Plan, Schedule, Maintain

A Technology Spotlight for Utilities Organizations

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There is no denying that energy production and consumption are undergoing fundamental change. According to the International Energy Agency, in 2023, the world added 50% more renewable energy capacity than in 2022, expanding faster than ever in the last three decades.

As the industry works to reinvent itself and support a decentralized system, utilities must straddle the fence, investing in the future while maintaining the traditional energy model that currently runs the world.

While modern infrastructure and new technology are critical to a successful outcome, one of the most important factors for success is the people. The planners, schedulers, dispatchers, and field crews tasked with standing up and maintaining these systems, old and new.

How utilities plan, schedule, and coordinate resources and the workforce is no longer a one-size-fits-all. It can’t be.

A Connected and Optimized Workforce

In this technology spotlight from IFS, we examine how planning and scheduling optimization and mobile workforce management (MWM) technologies work together to support the shift towards a flexible grid, while optimizing employee safety and productivity.

Manage and coordinate field crews in real-time

As the grid decentralizes, utilities must work within ever-expanding geographic areas, responding to unpredictable events such as extreme weather conditions, equipment failures, and other reactive scenarios. With Planning and Scheduling Optimization, the company allocates the proper resources to every event in real-time, automating scheduling and dispatch processes, reducing response times, and optimizing productivity.

Extend the existing workforce to offset labor shortages and skills gaps

In the face of a chronic shortage of skilled workers–including those experienced in renewable energy infrastructure–utilities rely on capacity planning and scheduling technology to maximize the productivity of the existing workforce. MWM extends these capabilities, providing connected tools for on-the-job training so less experienced workers ramp quickly, performing complex tasks under the guidance of senior technicians.

Adapt quickly to changing conditions

With Planning and Scheduling Optimization, utilities leverage predictive modeling and scenario planning to adapt to new and changing conditions in the moment–for example, fluctuating demand, unexpected outages, and the integration of new energy sources within existing infrastructure. Planning teams test various strategies before solving a problem to ensure the very best fix. Once implemented, MWM enables real-time communication and updates from field workers so that any changes in the plan are immediately reflected within the larger system.

Reduce carbon footprints and minimize environmental impacts

While a flexible grid supports renewable energy generation, workers must still travel to locations when service is required. Planning and Scheduling Optimization allows utilities to optimize travel routes and eliminate unnecessary truck rolls, lowering fuel consumption and reducing carbon emissions. MWM supports these outcomes with real-time route optimization and remote assistance to increase first-time fix rates for fewer trips to the same call.

Make data-based decisions

Utilities have become data-rich entities, collecting information from connected devices in the field, adjacent technology platforms, and other sources, such as consumer-owned renewable energy sites. AI-powered Planning and Scheduling Optimization solutions incorporate advanced data analytics to examine and act on all of the information. With MWM, access to real-time data helps field workers make informed decisions on the spot for improved service delivery.

Planning & Scheduling

A deeper dive

Long the bane of most utilities, today, planning and scheduling is one of the fastest evolving spaces within the industry.

Spurred on by advances such as artificial intelligence, machine learning, and the digitization of manual and paper-intensive processes, planning and scheduling have increased productivity while minimizing schedule-related disruptions.

But it wasn't always this way. A few short years ago, planning and scheduling were managed by a group of experienced pros with first-hand knowledge of the workforce, the region, and the infrastructure.

These workers and their lived domain knowledge remain an invaluable resource for utilities. However, the ever-increasing scope of the work and the sheer volume of data generated make it humanly impossible to identify and measure all considerations against every potential outcome.

> "Optimizing workforce management—starting with smart scheduling or scheduling optimization—can improve grid reliability, the efficiency of capital deployment, cost, safety, and employee engagement."

Smart scheduling for utilities:
A fast solution for today's priorities,
McKinsey & Company

Read more

While much of the attention is on larger, system-wide deployments such as enterprise asset management (EAM), many utilities begin their digital transformation journey by optimizing planning and scheduling capabilities.

Planning & Scheduling Continued

A resilient and agile operation

Flexibility has become a critical enabler for utilities as the industry navigates a volatile and changing landscape. Confronted with catastrophic weather events, a chronic shortfall of skilled labor, and a teetering electrical grid that must undergo whole-scale change to survive, utilities must identify and prepare for any potential outcome.

Here are three diverse examples of how technology is evolving the practice:

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Mobile Workforce Management

A deeper dive

Mobile workforce management or MWM, helps utilities to coordinate activities and resources in the field. The technology integrates with adjacent systems to manage work requests from EAM, CIS, GIS, and other applications while supporting bidirectional data flow between workers in the field and back-office systems.

As with Planning and Scheduling Optimization, AI has been instrumental in evolving MWM technology, automating workflows, digitizing paper-based processes, and leveraging real-time and historical data to inform decisions and activities in the field.

Memphis Light, Gas, and Water is the nation's largest three-service municipal utility, serving more than 429,000 customers. The utility wanted to improve customer engagement while modernizing its operation and replaced its legacy system with a more modern Mobile Workforce Management (MWM) solution.

> "Having reached the end-of-life of our existing legacy system, we went to the market for a replacement solution. We selected IFS MWM based on their strong value and exceptional product features including GIS asset information, AccuWeather integration, and support for iPhone and Windows tablets."

Information Services Manager,
Memphis Light Gas and Water

MLGW

Read the case study

Mobile Workforce Management

A flexible and efficient workforce

A decentralized grid depends upon a decentralized workforce. No longer focused on a single, fixed production point, renewable energy sites are located wherever the wind blows and the sun shines.

This new reality requires a complete overhaul of the utility service model, transforming transport vehicles into connected workspaces where technicians access information, request and receive guidance, and automatically update back-office systems–all from a mobile device.

Here are three examples of how technology serves the industry in the pursuit of a flexible and efficient field service model:

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The Power of Combined Functionality

IFS works with utilities globally, dating back to when the company was founded in 1983 and the acquisition of our first customer, Barsebäck Nuclear Power, in Sweden. Since then, IFS has continued to build leading technologies for asset-intensive sectors, working in partnership with our utility customers to design solutions that deliver meaningful value to the industry.

This paper focuses on recent advances in Planning and Scheduling Optimization and MWM that better support the people responsible for driving change in how the planet produces, distributes, and consumes energy.

Planning and scheduling capabilities powered by AI allow utilities to accelerate their digital journeys, driving efficiencies and dynamic growth across the business. Mobile workforce management technology completes the cycle, providing the means to safeguard and manage workers in the field, including an essential feedback loop to update back-office systems in real time.

When combined, IFS Planning and Scheduling and IFS Mobile Workforce Management provide utilities with an industry-leading, end-to-end service and operations management model supplied on a single platform:

IFS Cloud, powered by AI

About IFS

IFS develops and delivers cloud enterprise software for companies around the world who manufacture and distribute goods, build and maintain assets, and manage service-focused operations.

Within our single platform, our industry specific products are innately connected to a single data model and use embedded digital innovation so that our customers can be their best when it really matters to their customers – at the Moment of Service™.

The industry expertise of our people and of our growing ecosystem, together with a commitment to deliver value at every single step, has made IFS a recognized leader and the most recommended supplier in our sector. Our global team of over 5,500 employees every day live our values of agility, trustworthiness and collaboration in how we support thousands of customers.

Learn more about how our enterprise software solutions can help your business today at ifs.com.

ifs.com

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