



Highlights

- Anticipate and avoid service interruptions to reduce downtime
 - Improve maintenance quality while controlling maintenance and repair costs
 - Enhance reliability, safety, labor utilization and productivity
-

Predictive maintenance analytics for travel and transportation

Proactive, rather than reactive, maintenance

In a new, more volatile and uncertain economic environment, increased operating dexterity is a must for any business. The travel and transportation industry depends on the performance and reliability of high value assets to effectively perform core business functions. Whether it concerns a plane, train, truck, ship, baggage system or building, asset downtime means the company is unable to generate revenue from that source. Effective asset planning, management and maintenance are absolutely critical to the financial health of the business.

How can you optimize your assets and infrastructure with an emphasis on making them available to generate revenue? The predictive maintenance analytics solution for travel and transportation from IBM can help your company better manage component wear and failure based on history and usage, facilitating a paradigm shift from reactive repairs to preventive and then predictive maintenance. The solution does so by tapping into the vast amount of structured and unstructured data that you already have available.

From scheduled maintenance to predictive maintenance

The world has always worked on calendar-based, scheduled maintenance. “Change your oil every 3,000 miles,” for example. The problem is that things do not always break on schedule. This can leave travel and transportation companies either wasting maintenance efforts, or cleaning up after the issues that happen earlier than they were supposed to. With the predictive maintenance analytics solution, you can identify irregularities and forecast a range of asset performance risks before trouble ever arises. This can prevent costly unexpected downtime.



You can better plan maintenance when you can predict what parts are likely to fail in the near future. You can statistically monitor in near-real-time all of your equipment globally from a single web dashboard. And you can quickly mine thousands of maintenance logs to determine the most effective repair procedures.

This solution captures sensor data and utilizes analytics to scan for issues thousands of times a second to predict which parts will fail—which helps prevent equipment failure from becoming an even bigger issue. Alerts are created and can then be displayed on an employee’s or manager’s tablet, smart phone or browser with recommended corrective actions that can be taken using interactive tools that perform root cause analytics and process improvements.

Manage maintenance and repair costs

Every hour of asset downtime is expensive. With the predictive maintenance analytics solution, your business can evolve from a break-fix mode of operation and move toward more proactive

practices to boost maintenance quality. This can lead to a reduction in maintenance and repair costs. Optimizing your maintenance plan can help you predict the life expectancy of an asset’s component or part, detect warranty issues sooner and ensure asset availability is aligned with operational demand.

By accessing multiple data sources in real time to predict equipment failure, the solution can help your business avoid costly downtime and reduce maintenance costs. For example, with help from IBM, a large class rail operator with 20,000 miles of track now has thousands of wayside sensors monitoring the condition of wheels and axles of train traffic. The sensors provide alarms when critical parameters such as wheel temperature, wear, trucking errors and wheel impact reach emergency levels. The company uses data mining, machine learning and predictive modeling to predict impending failure of critical rail car components. The prediction drives proactive inspection and repairs, reducing operational equipment failure.

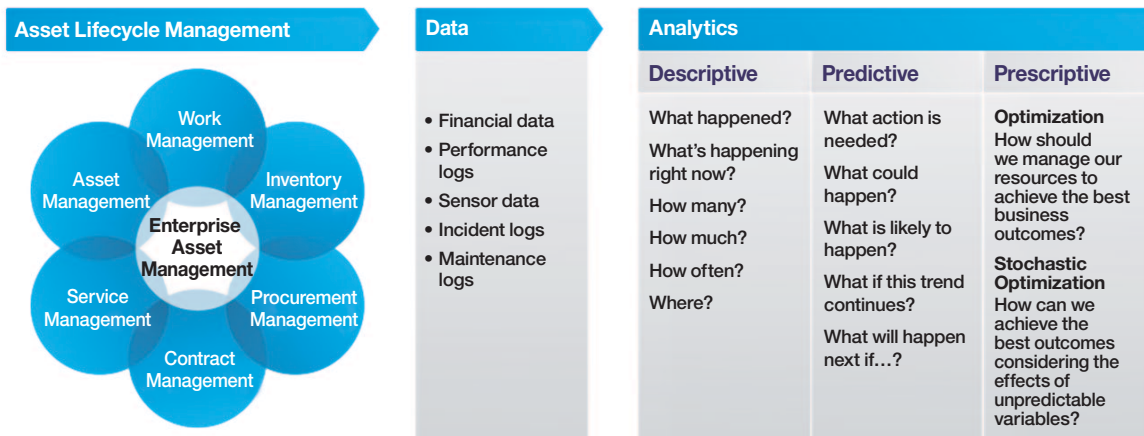


Figure 1. Optimize your assets and infrastructure to make them available for revenue generation

Competitive advantages that win new customers

Results of the IBM Global CEO Study 2012 show travel and transportation CEOs are seeking more strategic and tailored customer relationships.¹ Customer satisfaction decreases with every transportation delay. By being proactive, the predictive maintenance analytics solution helps you reduce potential problems. And when you are maintaining your assets, you can significantly improve competitiveness and exceed customer expectations.

In an industry where customer experience is central to success, McCarran International Airport is widely recognized for its leadership. In fact, J.D. Power selected McCarran as the number one ranked airport in customer satisfaction, citing its implementation of new technologies as a key factor.² McCarran chose IBM software for its ability to unify the management of all airport assets—from facilities, including terminal operations, landside operations and airside operations, to IT assets, including network components, servers and PCs.

Safety first

Accidents can happen when assets are not properly maintained. With the predictive maintenance analytics solution, you can anticipate potential asset failures before something goes wrong. Taiwan High Speed Rail Corporation (THSRC) uses IBM software to manage maintenance and logistics for the revolutionary high-speed rail network that runs along the west coast of Taiwan.³ IBM provides vital support to the management and maintenance systems that ensure hundreds of trains carrying passengers between the south and the north are safe and on time.

The express trains are capable of traveling at up to 186 miles per hour (300 km/hr), which means travel between Taipei City and Kaohsiung City takes only roughly 90 minutes as opposed



Figure 2. Asset downtime can mean revenue losses

to taking 4.5 hours by conventional rail. The efficiency of the THSRC's transportation system is heavily dependent on the proper maintenance and repair of thousands of components, from stations to tracks, rail cars to signals, and communication systems. Providing this intelligent tracking and maintenance system is critical to the success of the rail system and the services it provides to business and leisure travelers.

Why IBM?

IBM recognizes that no one knows your organization's millions of moving parts better than you. But with the predictive maintenance analytics solution, you can spend less time and fewer resources repairing things either too early or too late, and more time focusing your attention on what will happen next. With this solution, you can take a smarter approach to maintenance because the simplest and most efficient way to fix a problem is to make sure it never happens in the first place.

IBM can help you plan and execute an appropriate predictive maintenance analytics approach with:

- Business value accelerators to identify areas for improved business value, quantify expected returns, and prioritize those with the highest and fastest returns.
- Experts who can help you reframe challenges and identify opportunities to drive improvements and innovation.
- Exploration workshops to learn more about IBM technologies, tools and techniques to improve performance.
- Solution roadmap workshops to lay out the path ahead.
- Proofs of concept to demonstrate possible paths forward.

For more information

To learn more about the predictive maintenance analytics solution for travel and transportation from IBM, please contact your IBM representative or IBM Business Partner, or visit:

ibm.com/travel

Additionally, IBM Global Financing can help you acquire the IT solutions that your business needs in the most cost-effective and strategic way possible. We'll partner with credit-qualified clients to customize an IT financing solution to suit your business goals, enable effective cash management, and improve your total cost of ownership. IBM Global Financing is your smartest choice to fund critical IT investments and propel your business forward. For more information, visit: ibm.com/financing



© Copyright IBM Corporation 2013

IBM Corporation
Route 100
Somers, NY 10589

Produced in the United States of America
August 2013

IBM, the IBM logo, and ibm.com are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at "Copyright and trademark information" at ibm.com/legal/copytrade.shtml

This document is current as of the initial date of publication and may be changed by IBM at any time. Not all offerings are available in every country in which IBM operates.

The client examples cited are presented for illustrative purposes only. Actual performance results may vary depending on specific configurations and operating conditions.

THE INFORMATION IN THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY OR CONDITION OF NON-INFRINGEMENT. IBM products are warranted according to the terms and conditions of the agreements under which they are provided.

¹ IBM Global CEO Study 2012, <http://public.dhe.ibm.com/common/ssi/ecm/en/gbe03487usen/GBE03487USEN.PDF>

² IBM Case Study, McCarran International Airport streamlines operations with IBM asset and service management software, September 2007, http://public.dhe.ibm.com/software/tivoli/resource-center/casestudies/McCarran_SWC10072_USEN_00.pdf

³ News release, IBM Helps Revolutionize High Speed Rail Service in Taiwan, April 2009, <http://www-03.ibm.com/press/us/en/pressrelease/27352.wss>



Please Recycle