

# Energy & DER Intelligence

*AI-Powered Distributed Energy & Grid Intelligence for Modern Utilities*

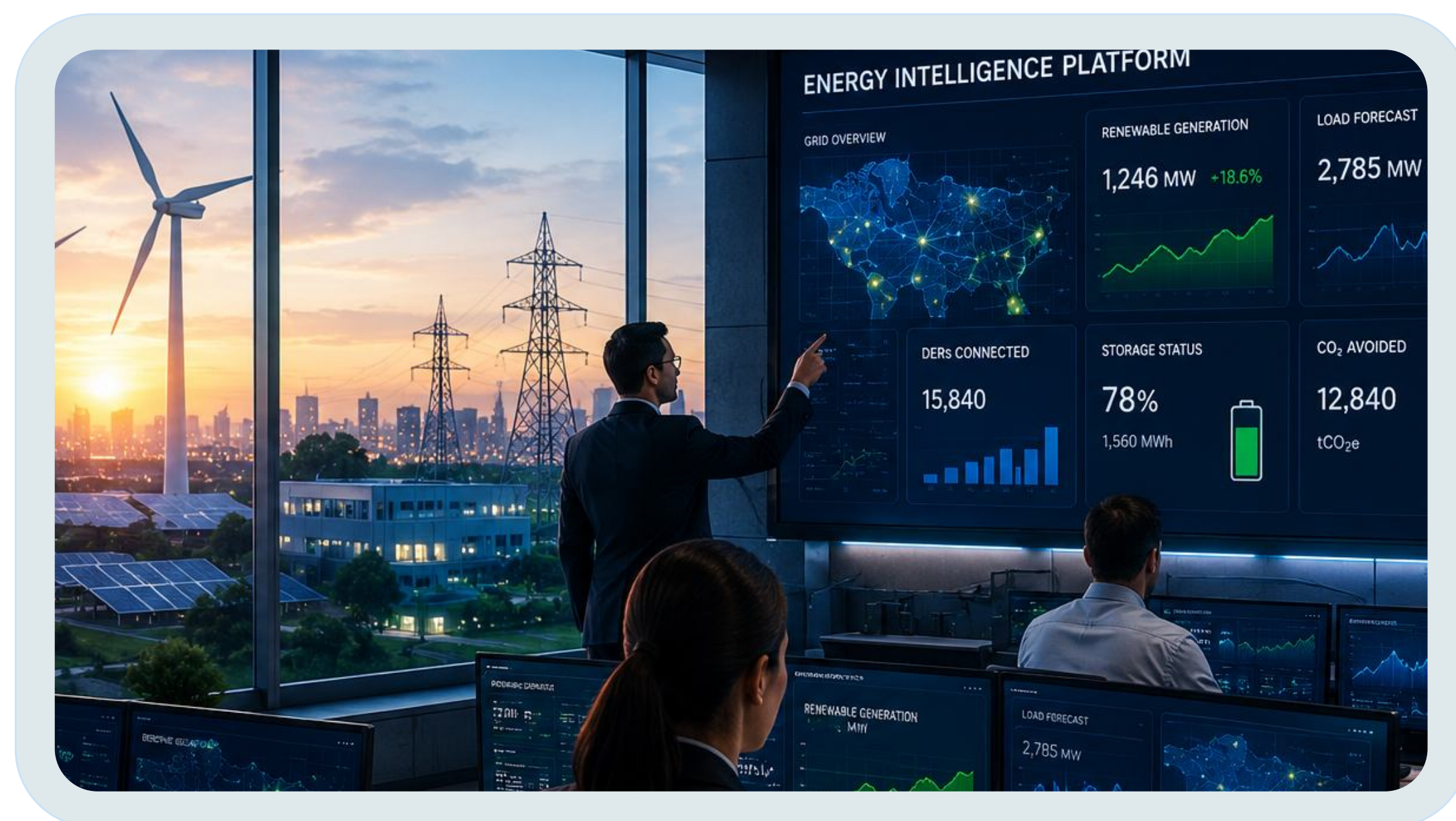
Utilities today are experiencing a fundamental transformation driven by renewable energy adoption, distributed energy resources (DERs), battery storage, electric vehicles, and evolving consumer energy behaviour.

**The increasing complexity of distributed energy systems requires advanced intelligence to improve renewable integration, enhance grid flexibility, optimize energy operations, and support future autonomous grid management.**

Impresa Energy Intelligence is an enterprise AI-powered platform that unifies Distributed Energy Resource intelligence, renewable analytics, forecasting, energy optimization, and grid simulation capabilities. By converting complex energy data into actionable insights, Impresa enables utilities to make smarter operational decisions and build a resilient, flexible, and future-ready energy ecosystem.

## Key Features

- DER Intelligence & Visibility
- Renewable Generation Intelligence
- Prosumer Analytics
- Energy Forecasting & Optimisation
- DER Hosting Capacity Analysis
- Battery Energy Storage Intelligence
- Microgrid Intelligence
- Digital Twin & Grid Simulation
- Grid Flexibility Intelligence
- AI Energy Copilot



## Industry Challenges

Utilities face increasing pressure to integrate renewable energy, manage distributed resources, and maintain reliable grid operations. Traditional grid management approaches often lack visibility, predictive capabilities, and intelligent decision support.



Limited visibility of distributed energy resources (DERs)



Uncertainty in renewable generation forecasting and availability



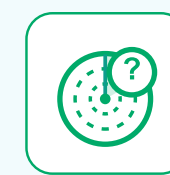
Increasing grid complexity due to bidirectional power flows



Voltage stability and power quality challenges from DER integration



Complex battery storage management and optimisation requirements



Limited predictive intelligence for energy planning and operations

Learn More

To schedule a live demo or find out more information, visit [www.impresa.ai](http://www.impresa.ai) or call +1 510 824 3255

## AI-Powered Core Intelligence Capabilities

Impresa Energy Intelligence combines AI, machine learning, forecasting algorithms, optimization engines, and digital twin capabilities to transform utility energy data into predictive insights and operational recommendations.



### Business Benefits

**15-20%**

Improvement in Renewable Forecast Accuracy

**20-30%**

Reduction in Renewable Curtailment

**15-25%**

Improvement in Grid Planning Efficiency

**25%**

Improvement in Energy Resource Utilization

**40%**

Faster Energy Decision Support

- Improve Renewable Utilisation
- Enhance Grid Reliability
- Optimise Energy Operations
- Enable Future Autonomous Grid



#### DER & Renewable Intelligence

Enables complete visibility, monitoring, and predictive analytics for distributed energy resources and renewable generation



#### Grid Optimization Intelligence

Improves network flexibility through DER integration analysis, load balancing, and grid impact assessment.



#### Energy Storage & Microgrid Intelligence

Optimizes battery performance, storage utilization, and microgrid operations through intelligent analytics.



#### Digital Twin & Autonomous Energy Intelligence

Simulates future energy scenarios and enables AI-driven recommendations for smarter grid operations. " can you changes from - AI-Powered Core Intelligence Capabilities"

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## Supported Utility Use Cases



### Distributed Energy Resource Management

Enable complete visibility, monitoring, and analytics of DER assets, renewable generation, and prosumer energy behaviour.



### Renewable Energy Integration

Optimize renewable adoption through forecasting, curtailment analysis, and intelligent grid impact assessment.



### Grid Flexibility & Optimisation

Improve network reliability through DER coordination, hosting capacity analysis, and energy flow optimization.



### Intelligent Energy Operations

Enable advanced microgrid, battery storage, and AI-driven energy management for future autonomous grid operations.

## Related Products

- Grid Intelligence
- Smart Meter Intelligence
- Transformer Load Monitoring
- Outage Intelligence
- Revenue Intelligence
- Customer Intelligence
- Sustainability Intelligence
- Impresa Meter Data Hub
- Impresa Language Model

## Modern Enterprise Platform

AI-Powered Energy Intelligence Architecture

Cloud Native Architecture

AI-Powered Analytics

Open API integration

Event-driven processing

Enterprise Security

Scalable for Millions of Assets

## Why Utilities Choose Impresa

Compatible with leading utility enterprise systems including:



Purpose-built AI platform for energy intelligence



Complete DER visibility and analytics



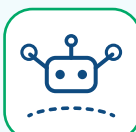
Predictive renewable and storage intelligence



Improved grid flexibility and reliability



Open, scalable, enterprise-ready architecture



Designed for future autonomous field operations



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