

AI-Enabled Energy Digitalisation and Management Course

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Overview

The AI-Enabled Energy Digitalisation and Management Course is a one-week intermediate course for energy, sustainability, facilities, utility, digital transformation, and operations teams who leave with an AI Energy Digitalisation Roadmap. The course connects energy data architecture, smart metering, IoT, demand forecasting, anomaly detection, asset optimization, demand flexibility, dashboards, responsible AI, cybersecurity awareness, economics, and governance. Agile Leaders Training Center delivers this course on AI-enabled energy digitalisation and management.

Who Should Attend

- Teams responsible for energy performance, consumption, and improvement decisions
- Sustainability functions responsible for resource efficiency and performance evidence
- Engineering teams responsible for facilities, assets, meters, and operating systems
- Utility analysts responsible for load patterns, forecasts, and demand decisions
- Digital transformation functions responsible for data platforms and AI adoption
- Operations leaders responsible for investment priorities and implementation governance

The course assumes participants work with energy data or operating decisions and leaves out software development, electrical design, and equipment certification.

Departments and Industries

The course supports digital energy decisions across asset-intensive and service environments.

- Energy management and sustainability
- Facilities, engineering, and asset operations
- Utilities and infrastructure services
- Manufacturing and industrial operations
- Commercial property, healthcare, and hospitality

Learning Objectives

By the end of this course, participants will be able to:

- Analyze energy needs and prioritize AI use cases
- Build a metering, IoT, and energy data architecture
- Apply forecasting and anomaly detection methods
- Evaluate asset optimization and demand flexibility decisions
- Compare economics, responsible AI, cyber exposure, and governance controls
- Create an AI Energy Digitalisation Roadmap

Course Agenda

Day 1: Energy Needs and Digital Use Cases

- Energy Process and Decision Mapping Canvas
- AI Energy Use Case Prioritization Matrix
- Energy Performance Baseline Register
- Stakeholder Data and Decision Requirement Map
- Value Risk and Feasibility Scorecard

Day 2: Metering IoT and Energy Data

- Smart Meter and Sensor Selection Matrix
- IoT Energy Data Flow Architecture
- Energy Data Model and Quality Protocol
- System Interface and Interoperability Checklist
- Data Ownership and Access Control Matrix

Day 3: Forecasting Detection and Optimization

- Energy Demand Forecasting Workflow
- Consumption Pattern Segmentation Method
- Energy Anomaly Detection Rule Set
- Asset Performance Optimization Decision Model
- Demand Flexibility Scenario Planning Grid

Day 4: Dashboards Governance and Economics

- Energy Performance Dashboard Design
- Responsible AI Decision Review Checklist
- Operational Technology Cybersecurity Awareness Review
- Digital Energy Cost and Benefit Model
- AI Energy Governance and Decision Rights Matrix

Day 5: Energy Digitalisation Practice

- Suggested Exercise: AI Energy Use Case Selection
- Suggested Exercise: Metering and Data Architecture Design
- Suggested Exercise: Forecasting and Anomaly Response Scenario
- Suggested Exercise: Economics Governance and Dashboard Review
- Capstone Exercise: AI Energy Digitalisation Roadmap

Practical Exercises

The course includes suggested activities for converting energy evidence into digital and operating decisions.

- Suggested activity: prioritize AI use cases for an industrial site and a property portfolio.
- Suggested activity: design a smart metering and IoT energy data flow.
- Suggested activity: evaluate a demand forecast, anomaly alert, and asset response.
- Suggested activity: present an AI Energy Digitalisation Roadmap with economics, controls, indicators, and phased actions.

FAQs

Who suits the AI-Enabled Energy Digitalisation and Management Course?

Energy, sustainability, facilities, utility, transformation, and operations teams suit the course; it assumes involvement in energy data or operating decisions rather than coding or electrical-system design.

How does energy digitalisation differ from an energy audit course?

Energy digitalisation builds connected data, analytical, forecasting, decision, and governance capabilities, while an energy audit course generally concentrates on evaluating energy use and identifying efficiency opportunities.

How does AI support energy demand forecasting?

AI supports energy demand forecasting by identifying patterns in historical and contextual data, producing estimates that teams can review against operating conditions, uncertainty, and defined decision rules.

Why is energy data quality important for AI?

Energy data quality determines whether models receive complete, consistent, timely, and usable inputs, affecting the reliability of forecasts, anomaly alerts, dashboards, and optimization decisions.

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What belongs in an AI Energy Digitalisation Roadmap?

An AI Energy Digitalisation Roadmap links needs, use cases, meters, sensors, data, models, dashboards, responsible-use controls, cyber awareness, economics, owners, indicators, and phased implementation actions.

Conclusion

Participants leave with an AI Energy Digitalisation Roadmap connecting operational needs, energy data, analytical use cases, investment choices, controls, and ownership. The work product improves how digital energy initiatives are prioritized and governed. It gives energy and operations teams a reusable structure for implementation, performance review, and subsequent decisions.

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