

# Insight-Driven Operations for 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 the utilities sector the ability 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 create new revenue streams.

\$1.3T

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

\$7T

Global Smart Utilities market size by 230

45%

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



## Our expertise

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

**We partner with organizations in the Utilities sector to create business value through the better use of data assets. Our areas of expertise include:**

### 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 while decarbonizing energy sources and accommodating low-carbon technologies.

**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 make sure your IoT, OT, and IT data strategy is 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, and more than half of them hold post graduate degrees, so we speak the language of your teams and appreciate the real-world meaning of your data.

### Hundreds of engineering projects for hundreds of clients

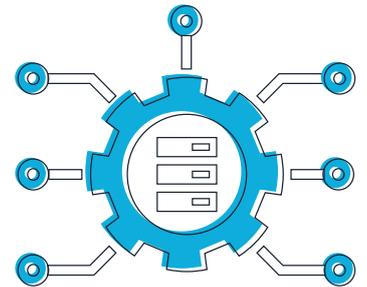
From our hard-won experiences in thousands of projects, we have a deep understanding of engineering organizations, and their data and technology challenges, processes, and culture.

### Dedicated data science and AI methodologies for engineering

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

**With you for the journey: from advisory to delivery** From teasing out elusive insights in hard to crack problems, 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.

'Data translators  
not just data  
scientists'



## Success Stories



### Delivering the Analytics Roadmap for the DAFNI project

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



### Spatially Enabled Asset Management – Western Power Distribution (WPD)

- WPD's asset data was full of errors and missing values, but this data is required for network improvements to aid the energy transition.
- We used an innovative spatial network graph and applied a neural network to analyze the existing data and make predictions.
- This model can predict and propose corrections to asset attributes such as voltage, conductor size and material, hugely improving data quality.



### Wind energy firm uses data science to reduce lifecycle costs

- Tens of thousands of wind turbines require the replacement of gearbox oil every five years. This costs the business several millions of dollars 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.



### Developing the data strategy for a large electric utilities company

- A UK distribution network operator needed to develop a detailed data strategy for the next planning period, to fulfil its license obligations required by OFGEM.
- Working collaboratively with senior client stakeholders, Hybrid Intelligence devised a coherent data strategy and detailed roadmap for open data, asset data, and analytics.
- The client data strategy and business plan evolution helped to enhance its overall data literacy and was welcomed by OFGEM.

## About Capgemini Engineering

World leader in engineering and R&D services, Capgemini Engineering combines its broad industry knowledge and cutting-edge technologies in digital and software to support the convergence of the physical and digital worlds. Coupled with the capabilities of the rest of the Group, it helps clients to accelerate their journey towards Intelligent Industry. Capgemini Engineering has more than 55,000 engineer and scientist team members in over 30 countries across sectors including Aeronautics, Space, Defense, Naval, Automotive, Rail, Infrastructure & Transportation, Energy, Utilities & Chemicals, Life Sciences, Communications, Semiconductor & Electronics, Industrial & Consumer, Software & Internet.

Capgemini Engineering is an integral part of the Capgemini Group, a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The Group is guided every day by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization of over 340,000 team members in more than 50 countries. With its strong 55-year heritage and deep industry expertise, Capgemini is trusted by its clients to address the entire breadth of their business needs, from strategy and design to operations, fueled by the fast evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering and platforms. The Group reported in 2021 global revenues of €18 billion.

For more information please visit:

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