

ANALYTICS

# Next-Level Insight and Action From Your Data

Qlik Sense®

## INTRODUCTION

Qlik delivers best-in-class cloud analytics that empower people of all skill levels to make data-driven decisions and take action.

Today's markets move fast and turn on a dime.

To succeed, organizations have to get in

front of events as they unfold. But traditional business intelligence isn't designed to facilitate real-time decision-making and immediate action. What it can do – analyze historical datasets to understand performance – is still a critical function. But now more than ever, you need to capture value in the business moment.

Our vision at Qlik® is a state of continuous intelligence in which the flow of data across an organization drives the best decisions and actions in real-time. For BI and analytics, this means deepening insight, broadening access and triggering action to capture value in-the-moment.

Qlik delivers best-in-class cloud analytics that help people of all skill levels to make data-driven decisions and take action. Built on our unique Associative Analytics Engine, Qlik Sense offers industry-leading augmented analytics and action-oriented capabilities for the full range of users and use cases — from visualization and dashboards to advanced & predictive analytics, natural language interaction, custom and embedded analytics, mobile analytics, reporting and alerting. We enhance human intuition with AI (artificial intelligence) and AutoML (automated machine learning) capabilities such as automated insights, natural language and predictive analytics that deepen insight and broaden access, and help drive intelligent action through alerting, automation, mobile and embedded analytics. And you get unmatched calculation performance, robust data integration and the convenience of SaaS with hybrid deployment options for the most demanding enterprises.

With Qlik, users and organizations can accelerate business value in new ways. They can more rapidly respond to events and trends in their business. They can adapt strategy, processes and even products on a moment-to-moment basis. They can serve all their users with the right insights at the right moments, regardless of skill level. All of which adds up to better outcomes across the board.



# Purpose-Built for Analytics

Qlik Sense delivers a unique and powerful analytics experience for everyone, in all areas of your business. It is designed to promote human intuition and data literacy for users of all skill levels, allowing people to easily explore information and quickly gain trusted insights to take action and solve problems – from the simple ones to the most complex.

## Associative Exploration

Business user exploration in Qlik Sense is unmatched. Users can freely ask questions using simple interactive selections and search. Our engine instantly responds with answers after each click, recalculating all analytics to the new context and highlighting both associated and unrelated data through easy-to-understand color cues. No boundaries. No restrictions. Your people are empowered to follow their own paths to discovery, without having to build visualizations or author content.

In addition, Smart Search provides an intelligent navigation experience unlike any other analytics solution. Search across your entire application and data set to refine context and make discoveries. Qlik Sense not only reveals individual matches, but also the possible combinations in your data, allowing you to apply multiple selections directly through search.



## THE ASSOCIATIVE DIFFERENCE®

Relational databases and SQL are rigid structures designed in the 1980s for transactional systems, not modern analytics. Analytics tools that rely on query-based approaches struggle to combine data sources, support interactive user exploration, and retain performance and flexibility at scale.

With unique associative technology, our purpose-built analytics engine enables users of all skill levels to explore their data freely without limitations. It brings together unlimited combinations of data, achieving a “many-to-many full outer join” without leaving any data behind. It offers unprecedented freedom of exploration through interactive selections and search, without having to author content. By instantly recalculating all analytics to the new context and revealing both related and unrelated values as you click, you can easily discover hidden insights that query-based tools would simply miss. And all this happens as fast as you can think.

Our engine calculates analytics using a full set of record-level data, scaling to massive data volumes and large numbers of users without sacrificing speed or flexibility. This unique engine technology is our primary advantage, with more than 20 years of innovation and investment.

## Data Discovery

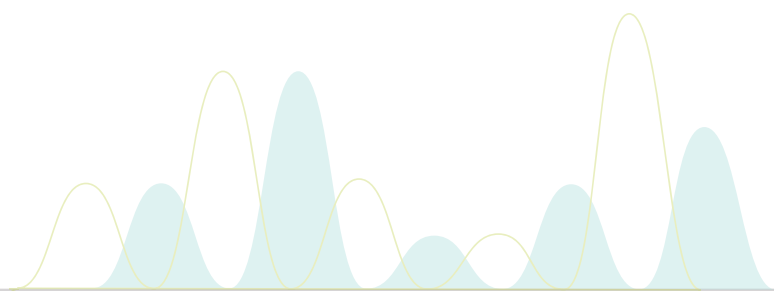
Best-in-class visualization and discovery is always at your fingertips. Users can create and explore through a simplified authoring experience, with assistance from Insight Advisor to accelerate the creation process. Data sources can be easily connected together with data profiling and combination suggestions. Charts are created through intuitive drag-and-drop, with easy access to data tables, fields, filtering and properties, and chart assistance that suggests the right types of visualizations based on the data being used. Over 30 smart, fully responsive visualizations provide a beautiful experience and feature innovative techniques to summarize data shape, highlight patterns and hotspots, and pinpoint outliers. Geospatial analysis and mapping, based on Qlik GeoAnalytics® technology provides advanced geographic visualization and calculation. And with our unique analytics engine, Qlik offers the most flexible and interactive dashboards on the market, supporting free-form exploration and search not possible with query-based tools.

The Qlik Associative Engine allows near limitless combinations of data, without the challenges and limitations of using SQL joins. And, Qlik Sense provides a complete set of data preparation and integration capabilities, including graphical data preparation and robust scripting. Qlik Sense offers an enterprise data catalog for easy access to governed data sources, a broad set of connectors to on-premises and cloud-based sources, and direct query capabilities to compliment in-memory analysis.

## Enterprise Reporting

With Qlik Sense, you can support all your information delivery needs, providing reports on a scheduled or routine basis in addition to interactive analytics. Self-service reporting in Qlik Sense allows users to subscribe to entire sheets and individual analytics for scheduled PPT and PDF delivery on a routine basis. Chart monitoring is also available in the hub and mobile app, for fast updates on key analytics. And users can manually print and export data, analytics, and stories for easy sharing.

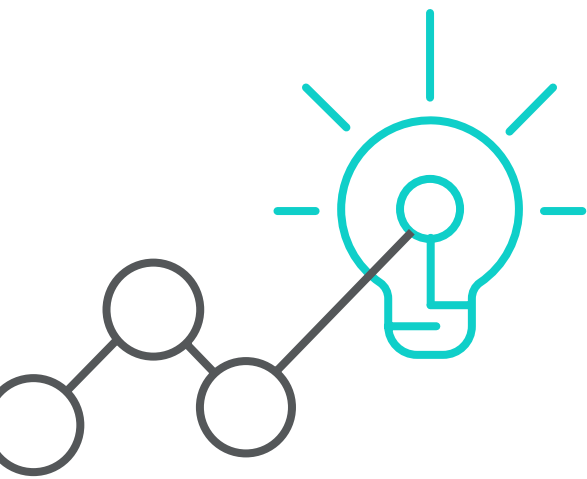
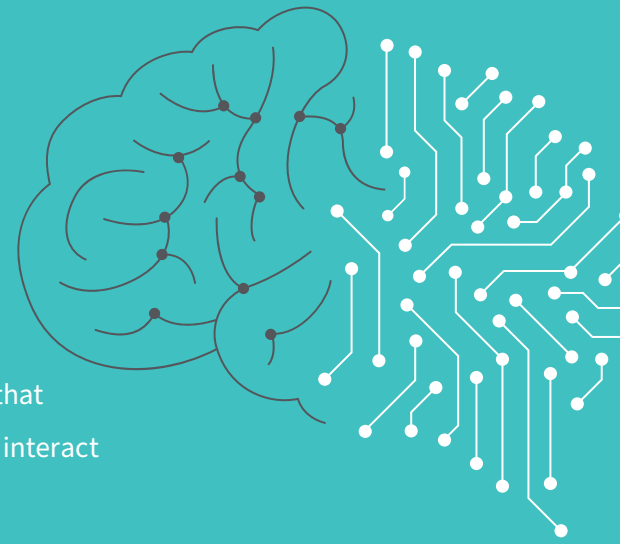
Qlik Reporting Service supports centralized report distribution, enabling your organization to create, manage and deliver reports using data and analytics from Qlik Sense. Reports are available in PPT and PDF format, using data from multiple apps. PPT reports include independent objects for easy authoring and annotation. Loop and reduce data with specific field values to create cycled reports for different audiences. Automate report tasks using report blocks and templates from Qlik Application Automation®, or directly integrate with third party systems through the Qlik Reporting API. Reports can be distributed through multiple channels including email, Amazon S3, Google Cloud Storage, Dropbox and SharePoint.



## AUGMENTED ANALYTICS

At Qlik, we believe that AI should work in combination with human intuition, not replace it. Our approach is different from “one-size-fits-all” tools or bolt-on AI — we combine our unique associative technology with AI and machine learning built into our platform at a foundational level. The result is truly integrated Augmented Analytics that deliver deeper, more meaningful insights, enhance the ability of people to interact with data and drive efficiency and time to value.

Qlik Sense provides automated analyses and insights, and supports natural-language analytics through Insight Advisor Search, Chat, and NLG, and assists with authoring and data prep. Qlik AutoML™ provides machine learning and predictive analytics specifically designed for analytics users and teams. And with advanced analytics integration, you can deliver the power of data science directly to business decision makers, with real-time exploration.



## Deeper Insight Through AI

AI helps your people understand and use data in more effective ways to find every possible edge. With combined AI and associative technology, Qlik Sense empowers users of all skill levels to reach their full potential with data.

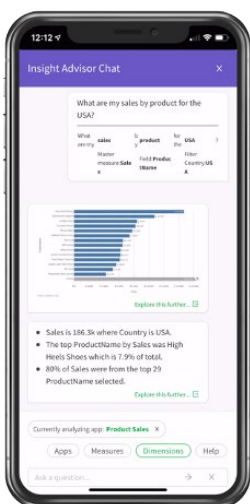
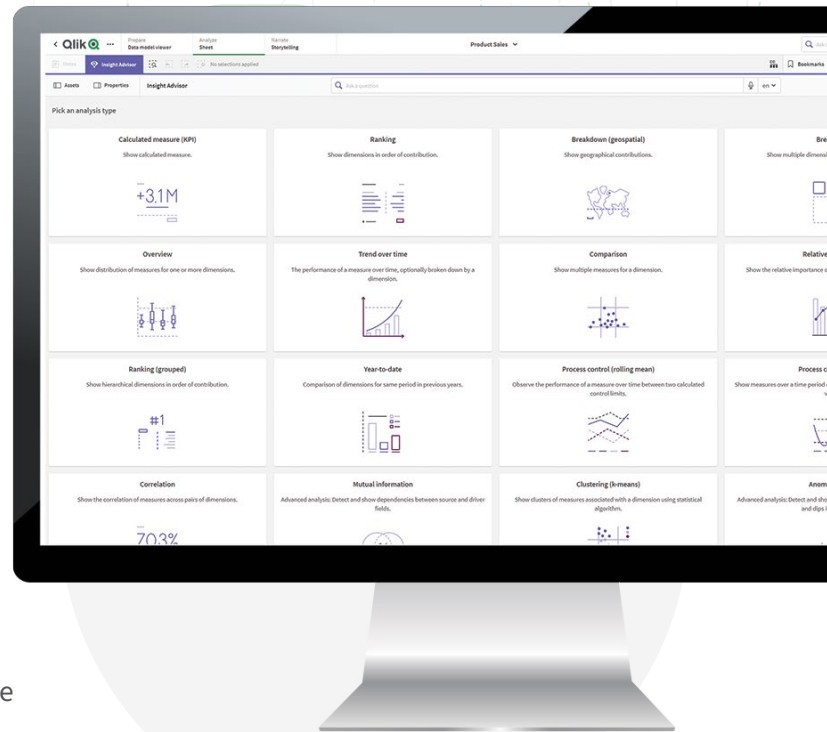
### **Advanced Insight Generation**

Qlik Sense delivers a full range of augmented analytics capabilities, driven by our associative engine combined with AI and ML. It offers AI-generated automated insights, supports natural language interaction including search, chat and NLG, and assists with the creation and data preparation process.

Users can request a variety of advanced analysis types, including comparison, ranking, trending, clustering, correlation, period-over-period, forecasts and more. Qlik Sense will offer guidance for choosing the right data, and will generate data visualizations, narrative interpretations, and even entire sheets and dashboards for exploration. Qlik Sense apps feature a robust business logic layer for customization of insight generation and natural language to align with business requirements. With unique context awareness, Qlik Sense always offers insights that closely align with the user's intent and selections.

## Natural Language Analytics

Insight Advisor is your natural language assistant in Qlik Sense, supporting natural language in Qlik across multiple user experiences including search-based discovery, fully conversational analytics and natural language generation on sheets. Search-based discovery allows users to more easily generate new analyses and insights based on natural language search, extending the power of insight creation to more people. It provides auto-generated analyses and insights based on NLP (Natural Language Processing). Users can make edits and adjustments to visualizations and directly add them to dashboards for further exploration. And users get natural language interpretations (NLG) for further context and data literacy.



Conversational Analytics enables users to ask questions and get answers in a natural, conversational manner, without having to be data experts, enhancing their data literacy. And organizations can drive adoption, spreading the power of analytics and data driven decisions to far more people than ever before. Insight Advisor Chat provides a fully conversational, natural language interface across multiple apps. It understands user intent, and delivers answers and added insight for a deeper understanding of your question. Insights include auto-generated charts, narrative insights, key observations and more. Users can easily interact to get answers to their follow-up questions, and link directly to visual discovery, in context, for deeper analysis and insight.

Finally, users can easily add AI-generated natural language insights to sheets and dashboards, choosing dimensions, measures and applicable analysis types – delivering insights for the overall context of a sheet, describing a group of visualizations or creating readouts for individual visualizations. And with our associative engine, insights are dynamic and update to reflect the new context (selection state) after each click.

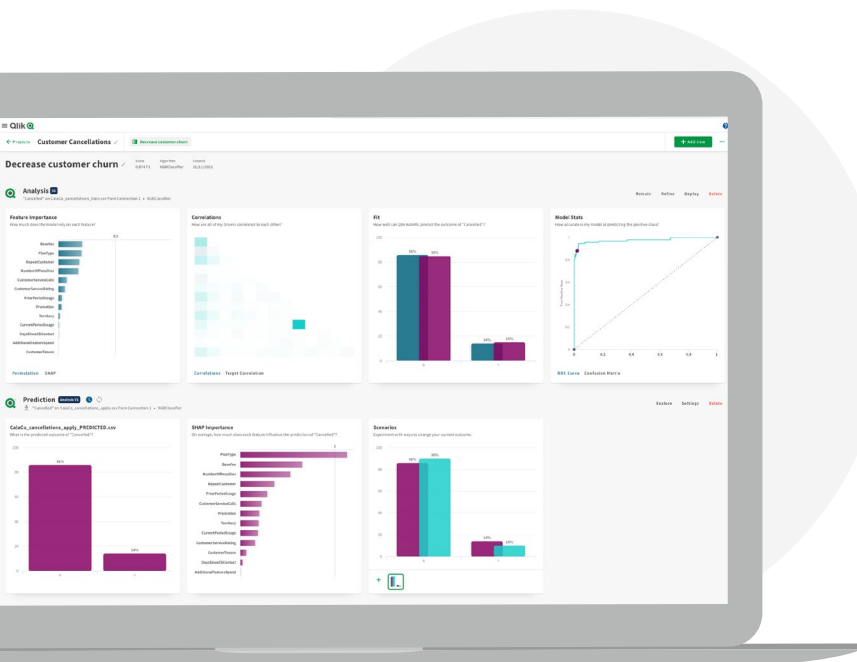
## Predictive Analytics

Qlik AutoML (automated machine learning) allows analytics users and teams to easily generate machine learning models, make predictions and plan decisions– all within an intuitive, code-free user interface. It easily connects and profiles data, identifies key drivers in the dataset and generates and refines models. You

can then make future predictions and test what-if scenarios. Results are returned with prediction influencer data (Shapley values) at the record-level, allowing you to understand why predictions were made – which is critical to making the best decisions and taking the right actions. Predictive data can be easily published into Qlik Sense and other cloud platforms, and models can be integrated using advanced analytics integration for real-time exploratory analysis.

And with data science integration, you get real-time exploration of calculations from

Qlik AutoML and data science models within Qlik Sense. Direct, engine-level data exchange with third party data science tools through open APIs deliver new calculations as the user clicks, allows people to refine context and evaluate the results interactively and visually. We offer native connectors for Amazon and Comprehend, Azure ML, DataRobot, and connectivity for custom solutions built in languages such as R and Python. With this, users can interactively explore predictive calculations from advanced and predictive models, delivering the power of data science directly to business decision makers.



# Take Intelligent Action

Qlik's vision is a state of continuous intelligence in which the flow of data across an organization drives the best decisions and actions in real-time. For BI and analytics, this means taking people beyond the dashboard, with action-oriented capabilities that deliver the right insight at the time and place of decision. Action-oriented capabilities in Qlik Sense include intelligent alerting, application automation, collaboration, mobility, embedded analytics and more. And of course, this needs to be supported by an intelligent analytics data pipeline that can deliver a continuous flow of up-to-date data, from all your data sources.

## Inform the Decision

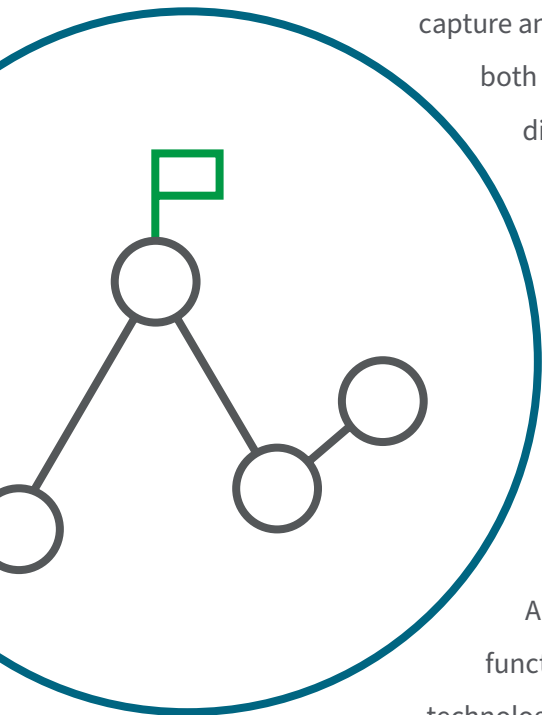
When making decisions, it's critical to capture and share the context you need to accurately inform decisions, from your data, people and other systems. Collaborative notes in Qlik Sense allow users to capture and harness the critical human context needed for the best business outcomes, both individually and in teams. People can add narrative to analytics and drive discussions to interact with others around data. Collaborative notes in Qlik Sense are independent artifacts that can include multiple analytics and serve as an independent record for decisions.

In addition, interactive data storytelling facilitates live meetings and presentations. Users can create slides with analytics and insights, in a linear story, with graphical content and text commentary. With direct, in-context linking to analytics apps, users can dive directly into live analytics for immediate answers to follow-up questions as they arise in discussion.

And, organizations can build, integrate and extend analytics to leverage functionality and deliver insight and context from third-party tools and technologies. Qlik Sense provides a complete set of open APIs allowing creation of custom analytics and extensions, either custom developed or leveraging third-party tools and technologies, using industry standard development skills.

## Beyond the Dashboard

To deliver analytics and insights at the time and place of decision, you must go beyond the dashboard to where and how people work. Qlik Sense is inherently mobile, built from the ground up to run on any device, with complete capabilities and no compromises.





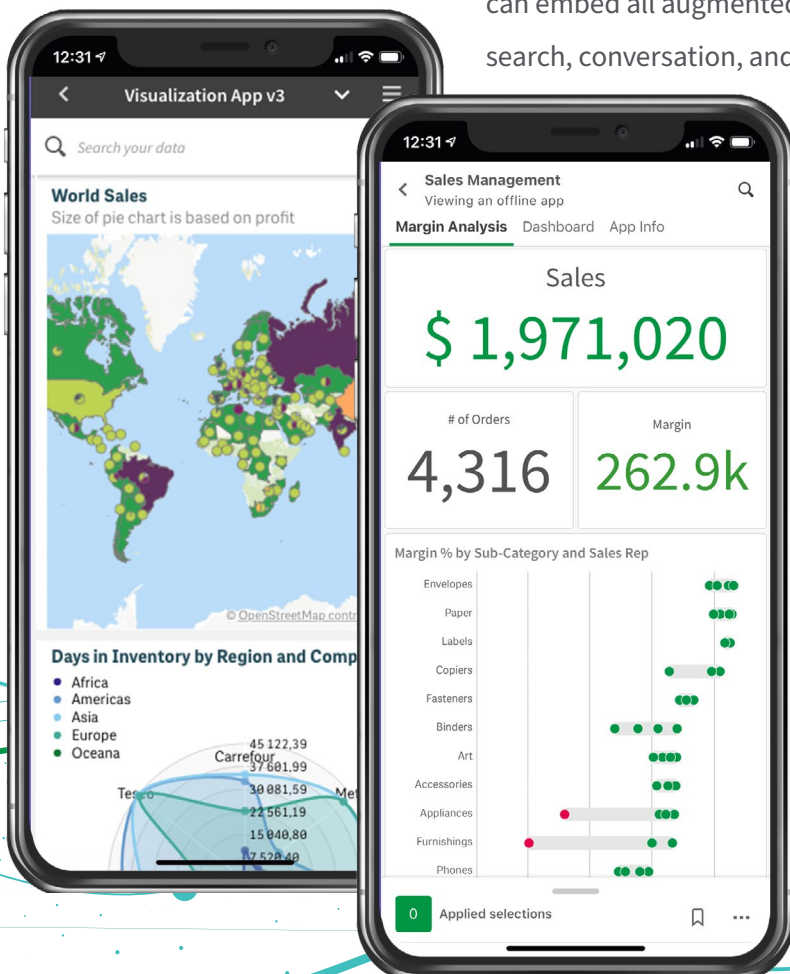
You get a smart, responsive, web-based client in mobile browsers, and fully native, optimized mobile apps for iOS and Android. Whether a device is large or small, touch or keyboard-based, Qlik Sense delivers the best user experience – intelligently adjusting layout, information and functionality for the device at hand.

Qlik Sense Mobile is our fully native app for iOS and Android that provides an enhanced user experience, fully interactive online and offline analysis, and integrated push alerting to drive action at the point of decision. It delivers Qlik Sense analytics in the best form for mobile consumption, such as a single object mode for navigation, an intuitive selections bar and a mobile collection in the hub. With the Qlik Associative Engine running on-device, it supports fully interactive online and offline exploration allowing mobile workers to answer un-anticipated questions in any environment. And it features integrated alerting with push notification, so users can be notified of important changes in their data and respond in real-time.

In addition to mobile, Qlik Sense provides a complete set of open and standard APIs allowing organizations to embed analytics in operational apps and create mashups and external applications. Unlike other solutions, you can create fully custom apps with live objects embedded in workflows – in addition to just mashups. You

can embed all augmented analytics capabilities including analysis types, search, conversation, and business logic. Embedded analytics are fully

interactive, driven by our associative engine, uniquely staying in context together as the user explores and updating at the speed of thought. Fully interactive embedded analytics deliver the power of your data directly where



and how people work, and extend analytics to the broader ecosystem of customers and partners.

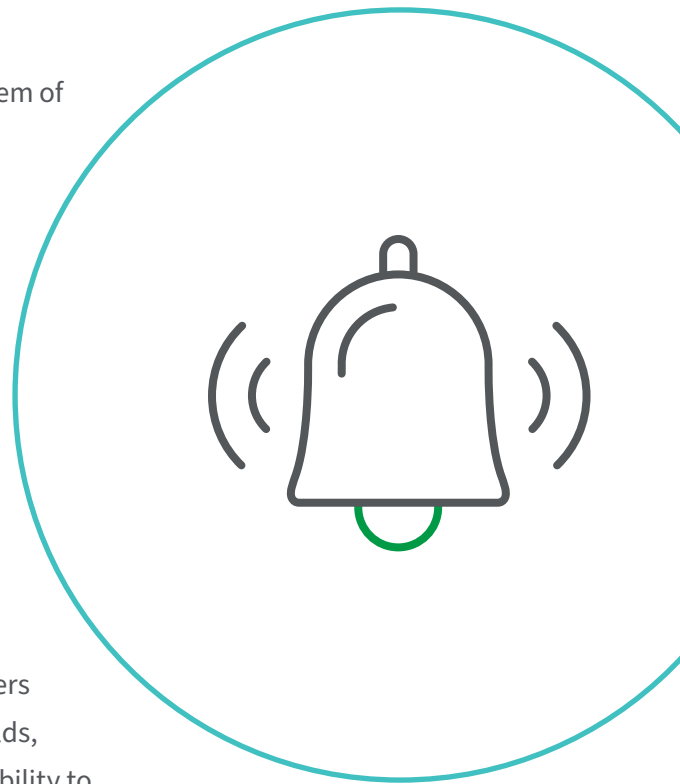
### Trigger the Action

Qlik Sense is built to drive action based on changing data, helping you capture the moment by triggering action when it is needed. This includes both human action and automated events, all driven by a real-time data pipeline.

To prompt human action, Qlik Sense delivers powerful, data-driven alerts with sophisticated alert criteria, notifying users of potential issues and allowing them to immediately take action. Intelligent data alerting notifies users of changes, trends and outliers in data, through statistical evaluation of new data against thresholds, comparisons between measures, condition and/or logic, and the ability to trigger alerts based on individual dimension values. Qlik Sense supports both self-service and centralized alerting, and alerts can be delivered through customizable emails, our web interface and mobile push notifications on the Qlik Sense mobile app. With alerting, more people can proactively monitor their business, spot trends and outliers, and take timely action based on changing data.

In addition, you can trigger automated events and workflows in Qlik Sense and downstream applications, based on changing data. Using application automation, Qlik Sense users can build workflows that trigger event-driven actions through a visual, no-code environment. Automations can be triggered without human intervention based on changing data. Connectors are available to connect to a broad array of cloud applications in addition to Qlik Sense analytics. With application automation, organizations can trigger action in Qlik Sense and downstream systems without the need for human involvement.

Both of these action-oriented capabilities can be driven by Qlik's robust data integration platform, featuring real-time data updates, driven by unique change data capture technology. Qlik Data Integration moves data in real-time from sources into Qlik Sense data repositories, all managed through a simple graphical interface that completely automates end-to-end replication. This means your Qlik Sense applications are always up-to-date, and you can realize the value of analytics on data in motion as well as data at rest.



# High Performance SaaS and Hybrid Multi-Cloud

Qlik Cloud is a platform for the enterprise and beyond, supporting organizations of all sizes with unmatched performance and flexibility. It features full enterprise SaaS deployment, built on a modern, containerized architecture, with hybrid deployment options available for your data and analytics. At Qlik, we do not limit customers to any particular cloud, and instead support combinations of public, private cloud and on-premises sites as needed.

Your organization can deploy modern analytics, including self-service, without having to make trade-offs when it comes to governance and trust. Qlik Cloud features a modern hub with governed content areas that allow people to easily find and share analytics. Our modern management capabilities provide a single point of control for all areas of the system. Flexible security and dynamic data reduction ensure that information is accurate and secure. And our unique analytics engine delivers unmatched flexibility and calculation speed when scaled to high numbers of users and large, complex data sets. Your organization gets the performance and governance it needs to maximize adoption and value.

## Qlik Data Integration

Also delivered on our platform, Qlik Data Integration offers a real-time data pipeline based on unique change data capture (CDC) technology that identifies and moves just the changes in source data sets as they occur, without putting stress on source systems, supporting analytics on data in motion. Changes in data can be flowed directly into Qlik Sense data files (.QVD) and made immediately available for analytics.

**For more information, please visit [qlik.com](https://qlik.com).**



## About Qlik

Qlik's vision is a data-literate world, where everyone can use data and analytics to improve decision-making and solve their most challenging problems. Qlik offers real-time data integration and analytics solutions, powered by Qlik Cloud, to close the gaps between data, insights and action. By transforming data into Active Intelligence, businesses can drive better decisions, improve revenue and profitability, and optimize customer relationships. Qlik serves more than 38,000 active customers in over 100 countries.

[qlik.com](https://qlik.com)