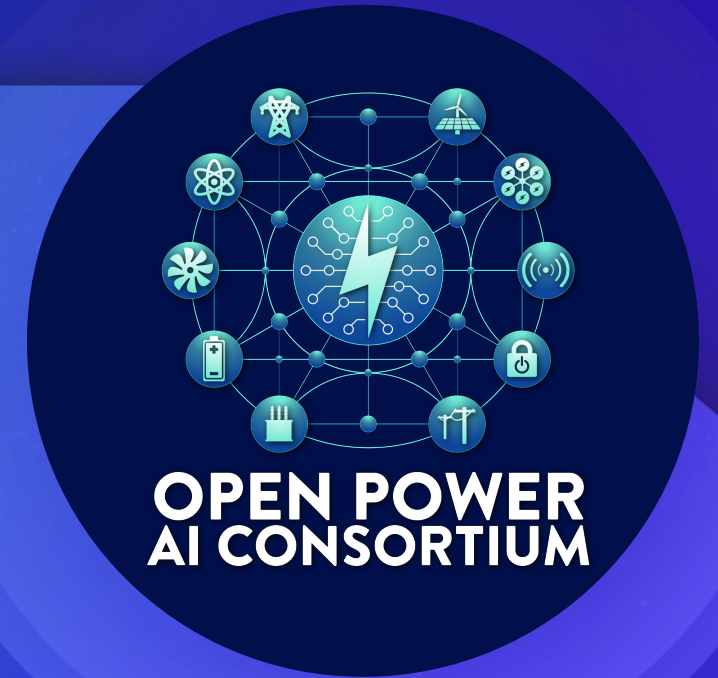


Deployment Working Group

February Working Group Meeting



Jason Hollern
Technical Executive
jhollern@epri.com

February 11, 2026

Agenda

- Deployment WG Updates
 - Safety Message
- Technology Developer Presentation
 - Distill Energy, Sonya Gustafson
- Deployment and Implementation Practices
 - EPRI, Avery Hodges
- Questions and Wrap Up

Celebrate Smart This Valentine's Day: Alcohol & Social Safety



- Know Your Limits: Pace drinks, alternate with water, eat before and during celebrations.
- Plan Your Ride Home: Choose a designated driver or rideshare before going out.
- Protect Yourself & Others: Never leave drinks unattended; respect boundaries and consent.
- Stay Aware: Meet in public places, share plans with someone you trust, trust your instincts.

The best Valentine's memories are the ones everyone gets home safely

Open Power AI Consortium – Key Objectives

Collect Data, Develop Libraries & AI Models



Create an AI Sandbox



Implementation and Lessons Learned



Implementation and Lessons Learned

- Collaborate with leading AI developers to deploy AI models.
- Develop a feedback loop from deployments for refinement and optimization.
- Maximize impact via knowledge sharing among consortium members.

Implementation Workstream Goals & Desired Outcomes

1. Connect commercially available AI solutions to end-users
2. Transfer, pilot, and implement new use-case solutions to industry
3. Foster a collaborative environment to improve the AI value proposition
4. Collect lessons learned through applications, demonstrations, and scaled implementation
5. Develop AI implementation guidance to help companies with successful implementation and value realization

Three Main Thrusts to Accomplish Goals

Research Products

- Value: Learning from implementation opportunities



Outreach and Interactive Knowledge Transfer

- Value: Interactive collaboration and awareness
- Value: Presentation opportunities



AI Tool Implementation

- Value: Experience with AI tools and streamlined implementation
- Value: One-on-one and community use-case build out



Upcoming Events

2026 Open Power AI Events

January						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
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May						
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24	25	26	27	28	29	30
31						

September						
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June						
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October						
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March						
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July						
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November						
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April						
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August						
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30	31					

December						
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20	21	22	23	24	25	26
27	28	29	30	31		

Deployment WG Meeting

Use-Case WG Meeting

Domain-specific Model WG Mtg.

Member Representative Committee Mtg.

No Deployment WG Meetings:
January & September

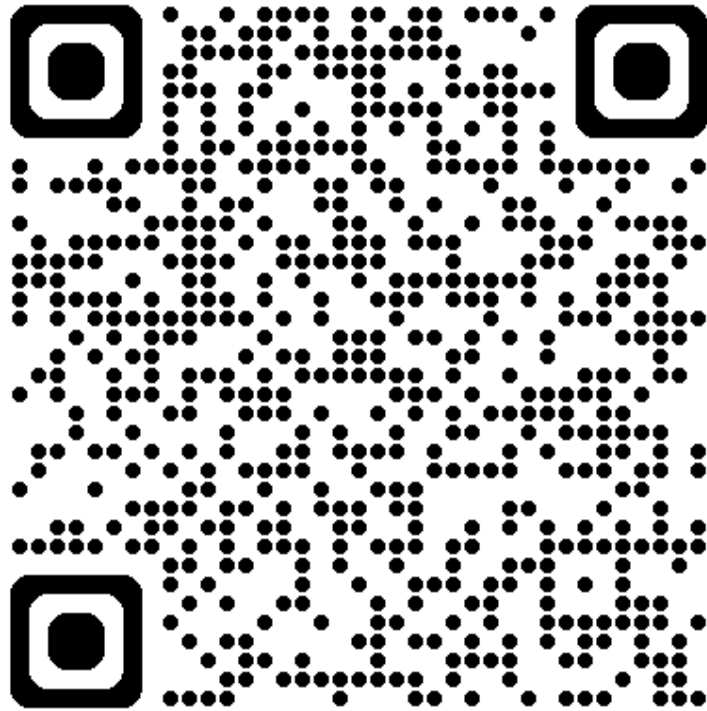
OPAI Use Case Survey Links – Remains Open Indefinitely



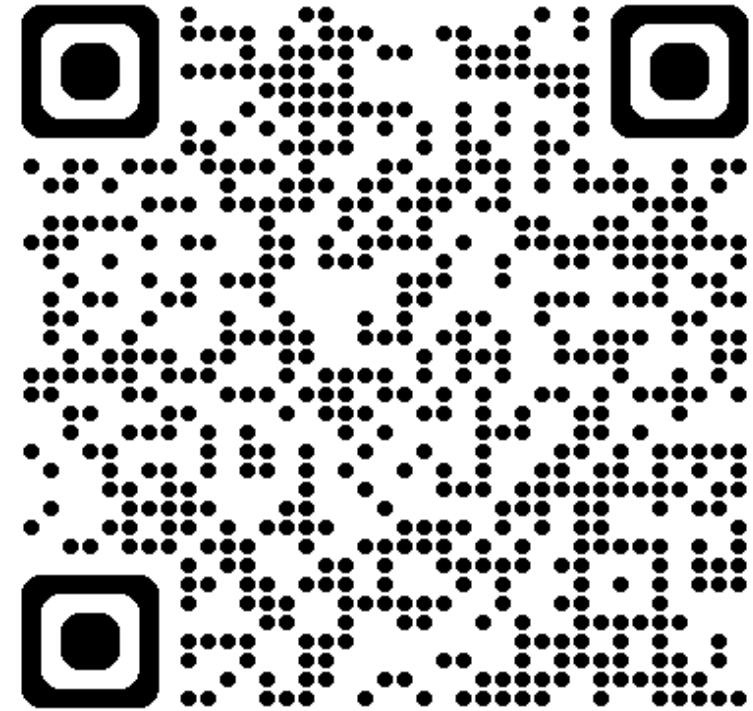
Energy Utility Survey



Technology Provider Survey



Click or Scan



<https://www.surveymonkey.com/r/OPAI-Use-Cases-Utilities>

<https://www.surveymonkey.com/r/OPAI-USE-Cases-Tech-Providers>

Use Case Survey By the Numbers – So Far!



Utilities

54

260

290

10986

*79+ Entities Submitted at
Least 1 Response*

*Use Cases Evaluated by at
Least 1 Person*

347+ People Evaluated

*11393+ Data Entries (Evaluation,
Maturity or Comment)*



Technology Providers

25

156

57

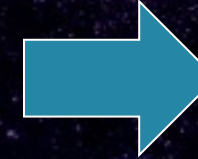
407

*Assuming ~20 Seconds Entry – Cumulative Total of ~63 hours of data entry
Thank You!*

Transforming Survey Data to OPAI Member Value

Use Case
Assessment
Criteria
Prioritization

- Top 5-10 Reliability and Resilience
- Easiest to implement
- Least risky...etc
- Company confidential benchmarks relative to industry



Utility and
Industry Demo
Spotlights

- Reference and spotlight utility or technology use case implementations

Use Case
Functional
Prioritisation

- Top 5 10 Asset Management
- Top 5-10 Operations
- Top 5-10 Markets, Nuclear....etc

Use Case to
Technology
Matching

- Map high priority use cases to medium to high technology solution maturity

Use Case Co-
Development

- OPAI will bring forward the highest priority use cases for co-development
- Potential data availability identified in survey, utilities with highest need may provide



Published soon on
<https://openpowerai.org/>



Use Case Co-Development



Technology Demonstration Distill Energy – Sonya Gustafson

Distill Uncertainty into Decisions

Q1 2026 Demo

Distill Energy



Distill's Team



David Kozak, PhD
Leadership



Sonya Gustafson
Product

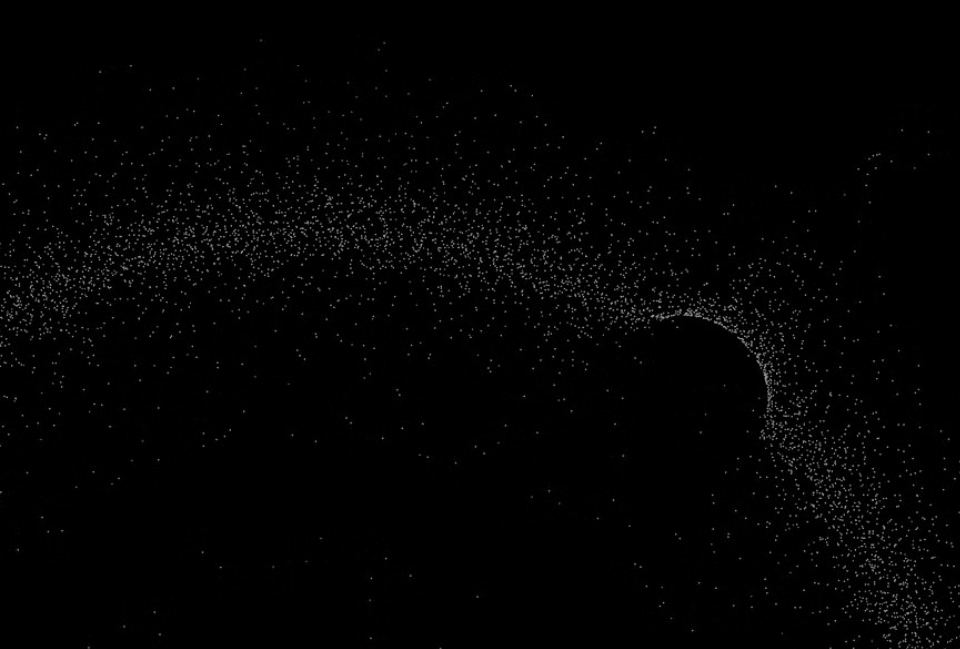


Matt Parno, PhD
AI/Engineering



Isaac Fry
AI/Engineering

Discussion

An abstract graphic on the left side of the slide, consisting of a dense trail of small, light-colored particles or dots that form a curved, tunnel-like shape pointing towards the right. The background is dark, and the particles are more concentrated in the center of the curve.

1 Introductions



2 Distill Mission & Method



3 Technology Demo



Our Mission

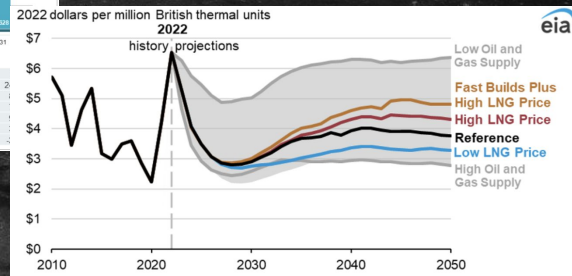
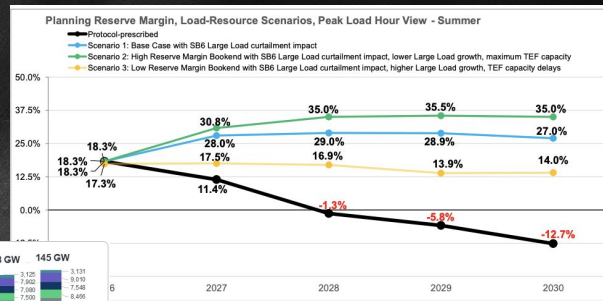
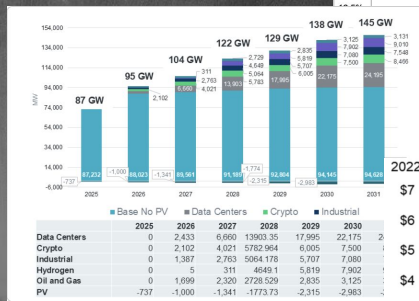
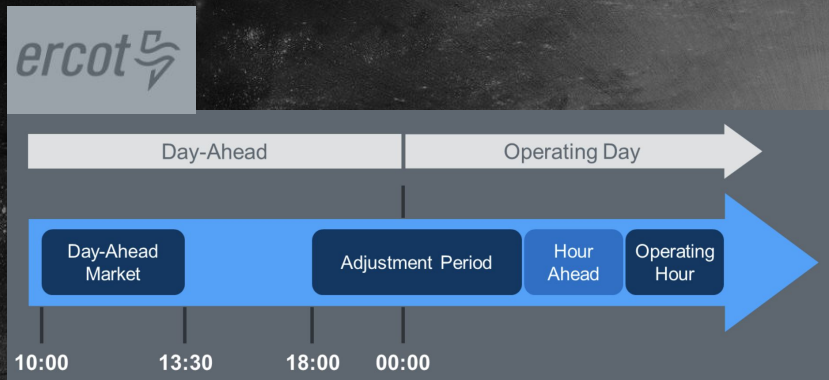
We are rebuilding how people think
about the future of **energy**

Our Mission



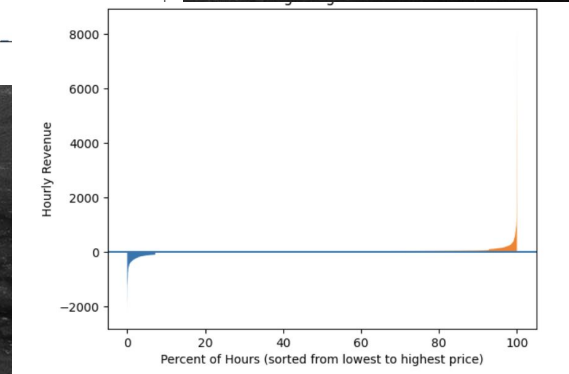
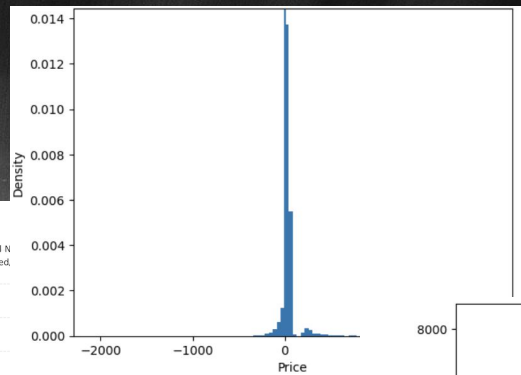
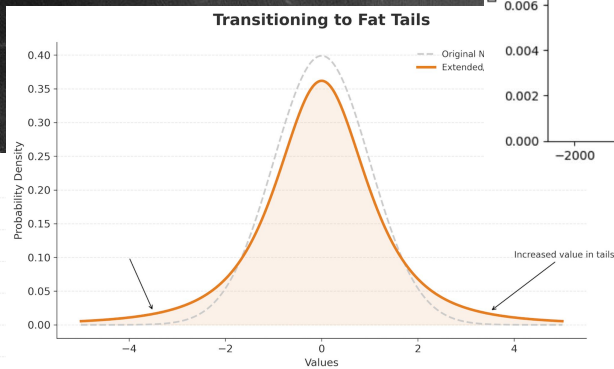
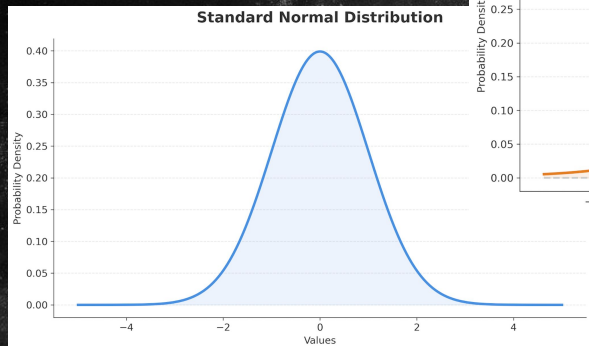
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about the future of **energy**

Our Mission



We are rebuilding how people think about the future of **energy**

Our Mission



We are rebuilding how people think about the future of **energy**

What we do

RAMBLER_UNIT

Price Node - ERCOT

\$53

ZONE

WEST

COUNTY

TOM GREEN

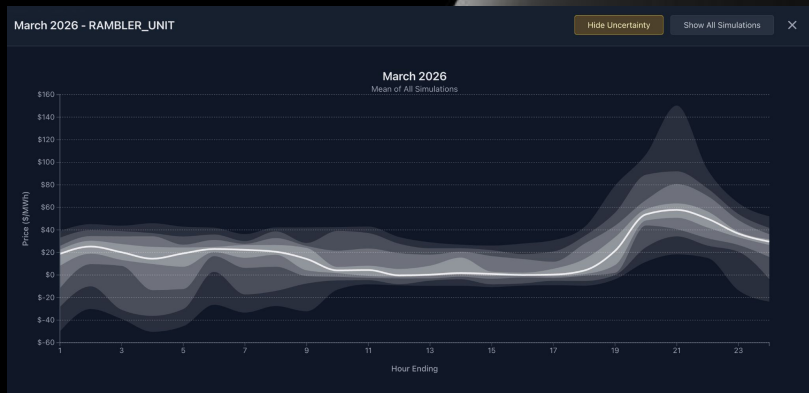
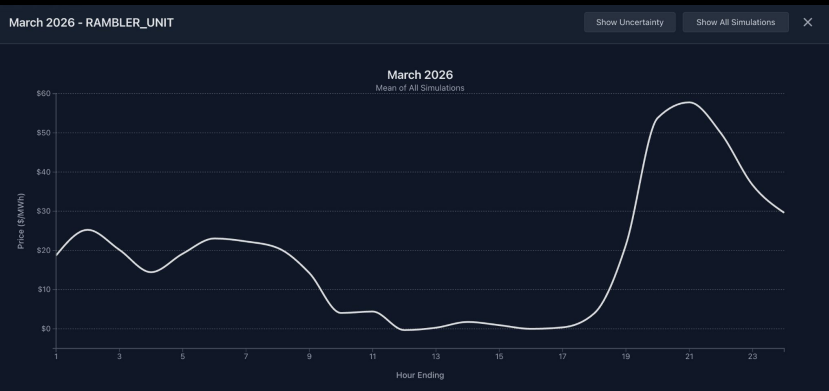


Analyze this node

Distill is a **forecasting and grid simulation platform** that enables energy companies to make better decisions with less risk



What we do



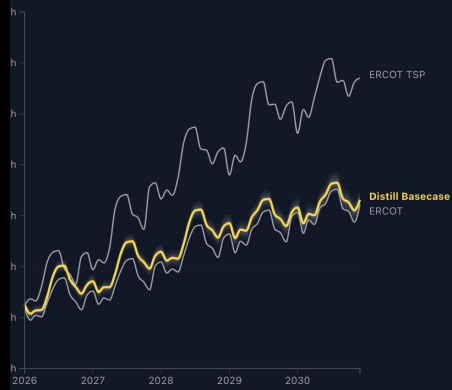
Distill is a **forecasting and grid simulation platform** that enables energy companies to make better decisions with less risk

Complete Market Context

Fundamental Inputs

Curated fundamental drivers that include supply, demand, macro, commodities, technology and policy

Load Forecast Comparison (Jan 2026 - Dec 2030)



Complete Market Context

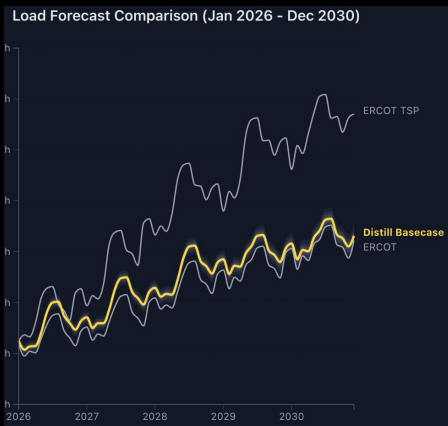
Fundamental Inputs

Curated fundamental drivers that include supply, demand, macro, commodities, technology and policy

Long Range Clarity

Integrated Powerflow

Distill's inputs seamlessly integrate into the powerflow. Powerflow runs are available for months and years into the future



Run Configuration

Run Name
e.g., High Solar and battery penetration

Analysis Period
Start Date: February 2026
End Date: December 2030
1826 days

Forecast Parameters
Load (GWh): Distill Basecase

View

Complete Market Context

Fundamental Inputs

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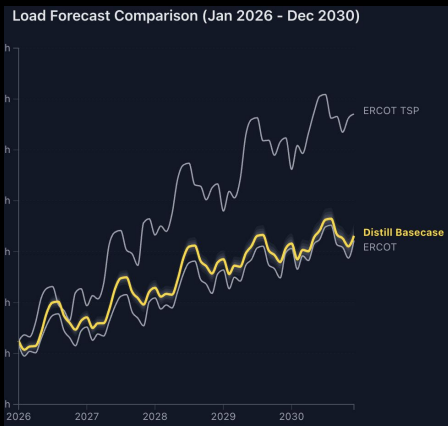
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Physics Driven Outcomes

Cloud Native OPF

Our solver runs thousands of scenarios at nodal resolution producing full distributions of LMPs, revenue and grid reliability context

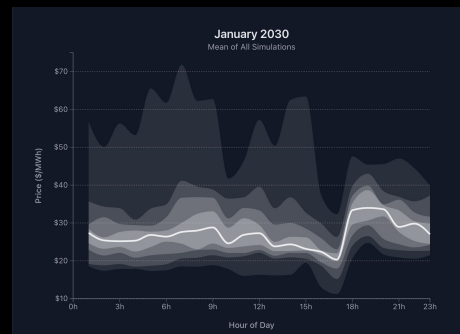


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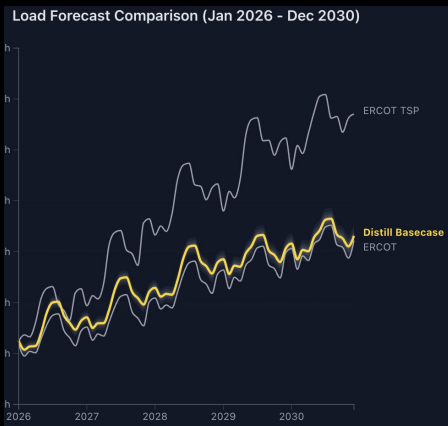
Cloud Native OPF

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Lightning Fast Simulation

Optimized for Usability

Run a year of hourly simulations in minutes, run five years in an hour. Our tools are optimized for both speed and ease of use



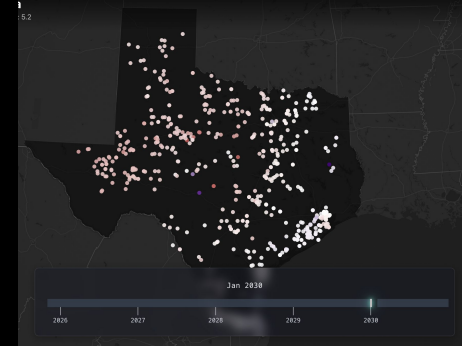
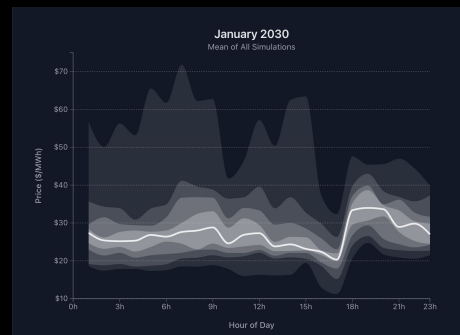
Run Configuration

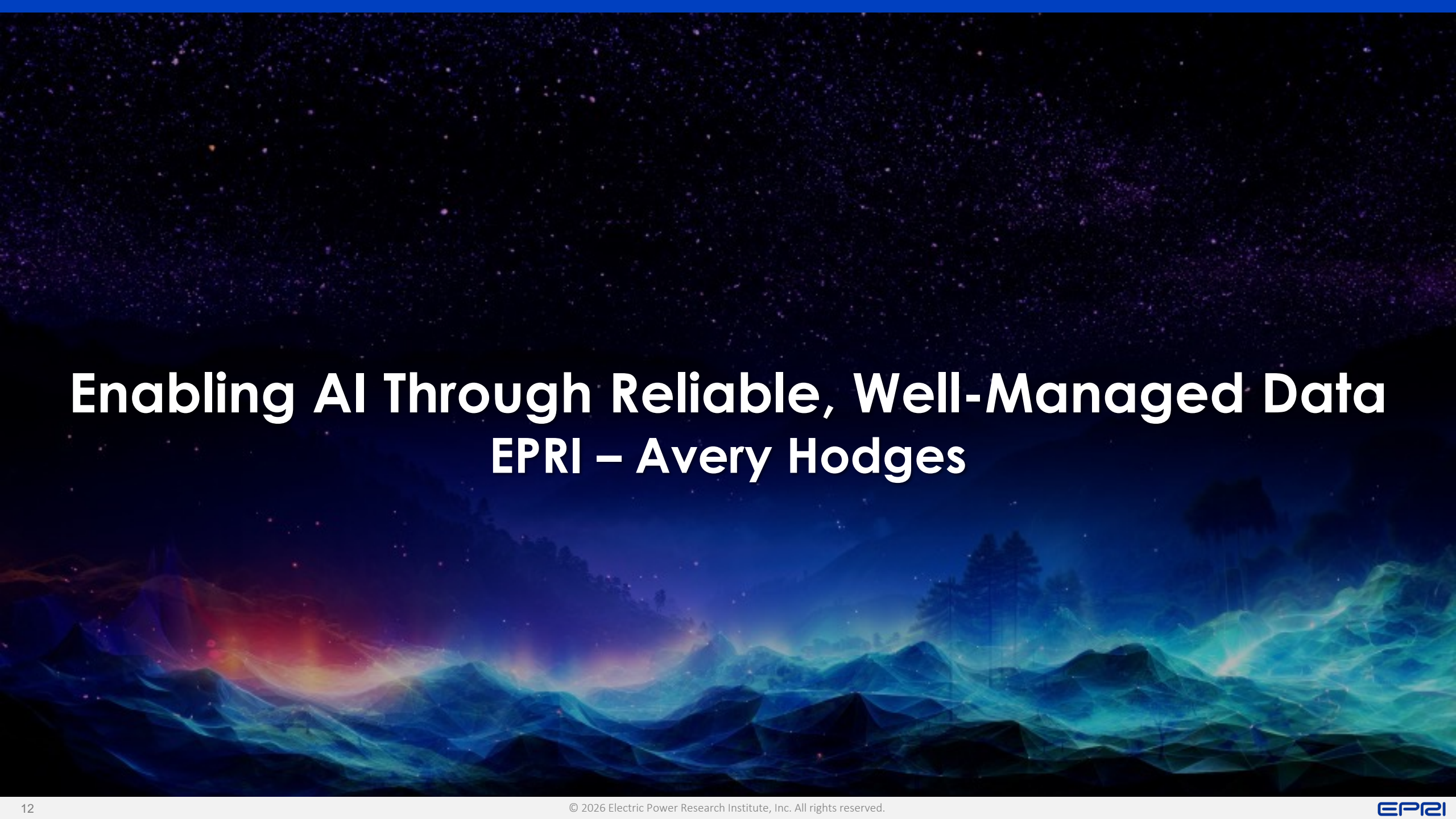
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Forecast Parameters
Load (GWh): Distill Basecase

[View](#)





Enabling AI Through Reliable, Well-Managed Data

EPRI – Avery Hodges

Table of Contents



**OPEN POWER
AI CONSORTIUM**

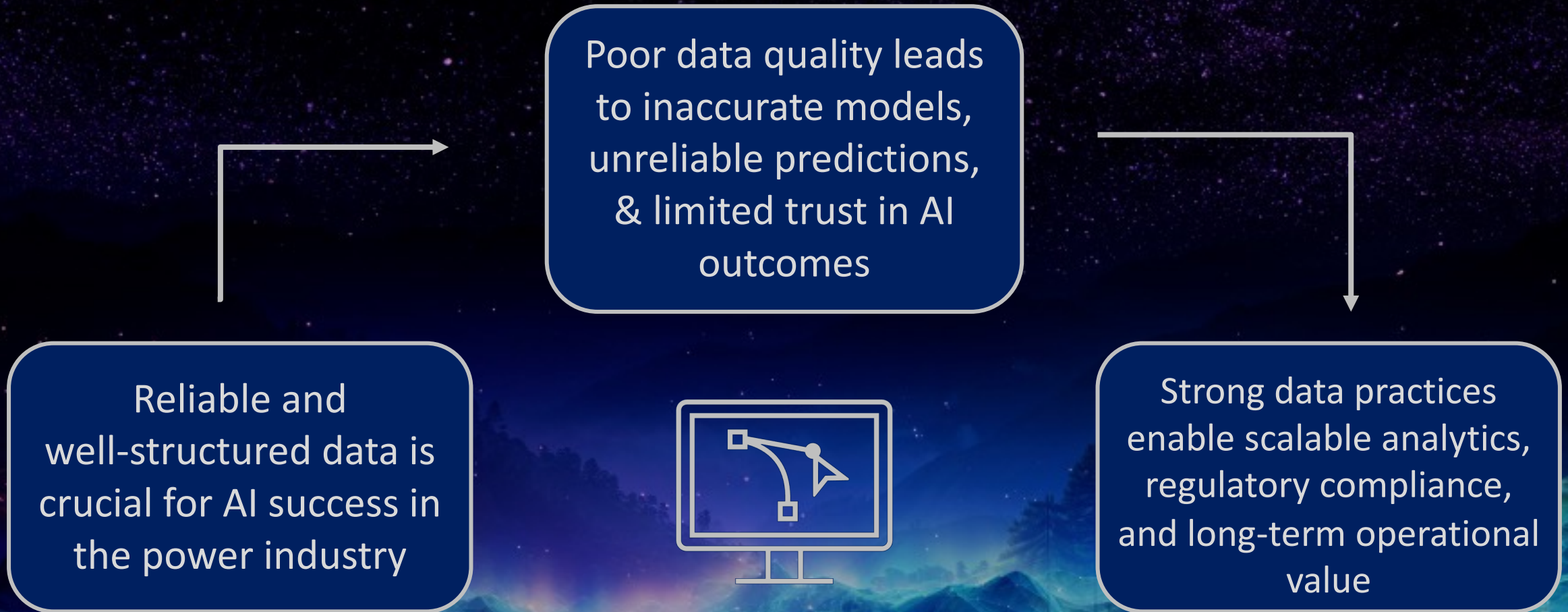
1. Data Architecture & Storage

2. Data Ingestion & Quality

3. Data Models & Catalogs

4. Implementing AI: Best Practices

The Importance of Good Data Practices



Data Architecture & Storage

Data Storage Options

Data Lake

Flexible, low-cost repository for **raw data**, supporting various formats & enabling storage of structured, semi-structured, **and** unstructured data at scale

Data Warehouse

Centralized storage solution designed for **structured** data, enabling efficient analysis through pre-processed data & requiring established **data models** and **ETL** processes

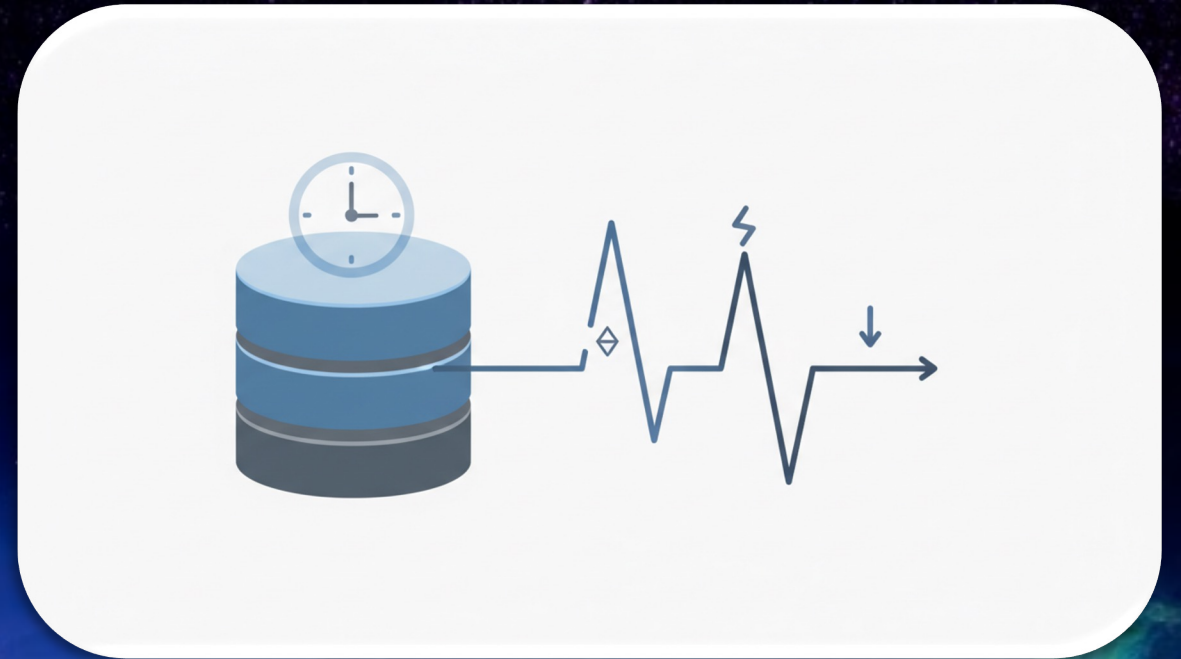
Data Lakehouse

Combines the **flexibility** of data lakes with the **management features** of data warehouses, providing a unified platform for **both** raw & structured data analytics



Power Specific Implementation: Data Historians

- Specialized database designed to store & handle large volumes of **time-series** data
- Fast access to historical data while maintaining efficiency
- Uses data compression techniques for storage:
 - Interval means
 - Trend changes
 - Data reconstruction values
 - Lossless compression for file size reduction
- However, specialized infrastructure is needed to implement and maintain, and can be costly to scale up with **limited flexibility** for **non time-series** data



The Data Storage Landscape

Data Storage



Data Historian

- Time-series data
- Data compression
- High-volume data storage
- Real-time monitoring



Data Lake

- Structured and unstructured data
- Large storage options
- Minimal data analytics capabilities



Data Warehouse

- Structured data
- Strong data pre-processing capabilities
- Data analysis
- Data cleaning and transformation



Data Lakehouse

- Flexible data type formats
- Strong data pre-processing capabilities
- Data management

EPRI Report 3002029854: Data Handling for Monitoring and Diagnostics Organizations

Metadata: Strengths & Challenges in Ingestion



- Metadata provides essential context for data by detailing its **origin, structure, & meaning**
- Makes data more traceable & searchable across systems & platforms
- Supports governance, compliance, and responsible AI development by **documenting** data ownership, usage constraints, and lifecycle management
- Difficult to **standardize**, which complicates data integration efforts to maintain consistency & interoperability
- Can become incomplete, outdated, or inconsistent over time, reducing effectiveness for data quality and AI decision-making

Data Ingestion & Quality

Establishing Trust in Data

- **Difficult to avoid** ingesting data from diverse, distributed sources with varying formats & quality
- Applies systematic controls to detect errors, gaps, and inconsistencies **early** in the pipeline
- Emphasizes trust & consistency rather than assuming a **single source of truth**
- Establishes a **dependable foundation** for analytics, monitoring, and AI applications

Raw Data Sources

Ingestion & Quality Controls

Trusted Data for AI Development

Data quality is achieved through disciplined ingestion, validation, and governance - not by assuming a single source of truth

ETL's Role in Data Quality

Extract

- Gather data from multiple sources (sensors, databases, APIs, files)
- Ensure data is captured with accuracy and consistency
- Identify and flag missing or corrupted data early
- Maintain metadata traces to track data origins and timestamps

Transform

- Clean and normalize data (standardize units, formats, & naming)
- Handle outliers and missing values using defined rules/standards
- Apply filtering logic and calculations to make data meaningful
- Validate data integrity and consistency across datasets

Load

- Move the transformed data into a target system (data warehouse, lake, historian, AI model input)
- Optimize for query performance and scalability
- Verify successful loading and maintain logs for traceability
- Enable access for analytics, reporting, and AI applications

Data Quality Pipeline Characteristics



Data Handling

Preparing and managing raw data through compression and storage strategies to support downstream validation and analytics

Data Validation

Checking data for errors, inconsistencies, missing values, and to verify that it meets pre-determined standards



Data Reconciliation

Comparing/aligning data from different sources to ensure consistency & accuracy, identifying discrepancies between datasets, and correcting errors



Data Consistency

Ensures information remains accurate & reliable across systems and databases through synchronization, regular data validation & replication procedures



Data Models & Catalogs

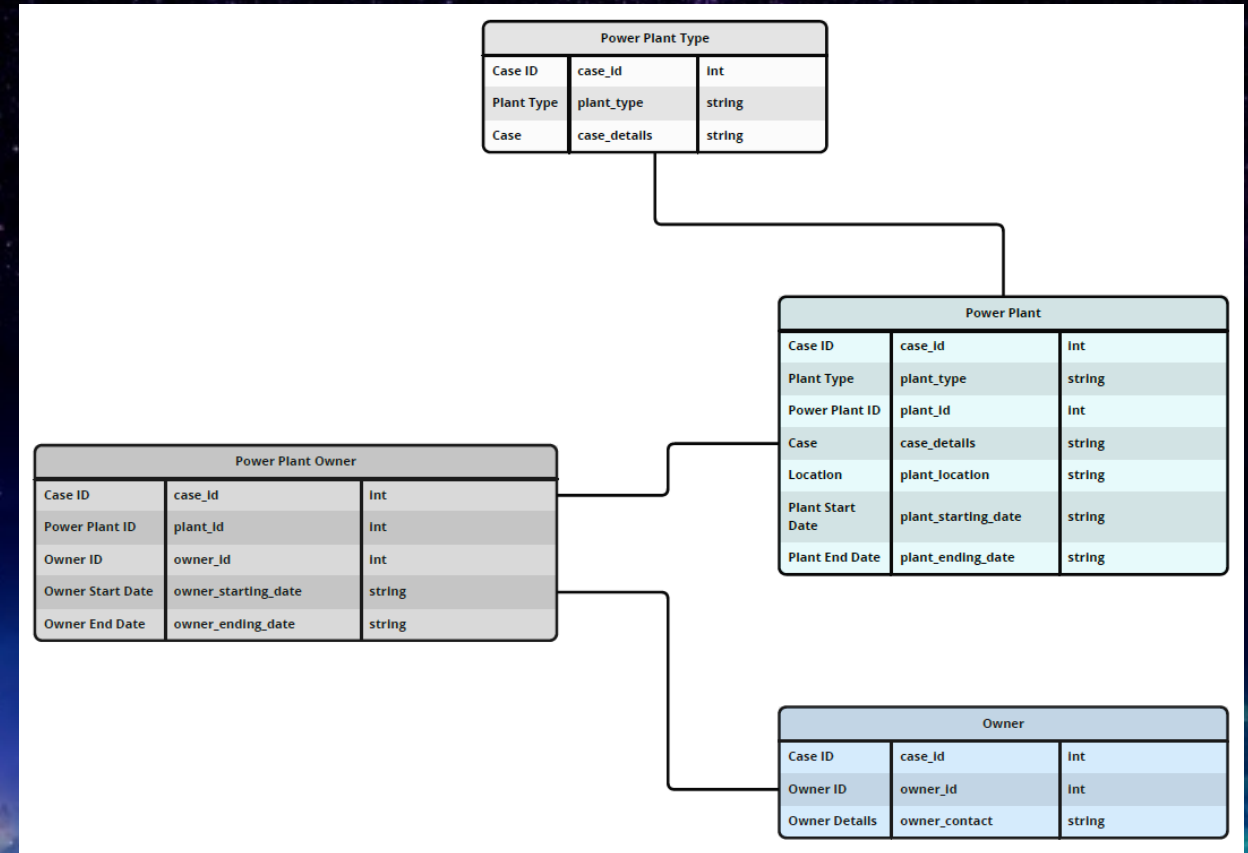
Data Catalog: An Organizational System

- Uses a search engine with **access & authorization rules** that link access to certain data sources
- Keeps data sources searchable, secure, and organized
- Captures **metadata** to improve trust & usability
- Requires **governance & maintenance** to keep entries accurate & up to date



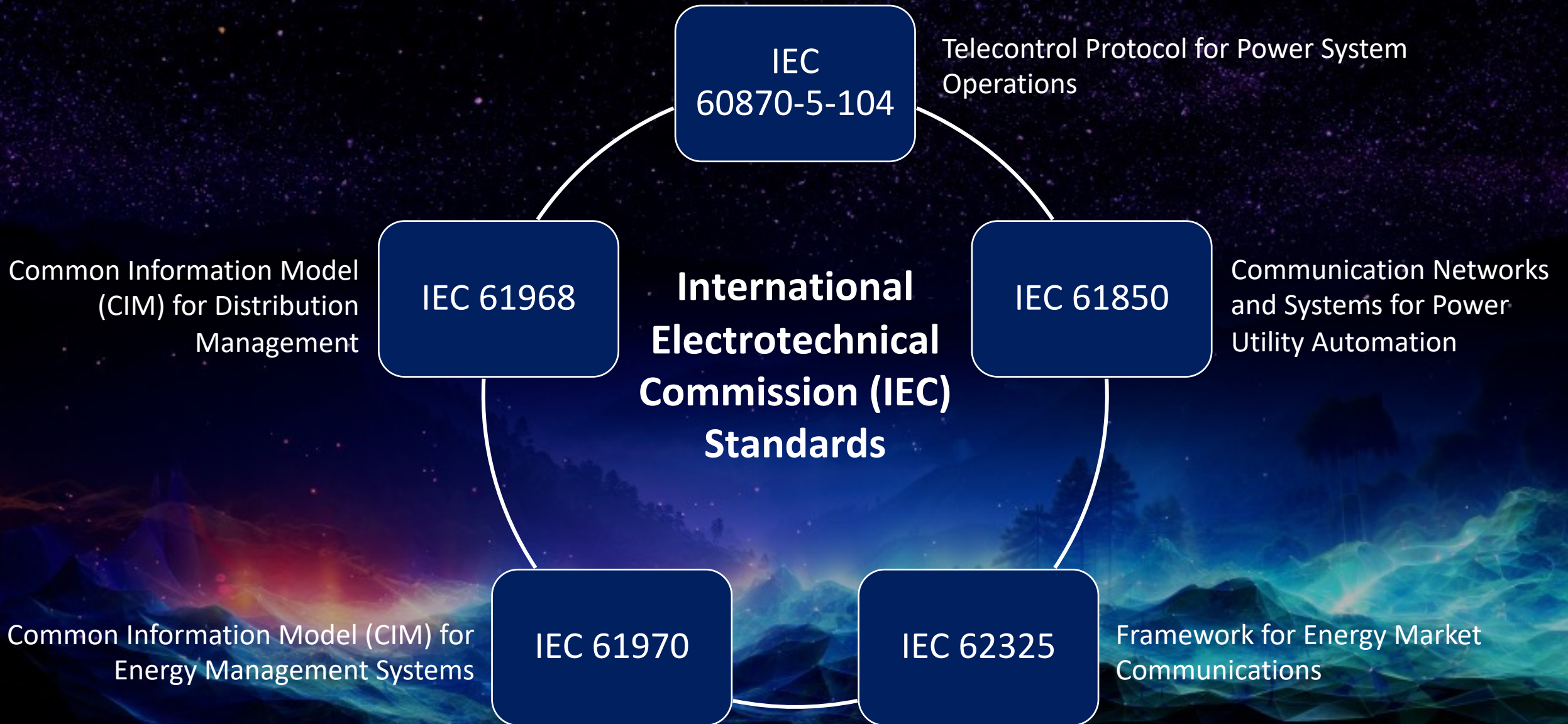
Data Models: Structuring Data for AI and Analytics

- **Defines** how data is organized and how different data sources **relate** to one another
- Provides **standardized representations** of assets, measurements, and processes across systems
- Enables consistent, high-quality **data inputs** for analytics and AI models
- Industry standards (e.g., IEC data models) support interoperability, reuse, and data sharing



EPRI Report 3002030671: Organizing and Using Data from Various Sources to Support Advanced Analytics and Artificial Intelligence in the Energy Sector: A Primer

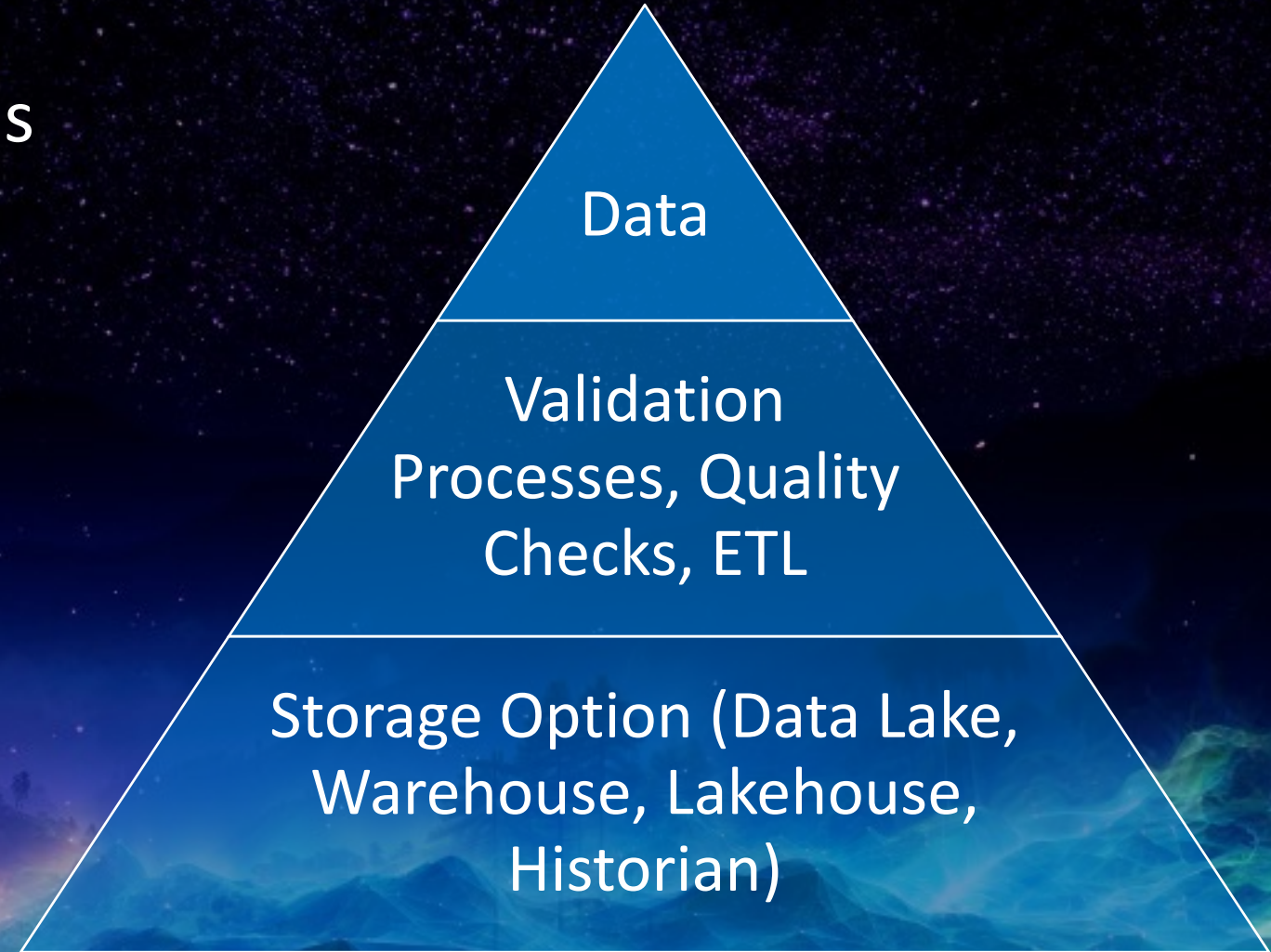
Energy Sector Standards



Implementing AI: Best Practices

Building a Strong Architectural Foundation for AI

- Build trust by ensuring data is accurate & transparent
- Provide consistent structure across systems and teams
- Make data easier to integrate, discover, & reuse
- Support scalable, reliable AI development



Quality, Organization, & Security for AI

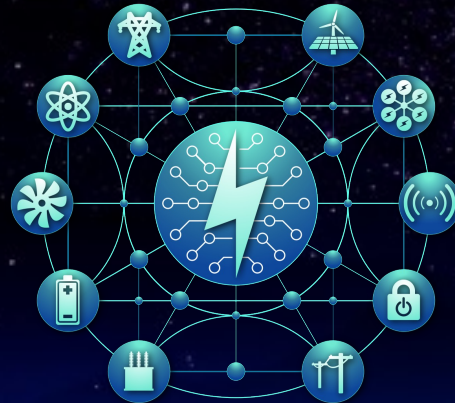


- Data Quality:
 - Use appropriate ingestion methods (ETL) to keep AI models up-to-date
 - Apply quality checks during ETL to detect and correct issues early
 - Ensure proper handling, validation, reconciliation, and consistency of data across platforms, systems, & databases
- Data Organization:
 - Utilize data models to standardize data sources and reduce siloes
 - Enforce access control through data catalogs to maintain searchability without reducing security
 - Leverage existing data standards to ensure regulatory compliance and share data across organizations in standard formats

Looking Forward: Continuous Improvement & Key Takeaways



TOGETHER...SHAPING THE FUTURE OF ENERGY®



OPEN POWER AI CONSORTIUM