



IoT Predictive Failure with DataV® Predict

Predict and avoid mission-critical failures

Equipment uptime is critical for generating revenue and meeting customer expectations. A common application of industrial IoT addresses the problem of potential equipment breakdown through *predictive failure* — the ability to automatically identify these problems and initiate remediation before they occur.

Predictive failure with DataV Predict uses your data to virtually eliminate unplanned downtime. It applies sophisticated, automated data analytics to continuously monitor your assets and alert operators of impending failures. Notifications can convey the potential severity and probable causes of the situation, empowering personnel to make intelligent decisions about next steps.

DataV Predict can coordinate workflows to query inventory for parts availability, open repair tickets, and dispatch technicians with initial diagnostics in hand. It also learns over time, enabling your business to predict and prevent increasingly complex failure scenarios.

Achieving all this requires data validation in order to assess the data for its completeness and quality to meet your business objectives. A Bsquare data scientist partners with you to define target problems or use cases, oversee the data verification process, and utilize the results to optimize the machine learning algorithms needed to support your goals.

By using data to identify critical problems before they occur, you dramatically minimize unplanned downtime, streamline follow-up repair processes, and eliminate surprise breakdowns, so your entire business stays up and running more consistently.

DEVICE	PART	ETTF (days)	CONFIDENCE
321B-42	Impeller	3	95%
321B-43	Fan	8	68%
321B-47	Radial Bearing	12	95%
321B-48	Impeller	20	75%
321B-49	Seal	20	75%
321B-456	Fan	22	65%
321B-477	Seal	25	65%
321B-77	Seal	42	66%
321B-22	Oil Pump	42	78%
321B-14	Motor	42	93%
321B-52	Seal	62	82%
321B-72	Seal	78	78%



DATAV
Predict

- Quick validation of data's ability to achieve predictive failure
- Machine learning algorithms configured for your use case
- Less failure-driven downtime
- More informed troubleshooting
- Lower total cost of asset ownership

DataV Predict profile

Uses data to: Identify future failure events of capital assets and trigger remediation steps

Ideal for: Businesses seeking to maximize uptime of mission-critical assets

Unique strengths:

- Designed for the rigors of industrial businesses
- Utilizes the latest techniques in machine learning
- Includes highly collaborative engagement between Bsquare teams (who know data analysis) and you (who know your business)
- Performs robust data analysis behind a highly accessible interface
- Learns to identify complex failure scenarios

DataV Predict key features

Important predictive failure capabilities:

Data validation and optimization

- ▶ **Lay the groundwork for IoT success:** Validates existing data is adequate to satisfy your use case, with oversight from a data scientist to substantiate results and adapt machine learning algorithms to optimize predictive failure accuracy.

Probable-cause prediction

- ▶ **Help technicians troubleshoot issues faster:** Evaluates real-time conditions, contextual data, and past failure events for probable root causes.

Contextual data integration

- ▶ **Understand the specifics of each asset's operational environment:** Uses weather, geospatial, and other enterprise data to provide context for real-time data for more intelligent analysis.

Configurable alerts

- ▶ **Learn about problems soon enough to do something about them:** Notifies designated people or groups via email, SMS, or external notification extensions when asset failures are predicted.

Confidence-level scoring adaptable to business needs

- ▶ **Make decisions with assurance:** Indicates confidence level of each prediction, with filter controls to mute low probability alerts and better highlight priority predictions.

DataV Predict from an IT perspective

Leverages cloud security and scalability:

DataV is an industrial IoT solution delivered via SaaS on best-in-class, mainstream cloud architectures. It leverages and adheres to the same high standards and best practices for security, scalability, and reliability that are built into these cloud platforms:

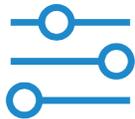
- SOC 2, Type 1 certification
- Encryption in transit and at rest
- Asset authentication and authorization
- User authentication and authorization
- Scalability to millions of devices, petabytes of data per day

Bsquare DataV: An IoT solution built for industrial demands

DataV Predict is one of many purpose-built applications of Bsquare DataV, a comprehensive industrial IoT solution characterized by partnership, adaptability, and speed to value. DataV automates the grunt work of complex data analysis, while close collaboration between customers and Bsquare data scientists eliminates the need for companies to develop or source their own IoT applications and solutions. With DataV to perform robust data analysis at the edge and in the cloud, companies can swiftly derive continuous value from data in order to stay productive and competitive.

Bsquare DataV is built for using data to solve the most critical business use cases — the situations your operators, business leads, and technicians face every day as they seek to manage your business' assets, adapt rapidly to its changing needs, and predict and forestall asset failures for you and your customers.

Part IoT platform, part prebuilt applications, part IoT services — DataV is a complete solution for every stage of industrial IoT.



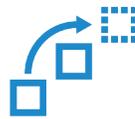
MANAGE

Control the health and performance of your IIoT connected assets.



ANALYZE

Optimize IIoT device, system and process operations.



PREDICT

Forecast performance of connected, mission-critical assets.



SERVICES

Professional, value-add services to configure and customize DataV to your needs.

About Bsquare

For more than two decades, Bsquare has helped its customers extract business value from a broad array of assets by making these assets intelligent and connected, and using data collected from them to improve business outcomes. Bsquare software solutions have been deployed by a wide variety of enterprises to create business-focused Internet of Things (IoT) systems that can more effectively monitor assets, analyze data, predict events, automate processes and, in general, optimize business outcomes. Bsquare couples innovative software with advanced professional services that can help organizations of all types make IoT a business reality.

Find out more about how Bsquare can help your organization use IoT for maximum impact:

sales@bsquare.com | 425-519-5900 | www.bsquare.com | [in/company/bsquare](https://www.linkedin.com/company/bsquare) | [@bsquarecorp](https://twitter.com/bsquarecorp)