

Capgemini  engineering

Insight-Driven Operations for Energy & Utilities



Opportunities for growth

Climate targets, low carbon technologies, and regulatory pressures are leading to fundamental shifts in power generation, transmission, distribution, and consumption.

Insight-driven operations offer executives and engineering leaders in energy companies a way to seize the opportunity of the energy transition.

They enable them to manage the new energy landscape with incredible sophistication, boost margins by improving asset lifecycle management, and creating new revenue streams.

\$1.3T

value to be captured globally through digital transformation of the electricity sector from 2016 to 2025

\$229B

Digital Utility market size by 2025

45%

of utilities' investment in analytics will be used in operations and maintenance of plant and network infrastructure



Our Expertise

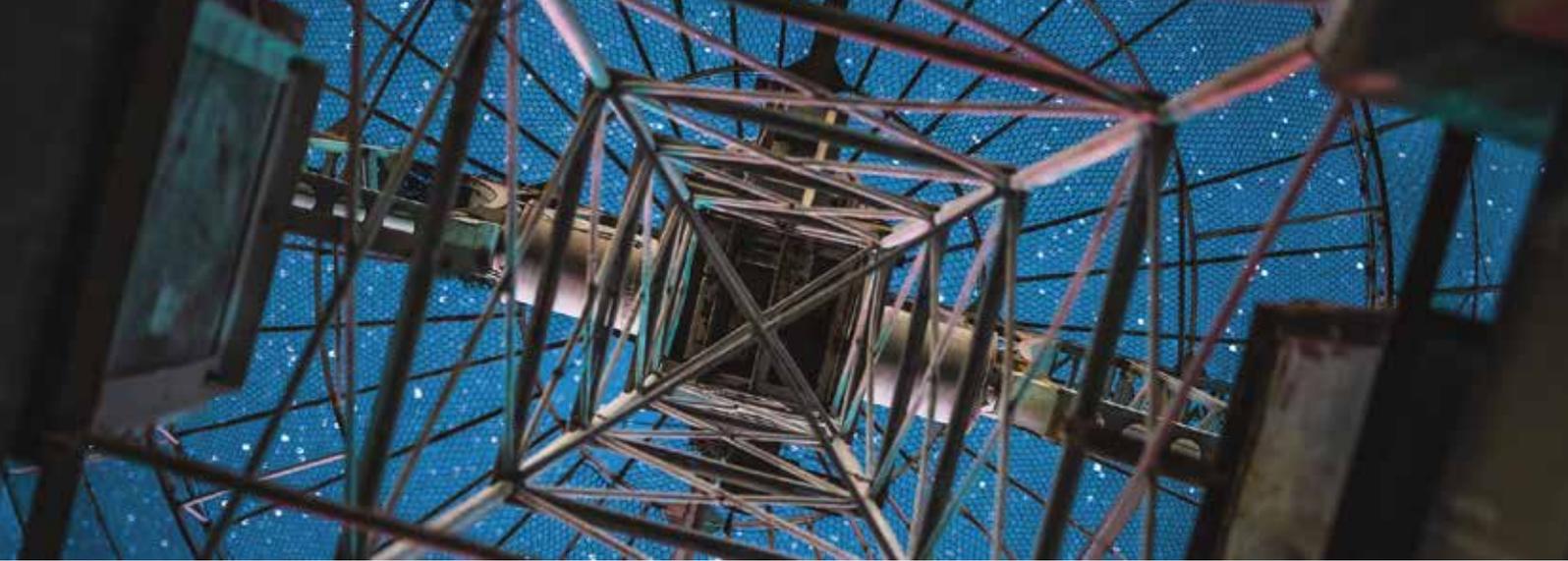
Transition to insight-driven operations needs a clear strategy, realistic plan, the capacity to deliver it, and above all must create value at every step of the way.

We partner with Energy and Utilities to create business value through the better use of data assets. Our areas of expertise:

Operations & Asset Performance: Combining cyber-physical systems with data science & AI to improve operational efficiency and asset performance.

Net Zero Acceleration & Smart Grids: Delivering the innovation needed to monitor supply, storage, and demand in real time, making power cheaper, more reliable and renewables ready.

Safety & Risk: Improving safety and reducing risk through better design, operations, and analysis.



Our offering

Insight-driven operations use data and AI to deliver actionable insights that have superior operational outcomes and augmented business value.

Data Strategy

Build your data-driven operations on solid foundations. Our consultants get your IoT, OT, and IT data strategy ready for the challenge.

- Make effective use of IoT data to determine the operational effectiveness of your assets;
- Harness your unstructured data.

AI & Data Science Delivery

We fuse AI and advanced machine learning with enterprise data engineering and expert knowledge to deliver a faster route for the successful delivery of your insight-driven operations.

- Develop effective maintenance systems;
- Use your operational data to predict energy usage to optimize network efficiencies.

Building your digital future

Building your digital future goes beyond just planning and ensures that every step you take moves you closer to a coherent digital future and greater business value.

- Unlock new ideas;
- Evaluate use cases;
- Launch and deploy high value AI-driven solutions.

Why us?

We speak your language and understand your data

All our consultants have science and technology backgrounds, more than half of them hold the post graduate degrees, so we speak the language of your teams and appreciate the real-world meaning of your data.

100s of engineering projects for 100s of clients

From our hard-won experiences in 1000s of projects, we have the deep understanding of engineering organizations, their data and technology challenges, processes, and culture.

Dedicated data science and AI methodologies for engineering

We leverage best-in-class methodologies to deliver robust results.

With you for the journey: advisory to delivery

From teasing out elusive insights in hard to crack the problem, to strategic advisory services on wide scale data-driven transformation, we are with you every step of the way to unlock value from your data.

Success Stories



Delivering the Analytics Roadmap for the DAFNI project

- An £8m programme over 4 years with stakeholders across ~20 institutions in government, academia & business.
- We provided deep requirements engineering, architectural design and road mapping to create, stakeholder engagement.
- Established direction and purpose across a complex & distributed stakeholder community.



Automated sensor data mapping

- Plant set-up is a heavily manual process of mapping on site sensor IDs to Generic Entity Codes (GEC's).
- 97% accurate: We automated analytics solution using text analytics, signal processing and Bayesian analysis.
- Reduced downtime from the set-up period from weeks to days.



Wind energy firm uses data science to reduce lifecycle costs

- 10,000s of wind turbines require replacement of gearbox oil every 5 years. This costs the business several \$millions each year.
- Our analysis of 20 years of data from on-shore and off-shore wind farms revealed that the life-span of Gearbox Oil was typically 7-8 years.
- Over \$100K per year is saved by increasing the time interval between each oil-replacement service.



Unlocking ideas, evaluating use-cases, defining a plan, delivering change

- Over 280 PoC's had failed to be transitioned through to industrial roll-out.
- 30 domain experts led 12 weeks of consulting culminating in the digital transformation roadmap.
- Launched five strategic projects managing spare parts, optimizing operations and mobile connectivity.



About Capgemini Engineering

Capgemini Engineering combines, under one brand, a unique set of strengths from across the Capgemini Group: the world leading engineering and R&D services of Altran – acquired by Capgemini in 2020 - and Capgemini's digital manufacturing expertise. With broad industry knowledge and cutting-edge technologies in digital and software, Capgemini Engineering supports the convergence of the physical and digital worlds. It helps its clients unleash the potential of R&D, a key component of accelerating their journey towards Intelligent Industry. Capgemini Engineering has more than 52,000 engineer and scientist team members in over 30 countries across sectors including aeronautics, space and defense, automotive, railway, communications, energy, life sciences, semiconductors, software & internet and consumer products.

Learn more about us at

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