

GlobalLogic®
A Hitachi Group Company



Power & Utilities

CHANGING LANDSCAPE

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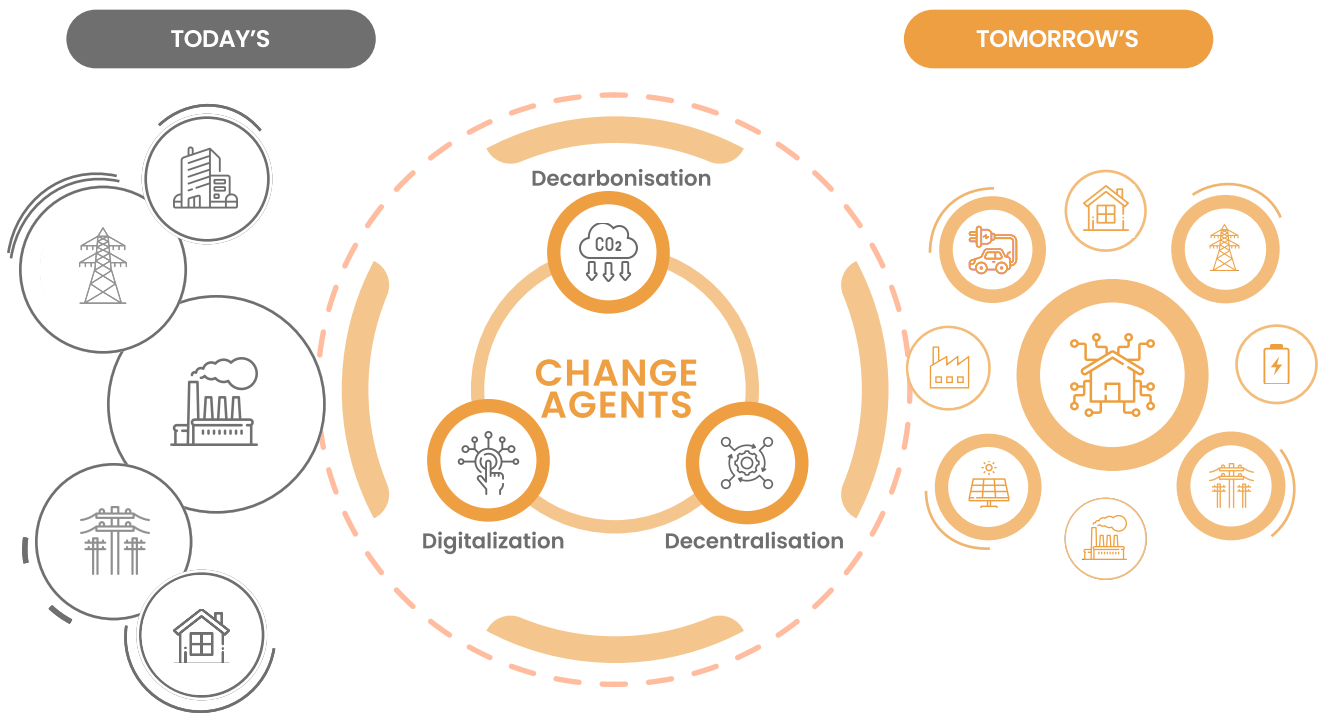
IT'S HAPPENING NOW

It's no longer only about electron flow in electricity. The seamless flow of data and information holds equal significance to the flow of electrons in propelling the electricity value chain of both the present and the future

Power and utilities have gone through an unparalleled shift in recent years, fueled by rapid technological advances, rising consumer demands, and a growing global emphasis on sustainability. The Changing Landscape of the electricity and Utilities Industry is not only transforming the way

electricity is generated, supplied, and utilized, but it also poses threats to established business models and regulatory frameworks. As the world struggles to find a way to reduce carbon emissions and tackle climate change, the sector is at the forefront of innovation, striving to strike a balance.

POWER MARKET



Vertically Integrated

Unidirectional

Centralised

Predictable

Distributed

Intermittent

Horizontally Networked

Bidirectional

Today's ever-changing energy market presents challenges and opportunities for industry players. The combination of renewable energy sources, energy storage systems, and smart grid technologies is disrupting the traditional linear

paradigm of electricity generation, transmission, distribution, and consumption. This bidirectional flow of energy, in which energy may be consumed as well as provided back to the grid, brings a degree of complexity that necessitates creative solutions.

WHY THIS IS THE

BIGGEST ENERGY

TRANSITION OF CENTURY ?

WHERE IT'S MOVING AHEAD?

400 GLOBAL BUSINESS GIANTS COMMITTED TO 100% RE | By **2050**

RENEWABLE CAPACITY OF **2,400 GW** | In Next **4 Years**

\$369 bn FOR CLIMATE AND CLEAN ENERGY INITIATIVES | In **USA** Alone



SOME TAILWINDS

More than 400 Fortunes 2000 Firms

from Eleven industrial sectors have joined the RE100 Climate Group, with members reporting sourcing 152 TWh or more than 45% of their entire power consumption from renewables in 2022 alone

[\(there100\)](#)

Renewable Grow By 2,400 GW

In response to the present energy crisis, global renewable capacity is predicted to expand by over 2400 GW between 2022 and 2027, from the current 3300+ GW; a 30% increase from the previous prediction for the same growth period

[\(iea\)](#)

\$369 bn Clean Investment

The Inflation Reduction Act of USA mandated investing \$369 billion for climate and renewable energy efforts, including tax breaks for wind, solar, transmission, storage, carbon capture, and nuclear projects; this is the greatest climate investment made by

WHERE TO ACT

Capital demands To Rise By 50%

By 2025, 40% of energy and utilities companies will face a 50% increase in capital demands triggered by resource scarcity and soaring demands; requiring asset investment capability against business goals, digital maturity, project success prerequisites and business outcomes

[\(gartner\)](#)

Grid overhaul To Cost \$21 Tn

The cost estimate for a world's electric grid overhaul to support net-zero trajectory over thirty years between 2020 and 2050 is pegged at \$21 trillion in 2023; A 36% increase from estimate of \$14 trillion in 2020

[\(about.bnef\)](#)

Climate risk For \$4.1 Bn Per Year

Nearly one-fifth of the power lines around the world are at severe risk from sea level rise, severe storms, and wildfires, and U.S. utilities alone could face US\$4.1 billion per year in climate impacts

[\(preventionweb\)](#)

ACS-ARR gap To Be Zero

Utilities are increasingly planning to leverage the advanced metering infrastructure (AMI) with India alone embarking on US\$40 billion investment to deploy 250 million smart meters to reduce the ACS-ARR gap to zero by 2024-25

[\(powerline\)](#)

ESG Inclination

Environmental, social, and governance (ESG) reporting and adherence continues to gain momentum worldwide; with 43 of the 45 largest investor-owned utilities had committed to reducing carbon emissions

[\(deloitte\)](#)

EVs To Grow Sixfold

Worldwide demand for EVs will grow sixfold from 2021 through 2030, with annual unit sales going from 6.5 million to roughly 40 million over that period

[\(mckinsey\)](#)



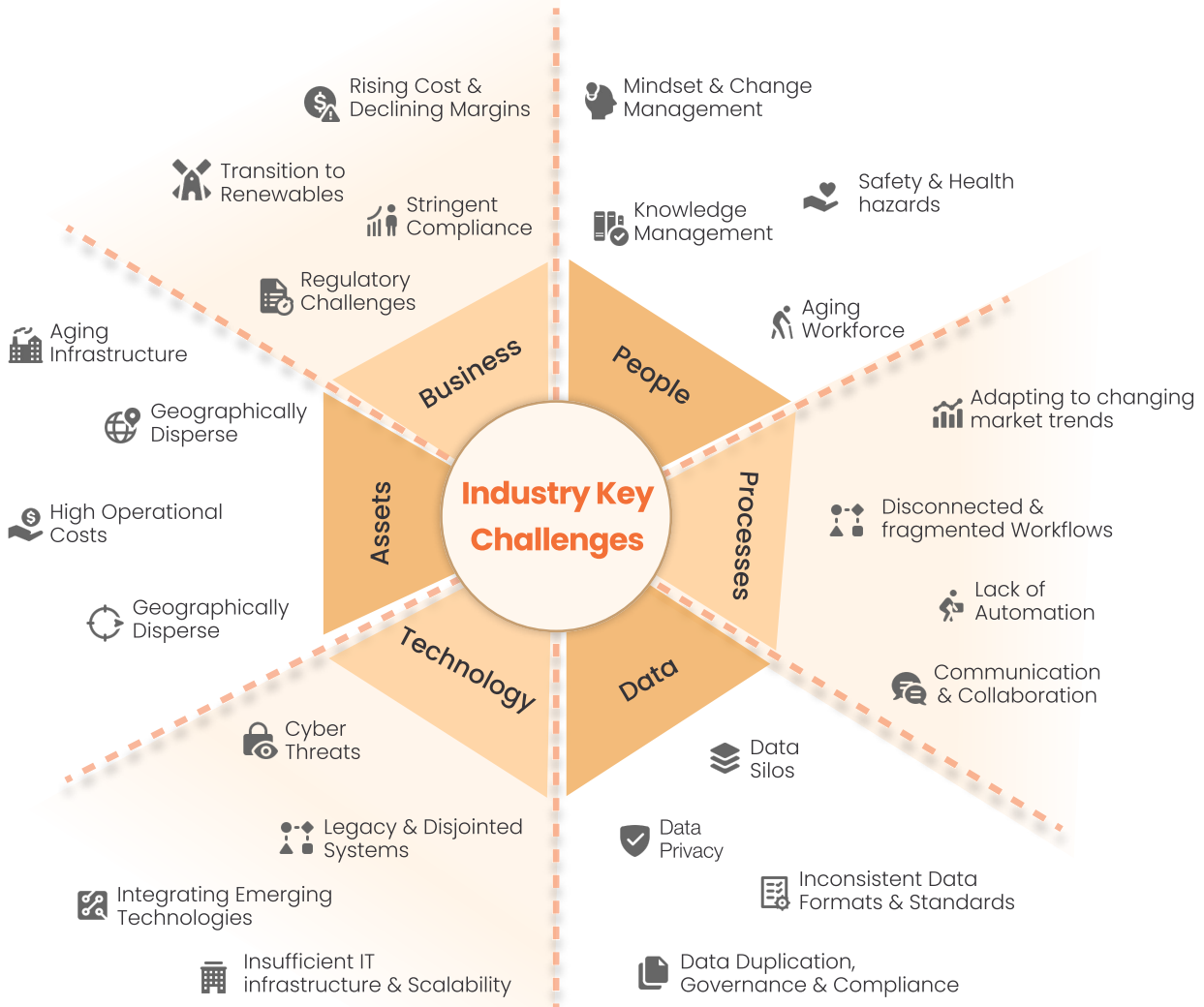
PARADIGM SHIFT

The continuing energy transition paradigm shift creates a terrain marked by a distinct mix of problems and possibilities.

On the one hand, the need to cut carbon emissions and prevent climate change puts enormous pressure on industry and governments to swiftly decarbonize their energy systems.

This transition necessitates substantial expenditures in renewable energy technology, grid upgrading, and the phase-out of fossil fuels.

Within these problems, however, lie enormous prospects for new revenue streams and efficiency gains in the way we create, distribute, and use energy, paving the way for a more sustainable, economically viable, and resilient energy future.

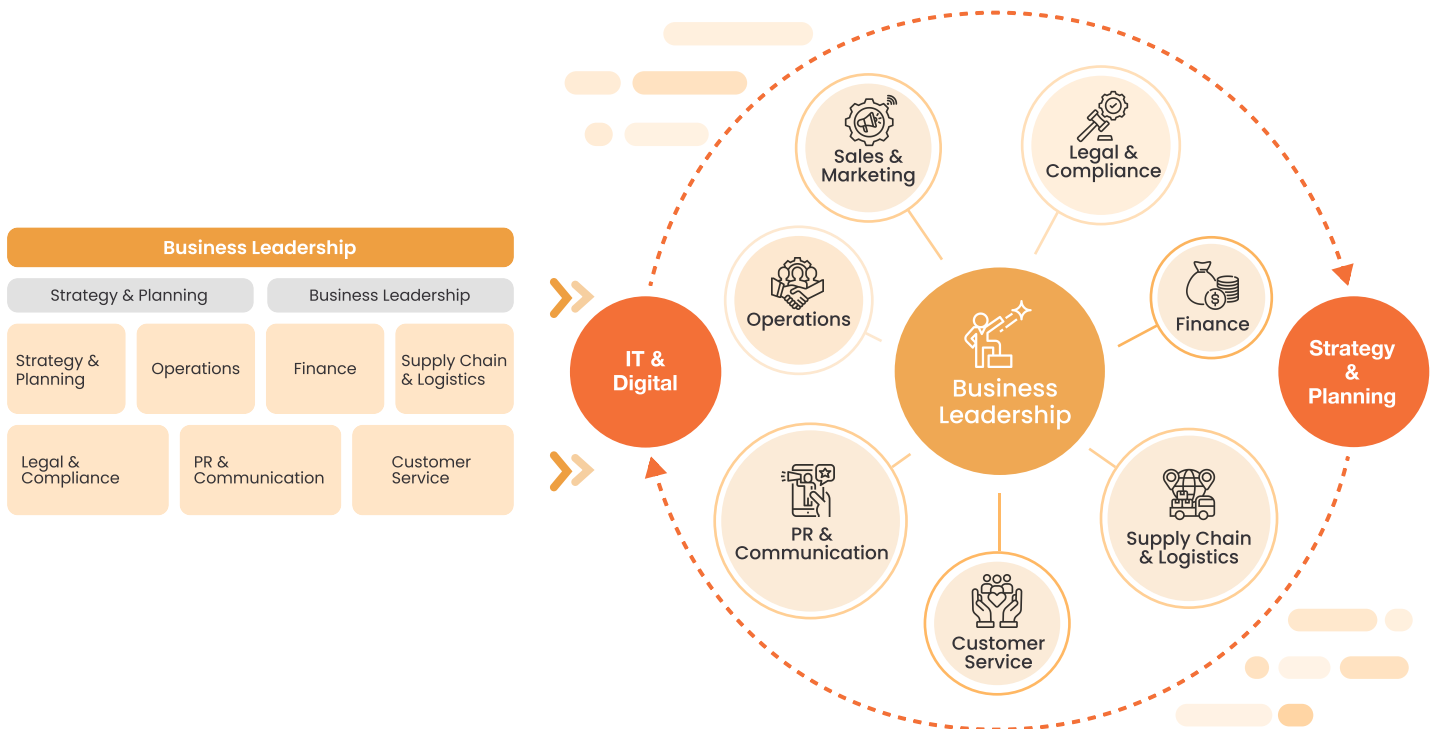




Digital technology now plays a pivotal role in shaping, determining, and outlining strategy.

Digital Transformation has to be holistic across your entire organization, encompassing all departments and processes, to truly harness its potential and drive sustainable growth and innovation. Strategy & Digital has to go hand in hand now it's no longer about strategy alone. To provide a credible solution to converging energy demands, dynamic energy mix, consumer preferences, prosumer revolution,

mobility inclined electrification, flexible operations, power quality, promote asset dependability, grid resiliency, and business sustainability. As the value chain becomes more complicated, utilities must transition to a digital operating model. The biggest energy transition of the century and advancement in digital technologies are redefining the complete value chain of the Industry.

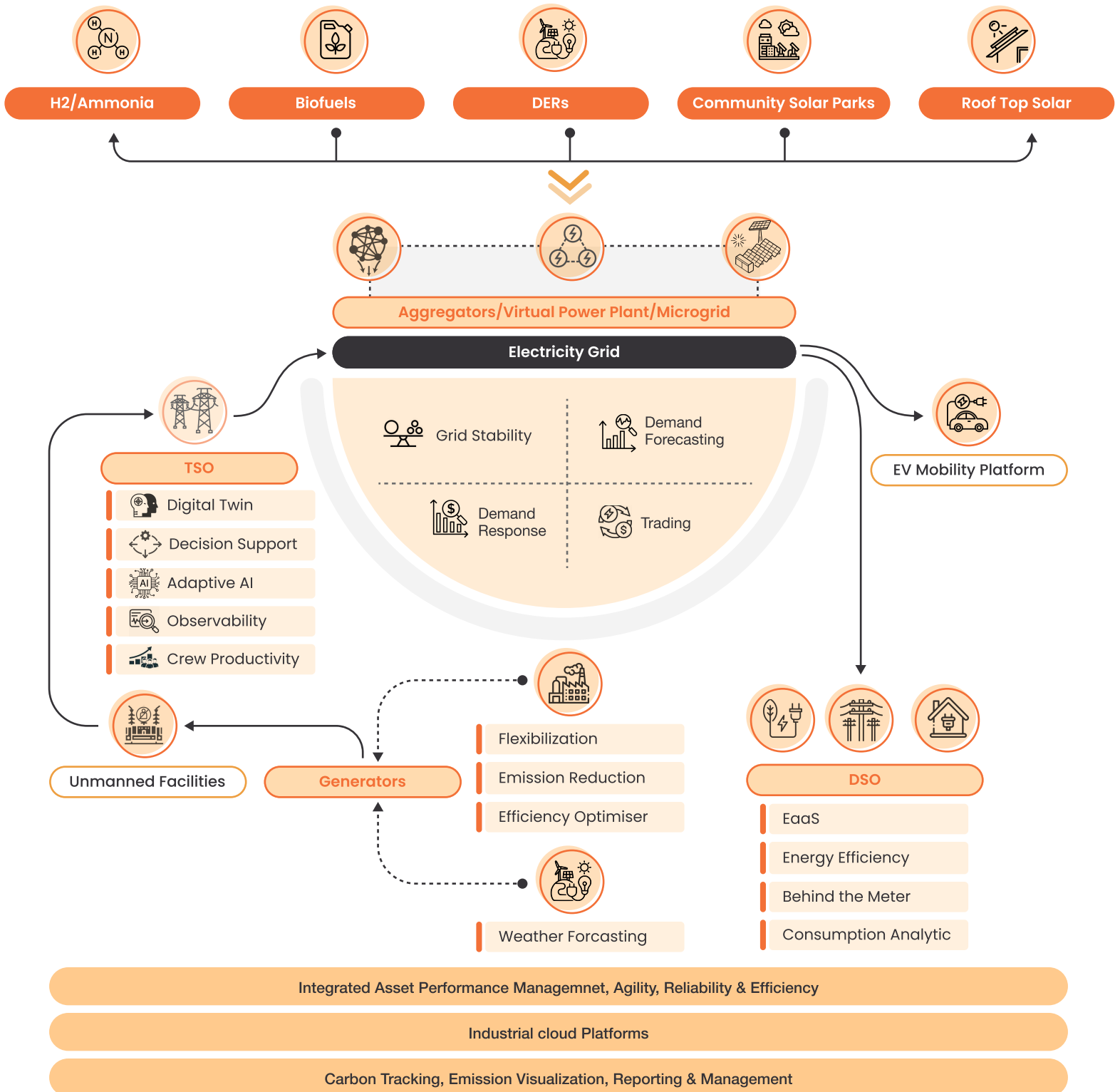


No matter where you play in this Industry, there's already a lot of disruption happening in the way you conduct your business.

- ✓ **EPC Players:** Isn't the ever shrinking project timeline, margins and rising competition. Do you still rely on old age project site planning and construction management tools and every juggling workforce between corporate and site
- ✓ **OEMs:** Are your products ready for new age connectivity, autonomous operations, self-diagnostics, predictive maintenance & health management, cloud control & monitoring, predictive maintenance.
- ✓ **Generators:** Stringent compliance, demand for operational flexibility, aging workforce, merit order dispatch pressures, forced outages and unplanned downtime.
- ✓ **TSO/DSO:** How do you scan for networks today, Is managing field force in a cost effective manner a concern?
- ✓ **Regulators:** with introduction of renewables, how to manage the power quality for all, Is the current system equipped to handle dynamic systems.
- ✓ **Financiers / Investors:** How to leverage this vast amount of data to make better investment decisions.

Agility is critical for the digital transformation path in adapting to a rapidly changing technological and business context, necessitating extensive expertise in the use of next-generation technologies such as automation, analytics, IoT, AI, and blockchain for energy and utility clients to name some.

WHAT IS THE INDUSTRY POISED FOR?



A Plethora of **New Opportunities**, across the Value Chain

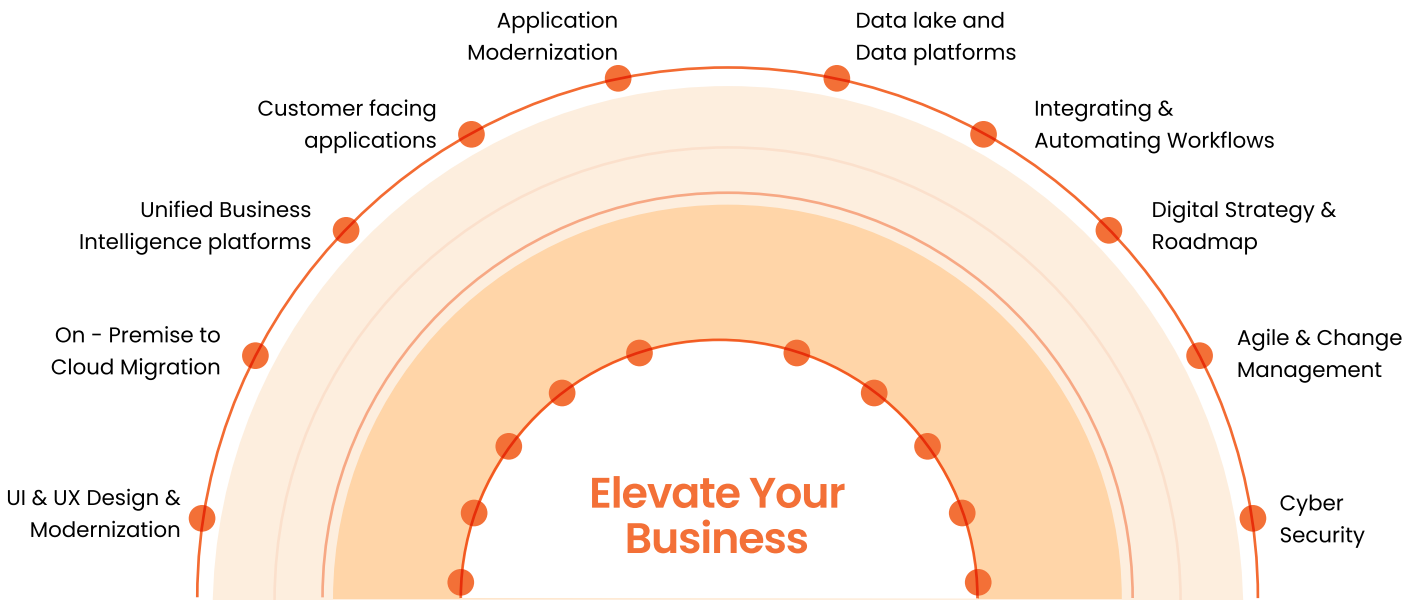


We can assist power and utility organizations in capitalizing on strategic opportunities and managing operational challenges through digital solutions across the value chain by using our tried-and-true concepts, methodologies, and solutions.

You may realize your vision by using our two decades of knowledge and subject specialty in implementing the right solution and cutting-edge technology.

We can assist you in developing a cohesive digital strategy and implementing a bespoke transformation with cutting-edge solutions to prepare for the effect of energy disruption.

ELEVATE YOUR BUSINESS IN THE DIGITAL REALM WITH



OUR CONTRIBUTIONS

Lathing The Market Ready Cloud Hosted Asset Solutions

- Our Client is one of the global pioneers in the energy industrial sector with exhaustive offerings across electricity supply value chain components, digital software solutions and services market.
- The task was to Synthesis Platform with a mix of software, systems, and services to maximize productive uptime, lower operating costs, and optimize asset quality and utilization throughout their lives; and commoditize the energy storage as per grid conditions.
- A dedicated energy COE was established to cater the development and delivery needs of this multi-year program; covering enterprise asset management (EAM), Asset Performance Management (APM) and Battery Capacity Trading were engineered.
- A data-driven Battery Capacity Trading platform created for energy resource monetization for the client's current customers and owners of Battery energy storage systems (BESS) was delivered as functioning MVP for the Australian market in 6 months.
- GlobalLogic provided full life cycle development covering advisory and architecture transformation to development, testing, maintenance deployment and support with 250+ specialists, engineers and SMEs working for the client.

Cradling a business innovation in strategic sector

8 Million Customers
700 Personnel
32+ Products
\$60 Million

- Our client is one of the world's largest electric and gas utilities serving nearly ~ 8 Million customers.
- We assisted in the development and scaling of a program that included a strategy roadmap and an innovation studio to prepare and capitalize the disruption caused by deregulation, shifts in consumer demand, and climate change by fundamentally changing the way the business delivers transformative digital products and services in the Generation, Gas, Transmission, Distribution, and IT segments.
- We developed a Product Lifecycle Process Innovation program that has so far engaged over 700 personnel and 32+ products with activities that have achieved \$60 million in annual value reductions by 2020.



Amalgamating The **Digital Panes For Productivity**

- Our client is a **worldwide leader in the construction industry** providing products, systems, software and innovative solutions for construction professionals.
- We collaborated to build and combine several asset management solutions into a single **integrated next generation microservices**-based asset management platform capable of supporting many apps and devices and integrating with multiple external systems.
- Our deliverables **resulted in a 5% increase in productivity** with a reduction of nearly 90 hours as unproductive hours of searching for equipment by one worker per year, as well as a 10.7% increase in global sales, which is nearly double the growth of the global construction market in the year of product launch; a **7% increase in operating profit, and a 12.9% return on sales.**



Engineering an Analytics **Platform for generation assets**

- Our Client is a **renowned manufacturer of wind turbines and energy management software** for the global energy market.

We worked together to design and **build an energy analytics platform** to improve the financial performance of wind farms by using Big Data models to reduce uncertainty and provide statistically significant underperformance detection with recommended corrective actions.

This **helped the client towards a digital product space with the power of data.**



Devising A Unified Electricity Consumption Dashboard

- Our Client is one the world's **largest manufacturing** conglomerates operating from semiconductors to shipbuilding to construction to space systems with operations in every continent and global reach.
- We collaborated to **build an IoT-based SaaS solution** to help them measure, monitor, and analyze the electricity consumption..
- The data is collected by the energy monitoring platform utilizing plugs put in the home. It also offers a number of services such as peak shifting, cost savings information, a reward system, and appliance monitoring, all of which are put into a unified visualization dashboard for reporting and actionable insights.



Transformative platform for field device management

- Our client is the **largest industrial manufacturing company in Europe**, and a global market leader in industrial automation and software.
- The task was to create and maintain a web service for field device management using a service-led paradigm for water utilities, irrigation systems, and tank fluid level monitoring systems.
- **GlobalLogic was responsible for the whole product life cycle**, beginning with the concept and ending with the design and development of system and software architecture. This work resulted in a variety of competitive advantages, such as **enhanced customer experience, customer loyalty**, new business models and income streams, and, eventually, larger profit margins.



Optimizing The Solar Plant Operation Through **Predictive Maintenance**

- Our Client was a **European service provider** of repair and other services for photovoltaic (PV) inverters to large-scale solar power plants worldwide.
- The **customer relied on us to create a monitoring platform** capable of processing massive amounts of data from linked devices in order to improve predictive maintenance by monitoring asset status through mobile devices.
- **We provided full-cycle software development** services that aided in solar plant maintenance by collecting the field data through **IoT sensors, processing data through AI/ML based algorithms**, and developed a web application that allows users to view real-time data insights, even on third-party devices, allowing the field crew to tend to the issues swiftly.



Monetizing through quality of **value chain operations**

- Our client is one of the largest companies in the world, a **global leader in oil and gas** value chain operations with **presence in 100+ countries**.
- We worked with the client to design a platform that would utilize the potential of IoT to provide end-users with real-time information on oil quality; and shift from time-based maintenance to condition-based maintenance, enhancing usage and increasing efficiency.
- GlobalLogic was entrusted with the whole solution development process, from the sensor trial phase carried out by the client's research team to a full-fledged digitally enabled solution complete with a holistic dashboard.

This solution assisted end customers in generating **10X additional income**, bundling and upselling current services, and **reducing maintenance expenses by 15%**.

LET'S TALK

We are here to support



GlobalLogic is a leader in digital engineering.

We help brands across the globe design and build innovative products, platforms, and digital experiences for the modern world. By integrating experience design, complex engineering, and data expertise, We help our clients imagine what's possible, and accelerate their transition into tomorrow's digital businesses.

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Authors

Himanshu Arora

Vertical Leader - Energy and Utilities

Puvvati Dhavaleshwar

SME - Energy and Utilities

Get in touch: ✉ sales@globallogic.com