Cloud-enabled digital transformation in the Energy sector

Now more than ever, energy, utilities and resources companies must look towards automation and digital technologies to manage myriad of business challenges and pressures.

By 2025, 35% of energy utilities will drive at least 30% of their business via digital platforms based on cloud native technologies.[1]

Net zero targets

The climate crisis and global drive to net zero emissions by 2050 means an unrelenting focus on network visibility, performance, and ambitious, effective Environmental, Social, and Governance (ESG) criteria. Emissions from the power sector alone must fall by 57% this decade, and then by 89% by 2040 to remain on course[2], placing wind, solar and new technologies such as hydrogen firmly in the spotlight. By 2024, 80% of electric, gas and water companies will have implemented sustainable business models by accelerating DX and rearchitecting the core business.[1]

Renewable generation

The demand for sustainable power from renewables sees the grid in flux. Local generation means dealing with distributed energy resources (DERs) and the need to manage a grid and assets that are increasingly fragmented and diverse. “Behind–the–Meter” Generation and growth of distributed energy resources compounds the complexity of operations, requiring sophisticated business models to introduce, manage and optimize new connection and operation fees.

IDC predicts , by 2023, 45% of grid operators will have deployed AI to enable resilient and flexible management of the grid due to consumers adding distributed energy resources[1].

Rising security threats

At the same time, as the complexity of both the grid and operations grows, more businesses become exposed and vulnerable to cyber-attacks. Research by Next.com found that between 2018 and 2020, 10% of ransomware attacks that occurred on industrial and related entities targeted electric utilities, with ransomware attacks on utilities increasing by 50% over the last two years[3].

Challenges such as managing IT infrastructure and cyber security in-house are further compounded by a skills shortage across the sector and an aging work force.

Business diversification

The need for market agility, and for energy and utilities companies to rapidly diversify, transform and adapt, is driving new partnerships and joint ventures. In turn, these start-ups are looking to digital platforms to share information, and embracing third-party cloud-based applications and Software-as-a-Service solutions to minimize the administrative and operational headaches and costs of managing on-premise IT.

Cloud adoption: reducing costs, improving flexibility, ensuring security

By 2040, global demand for energy will have risen by 30%. To stay ahead of the competition, firms are looking to transform their business models to achieve best-in-class customer service, ensure smart asset management, and continually optimize a connected workforce.

Moving to the cloud offers energy, utilities & resources companies the opportunity to offload some of the management of the environment and the applications, reducing liabilities for the management of the technical infrastructure and the cost of procuring, maintaining and operating on-premise server hardware.

Reduced Total Cost of Ownership

Traditionally, organizations have preferred to acquire and capitalize hardware and software deployed on site, depreciating and writing assets off. By recording an extraordinary capital expense, an energy company can argue a case for increasing charge rates to recover costs from customers.

However, by outsourcing with a cloud-hosted Software as a Service model, and offsetting costs as operational expense, the Total Cost of Ownership (TCO) is typically lower. The need for in-house server and maintenance teams is also removed.

Increased agility

Cloud-based solutions can also be scaled and flexed rapidly to meet changing business needs. Many organizations are using technology to realize internal greater efficiencies. According to an IDC report[4], organizations can see an increase in productivity by at least 18% by adopting modern infrastructure to manage assets, field service activities, and resource planning.

Robust cyber security

Utilities are not in the business of cyber security. The ability to ensure robust security 24/7/365 for all infrastructure and assets is a major advantage of adopting cloud-based applications. The current skills shortage makes it increasingly difficult to attract and retain experienced professionals in-house to manage databases, set security profiles, deploy patches and maintain hardware. Cloud solutions ensure best-in-class measures to minimize risks from malicious events such as Denial-of-Service attacks, viruses, phishing, and data breaches or theft.

IFS Cloud for asset-intensive operations: asset management, cradle to grave

IFS Cloud is a pre integrated, interconnected, tailored suite of solutions to manage the end-to-end complexity of energy, utilities and resources operations. In one flexible and configurable system, IFS Cloud supports planning, design, build, operations, maintenance, and decommissioning of assets with a full project management capability.

IFS Cloud uniquely combines a flexible, native enterprise asset management (EAM), field service management (FSM), mobile workforce management (MWM) and enterprise resource planning (ERP) solution tailored to the needs of the energy, utilities & resources industries. Leading capabilities for asset lifecycle management and AI scheduling and optimization address the complex needs of asset-intensive and service-centric organizations.

Unifying powerful capabilities for asset lifecycle management, linear assets, offline remote sites, joint ventures, and AI scheduling and optimization, IFS Cloud ensures organizations whose businesses revolve around assets, projects, maintenance and service can deliver where it matters most: at the Moment of Service™ for customers.

Automate asset management and maintenance

Reliability and performance are at the heart of energy sector operations. IFS Enterprise Asset Management (EAM) Cloud automates the management of assets, optimizing asset operations, maintenance, and performance efficiencies in a single, seamless platform.

- **Maximize productivity of capital assets**
  Leverage powerful intuitive tools to deliver reliability-centered maintenance (RCM), preventive maintenance, workforce management, capital project management, overall equipment efficiency and mobility and more in a unified platform. Reduce IT complexity and data silos.
- **Move from reactive to proactive asset management and planning**
  Use advanced asset monitoring technologies to guarantee continued operation. Confidently extend asset lifecycles and enhance operational performance.
- **Predict, view and pre-empt faults**
  Monitor IoT data to identify anomalies and potential faults before they occur. Avoid unscheduled downtime using machine learning power to inform efficient predictive maintenance and condition-based maintenance. Review asset fleet performance at a glance with real-time dashboards.
- **Control predictive asset maintenance**
  Track asset performance data, building a proactive/preventative maintenance program and monitor asset life cycles from procurement to disposal.

Prioritize asset investments and projects

Use data-driven insights, Digital Twin models and performance modeling to inform long-term asset investment planning.

Improve asset uptime and optimize performance

Embed the latest technology, ready to use, across the operation. Use IoT, augmented reality, artificial intelligence, and machine learning to optimize, automate, predict, and interact with the business. Keep assets running at peak performance and improve customer service.

Access one version of the truth

Establish real-time master data across the enterprise with one version of asset data, contracts, costs, and best practices. Securely access business intelligence dashboards, in-depth reports, and visualization of analytics on-site or remotely, on any desktop, smartphone or tablet.

Achieve truly customer-focused service

Deliver an end-to-end industry leading field service capability, increasing operational efficiency and workforce productivity.

- **Improve customer engagement**
  Transform how customers connect with the omni-channel contact center and customer service agent desktop solutions embedded in IFS Cloud.
- **Enable AI-powered self-service**
  Put customers in control with the latest self-service solutions including virtual assistants, chatbots, speech recognition, digital portals, knowledge bases and more.
- **Use AI-powered scheduling**
  Let IFS Cloud scheduling and planning optimization software manage high volume, volatile and complex service needs. Handle real-time intraday optimization to long term 'What If' scenario planning, increasing efficiency and ensuring appointments and SLAs are met.

Find out more

IFS Cloud for Energy & Utilities
Watch video

Optimizing asset investment in the energy sector
Download eBook

Taking A Proactive Approach to Predictive Asset Maintenance
Access webinar

References

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4. IDC IFS White Paper: The Business Value of IFS Enterprise Solutions with Industry-Specific Use Cases
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