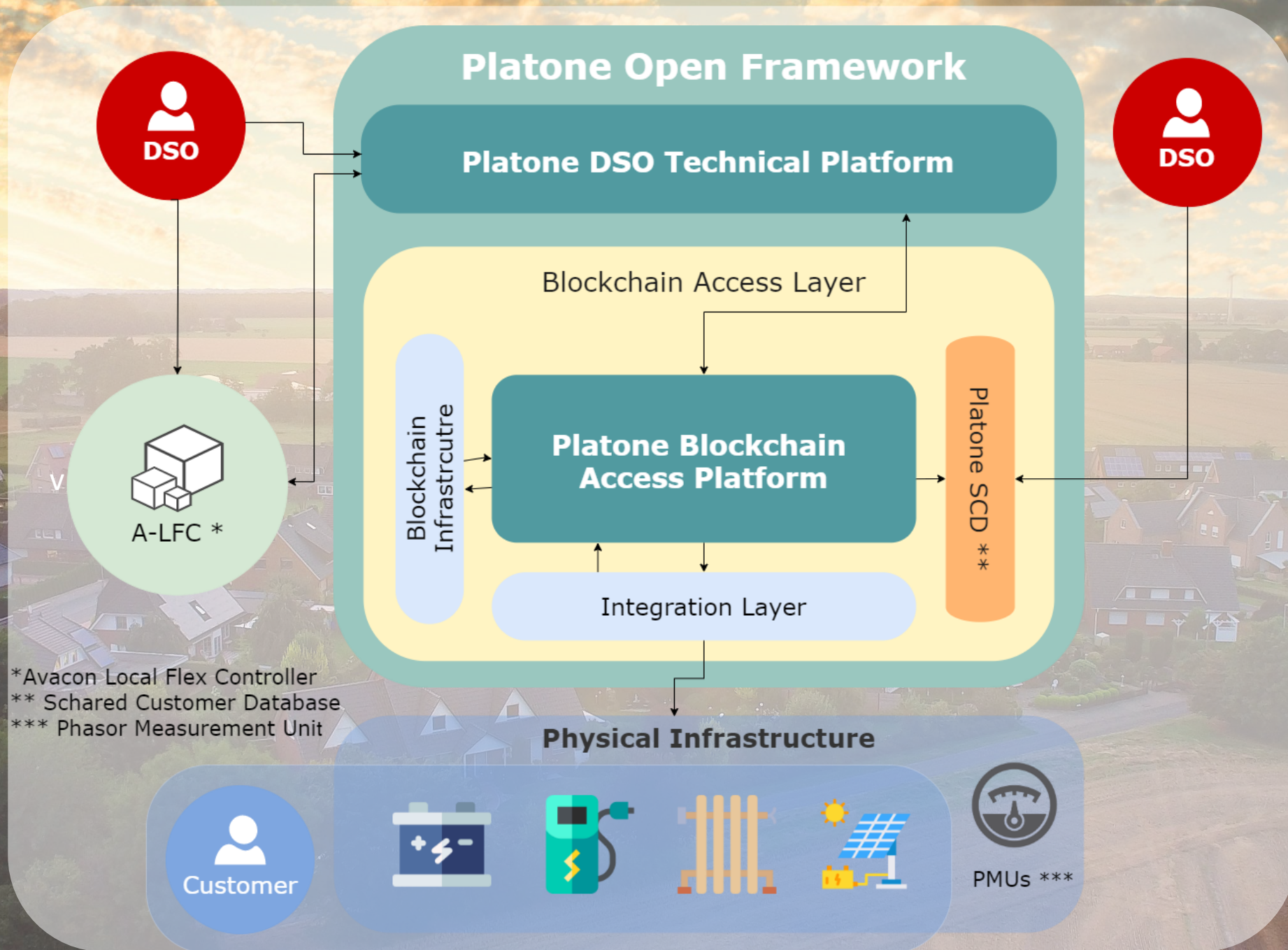
An aerial photograph of a village at sunset. The sun is low on the horizon, casting a warm, golden glow over the scene. The sky is filled with soft, white and orange-tinted clouds. In the background, several wind turbines are visible against the horizon. The foreground shows a mix of residential buildings with dark roofs, some with solar panels, and green fields. A road winds through the village.

The German demo aims to establish an Energy Community and prove its ability to integrate with innovative distribution network operating strategies that increase the hosting capacity and efficiency of distribution networks.

**Energy communities of the future**

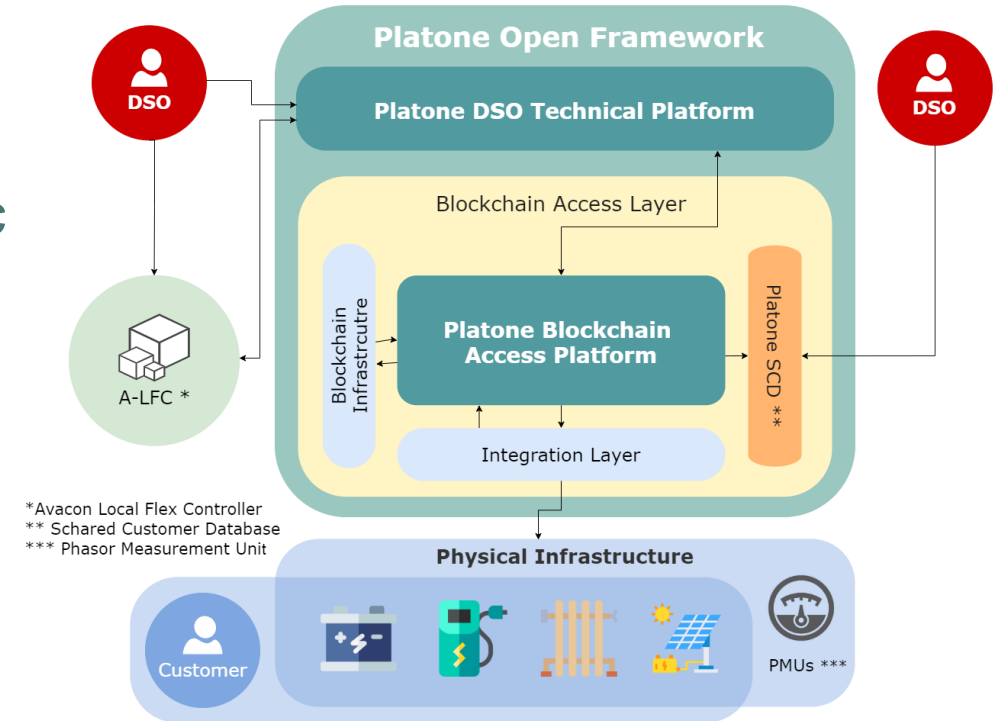
**avacon**





# Platone DSO Technical Platform - Implemented Services

- **Observation:** PMU data collection and data format translation provision
- **Forecasting:** Household power demand, domestic photovoltaic generation, community residual power exchange with MV-network
- **Balancing:** Real-time control-cycle, forecast-based control
- **Optimisation:** Solver enabling minimisation of power peaks and maximization of self-consumption





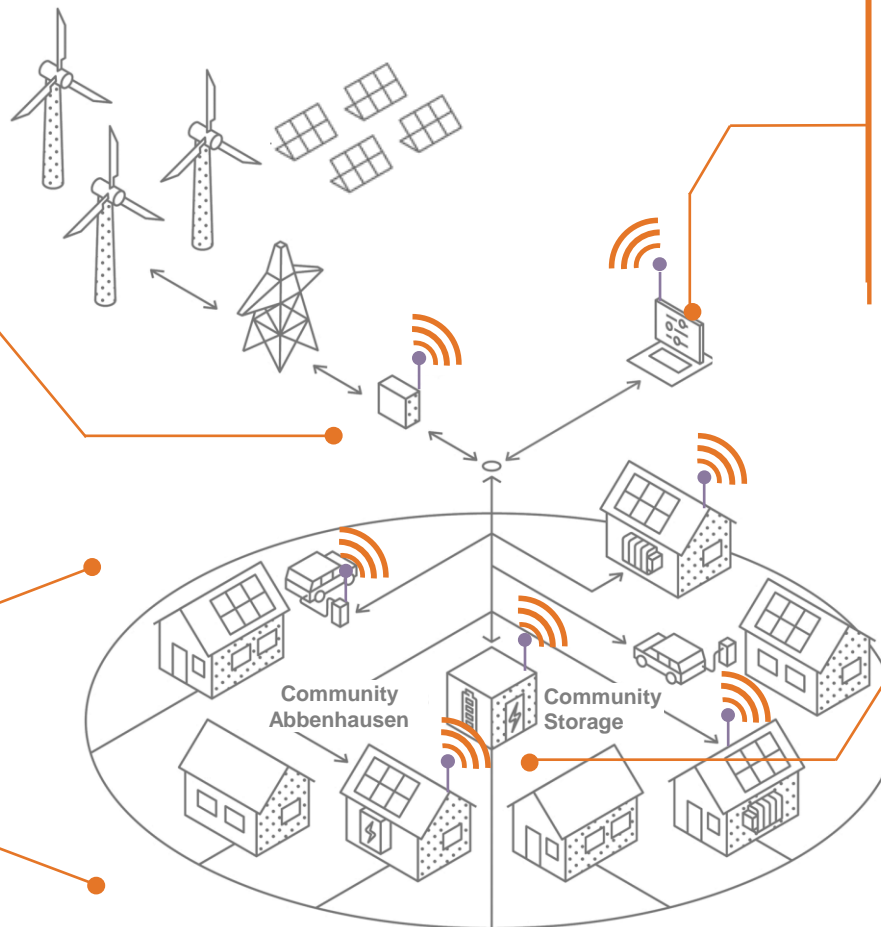
# German Demonstration Setup

## Smart Substation



Realtime measurement of power exchange

## Community of Abbenhausen



## Energy Management System (ALF-C)



Observation, Control, Forecasting,  
Synchronisation of flexibility activation

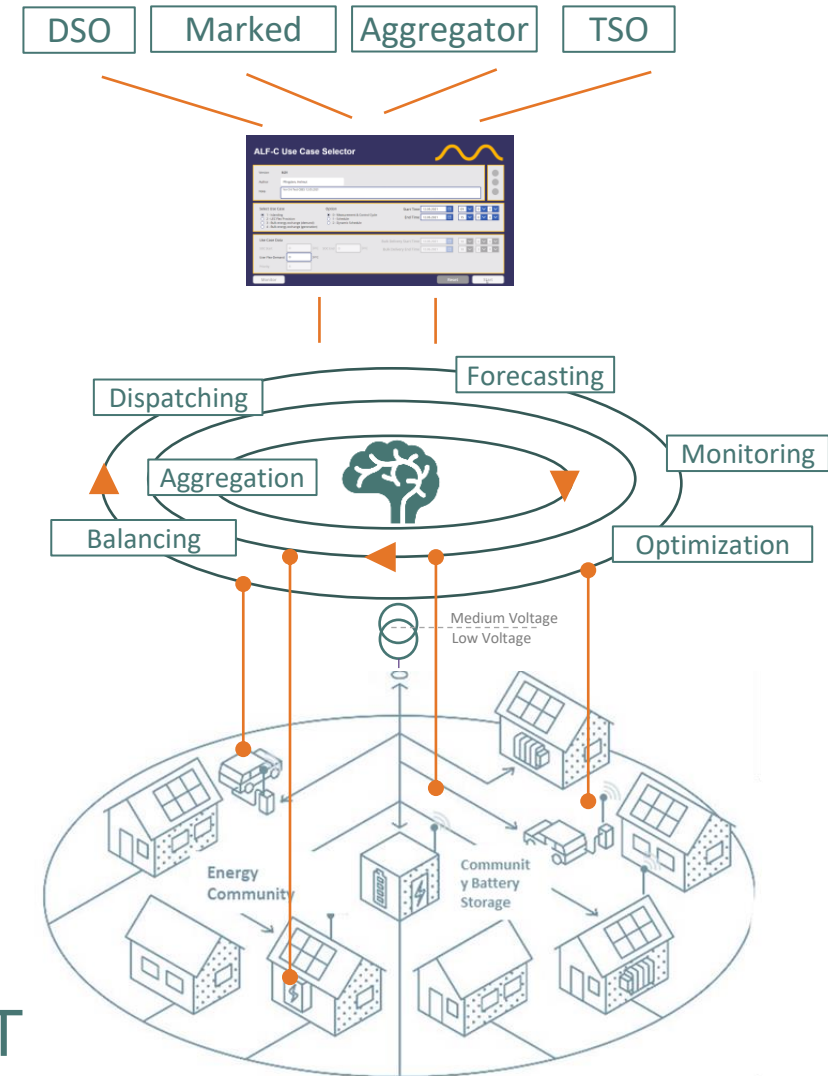
## Community Battery Storage System





# Avacon Local Flex Controller – (ALF-C)

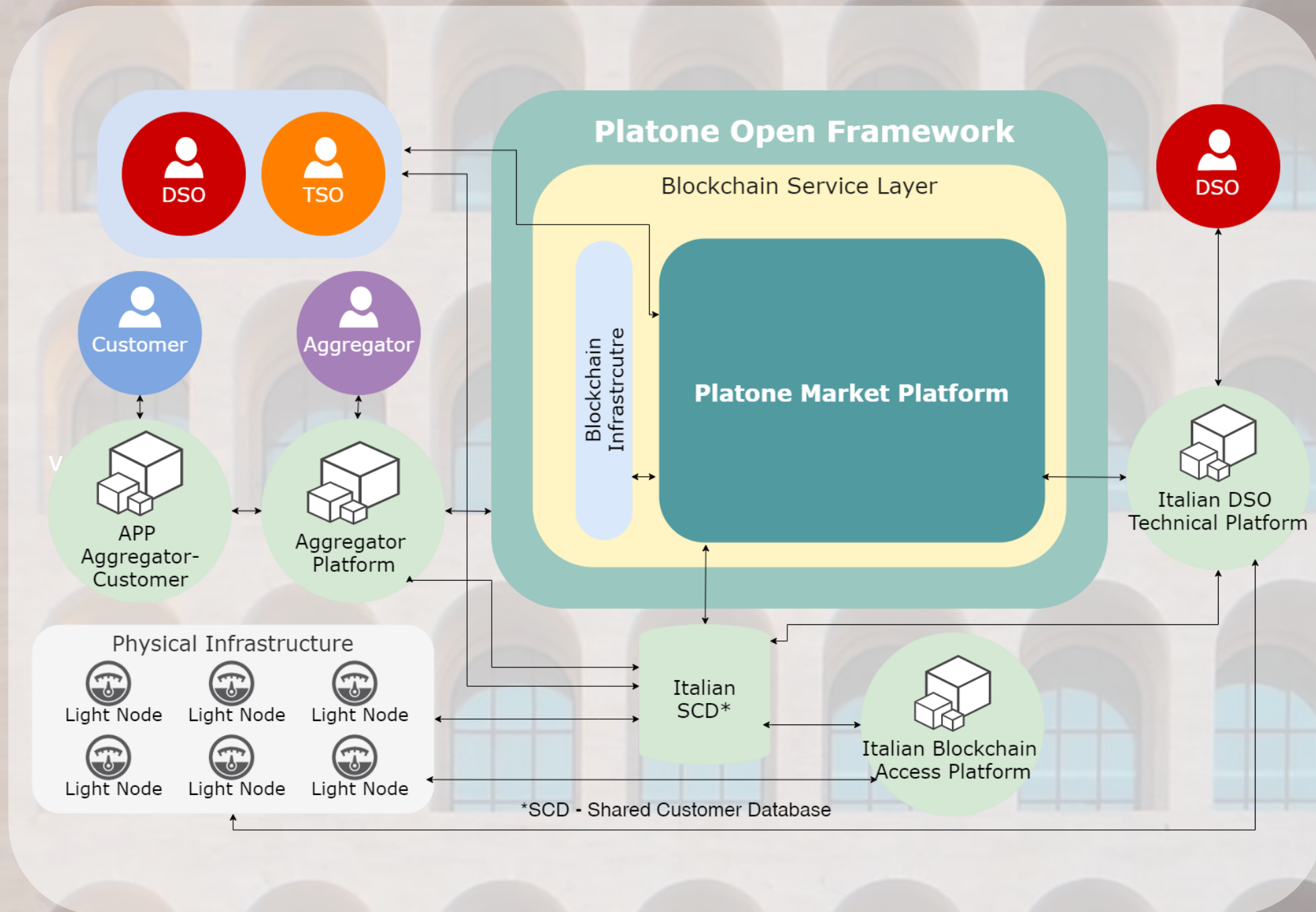
- Observation: Monitoring of real-time power exchange with MV-network
- Forecasting of total generation and consumption
- Determination of available flexibilities
- Local balancing based on:
  - 1) Real-time measurement-control-cycle
  - 2) Timetable control based with forecast and optimisation algorithms
- Coordination of activation request from Market, DSO/T



The Italian demo aims to include all the customers connected to the distribution grid managed by *areti*, to provide ancillary services to the electrical system, creating a new local energy flexibility market based on the trust and certification of the transactions.

**Cutting barriers, unlocking flexibility**



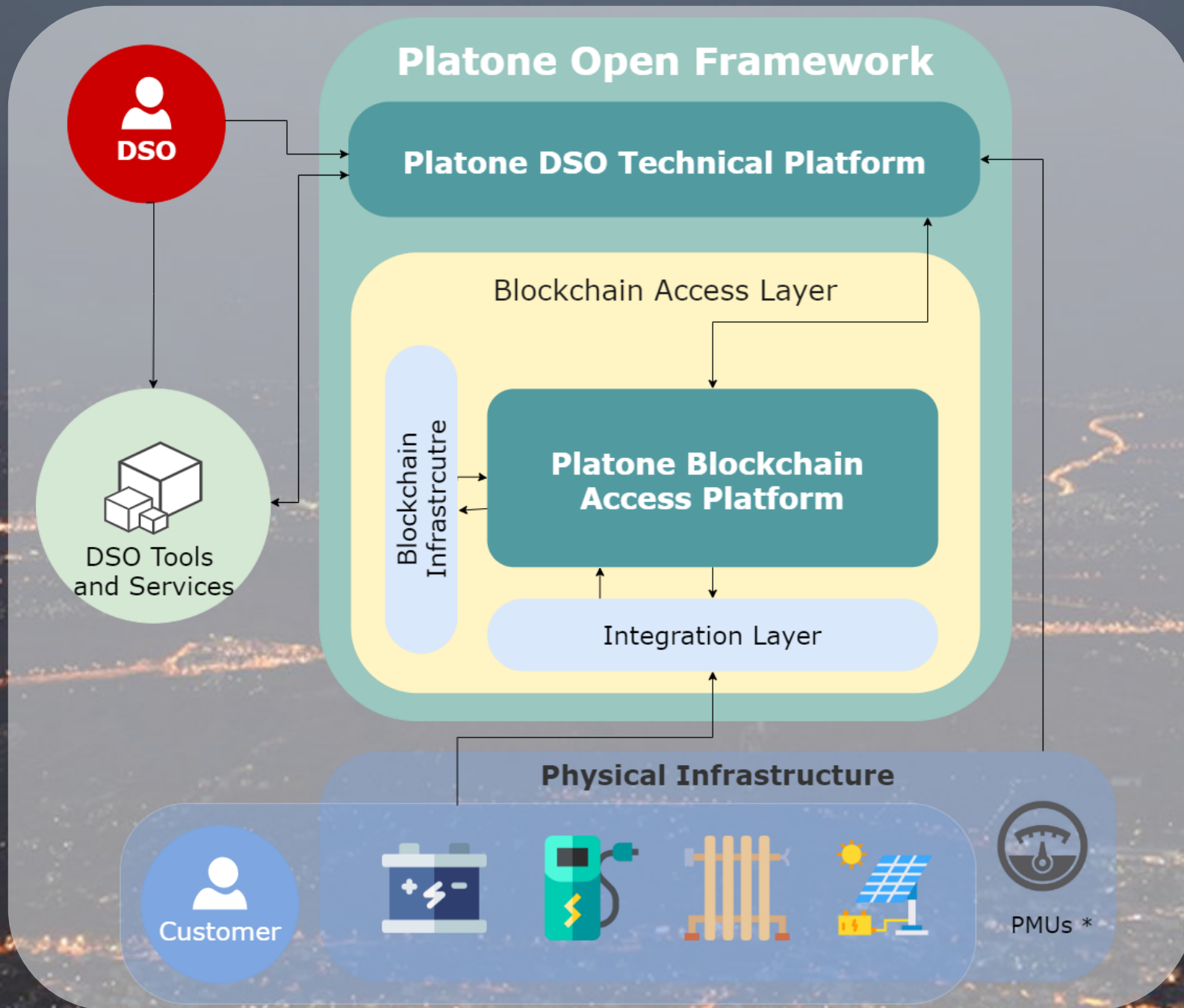




The Greek demo aims at developing state estimation techniques for near real-time grid monitoring purposes; and investigating whether the novel approach of a variable network tariff would incentivise customers with flexible loads so that the optimal dispatch for the distribution network is achieved.

**Towards near real-time view of the network and optimal dispatching**

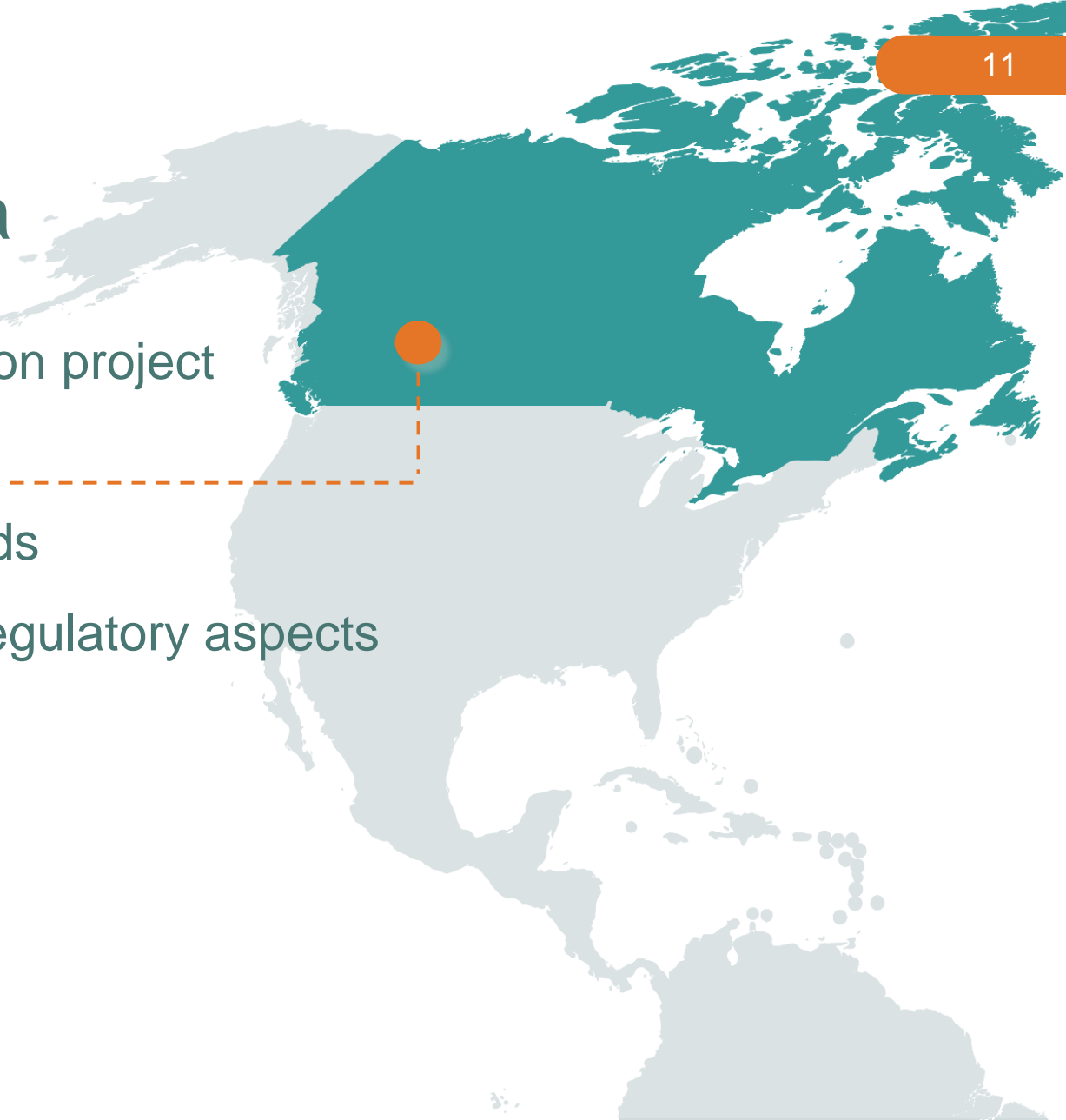




\* Phasor Measurement Unit

## Platone cooperation with Canada

- Cooperation with on-going large demonstration project
- Signed agreement with University of Alberta
- Extension of our field test to include Microgrids
- Possibility to exchange experiences on the regulatory aspects





## Platone and BRIDGE

- Platone is very active in the BRIDGE cooperation group of Smart Grid, Energy Storage, Island and Digitalisation H2020 projects
  - Platone Consortium Partner areti: Coordination Lead of the work related to HEMRM (Harmonised Electricity Market Role Model)
  - Platone Consortium Partner RWTH: Methodology for use-case inclusion and repository development



## Contact

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All information provided reflects the status of the Platone project at the time of writing and may be subject to change. All information reflects only the author's view and the Innovation and Networks Executive Agency (INEA) is not responsible for any use that may be made of the information contained in this publication.