

Oil & Gas Maintenance Planning and Scheduling with IFS



Workover and intervention events within the Oil and Gas industry are unavoidable. Convert these downtime scenarios into optimized uptime and productivity.

IFS Cloud has Maintenance Planning and Scheduling Optimization capabilities that enable Oil and Gas companies to maximize asset yield and lifespan by minimizing unplanned downtime, an increasingly expensive outcome for the industry.

In 2023, the number of producing wells in the US was 912,962, generating an average of 12.7 million barrels of oil equivalent (BOEPD), or 176 BOEPD per well.

With downtime in the industry averaging 32 hours per month, oil and gas facilities are losing the equivalent of 16.9 million BOE per month.

While up to 75% of Oil and Gas companies still follow time-based or reactive maintenance, those that have evolved to a predictive maintenance planning and scheduling model are reaping the rewards. Here are three examples of oil and gas MPS use cases utilized by IFS customers:

Identify common failure scenarios

Intervention events tie into various scenarios, including deficient parts, poor service from vendors, and inadequate maintenance programs. Sometimes, these are one-off events. Other times, a common denominator may be identified and remediated before system-wide failures occur.

For example, an Oil & Gas asset team in Texas is responsible for hundreds of wells across thousands of acres. A component on one of the manifold valve systems is malfunctioning. After scheduling a service technician, the asset team carries out a quick analysis and performs a component survey across all valves that use the same faulty component or that are currently using the same design:



IFS O&G customers achieve an average **22%** increase in productivity

16.9M

BOE lost per month due to downtime

- Identify which systems use the same component
- Examine historical maintenance records to see if similar early-stage events have occurred Align operational capabilities with safety, environmental, productivity, and other targets
- Compare real-time productivity and other asset information for baseline deviations that may reflect the potential of a similar failure

Maintenance planning and scheduling in IFS Cloud fully digitalizes all aspects of the planning and maintenance environment. Real-time data provides real-time oversight so the operation can identify and investigate system-wide anomalies pre-emptively, taking action to convert a failure into a fix.

Service equipment before productivity declines

A decline in productivity is often a precursor to asset failure.

For example, up to 96% of the oil wells in the US rely on some method of artificial lift in their lifecycle. These systems increase downhole pressure differential between the reservoir and the wellbore and aid in lifting the hydrocarbon to the surface. Types of artificial lift include sucker-rod pumping, electrical submersible pumping, gas lift, and other options.

As with all mechanical systems, the pump valves weaken over time, decreasing the pressure differential created downhole and ultimately, well productivity. It's not uncommon for production losses to reach up to 25% per day before action is taken.

Maintenance Planning and Scheduling in IFS Cloud optimizes well interventions, providing powerful diagnostic tools such as artificial intelligence that are instrumental in identifying these early-stage symptoms. Using data from adjacent systems, AI detects pattern recognition associated with well productivity much earlier in the curve. With these insights, field operations can schedule predictive and prescriptive maintenance to ensure productivity is not impacted.

The technology responds to these developing scenarios in real time for an expedited response. The system automatically identifies field assets exhibiting declines via monitored signals such as pressure, rate and/or vibration anomalies in rotating equipment, and other data. The field asset team is alerted and technicians with relevant qualifications and skills are deployed to assess and/or address the issue, minimizing production loss and improving asset performance.

Create schedules that optimize productivity

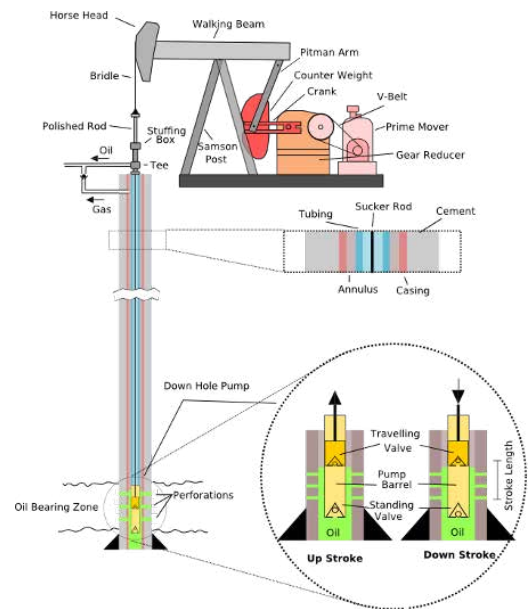
Productivity is a critical consideration when scheduling service cycles.

In this example, an Oil & Gas operation must constantly stage water to wells in west Texas for hydraulic fracturing operations. Each pad has eight wells, and every well relies on over a hundred water trucks daily to keep the pressure pumping units constantly running.

IFS customers achieve an average of

- **22% increase in productivity**
- **30% improvement in asset lifetime**
- **25% improvement in maintenance productivity**
- **40% reduction in production downtime***
- **30% increase in equipment utilization**

*Due to asset availability



To support the volume of water needed, the team contracts with many vendors. They also access the spot market to pick up additional third-party vendors when required.

Unforeseen circumstances are expected, with water trucks breaking down or running late. In these scenarios, the operations team must determine where the available water will go in real time, with multiple sites needing the same limited resources.

By examining operational data, Maintenance Planning and Scheduling in IFS Cloud quickly identifies the most productive activities to be serviced first. Maintenance scheduling incorporates the information—including geolocation of well sites—to prioritize attendance at the well sites that deliver the best ROI.

The technology accesses vendor contracts to schedule the least expensive water supplies first. The solution also tracks standby time versus working time using RFID, geofencing, and other technologies for enhanced operational visibility.

Whether sand, cement, equipment, water, or people, The solution ensures the most productive activities are prioritized and served when a resource shortage is unavoidable.

Learn more

Specializing in asset-intensive industries, IFS works with oil and gas companies globally. On average, IFS Oil & Gas customers achieve a 22% increase in productivity.

From modernizing how the Oil & Gas industry responds to workover and intervention events, predicting (and avoiding) output disruptions, and ensuring operational productivity is optimized every single day, IFS delivers end-to-end maintenance planning and scheduling capabilities for your oil and gas operation. For more information, [visit our website](#) or [contact us](#).