



PlatONE

Platform for Operation of Distribution Networks

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<https://platone-h2020.eu/>



Project Identity Card

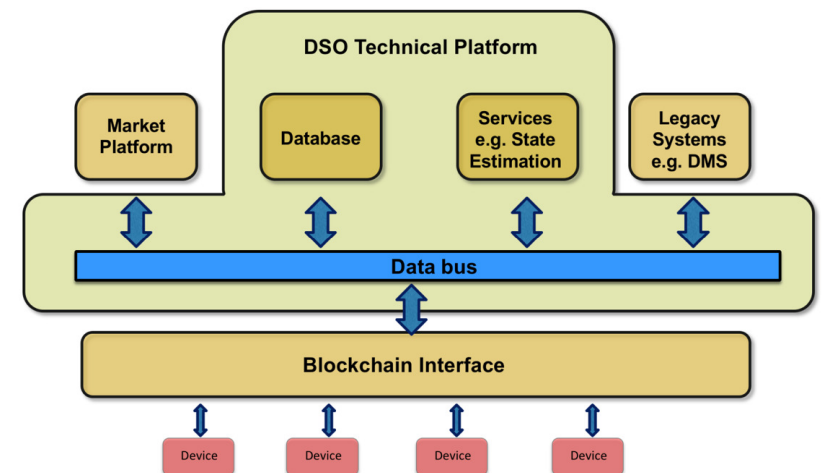
- Title: **PlatONE - Platform for Operation of distribution Networks**
- H2020 Call: H2020-LC-SC3-2019-ES-SCC, Call topic LC-SC3-ES-01-2019
 - Funding Instrument: IA (Innovation Action)
- Duration: 48 months (*Starting Date: 1st September 2019*)
- Total Costs: 10.100.791,2 Euro (EU Contribution 7.985.912,38 Euro)
- Coordinator: RWTH Aachen
- Consortium
 - three DSOs (ARETI, AVACON, HEDNO) – 3 filed demos
 - EDSO for Smart Grids
 - one aggregator (ACEA Energia)
 - Large companies (Engineering, Siemens)
 - Research Institutions (RWTH Aachen, RSE)
 - SME (BAUM, APIO)



- PlatOne aims to provide a seamless integration of **grid, users, and market operations**, simplifying the life of customers, distribution grid operators and aggregators
- PlatOne is developing a **multi-layered modular platform** collecting **consumers, technical grid and market data** on the edge hence supporting **dual multi-party data sovereignty preserving data sharing and management** and delivering secure information both to Distribution Management Systems and to an open Marketplace for service provision
- PlatOne expects to deliver an **interoperable architecture** to be used by DSO, aggregators, TSOs, together with innovative mechanisms for customer involvement by leveraging on to Blockchain technology
- **Hybrid combination of IoT/offchain with onchain DLT/Blockchain/Smart contracts** technologies as building blocks to support *1) multi-party customers-grid-market data sharing and management 2) optimal coordination and operation of fair and transparent multi-stakeholder (DSO-aggregators, TSOs) marketplaces*

Putting all together to overcome limits of legacy solutions

- Combining the solutions envisioned in the architecture:
 - Trusted 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
- Aligning with
 - FIWARE Open Energy Vertical Reference Architecture (NGSI Context Broker standard) for cross-stakeholder heterogeneous data model agnostic integration and management)
 - international Data Space Association data sovereignty management and brokerage
 - H2020 SOGNO Interoperable Data Bus



Data interaction with grid operator

- The PlatOne platform will be actually hosted by the Grid Operators
- Goal is to use the platform as **data middleware** with the DSO at the center of the data traffic, so playing an unbiased role between service providers, operator, consumers and the market
- In this respect data from the grid operator are by definition available within the system with two options:
 - The DSO has an advanced DMS and data can be accessed with the DMS API
 - The DSO does not have an advanced DMS so that services such as State Estimation can run directly on the PlatOne data bus

PlatOne data sharing

- PlatOne principles is to create an easy mechanisms of data sharing involving customers
- The two-layer architecture supports dual use of data provision: market and operation
- The platform offers a variety of mechanisms for data sharing and at least two different implementation solutions can be envisioned:
 - 1) the users are connected to a blockchain infrastructure. Data shared through this system are published to another market system (including TSO market)
 - 2) the users are connected to a blockchain infrastructure and the same infrastructure provides peer 2 peer market functionalities

PlatOne open source and open API

- The full platform is developed as an open source solution
- All the interfaces to the data bus will be released as open specification and a reference implementation will be provided
- A first set of interfaces and services as open source solutions are already available as result of H2020 SOGNO, from which PlatOne inherits the internal data bus architecture

PlatOne: *Cutting Barriers, Unlocking Flexibility*

- PlatOne provides a cost-effective, seamless and secure power supply for customers that become *active players* while supporting DSOs and TSOs in their system responsibilities
- The solution breaks down the barriers in the flexibility market and allows the massive participation also of residential customers connected to the Low Voltage grid
- This approach enables the active participation of PROSUMERS connected to the distribution network to the optimized management of the grid



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