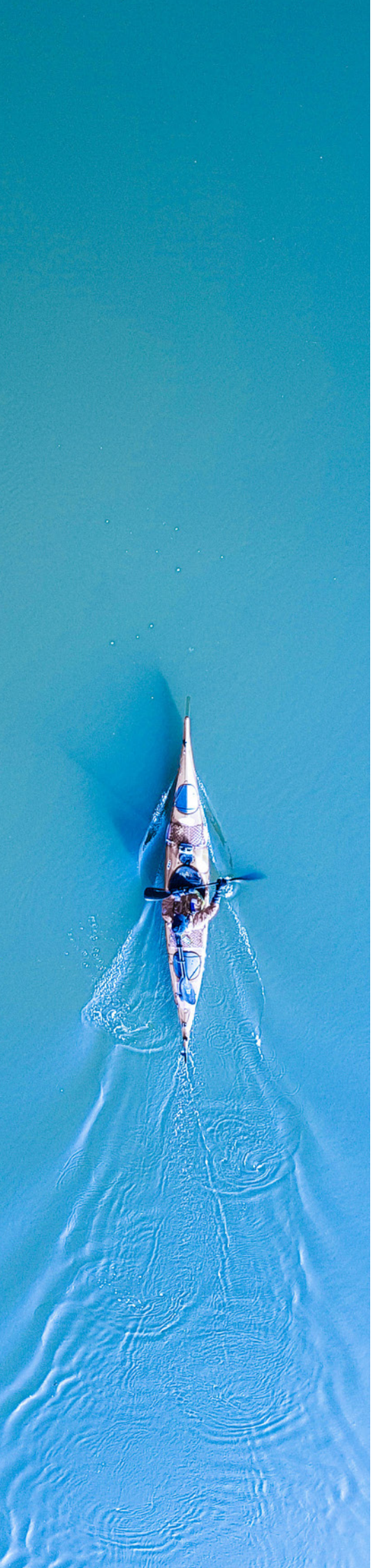


YOUR BUSINESS ANALYTICS IN 2020

Autonomous Analytics is ushering in a new decade of BI. Learn how it can transform your business.

anodot

INTRODUCTION

Today's businesses operate in a completely new world of data. Most companies are already using hundreds of applications and generating massive data streams. The data landscape is becoming exponentially complex. Meanwhile, end-user expectations and the pace of business change are increasing daily. Yet many companies still rely on legacy BI technology built decades ago for a rudimentary data environment.

Traditional, report-based BI systems can't keep up with the compounding growth in data sources, volume and variety which make up the daily reality of digital businesses. Given the amount of data, exploring all possibilities becomes humanly impossible. This means businesses can miss key insights from hypotheses they don't have the capacity to explore.

Today's business imperatives call for a new way for enterprises to generate business insights at breakneck speed, across their entire data sources and metrics.

Autonomous Analytics, the next generation of BI, applies a fundamentally different approach to data across the entire analysis chain - starting from collection, integration, and coverage, moving to baselining, correlation, and root cause analysis, and finally on to insight delivery and forecasting. Modern Autonomous Analytics technologies rely on machine learning to achieve the speed, agility, and precision that empower businesses to reduce risk, lower costs, and accelerate innovation today.

In this whitepaper we will take a closer look at how Autonomous Analytics platforms compare with traditional BI, and what businesses can expect as they mature from outdated systems to the future.

Because for business analytics, the future is autonomous.

TABLE OF CONTENTS

DATA COLLECTION AND INTEGRATION

LEGACY BI

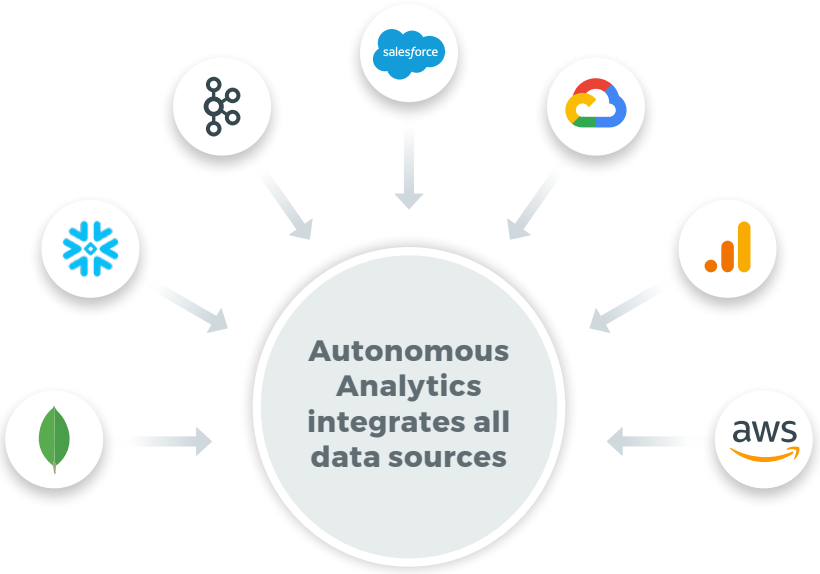
Data-driven businesses generate, log, and analyze massive data streams every day. The data is spread out between IT infrastructure, applications, databases and streams, storage, CRM, monitoring and analytics tools. Some of it is structured and some unstructured. Much of it is siloed.

Sourcing and loading this data into legacy BI systems requires complex coordination of elaborate ETL transformations through expensive integration software. Cataloging your data sources, creating entity-relationship diagrams, prepping the data, and integrating it through ETLs to a central data warehouse and on to your BI environment takes weeks, and even months. Adding new data streams or formats as your business grows and changes throws you back to square one.

AUTONOMOUS ANALYTICS

A multitude of data sources and formats is the modus operandi of businesses today, and should not be a barrier to agile operations. That's why Autonomous Analytics platforms are built from the ground up as turn-key solutions, which seamlessly aggregate your data sources into one centralized analytics platform, no matter the size, location or shape of your data.

Modern BI collects data from every source, leaving no data behind and making silos a thing of the past. This watertight collection also bypasses one of the primary limitations of traditional BI tools - the lack of granularity for the information parsed. And - because most Modern BI tools are self-service, this comprehensive autonomous collection and integration process takes only hours or days to implement.



METRIC COVERAGE

LEGACY BI

Traditional BI systems rely on identifying key metrics and monitoring them through dashboards. However, in an average company, only 3% of business intelligence is covered by KPIs. This means that even if your BI system has been configured optimally, it monitors only a few percent of the thousands of unique metrics inherent in your data. Any one of these can go astray, influencing revenue and end-user experience. If it isn't correlated into one of your KPIs, such an anomaly can go undetected for hours and even days.

And while your business is dynamic, requiring you to revisit your KPIs and adapt them to your changing processes and focal points, implementing those changes in you BI system will set you back, again.

AUTONOMOUS ANALYTICS

For reliable decision making, you need to embrace 100% of your organizational data. That's why modern BI technologies are built on the assumption that every metric counts. Their underlying machine learning technology thrives on data, enabling these platforms to constantly monitor in real time every single data metric your business is running, even when that number runs to the tens of thousands. With Autonomous Analytics, you never need to sacrifice coverage for performance.

Autonomous Analytics takes the K out of KPIs, leaving you with absolute coverage of all your performance indicators. While it's impossible to monitor all necessary business metrics manually, modern AI-driven analytics platforms ensure that if anything across your business goes awry you'll be the first to know - faster than it is humanly possible to detect.

TOP COMPANIES MANAGE TENS OF THOUSANDS OF UNIQUE METRICS DAILY

THRESHOLDS AND BASELINES

LEGACY BI

Setting baselines and thresholds for your KPIs is an art and a science. Even for the most erudite data scientists, with a profound understanding of your business ins and outs, it's a resource heavy undertaking that's susceptible to major pitfalls. A miscalculation of baselines is a major source of false positives and false negatives: Set them too narrow and you'll be overloaded with false alarms. Set thresholds too wide, and you can completely miss critical incidents that could damage your business.

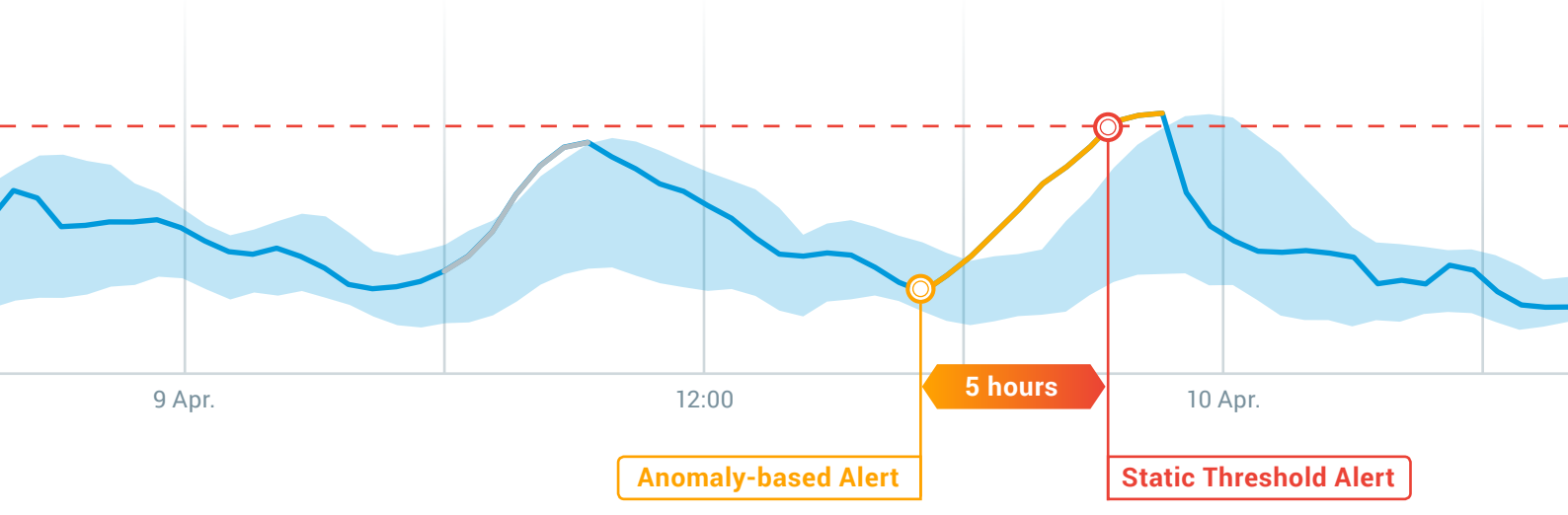
In addition, adding static upper and lower thresholds works very well for metrics that typically hover in a narrow band of predictable values. This doesn't take into account daily, weekly or annual seasonality. When levels vary significantly at different times of day or due to fluctuations in other usage patterns, finding the right threshold levels is tough.

AUTONOMOUS ANALYTICS

Modern BI platform take a completely autonomous approach to baselining. They rely on machine learning algorithms to learn your metrics' normal behavior and identify their baselines, completely eliminating the need for manual thresholding. Then, they discover your daily seasonality (i.e., daytime vs. nighttime behavior), your weekly seasonality (i.e., weekdays vs. weekends), and your annual seasonality (i.e. peak holidays, slow months).

Over time, as more data is analyzed, these baselines become increasingly sensitive and accurate. This ensures less false alarms and a significantly faster TTD. Finally, thresholds automatically conform to business changes, so that no manual intervention is needed to adapt your analytics to the dynamic nature of your company.

ANOMALY-BASED ALERT WILL FIND THE PROBLEMS HOURS BEFORE THE STATIC ONE



DETECTION AND ALERTING

LEGACY BI

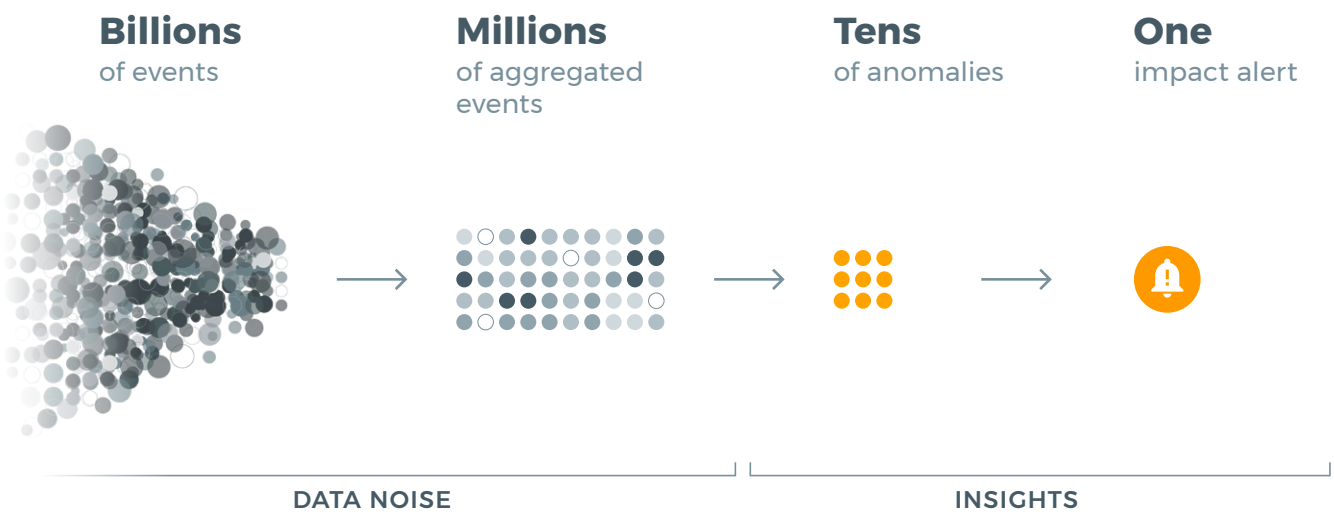
Using traditional BI tools that employ standard static thresholds cause either too many false positives, or miss out on important trends. Trying to identify the difference between an alert on a meaningless trend deviation and a significant anomaly is a challenge. BI operations teams often spend way too much time wading through a sea of alerts ("alert storms"), most of which are just symptoms of the true problem.

As a business grows, more and more incidents can go undetected while trying to make sense of the massive volume of metrics. Creating more dashboards and monitoring daily or weekly reports leaves ample room for human error. Often these approaches fail. The constant noise on dashboards causes alert fatigue, making it difficult to differentiate redundant issues from significant ones.

AUTONOMOUS ANALYTICS

Good alert management begins with the ability to significantly increase the extent of data being monitored, while dramatically decreasing data noise. Autonomous Analytics highlight only the highest-priority risks. They drastically diminish false positives and the burdens they place on overworked analyst teams. By providing full data coverage, dynamic baselines and anomaly scoring systems, Modern BI systems turn billions of data points into single mission critical alerts.

The result is a dramatically faster Time to Detection (TTD), from days and even weeks to hours. This result is enhanced by the real time monitoring provided by modern BI tools, as opposed to the traditional ones which have data latency built into their architecture. Business users need actionable insights based on the latest information. Minimizing latency gives analysts the most valid and up-to-date information available for accurate decision-making.



ROOT CAUSE ANALYSIS

LEGACY BI

Even after an anomaly is detected, tracing it back to its root cause is a challenge. Data scientists working with Legacy BI are often forced to brave through these analyses using only guesswork and intuition - often well after the anomalous trends occurred.

Without any meaningful context or the ability to correlate throughout the data, it's very difficult to uncover codependent anomalies or ones that have a related problem in common. It may take weeks to associate between an anomaly and its underlying cause.

AUTONOMOUS ANALYTICS

Autonomous Analytics reports on the full context of every alert, including what happened, where it happened, who was involved, and finally - why it happened. Autonomous Analytics learns correlations between millions of metrics to find the why behind the anomaly. When an anomaly is detected, the platform immediately indicates also where it happened, which other anomalies or events were involved, and what was the root cause.

By grouping correlated anomalies and identifying all contributing factors and events, modern BI tools create the context needed for fostering a holistic understanding of the problem and how to fix it. The result is a significant reduction not only in Time-to-Detection, but also in Time-to-Resolution.

ACTIONABLE ALERT CAPABILITIES

	Legacy BI	Autonomous Analytics
Automatic baselines	⊖	⊕
Anomaly significance score	⊖	⊕
Anomaly duration	⊖	⊕
Influencing metrics	⊖	⊕
Root cause analysis	⊖	⊕

FORECASTING

LEGACY BI

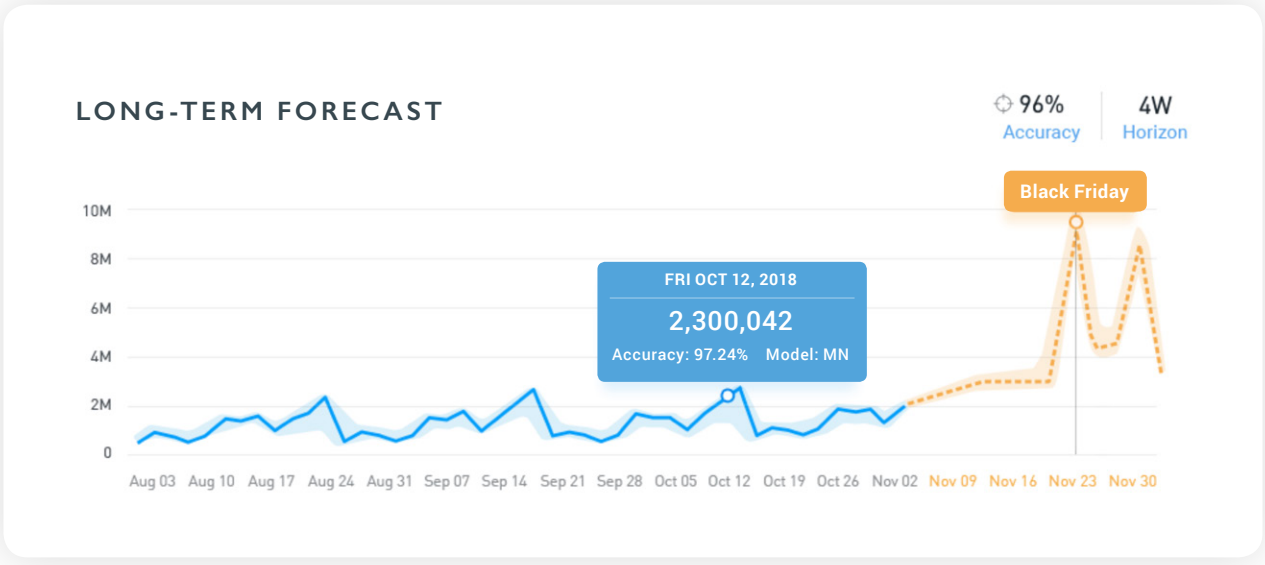
Your current BI systems can provide you with the relevant historical data to be used as a basis for manual forecasting. With the right queries and manpower you should be able to rely on this data to achieve a ballpark manual prediction of various KPIs that will help you anticipate your operational needs and growth goals.

However, when your forecasts are based on traditional BI they are usually labour intensive, do not happen at the pace of business, and often neglect to take significant attributes into consideration. This is BI that isn't a forecasting technology, but rather a resource for manual forecasting activity.

AUTONOMOUS ANALYTICS

Next generation forecasting is based on technologies that are originally built for robust, nuanced and speedy predictive analytics. Autonomous Analytics use deep learning to automatically optimize forecasts, working on data streams in real time to provide forecasts in the moment.

Whether forecasting demand (for inventory, products, service calls etc.) or growth (including revenue growth, expenses, cash flow and other KPIs), Autonomous Forecast adapts the predictive analytics model as internal or external conditions change. With these capabilities, businesses can anticipate changing conditions and optimize their operations in advance, to mitigate risks, improve customer satisfaction and seize opportunities.



CONCLUSION

A robust, innovative Autonomous Analytics system is the gatekeeper of your business and the frontline protector of your customers and revenue. Your data bears witness to any and all incidents that can affect your end-users and your bottom line. Staying on top of your data with an intelligent, comprehensive, BI system is the only way to ensure that you'll be informed of critical issues across your business landscape faster than is humanly possible. With data and business analytics solidifying their stance as one of the most critical elements in business today, modern BI systems provide a perpetual competitive edge.

Autonomous Analytics platforms:

- Hit the ground running, with a minimal time-to-integration and implementation
- Provide full coverage of your data and business metrics
- Take a totally autonomous approach to baselining, including seasonality of all kinds
- Extinguish data noise by alerting you only to mission critical anomalies
- Report on anomalies in context, including root cause and all affected dimensions
- Base their forecasts on complete internal and external attributes, in real time

Leading digital businesses are already using Autonomous Analytics today to:

- Deliver insights at the pace of business
- Reduce manual effort
- Cut down TTD and TTR by orders of magnitude
- Accelerate time to value
- Decrease risk

Autonomous Analytics changes the game for your data-driven business by empowering you to unlock critical insights, anticipate what's coming, and overcome any market or operational challenges faster and more agily. It gives you the power to prevent revenue loss and avoid unnecessary costs. Most importantly, it gives you the peace of mind that comes with the knowledge that if anything across your business goes wrong - you'll be the first to know.

LEADING SOLUTIONS

According to Gartner, by 2020, autonomous and augmented analytics will be a dominant driver of new purchases of analytics and BI. Beginning next year, half of all analytical queries either will be automatically generated, or will be generated via search, natural language processing or voice.

In it's 2018 BI market survey, Gartner already predicted that autonomous and augmented analytics will emerge as the next wave of disruption in the data and analytics market. Now, it is urging analytics practitioners to jump on these platforms as their capabilities mature.

As the BI space is shifting towards Autonomous Analytics, three main solution paradigms are coming into play:

1. **Legacy BI / Analytics Solutions**

   Major traditional BI vendors - such as Tableau, Domo, Looker, Adobe, Oracle, SAS, Google Analytics, Amazon Quicksight etc. - have recently unveiled their own anomaly detection features with autonomous capabilities. For companies already using these technologies, this may be the natural choice. However, it should be noted that while companies in the Business Intelligence industry compete to add minor improvements to their platforms, they lose sight of the wider goal—to help businesses channel their data into actionable insights, to help them make better decisions faster, while saving time and using resources more effectively.

2. **Network and Application Performance Monitoring Solutions**

   Vendors such as Splunk, logz.io, datadog, Azure, Elastic, etc. provide anomaly detection for network behavior and application performance. These solutions are siloed to infrastructure data and are part of a new category of devOps tools referred to as AIOps. Solutions that are one feature of a larger offering typically focus only on a portion of the company's data, and not on 100% of the data metrics, which is what you need to truly understand the full picture of business operations.

3. **Fully Autonomous Solutions**

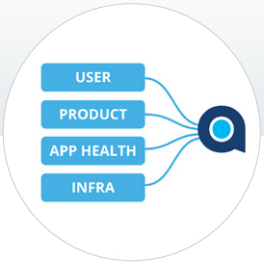
   Vendors such as Anodot, Outlier.ai, etc. provide autonomous anomaly detection for 100% of the data at any scale - automatically discovering unexpected changes in data. Fully autonomous solutions offer effortless integration, correlate anomalies across all data sources, and enable a comprehensive root cause investigation that fits into existing workflows. These solutions help users of all types – including business users - to get the most out of the system, to save time and to achieve quick ROI.

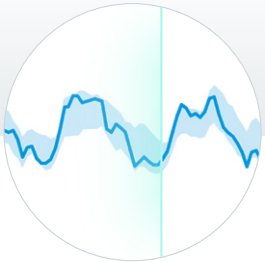
EXPECT MORE FROM MONITORING

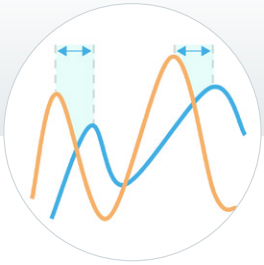
Anodot's Autonomous Analytics platform leverages advanced machine learning techniques to constantly analyze and correlate every business parameter, providing real-time alerts and forecasts, in their context, lowering time to detection and resolution.

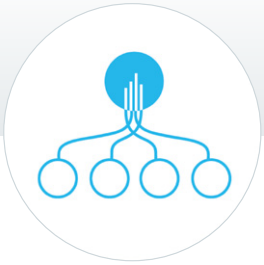
Our leading-edge, patented technology is trusted by clients such as Facebook, Microsoft, Lyft, Waze, Pandora, Appnexus, Wix and King, in industries ranging from eCommerce to finserv, adtech, telco, gaming and more.

We have your back, so you're free to play offense and grow your business.









COMPREHENSIVE

All the data

Cross silo

Data agnostic

CONTINUOUS

Realtime

All the time

ADAPTIVE

Adjusts to changes

Autonomously learns baselines and seasonality

SPOT ON

Root cause guidance

Accurate

Actionable

anodot

www.anodot.com