



IHS Markit®

Improving Repair, Maintenance and Service Efficacy

Service organizations struggle to achieve targeted customer satisfaction rates or key performance indicators (KPIs). They are challenged to increase operational efficiency with existing resources, continue delivering service levels in light of reduced resources, or even drive service business and revenue growth.

Experts estimate that 70 to 90 percent of the total lifetime cost of heavy equipment to be found in maintenance and repair. With one in four field technician visits requiring a follow-up, in the U.S. alone, companies lose over \$53 billion annually on unnecessary repeat visits from field service technicians, resulting in significant and costly downtime.

Unplanned maintenance shutdowns account for the vast majority of equipment downtime. For example, each week in the US there are, on average, 1.2 shutdowns of oil wells at a cost of \$7M a week in lost revenues for each out-of-commission offshore well. Similarly, when a power generation turbine is down, revenue losses quickly rack up at a cost of \$1M a day.

Whether airplanes, heavy equipment, manufacturing equipment, automation equipment, industrial facilities, or standard product support and maintenance, the problems and challenges are the same.

In the airline industry, the cost for a single hour of downtime for a plane can range from \$10K-150K. One of the reasons unscheduled maintenance events are so costly is because—unlike planned or predictive maintenance activities—unscheduled maintenance during operation cannot be outsourced.





A recent study note that 50 percent of aircraft technicians report finding it too difficult to find a necessary procedure and technicians also reported spending half their time looking for technical information. One major airline learned this the hard way recently when it realized that it was experiencing repeated rework because maintenance engineers couldn't find information quickly, nor could they align "fixes" across teams. And because knowledge workers couldn't find the information they needed quickly enough, the airline was reporting up to 75 hours of downtime in certain instances.

The problem is that a plane sitting on the tarmac or in the hangar—waiting to be repaired—costs airlines a lot of money. For them, repair, maintenance, and service are mission-critical needs that can't be left to chance. To address this issue, most airlines collect hundreds of different service manuals, operational documents, and other materials from airplane manufacturers like Boeing or Airbus.

Then, the airlines have to keep that equipment operational, or risk racking up steep "downtime" costs. In this particular instance, for example, a plane sitting at the gate for over an hour equated to more than \$100,000 in lost revenues. And, if the plane has to be pushed out of service, that bill

rises to \$500,000. Put simply, ground time is a bad thing. To avoid these 6-figure losses, the airline has to be able to turn around a piece of equipment quickly and keep it in-flight for as many hours as possible.

That goal can only be achieved when engineers and technicians have the information they need, when they need it. Field service technicians deployed to quickly troubleshoot and remedy an issue must ask questions like:

Has this failure occurred before?

What are possible solutions?

What is the recommended remediation?

Searching for these answers is time-consuming and inefficient with service technicians spending upwards of 40 percent of their time just looking for the information they need.

In fact, even the most senior technicians need to scour up to several dozen different data sources for repair and part information.





Slash Downtime Costs and Improve Customer Satisfaction

Goldfire by IHS Markit, is a cognitive search solution, purpose-built to help organizations improve the way technicians and engineers solve problems and deliver the right service at the right time. Goldfire vastly simplifies and accelerates the research process by enabling technicians, technical personnel to perform precise knowledge extraction from unstructured text and knowledge scattered across the enterprise..

Powered by next-generation Artificial Intelligence (AI) technologies including Machine Learning (ML), Natural Language Processing (NLP) and Cognitive Search, Goldfire gives technicians and maintenance engineers a single interface from which they can simultaneously search across any number of internal and isolated systems to quickly pinpoint answers to their specific questions.

With Goldfire, technicians knowledge workes can:

Search past archives for previous instances of similar challenges

Optimize tasks that support workflows management in MRO and PLM/Service Lifecycle Management and other service management applications

Search unlimited systems, shared drives, and other content sources in parallel

Leverage information discovery and delivery tailored for technician communities

Technical professionals must be able to find answers to problems quickly. Goldfire enables them to do just that while also capturing that knowledge to allow colleagues across the globe to reuse that knowledge – reducing downtime, boosting profits and marketshare through improved customer satisfaction and loyalty from better on-time performance while lowering operating costs and improving margins.

Leading Airline Improves Fleet Uptime and Compliance with Engineering Workbench

A leading airline was experiencing repeated rework because its maintenance engineers couldn't find information quickly, nor could they coordinate fixes across teams and locations.

The airline provided examples of unscheduled maintenance, resulting in 75+ hours of downtime due to its inability to find correct information.

Using Goldfire, the company was able to federate search across its many systems and data repositories, while also providing research and knowledge discovery tools that helped technicians quickly find the information they needed.

As a result, the airline significantly improved its fleet uptime and its ability to comply with airworthiness mandates.





About IHS Markit

IHS Markit (Nasdaq: INFO) is a world leader in critical information, analytics and solutions for the major industries and markets that drive economies worldwide. The company delivers next-generation information, analytics and solutions to customers in business, finance and government, improving their operational efficiency and providing deep insights that lead to well-informed, confident decisions. IHS Markit has more than 50,000 key business and government customers, including 85 percent of the Fortune Global 500 and the world's leading financial institutions. Headquartered in London, IHS Markit is committed to sustainable, profitable growth.

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