

DATA ANALYTICS

# Modern, AI-Powered Analytics

Qlik Sense®



## INTRODUCTION

Qlik Sense sets the benchmark for third-generation analytics platforms, empowering everyone in your organization to make data-driven decisions.



Built on our unique Associative Analytics Engine, Qlik Sense offers industry-leading modern analytics capabilities across a full range of users and use cases — from self-service analytics to interactive dashboards and applications, conversational analytics, custom and embedded analytics, mobile analytics, reporting and alerting. It augments and enhances human intuition with AI (artificial intelligence) powered insight suggestions, automation, and natural-language interaction. And it offers unmatched performance and governance, with the convenience of SaaS and the choice of multi-cloud and on-premises for the most demanding enterprises.

Qlik Sense was built to deliver broad value to users and organizations. Your users get unmatched analytical power with associative exploration and search; AI-powered insight suggestions; accelerated creation and data prep; advanced analytics integration; and natural-language, conversational interaction. They can easily share, communicate, and get answers anywhere they work – with fully interactive online and offline mobility. And for the enterprise, you get a modern, cloud-native platform with open and standard APIs for customization and extension, powerful data integration and connectivity, and centralized management and governance. Qlik Sense delivers industry-leading analytics performance, and offers multi-cloud and on-premises flexibility for your data – without limiting you to any particular cloud environment.

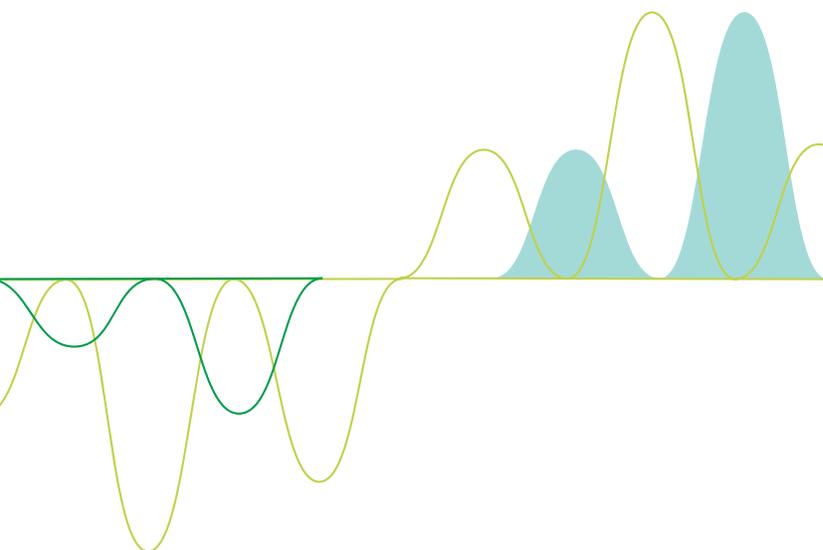
With Qlik Sense, people can truly unleash their intuition. The Qlik Associative Engine allows users of all skill levels to explore information freely without the limitations of query-based tools. It indexes and understands all the relationships in your data, exposing hidden insights to your users that would otherwise be missed. And our new Cognitive Engine adds AI to the mix, working with our Associative Engine to offer context-aware insight suggestions and automation that enhance intuition. With Qlik Sense, everyone on your team can fully realize the power of their data to make the best decisions that transform your organization.

# Analytics for All

Qlik Sense delivers a cutting-edge 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 solve problems – from the simple ones to the most complex.

## Associative Exploration

Exploration in Qlik Sense is unmatched. Users can freely ask questions using simple, natural, interactive selection and search. Our Associative Engine instantly responds with answers after each click, recalculating all analytics to the new context and highlighting associated and unrelated data through easy-to-understand color cues. No boundaries. No restrictions. Your people empowered to follow their own paths to insight, uncovering blind spots that would have been overlooked with query-based tools.



## THE ASSOCIATIVE DIFFERENCE®

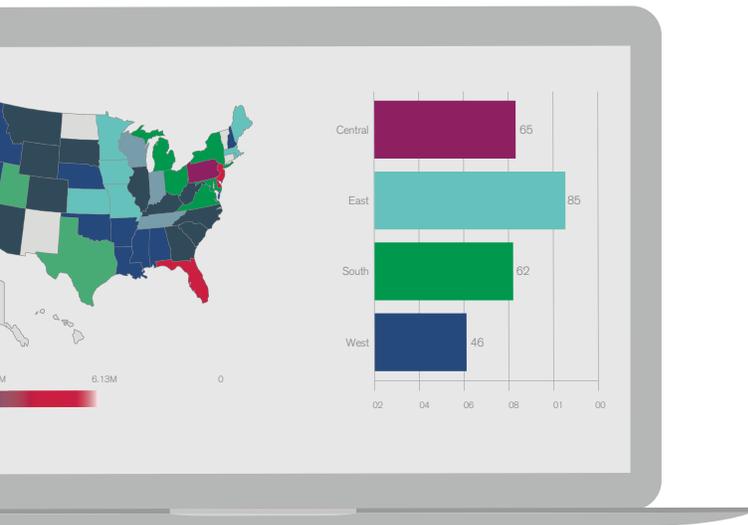
Relational databases and queries were designed in the 1980s for transactional systems, not modern analytics. Query-based tools leave data behind and limit your users to restricted linear exploration, resulting in blind spots and lost opportunities.

Qlik Sense runs on the unique Qlik Associative Engine, enabling users of all skill levels to explore their data freely without limitations. Our Associative Engine brings together unlimited combinations of data — both big and small — without leaving any data behind. It offers unprecedented freedom of exploration through interactive selection and search, instantly recalculating all analytics and revealing associations to your user in green (selected), white (associated), and gray (unrelated). By keeping all visualizations in context together and retaining both associated and unrelated values in the analysis, the Qlik Engine helps your users discover hidden insights that query-based tools would miss.

The Qlik Associative Engine is purpose-built for highly scalable, dynamic calculation and association on massive data volumes for large numbers of users. This unique Engine technology is our primary advantage, with more than 20 years of innovation and investment.

## From Self-Service to Centralized Analytics

Qlik Sense is the most complete solution for modern analytics available. Unlike simple visualization tools, Qlik Sense supports all the analytics use cases across your organization — from data to insight. This includes self-service visualization and discovery, guided analytics apps and dashboards, custom and embedded analytics, mobile analytics, conversational analytics, reporting and alerting, all within a governed framework. With Qlik Sense, you can empower a full range of users with advanced capabilities for visualization and discovery, embed analytics into workflows and externally facing apps, offer natural-language conversational interaction with Qlik Insight Bot®, centrally distribute reports using Qlik NPrinting®, and provide intelligent alerts through Qlik Alerting™. This means you can drive more value from your data in more areas of your business while retiring legacy BI and reporting systems.



## Built for Mobility and Collaboration

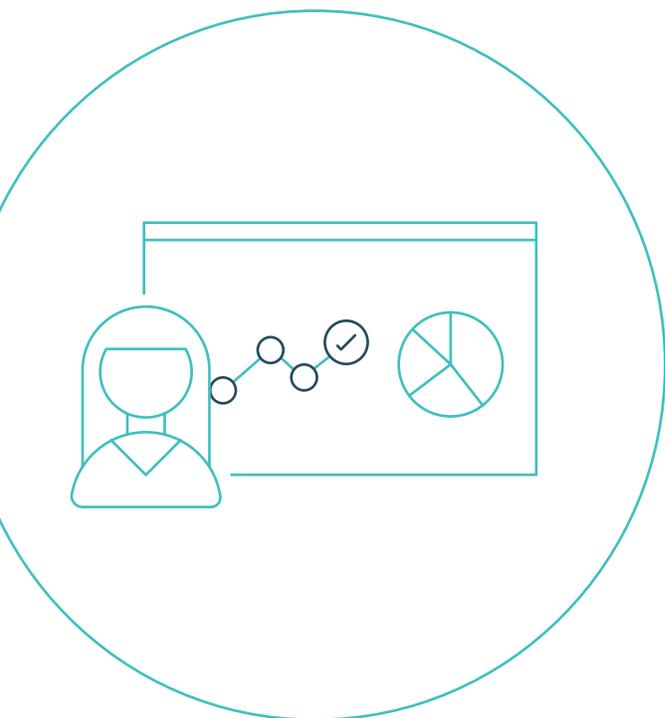
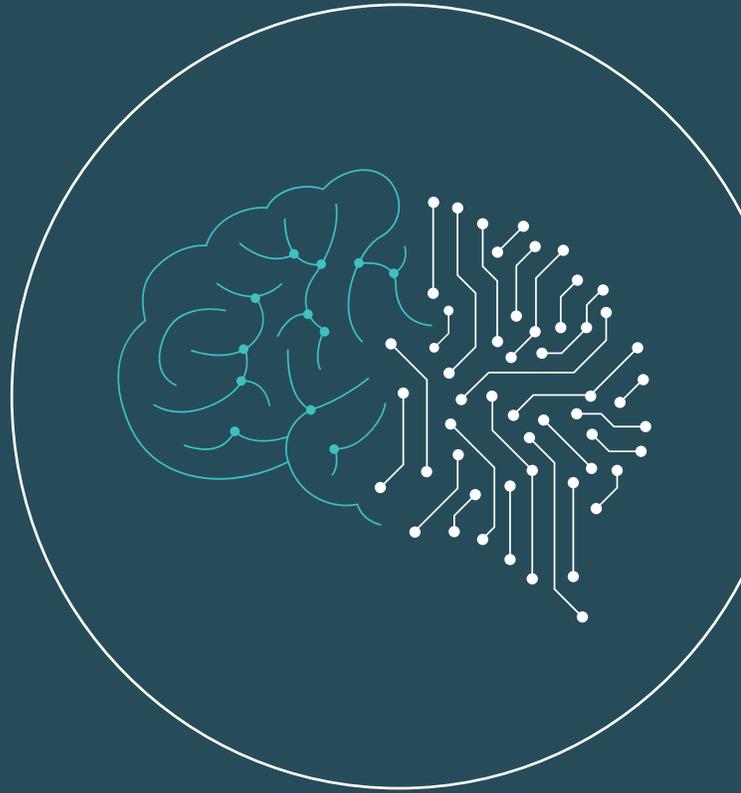
Qlik Sense delivers a complete set of analytics capabilities with an optimized user experience on any device. Unlike other products, Qlik Sense lets your users fully explore, create, and collaborate on mobile devices, without boundaries or limitations. It empowers them to instantly answer questions as they come up and solve problems right at the point of decision.

An intuitive, touch-based HTML5 interface provides the complete Qlik Sense experience on the go. Responsive design intelligently adapts visualizations, data, and functionality to create the best possible user experience on any device. Qlik Sense Mobile apps for iOS and Android feature fully interactive online and offline exploration, with the Qlik Associative Engine running locally on the device. And they offer industry-leading EMM (Enterprise Mobile Management) support, including AirWatch, MobileIron, Microsoft Intune, and a dedicated app for Blackberry Dynamics. When building analytics, there's no need to customize applications for mobility. Your users simply create and consume anywhere.

Qlik Sense features a modern hub with governed content areas that allow users to easily find, share, and organize all types of analytics content. Interactive data storytelling facilitates conversation, allowing for direct, in-context linking to live analytics for immediate answers to follow-up questions. And users can print and export data, analytics, and stories to PDF, Microsoft PowerPoint and Excel for easy sharing.

## ASSOCIATIVE INDEXING + COGNITIVE = AI<sup>2</sup>

At Qlik, we believe that AI should work in combination with human intuition, not replace it. This is why, to us, AI means Augmented Intelligence. Our approach is different from “black box” approaches — we combine our unique Associative Engine with AI and cognitive capabilities to enhance the inherent ability of people to analyze information, generate insights, and make data-driven decisions. Because our Associative Engine manages context (selection state) at each step in a user’s exploratory process and understands the related and unrelated data relative to that context, we can factor this into machine-driven analysis and insight suggestions to make them more relevant. This gives your users “peripheral vision” that guides them to hidden discoveries and helps them see the previously unseen.



## Data Literacy Through AI

Qlik Sense helps your people understand and use data to find every possible edge. It leverages AI and cognitive capabilities to empower users of all skill levels to get the right insights and make data-driven decisions. The Qlik Cognitive Engine works with our Associative Engine to provide a variety of insight suggestions and automations across Qlik Sense, allowing people to combine their intuition with machine intelligence. And with precedent-based machine learning, our cognitive engine gets smarter over time, learning from user behavior, feedback, and other inputs.

## **Insight Suggestions – Visual and Associative**

AI-powered insight suggestions help surface new, hidden insights while minimizing cognitive bias, amplifying discovery, and driving enhanced data literacy. Insight Advisor capabilities within Qlik Sense auto-generate visual insights for the user, delivering the best charts and visualizations based on the data set and refined through natural language search. Users get a series of auto-generated and prioritized charts, which they can make edits and adjustments to and then directly add to dashboards for further exploration. Visual Insights are “context aware” — working in conjunction with our Associative Engine to incorporate the user’s selection state into auto-generated visualizations.

Associative Insights take AI to the next level, directly combining the power of our Associative and Cognitive Engines to suggest the most significant hidden insights for users to explore. Our Associative Engine identifies data values unrelated to user selections (gray values), and our Cognitive Engine now analyzes these values to assess potential impact and offer suggestions about the most significant areas to explore. This capability provides your users with peripheral vision — prompting them to ask additional questions to bring about new discoveries.

## **Smart Visualization and Authoring**

In addition to Insight Advisor, users can drag and drop to create visualizations in a traditional build process, with assistance from AI. No more waiting for others to build visualizations. Anyone can create, modify, and personalize based on their own skill levels. The Qlik Cognitive Engine accelerates and automates the process, with association recommendations – to easily combine different data sources, chart suggestions – that render the best types of visualizations based on the data, and a variety of smart data preparation and authoring functions. Your users can also take advantage of measures, dimensions, and analytics contained in governed libraries to reuse objects that conform to business standards. And because of our Associative Engine, there’s no need to wire visualizations together or build SQL queries.

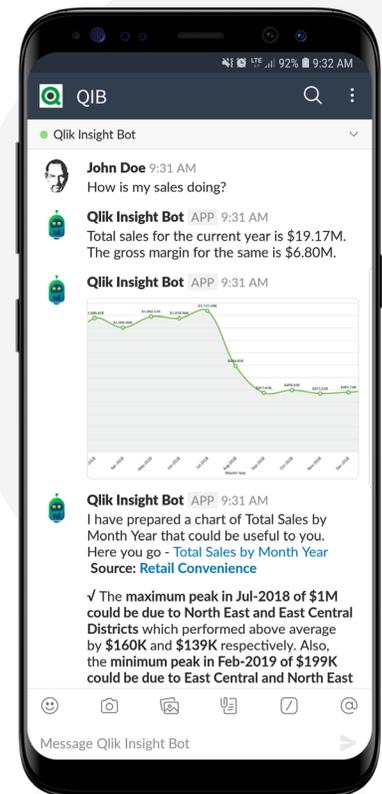
Qlik Sense includes a rich set of smart visualizations that provide a beautiful, visual experience and use innovative techniques to summarize the overall shape of data, highlight patterns and hotspots, and pinpoint outliers. Qlik Sense offers over 30 visualization types, as well as a broad set of best-in-class visualization features. Smart visualizations are fully responsive, automatically scaling data and visual representations for an optimal experience on any screen size. Multi-layer mapping, based on Qlik GeoAnalytics® technology provides sophisticated geographic visualization and calculation. And advanced authoring capabilities allow users to construct highly functional, information-dense applications and dashboards.

## Conversational Analytics and Natural Language

Conversational analytics is a game changing capability that allows people to interact with data through simple, everyday natural language. And this boosts adoption – unlocking the power of your data for far more people, including large communities of less sophisticated users. Qlik Insight Bot® provides an AI-powered, conversational analytics experience using natural language that gives people a faster and easier way to ask questions, generate insights, and make data-driven decisions. It can be accessed from within Qlik Sense as well as through popular collaboration tools such as Slack, Skype, and Microsoft Teams.

Natural Language Processing (NLP) automatically understands user intent, and Natural Language Generation (NLG) delivers insights for not only what's happening, but also why things are happening – and where to go next. Conversational insights include auto-generated charts, interpretations, key drivers, period-over-period calculations, predictions for measures, and even comparative analysis. Users can set alerts for KPI thresholds, share and collaborate conversationally, and easily dive into visual analysis for further exploration, in context.

In addition, Smart Search in Qlik Sense provides an intelligent experience unlike any other analytics solution. Users can search across an entire application and all their data using keywords to refine context and make discoveries. Qlik Sense not only reveals matching dimensions, but also the associations that exist between dimension values across all sources, ranking the results by strength of association. This allows people to discover not just the data that matches their searches, but also the relationships that exist between data values.



# Platform for the Enterprise Ecosystem

Qlik Sense is a true platform for the enterprise and beyond, supporting organizations of all sizes with unmatched performance and flexibility. It offers full enterprise SaaS usage, and client-managed options such as multi-cloud and on-premises deployment. It helps ensure adoption, accuracy, and reliability with a full suite of management, governance, and security capabilities. Organizations can prepare and integrate limitless combinations of data, and build custom analytics apps, extensions, and embedded analytics to serve new use cases. And advanced analytics integration delivers the power of data science and predictive models to everyone, through real-time visual exploration. It's one platform offering enterprise analytics capabilities across the entire spectrum of use cases, high-performance and fully governed — without compromises.

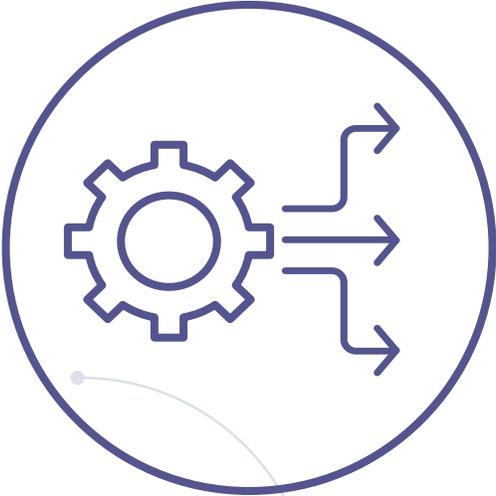
## High Performance, Cloud Native

A high performance cloud-native architecture in Qlik Sense provides your organization with broad deployment flexibility and scalability. Organizations can choose Qlik's SaaS environment, or client-managed options such as multi-cloud and on-premises deployment. At Qlik, we do not limit customers to any particular cloud, and instead support combinations of on-premise, private, and public cloud sites as needed.

With Qlik Sense, your organization can deploy modern analytics, including self-service, without having to make trade-offs when it comes to governance and trust. Our modern management capabilities provide a single point of control for all areas of the system. Centralized libraries of data and analytics, and flexible rules-based security ensure that information is accurate and secure. And the Qlik Associative Engine delivers unmatched dynamic calculation and performance for high numbers of users and large, complex data sets. With Qlik Sense, your organization gets the performance and governance it needs to maximize adoption and value.



## Big (and Small) Data Integration



Qlik Sense provides a complete set of data preparation and integration capabilities, allowing users to work with nearly limitless combinations of data, both big and small. Smart, self-service data preparation, enhanced by AI, allows your non-technical users to visually combine, transform, and load data from multiple sources — without leaving data behind. Data sources can be easily combined using drag-and-drop functionality, with machine suggestions to help identify the best associations. Intelligent profiling automatically processes various data types and provides descriptive statistics. Visual transformation offers a full set of data prep features such as derived fields, binning, and concatenation. Robust ETL scripting is also available, enabling your organization to handle the most complex data integration challenges without requiring external tools or data repositories.



Qlik Catalog offers an enterprise library of data sets for consumption, and Qlik Connectors provide broad connectivity to local, on-premises, and web-based data sources. Dynamic Views allow for individual visualizations to be tied to high-performance data sources such as Snowflake, for real-time data refreshes. And on-demand app generation allows users to dynamically create 'slices' of big data for in-memory associative analysis.



## Open Customization and Extension

Qlik Sense offers a complete set of open APIs and toolsets so you can develop custom analytics apps and mashups, embed analytics in operational apps and create extensions for new types of visualizations and functionality. Developers can rapidly customize, extend, and embed Qlik Sense capabilities to create new applications and meet unique business requirements, using industry standard technology skill sets. An integrated developer hub and a variety of toolsets are offered to accelerate development. With Qlik Sense, your organization can create applications and analytics that serve new use cases, and extend analytics to a broader ecosystem of customers and partners.

Advanced Analytics Integration in Qlik Sense allows you to deliver the power of third-party data science and predictive models directly to your business users. With engine-level integration that updates calculations in real time, users can make interactive selections in visual applications and evaluate the resulting predictive calculations without having to be data experts. Advanced Analytics Integration can be used with any third-party calculation engines, with open-source connectors available for R and Python, and established integrations available with partners such as DataRobot.



### About Qlik

Qlik's vision is a data-literate world, one where everyone can use data to improve decision-making and solve their most challenging problems. Only Qlik offers end-to-end, real-time data integration and analytics solutions that help organizations access and transform all their data into value. Qlik helps companies lead with data to see more deeply into customer behavior, reinvent business processes, discover new revenue streams, and balance risk and reward. Qlik does business in more than 100 countries and serves over 50,000 customers around the world.

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