

**Bentley®**  
Advancing Infrastructure

**CONNECT Edition**



## OpenUtilities™ DER Optioneering (Powered by Siemens' PSS®SINCAL)

Cloud-based Decision Support to Fast-track DER Interconnections

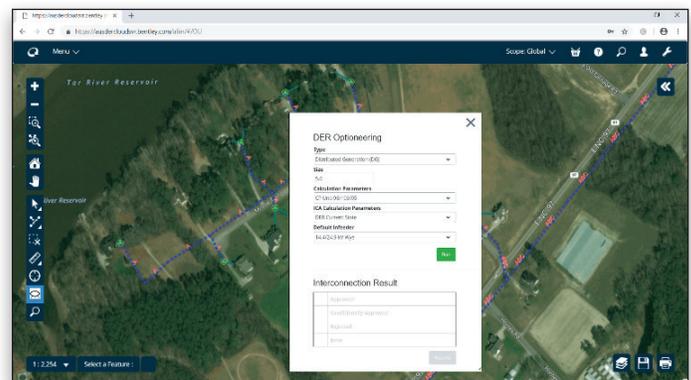
Electric utilities need to actively manage the increased demand for Distributed Energy Resources (DER) in the evolving energy market while maintaining grid reliability, safety, and resilience. The continuous penetration of DER into the power grid requires distribution system planning decisions to be more efficient while adhering to both regulatory and reliability standards. To streamline the DER interconnection approval process, utilities need a fast, automated business process to expedite the evaluation of DER interconnection applications. A fast-track screening process for DER interconnection requests can greatly improve customer response time and readily determine if further engineering analysis and studies are necessary for each application or project.

### OpenUtilities DER Optioneering (Powered by Siemens' PSS®SINCAL)

This fast-track review process enables utilities to rapidly evaluate DER interconnection applications using an automated screening method that quickly approves or defers DER interconnection applications for further detailed analysis and study. The fast-track review process combines an initial and supplemental screening mechanism into a single workflow, reducing the need to engage power system engineering resources during the screening stage of an application. The supplemental screening step uses an automated hosting capacity analysis to determine the amount of DER that can be accommodated on the distribution network at a given time and at a given node location, under existing grid conditions and operations, without adversely impacting grid safety or reliability and without requiring significant infrastructure upgrades. The pass/fail results

*To streamline the DER interconnection approval process, a preliminary screening workflow can help expedite the approval of DER applications and determine if further impact analysis and studies are necessary.*

of the fast-track review indicates whether the application can be immediately approved or submitted to engineering resources for more detailed analysis and study. Detailed engineering studies are costly, time-intensive, and not always necessary. With an automated screening mechanism, utilities can more efficiently process interconnection applications, drastically improve customer response time, and engage high value engineering resources sparingly. The screening criteria is configurable and customizable to accommodate local government policies and corporate standards.



*OpenUtilities DER Optioneering performs initial screening and hosting capacity analysis to efficiently integrate DERs into grid planning, operations, and long-term investment decisions.*

### Initial Screening

This process can be applied to small and straightforward requests, which require limited review and can generally be expected to have limited utility system impact.

### Supplemental Screening with Hosting Capacity at the Interconnection Node

This review uses hosting capacity analyses to assess whether interconnection applications that fail the initial screening can still be safely interconnected or if a more detailed study needs to be carried out. As part of a broader grid modernization strategy or distribution planning process, hosting capacity analysis can help states and utilities plan for and build a modern grid that allows for the benefits of DERs to be fully realized by more individuals, businesses, and institutions at a faster pace.

### GIS Agnostic

OpenUtilities DER Optioneering enables interoperability with Esri ArcGIS and GE Smallworld to adapt to different data formats. By being GIS independent, OpenUtilities DER Optioneering provides abundant flexibility, improves productivity, and expands data analysis capabilities.

### Combines Preliminary Screening for DER and Asset Lifecycle Management

Integrated applications help reduce costs, improve reliability, and build in resilience in response to a changing global marketplace. Utilities can realize numerous benefits from better DER planning, including more efficient interconnection processes, expanded capacity to accommodate DERs, reduced total infrastructure costs, and better accessibility to utility asset information.

## OpenUtilities Cloud-based Solutions

OpenUtilities DER Optioneering is supported through Bentley Managed Services to provide utilities an efficient means to prescreen DER interconnection applications.

- Industry standard methodology common to all stakeholders reduces risk
- Streamlined and standardized processes across offices
- Remote access for submitters and reviewers reduce cost, improve availability, and ensure compliance
- Single services provide accountability
- Ensures the most up-to-date version of software
- Quick start-up

Find out about Bentley at: [www.bentley.com](http://www.bentley.com)

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## OpenUtilities DER Optioneering (Powered by Siemens' PSS®SINCAL) At-A-Glance

### DER Integration

- Cloud-based hosted or on-premise deployment
- Continuous model building from multiple data sources to compose the electrical digital twin
- Ability to reference electrical network data model for planning, design, and operations workflows
- Configurable to multiple local and company standards
- Configurable and customizable with .NET languages and web services

### Compliance

- Records management
- Reporting

### Integrated PSS®SINCAL

- Hosting capacity analysis
- Load flow
- Short circuit

### GIS Capabilities

- Supports a wide range of geospatial coordinate systems
- Layers and thematic resymbolization
- Dynamic labeling

- Raster management
- Display priority and transparency
- Continuous hosting capacity map generation

### Interoperability and Data Sources

- Supports network information within a connected data environment
- Supports GIS integrations (i.e. ESRI, GE Smallworld) and web services
- Oracle Spatial/Locator, SQL Server Spatial, and ODBC sources
- OGC WMS and WFS data sources
- Bing Maps integration

### Dynamic Data Validations

- Attribute values
- Cross-attribute values
- Business rules validation
- Load flow and short circuit validates electrical network model

### Reporting

- Plot generation and legend
- Tabular and graphical views
- Publish to PDF

### The Siemens / Bentley Advantage for Intelligent T&D within DER

Solving the problem, OpenUtilities Solutions Powered by Siemens' PSS®SINCAL accelerates the digitalization of power utilities. A single unified application combines Bentley's exceptional technology in infrastructure design and engineering with Siemens' expertise for the economical, reliable, and intelligent transmission and distribution of electrical power. The solution will aid utilities to reduce costs, improve reliability, and build-in resilience in response to the global energy transition.

### Cloud Integrated DER Interconnection Process

