A Yokogawa Company

PXiSE Energy Solutions

DER Management and Communication Platform

The DER Management and Communication Platform helps utilities, aggregators, and system integrators register, monitor, organize, and schedule dispatch of customer distributed energy resources (DERs). It manages energy storage and solar PV via a cloud-native server running the IEEE 2030.5 standard protocol.
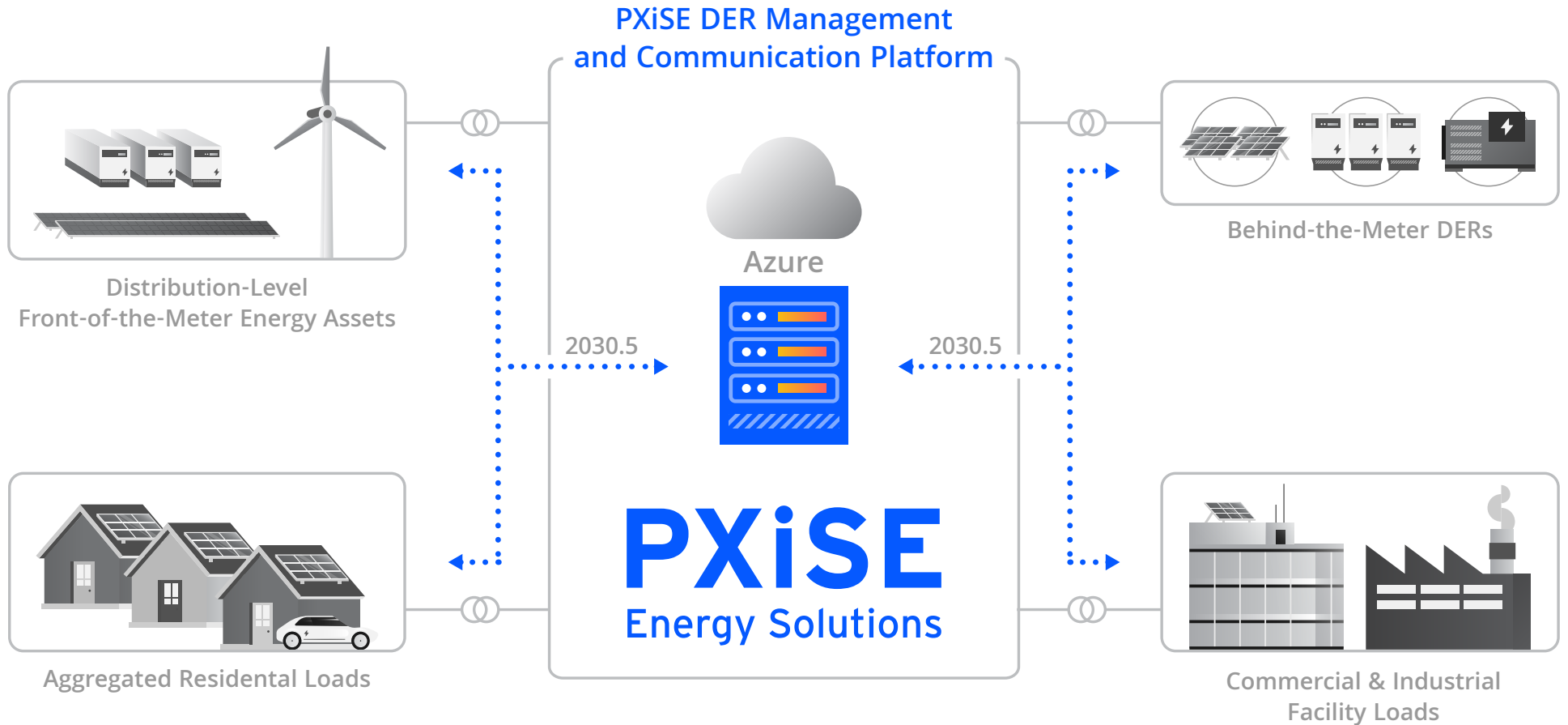
Advantages

The DER Management and Communication Platform offers the following advantages:

- Communicates to DERs via secure clients
- Complies with the IEEE 2030.5 (SEP2) open standard protocol
- Complies with TLS 1.2 cybersecurity standard
- Standard web-based HMI
- HMI access can be configured by specific role: Administrator, Engineer, Operator, Installer, General
- Allows custom HMI creation and integration with existing systems via built-in API architecture
- User-defined polling and post rates
- Works with gateway devices that aggregate multiple DERs
- Can scale to future project configurations by easily adding more DERs
- Can support up to 1 million DERs

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The PXiSE platform can onboard DERs at any scale, increase hosting capacity, and enables users to shape the load optimally at the individual DER level. Its future-proof architecture addresses cybersecurity concerns while allowing for simplified expansion of additional DERs.

PXiSE DER Management and Communication Platform

Azure

2030.5

2030.5

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Distribution-Level
Front-of-the-Meter Energy Assets

Behind-the-Meter DERs

Aggregated Residental Loads

Commercial & Industrial
Facility Loads

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Functional specifications

Communication

- 2030.5 protocol between server and client
- Flexible connection options:
  - Direct to devices
  - Aggregator
  - Facility management systems

Cybersecurity

- IP-based TLS 1.2 encryption standard
- Certificate-based security

Scale DERs

- Platform scales to DER quantity as it grows
- Can manage up to a million individual DERs

Register DERs

- UI-based registration and management of DERs
- API option for a customized registration onboarding process
- Bulk registration via .csv file upload
- Control active/inactive status of DERs

Monitor DERs

- View DER metering status
- View aggregated group summary
- View near real-time device readings (i.e., voltage, power, heartbeat, etc.)
- O&M and asset management providers

Group DERs

- Create user-defined groups
- View network topology groups that represent a physical model

Schedule DERs

- Plan single or multiple control events concurrently
- Prioritize active directives by ranking attributes
- Define time-based scheduling of control modes

Collect Data

- 24-hour window for device data with options for long-term data archive

Notification

- View active alarms
- Event logs tabulated and stored

Human Machine Interface Menu

- Operator Overview: Summarizes current performance and installed capacity status of DERs
- Engineer Overview: Summarizes current health status of DERs
- Asset Monitoring: Displays aggregated hardware metered data at the group level
- Groups: Displays and allows management of DERs by user-defined groups and a network topology view
- Event Scheduling: Displays and allows creation of scheduled events by groups and DER capabilities
- Devices: Displays status and allows registration and activation of DERs
- Event Logs: Displays DER log records
- Settings: Enables configuration of time zones, polling rates, and other high-level system management settings

See our DER Management and Communication Platform fact sheet or visit **pxise.com/dmx** for details.

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