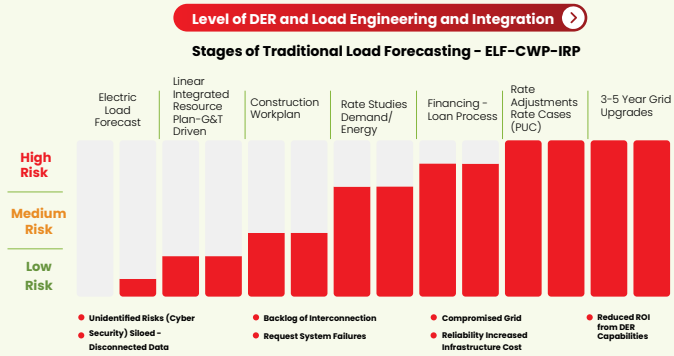
Securing Tomorrow: De-Risking Future Investments with the enx IDRP Strategy

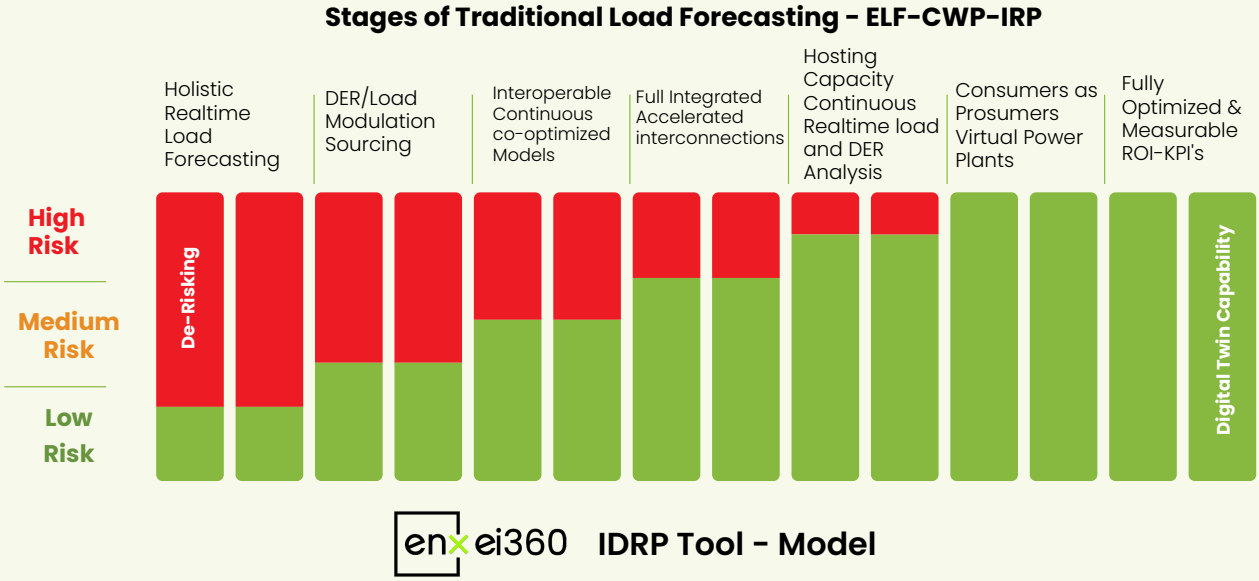
Better anticipate and manage the impact of future investments that leads to more effective and efficient grid management and reduced investment risk.

LACK OF IDRP & Interoperability Planning



Holistic Integrated Distribution Resource Planning Fully Interoperable

Level of DER and Load- Engineering and Integration - Lowered Risk - Higher Success



enx ei360 **IDRP Tool - Model**

Holistic Realtime Load Forecasting
A comprehensive approach that considers various factors such as consumer behavior, weather conditions, and the availability of demand response resources to predict electricity demand in real time.

DER/Load Modulation Sourcing
The process of managing and sourcing distributed energy resources (DERs) to modulate or adjust the load on the grid in real time.

Interoperable Continuous co-optimized Models
Seamless coordination and optimization of distributed energy resources, demand response programs, grid operations, and other relevant factors to enhance grid resilience, efficiency, and overall performance.

Full Integrated Accelerated interconnections
The seamless and rapid integration of various energy assets, such as distributed generation, storage, and demand response resources, to enhance grid resilience, flexibility, and overall performance

Hosting Capacity Continuous Realtime load and DER Analysis
Continuous real-time analysis of the hosting capacity, which refers to the maximum amount of distributed energy resources (DERs) that can be accommodated on the grid without compromising its reliability and safety.

Consumers as Prosumers Virtual Power Plants
Enable consumers to actively participate in the energy market by aggregating their energy resources and providing grid services, such as demand response and ancillary services, thus contributing to grid stability and resilience.

Fully Optimized & Measurable ROI-KPI's
The development of robust models and approaches to assess the financial and operational impact of IDRP initiatives, as well as the identification and tracking of relevant KPIs to measure the effectiveness and efficiency of IDRP strategies.

Integrated Distribution Resource Planning (IDRP) aligns grid modernization efforts with organizational goals, enhancing reliability and efficiency.

enx IDRP integrates distributed energy resources, microgrids, and advanced forecasting to optimize peak load management, system losses, and infrastructure. IDRP also supports the incorporation of electric vehicles and demand-side strategies, promoting a sustainable energy network.

Transitioning from Traditional to Integrated Distribution Planning

Traditional Distribution Planning	Integrated Distribution Planning
Core requirements/objectives: Safe, reliable, affordable grid.	**Expanded vision, goals, & objectives:** Expands beyond safe, reliable, affordable grid; ▪ Clean energy goals ▪ Grid flexibility ▪ Market animation ▪ Customer options and enablement.
Internal process within a utility.	Increasing communication, both internally at the utility and externally with **stakeholder engagement** (e.g.. help stakeholders understand technical and economic decisions, provide input at defined steps of the process).
Primary distribution grid concerns focused on thermal overloading and abnormal voltage conditions during a steady state.	**Distribution grid concerns expand** to increasingly include undervoltage, overvoltage, and dynamic power quality impacts.
DERs included in forecast but **seen as a load modifier;** active targeting of location and DER operation not included in development of planning.	**Proactive approach to DERs** in planning; Planners evaluate traditional and non-traditional solutions (e.g., non wires alternatives) in response to constraints along the system; guide DER deployment in optimal locations.
Sourcing solutions to alleviate grid constraints **limited to traditional utility equipment.**	
Distribution planning is mostly separate from transmission and generation planning processes.	**Increasingly coordinated and integrated processes** between distribution, transmission, and generation planning (as applicable); work closely with system operations as well.

enx IDRP improves grid operations and investments by enhancing visibility into current and future states, focusing on distributed energy resources (DERs). It integrates interconnection data and DER databases for consistent and transparent data collection. The sophisticated forecasting predicts DER growth, timing, location, operational impacts, and load forecasting, incorporating Advanced Metering Infrastructure (AMI). Collaboration with stakeholders ensures informed and strategic decisions, fostering a more reliable and efficient grid.

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