

AI Sovereignty and India's Digital Utility Future

Enabling India's utilities to lead with data, intelligence, and innovation

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Global Context: AI Sovereignty Moment

OWN INTELLIGENCE; NOT JUST USE IT

Insights from Impresa.ai's experience with
global utilities

Indian Utility's AI Transformation

250M+ smart meters,
billions of data points
daily.

AI Enabling of Utility
operations in AMI, Grid,
Outage, Customer

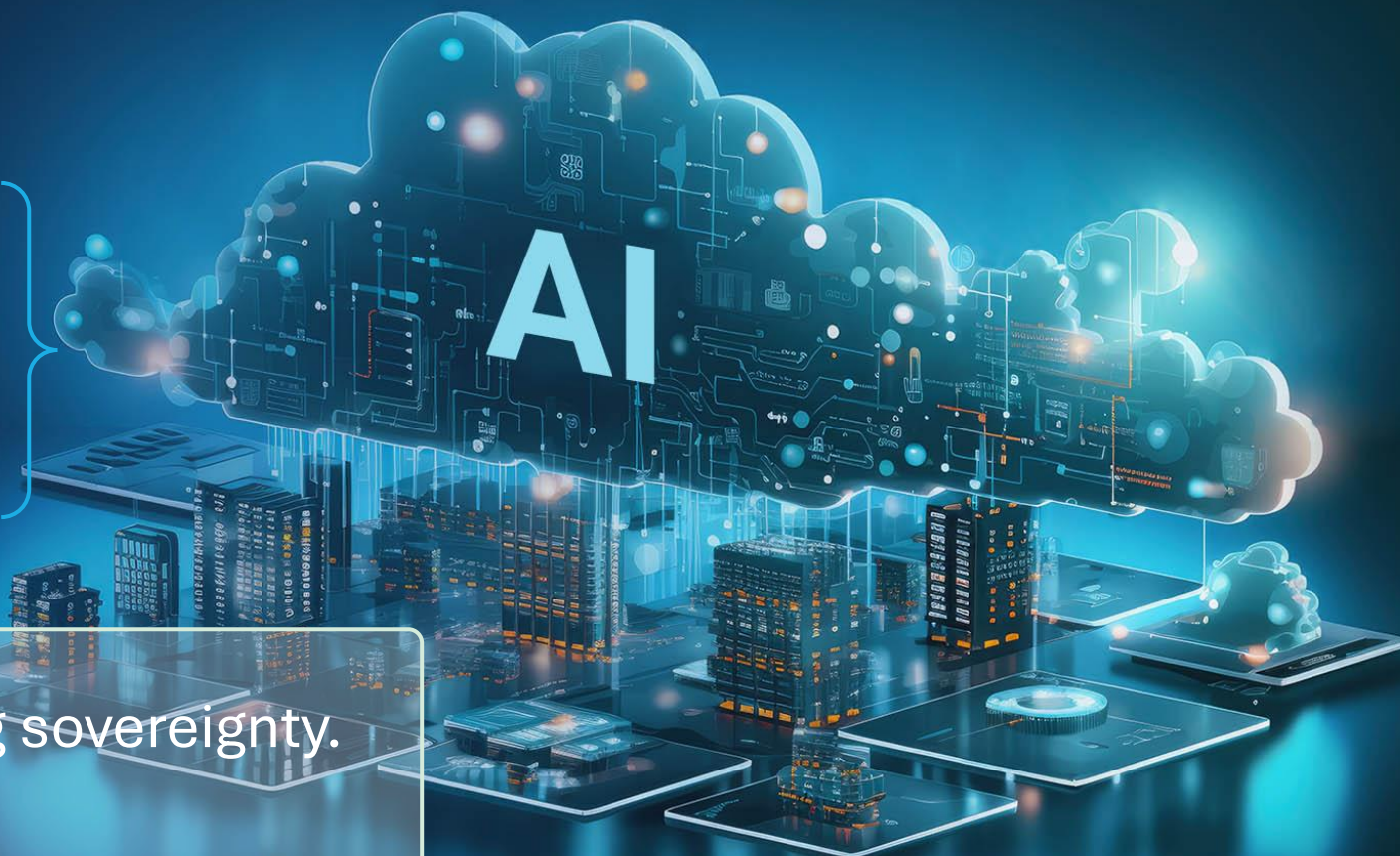
Smart, Resilient, Customer Centric Utilities
powering VISION-2047

The Opportunity & the Challenge

Data-rich, insight-poor utilities.

Context-aware and explainable AI needed.

Achieve intelligence without losing sovereignty.
Integrate. Learn. Build. Secure.



Three Pillars of AI Sovereignty

Industry Foundation Models

Industry Foundation Models (IFMs) on Indian data.

Native Graph Databases

Mapped relationships across customers, assets and network

Industry Centric Language Models

Language model that's industry centric and local

Global Learnings with Impresa.ai

Deep Tech, not raw compute, defines true AI leadership.

SCALE

- Proven with 15M meters in a single instance, ~20 TB/day ingestion.

ACCURACY

- Mostly 96-99% precision in outcomes.

TECH

- Compute becomes commoditized — but Deep Tech preserve national sovereignty.

40+

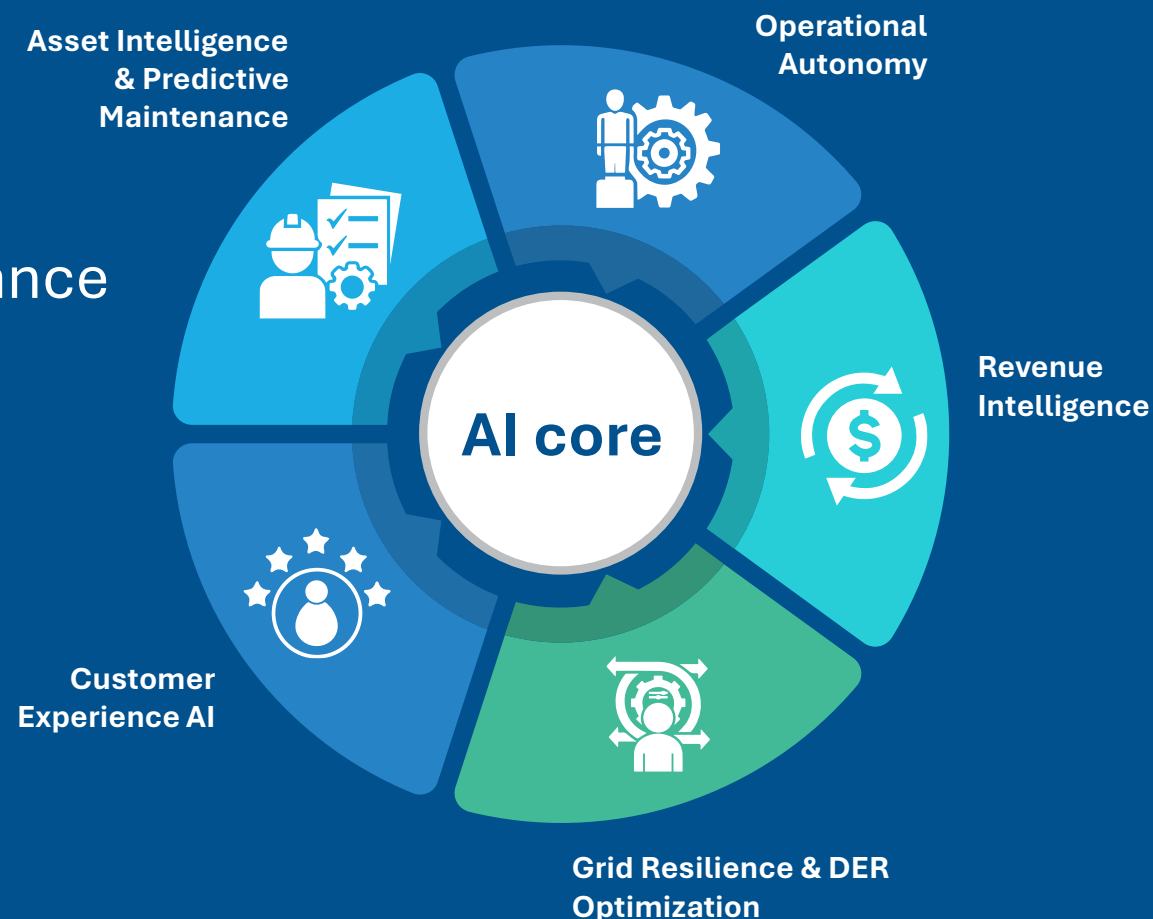
Operational AI Use Cases

120+

Transformational AI Use Cases

Top 5 AI Pillars Transforming Utilities

1. Asset Intelligence & Predictive Maintenance
2. Customer Experience AI
3. Grid Resilience & DER Optimization
4. Revenue Intelligence
5. Operational Autonomy



~3 months for a production grade use case rollout

The Digital Quadruplet Architecture

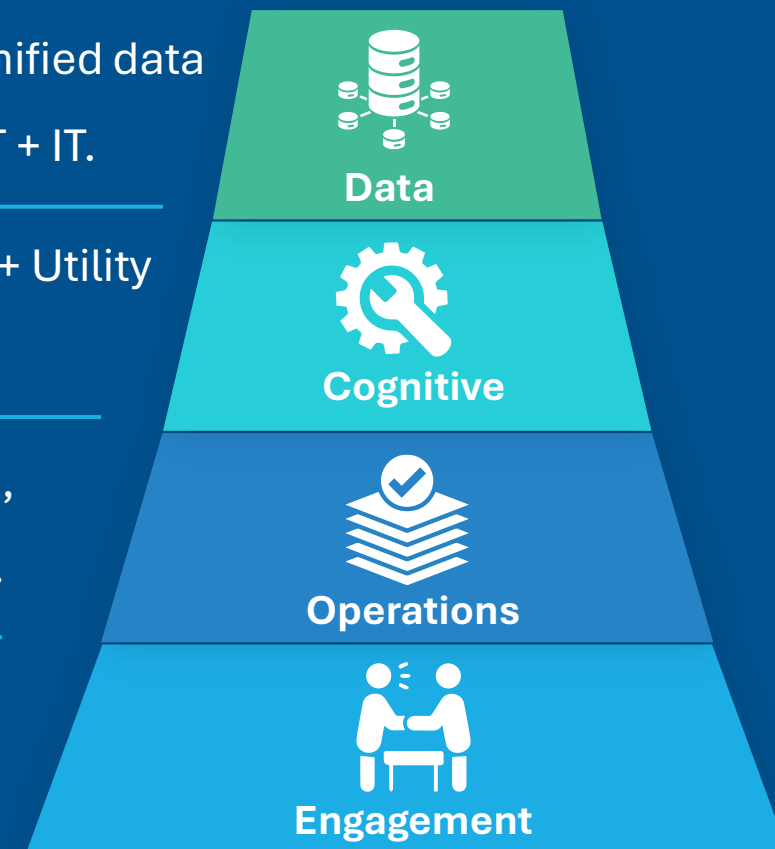
**From analytics
to autonomy -
one layer at a
time**

Data Platform: Unified data lake-house for OT + IT.

Cognitive Layer: IFMs + Utility Language Models.

Operations Layer: Agents, workflows, embedded AI.

Engagement Layer: Interfaces for people, systems, and customers.



India's Vision for the Global South

- Create Data Trusts
- Export ethical, cost-efficient, context-aware AI.
- Share innovation across Global South utilities.
- Retain value where data is created.

If data is the new oil, sovereign AI is the refinery India must own.

Policy & Co-Innovation

- Encourage public–private model development.
- Sandbox for AI use cases in utilities.
- Open, interoperable, sovereign architectures.



Collaboration is the currency of AI sovereignty.

Closing: India's Energy AI Moment

Indian Utilities' AI journey can meet global needs while protecting sovereign interests in critical infrastructure sectors like energy.

⚡ Intelligence • Independence • India ⚡