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**ENERGY** 

SIORAGE

# KALKI.IO DER Data Hub Monitoring & Management of Distributed Energy Resources

Capable of bidirectional communication with DER Assets such as inverters, EV charging stations, consumer loads, battery storage systems, Energy meters etc.

Cloud based portfolio wide data aggregation and monitoring using user friendly interface with single line diagram, dashboards, report and alerts

REST APIs, and application specific connectors to integrate data with advanced analytics applications for forecasting, asset management and various use cases

## **BENEFITS OF KALKI.IO DER DATA HUB**



## **Utility/ Grid Operators**

Improve Grid Stability without impacting the penetration of DER.

Regulate EV charging during Peak.

Manage non-essential loads for curtailment during peak.



#### Inverter & Energy Storage Manufactures

Improve equipment design life by monitoring of operational and performance data.

Reduce maintenance cost by secure remote access.



### DER Owners/ O&M

Increase your ROI by improving the generation & storage yield.

Increase asset life by proactive maintenance.

Reduce O&M cost.

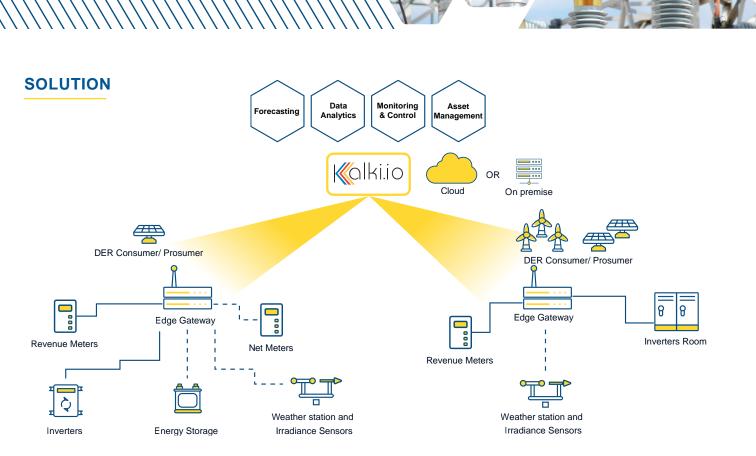


#### **Retailer/ Aggregator**

Seamless integration with DERMS and ADMS systems.

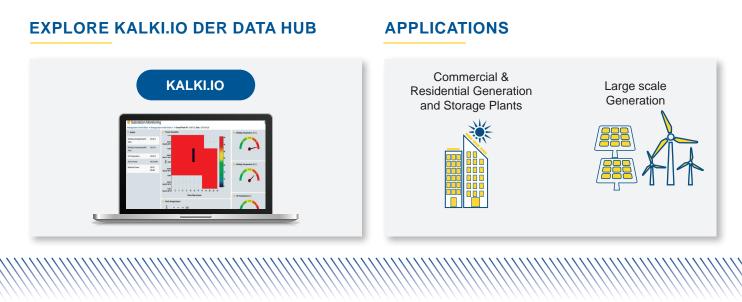
Increase retail customer base Enable Market Participation.





**KALKI.IO DER Data Hub** provides remote monitoring and management of Distributed energy resources (DER) including solar & wind power generation units or energy storage and its associated components by securely connecting with inverters, weather stations, irradiance sensors, revenue and power meters and energy storage units as required for the deployment. DER Data Hub can also be used to exchange data with add-on applications for predictive maintenance, degradation monitoring, inventory management and generation forecasting which would help to optimize the ROI.

**KALKI.IO Edge Gateway** - Edge Gateway have ready-made templates to connect with standard inverters available in market and also support for standard protocols such as IEEE2030.5, Sun-Spec Modbus, IEC61850-90-7 and DLMS-COSEM which helps to integrate any inverters, string combiners, weather sensors and energy meters seamlessly. It also supports commonly used utility protocols like IEC-60870, DNP3.0, DLMS-COSEM to connect with grid operator. KALKI.IO Edge enables secure connectivity with field assets (devices or software) remotely for configuration and maintenance purpose. Edge software runs in any standard Linux OS based hardware/ Virtual Machines/ Containers.





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