

OneNet Open Days

TSO-DSO-Consumer Cooperation in the OneNet Southern Cluster

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- Overview of the Cypriot demonstration
- TSO-DSO-Consumer collaboration in the Cyprus demonstration
- Overview of the Greek demonstration
- TSO-DSO-Consumer collaboration in the Greek demonstration


Partners







- KIOS Center of Excellence/University of Cyprus-**Demo Leader**
- Transmission System Operator Cyprus
- Electricity Authority of Cyprus/Distribution System Operator Cyprus
- Cintech Solutions
- **WiseWire (OneNet Cascading funding)**

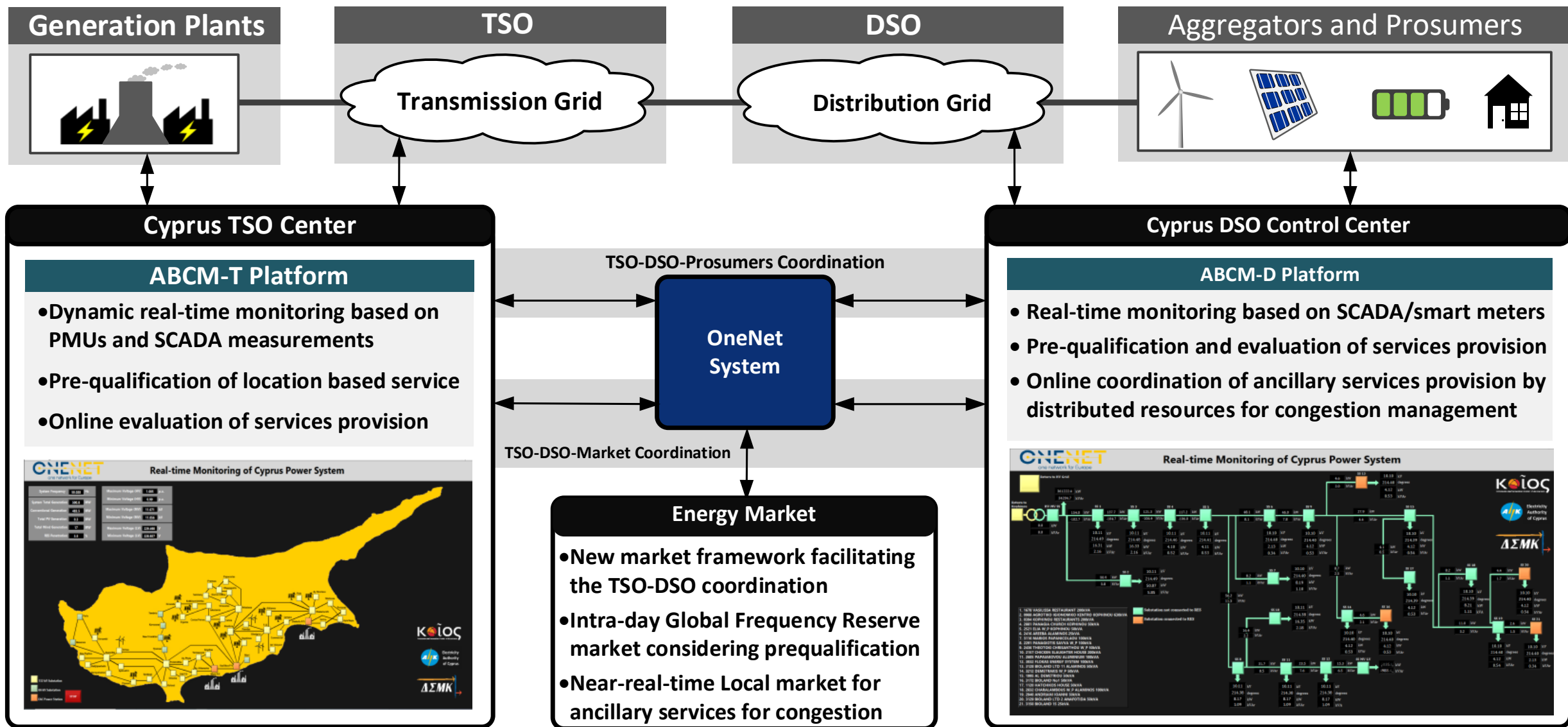




Cyprus Demonstration





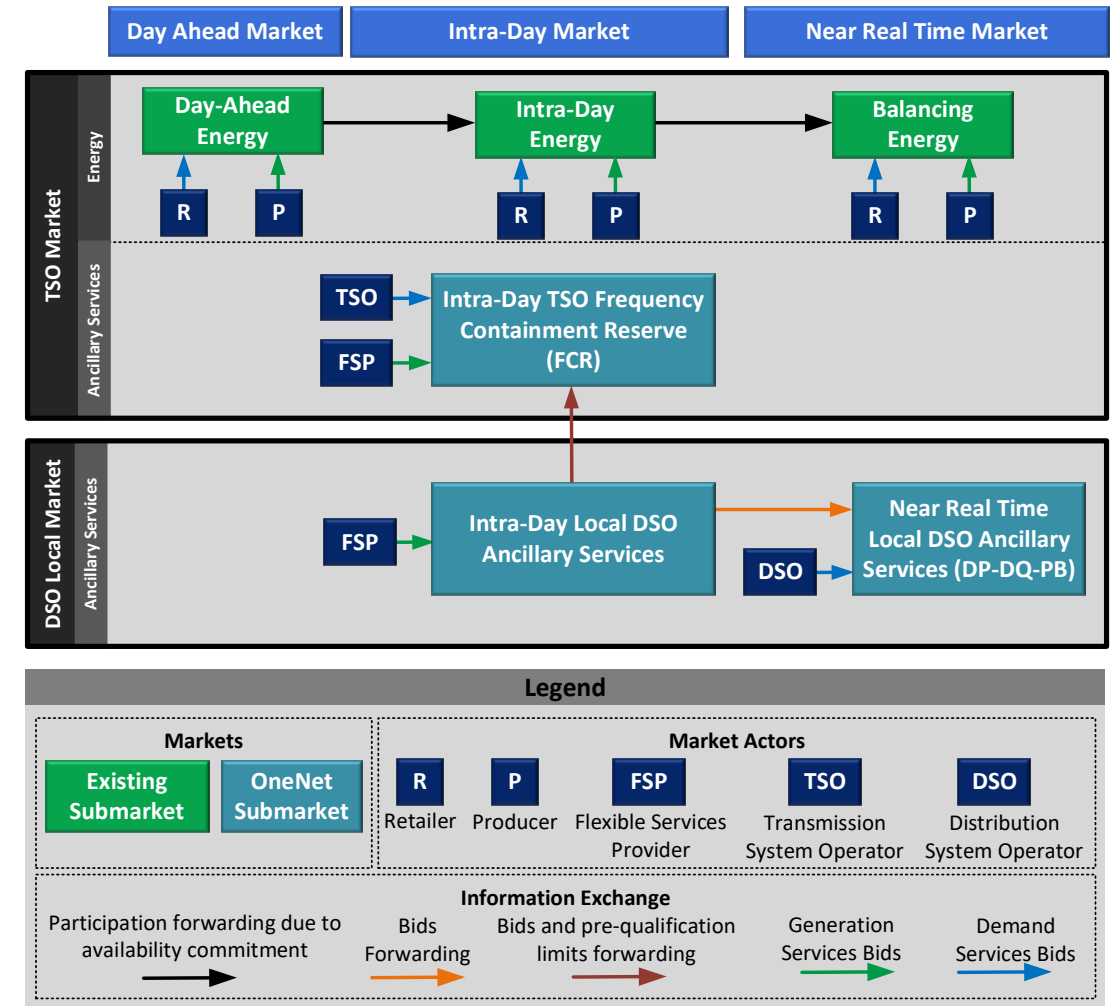




Collaboration Enablers

■ New electricity market framework

- TSO and DSO collaboration for the secure operation of the grid
- DSO and prosumer collaboration for the provision of ancillary services to the distribution grid
- Enable the distributed resources to provide frequency support services to the TSO

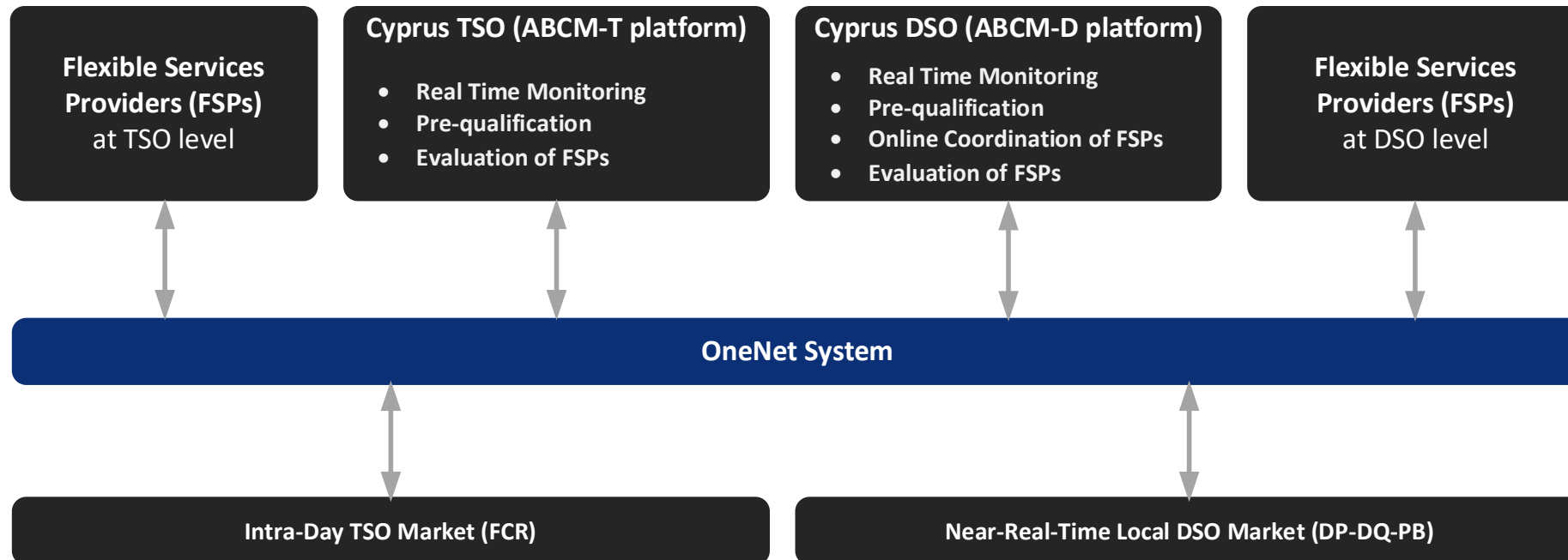




Collaboration Enablers

■ OneNet System

- Enable the information exchange between the TSO-DSO and flexible consumers
- Common information is available to all the stakeholders through the OneNet system
- Consistent and structured exchange of information between the stakeholders

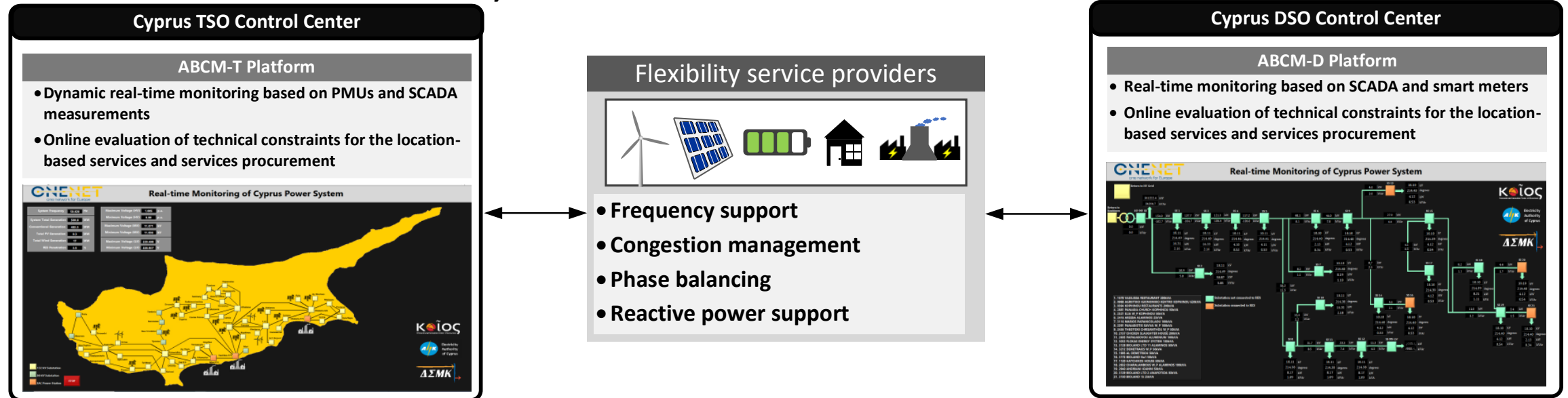




Collaboration Enablers

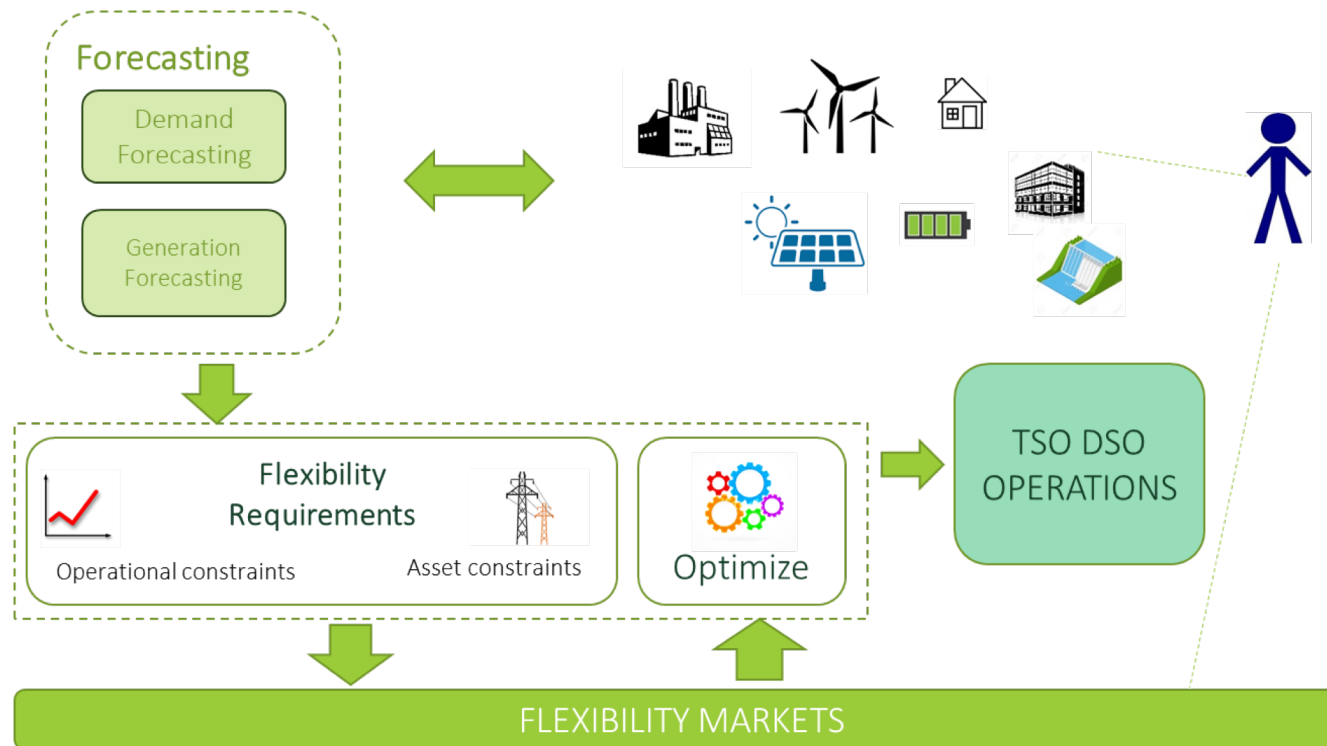
■ Innovative monitoring and control tools

- Novel monitoring schemes that enhances the situational awareness of the operators
- Ground-breaking control solution, mainly for distribution system operator, to enable the provision and coordination of distributed resources and prosumers
- Provision of new ancillary services

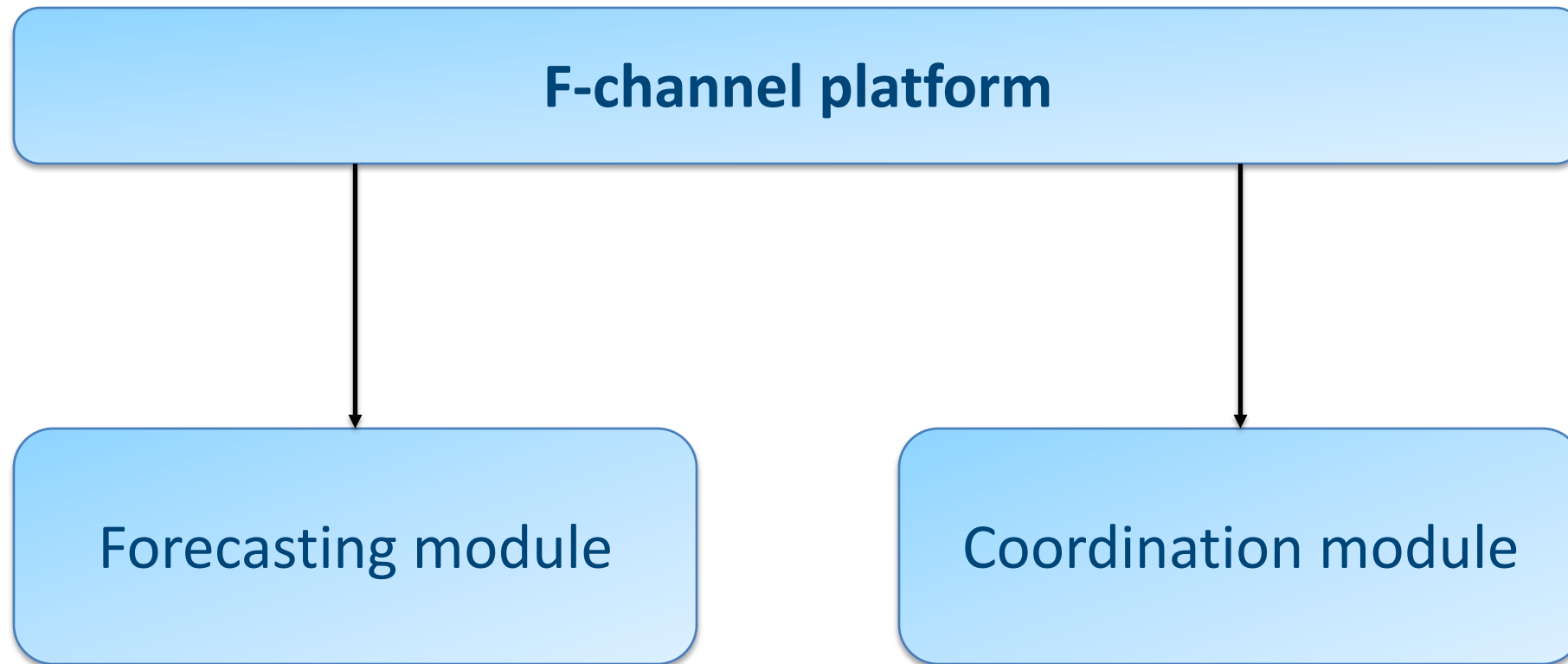




- **“F-channel” platform** represents the web based, client server application for TSO-DSO coordination.
- It will utilize high resolution weather forecast, AI methods, map based GUI and cloud calculation engines.
- “F-channel” platform will implement a set of common functionalities for the system operators.



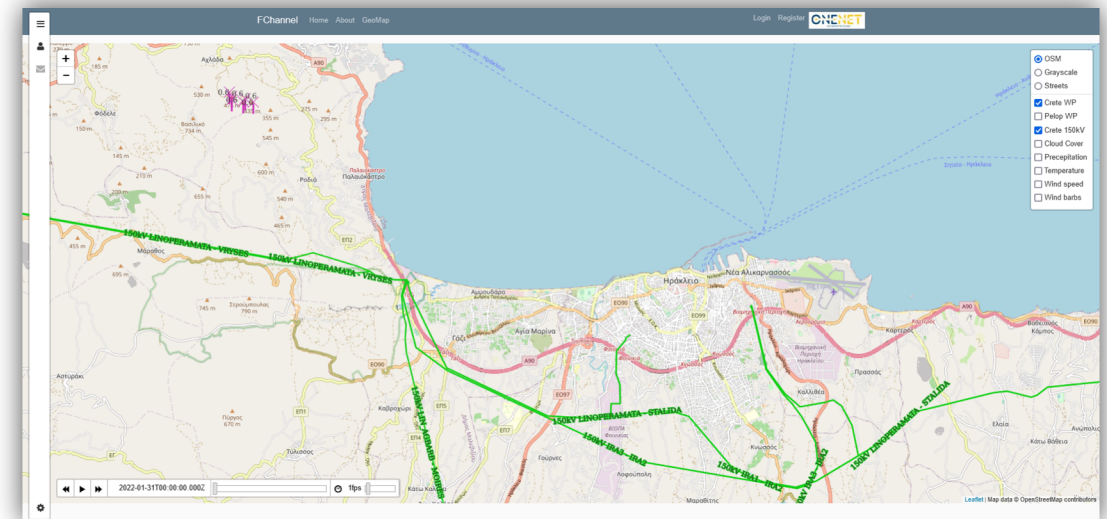
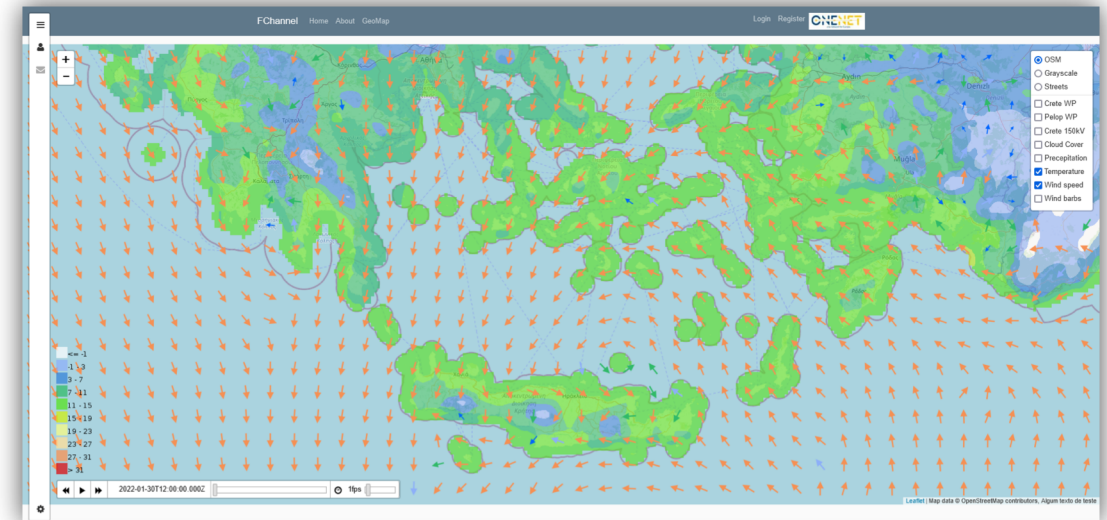
Modules of the platform



Forecasting module

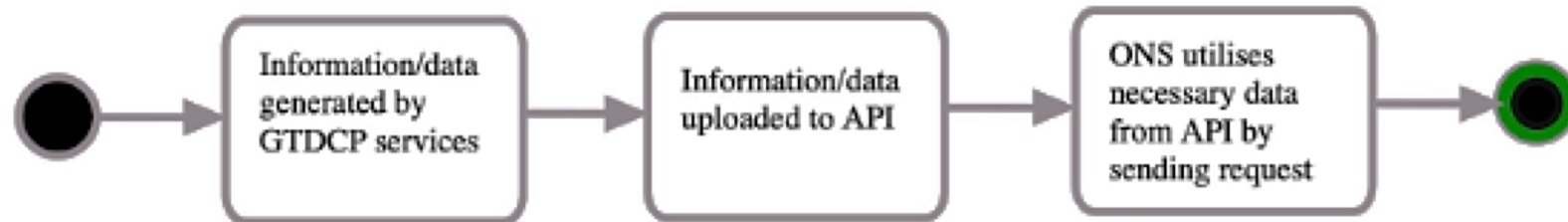


- This module, equipped with an appropriate GUI based on the georeferenced map presentation, ensures the reliable predictions of both the RES generation and demand.
- F-channel's forecasting module is able to identify flexibility resources precisely and simultaneously for both DSO and TSO grid levels.
- This module mainly focuses on the lower voltage level prosumers and determination of the power system needs for the flexibility services.



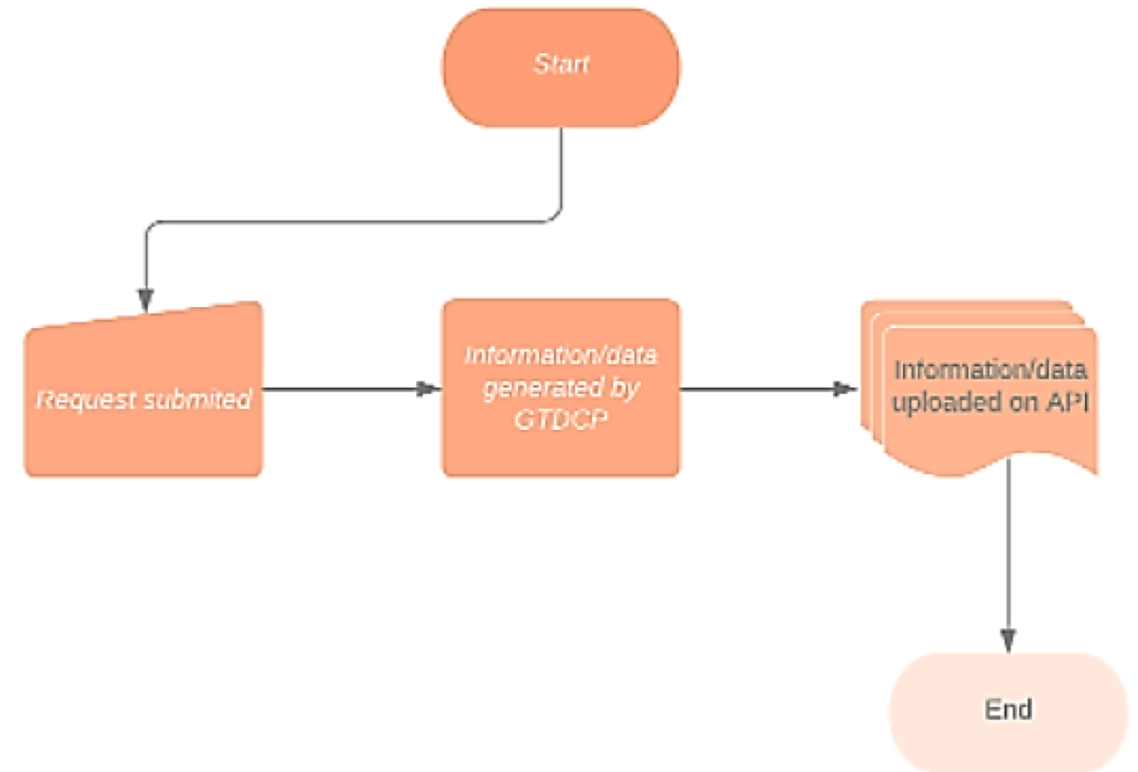


- This module is mainly intended for providing grid services (frequency and non-frequency), with the focus on the balancing and congestion management challenges.
- Operators will have interfaces towards Flexibility Register and TSO-DSO Coordination Platform.
- These two systems would then have interfaces towards FSPs, market operators, metering data administrators and consent administrators.
- Common, centralized Flexibility Register and TSO-DSO Coordination Platform will be introduced through F-channel.





- Grid data should be shared directly between TSO and DSO in order to meet the requirements related to the existing practice.
- Along with that, TSO and DSO will also be able to share information related to:
 - future flexibility needs;
 - calls for flexibility tenders;
 - flexibility purchase offers;
 - flexibility requirements...



Next steps



- Development of the market framework;
- Testing and validation of the forecasting module;
- Further development of the coordination module and integration within OneNet system and its services;
- Consumer Engagement in Greek Demo;
- Demonstration and validation of the Greek demo.

Thank You

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