

# How to Create Real-Time Insights for U.S. State, Local, and Higher Ed Organizations

Key Elements for deploying Qlik Cloud®



As U.S. public sector organizations digitally mature and seek to be data-driven, **adopting a “platform mentality” becomes increasingly essential in order to deliver the full potential of analytics.**

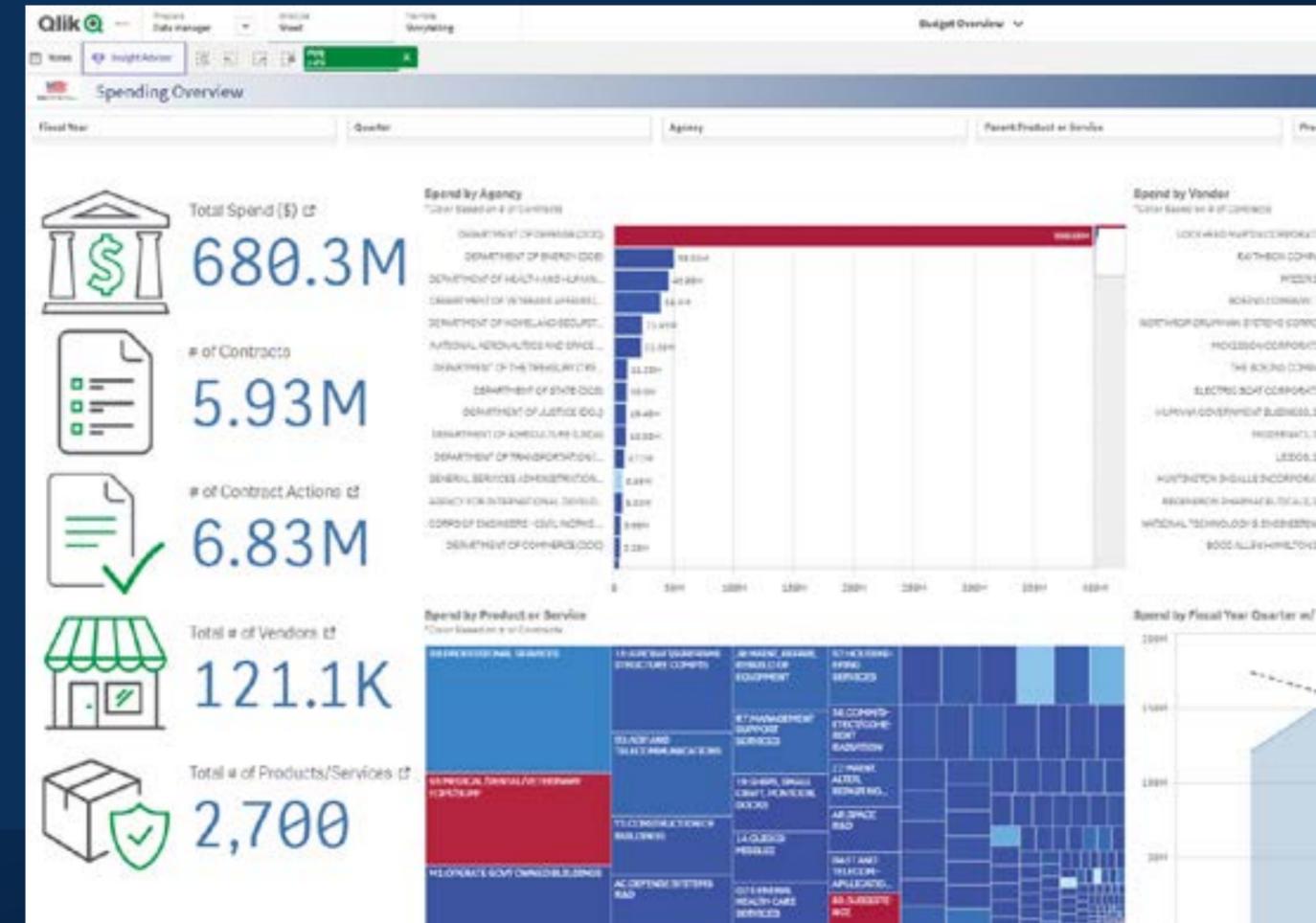
In the U.S. public sector, organizations encounter various unique challenges, such as effectively managing data governance across centralized data assets, navigating end-to-end analytics lifecycles, ensuring seamless interoperability, and, crucially, establishing and maintaining end user trust.



# Qlik Cloud

Qlik Cloud has been purpose-built to support your end-to-end data lifecycles and help modernize state, local, and higher ed organizations through a portfolio of advanced technologies that deliver real-time information and drive immediate action. Qlik Cloud brings together data pipelines, predictive analytics, AI/ML, and automation into one unified platform, empowering agencies and users of all levels to make data-driven decisions. By harnessing data intelligently, government organizations can enhance the delivery of public services, efficiently tackle social issues, and foster transparency and trust with citizens.

Qlik is committed to supporting our U.S. public sector customers with solutions they can trust. We have invested in the security capabilities of the platform to meet a variety of regulatory expectations such as FedRAMP, StateRAMP, HIPAA, and more. Qlik is proud to provide a safe, compliant cloud environment where innovation and intelligence can thrive.



\*Prior to loading any Protected Health Information (PHI) into Qlik Cloud, Qlik requires advanced encryption with Customer Managed Keys to be deployed and a Business Associate Agreement executed between Qlik and the customer to fulfill HIPAA requirements.

This eBook has been designed to educate new users about the main elements of Qlik Cloud and how to utilize the platform specific to U.S. state, local, and higher education use cases.

# What can you learn from this eBook?

1

How to leverage Qlik Cloud for data lifecycles specific to U.S. public sector



2

Key elements to consider when designing solutions/ planning deployment(s)



3

How Qlik Cloud drives action from data



# What's inside Qlik Cloud?

Through a unified platform like Qlik Cloud, agencies can adopt cutting-edge technologies like AI, machine learning, predictive analytics, and automation into daily operations.



## How do I move data into Qlik Cloud and other databases and zones?

Qlik Cloud Data Integration builds the essential data fabric that accelerates the discovery and availability of analytics-ready data through automating real-time data pipelines, ETL/ELT, cataloging, and publishing.

- Real-time Data Movement
- Change Data Capture and Streaming
- Data Transformation
- Data Warehouse Automation
- Data Lake Creation
- Catalog and Lineage



## How do I analyze data and share insights within Qlik Cloud?

Qlik Cloud Analytics delivers best-in-class analytics that help people of all skill levels to make data-driven decisions and take informed action. It is engineered to augment human intuition with AI (artificial intelligence) and AutoML (automated machine learning) to deepen insight.

- Governed and Self-Service Analytics
- Predictive Analytics with ML and AutoML
- Generative AI and NLG
- Collaboration and Storytelling
- Alerting and Reporting
- Embedded Analytics and APIs



## How do I automate data analytics operations and business processes?

Native to Qlik Cloud, Qlik Application Automation<sup>®</sup> helps users easily create workflows that streamline and optimize data and analytics processes. Its visual approach lets you quickly drag and drop to assemble workflows with connectivity across market-leading SaaS applications like Salesforce and ServiceNow to trigger alerts and invoke downstream actions that react your business.

- No-code Development
- Business Process Automation
- Enhanced DevOps
- Data-Driven Actions
- Unify SaaS Silos
- 50+ Connectors

# Qlik Cloud

## Data Integration



Data Movement & Streaming



Data Warehouse Automation



Data Transformation



Application Automation

## Analytics



Visualization & Dashboards



Augmented Analytics & AutoML



Embedded Analytics



Alerting & Action

## Foundational Services



Catalog & Lineage



Artificial Intelligence



Associative Engine



Orchestration



Governance & Security



Reporting & Collaboration



Developer & API



## Hybrid Cloud



UNIVERSAL CONNECTIVITY



RDBMS



Data Warehouse



Data Lake



SaaS



Apps



Mainframe



Stream



Files



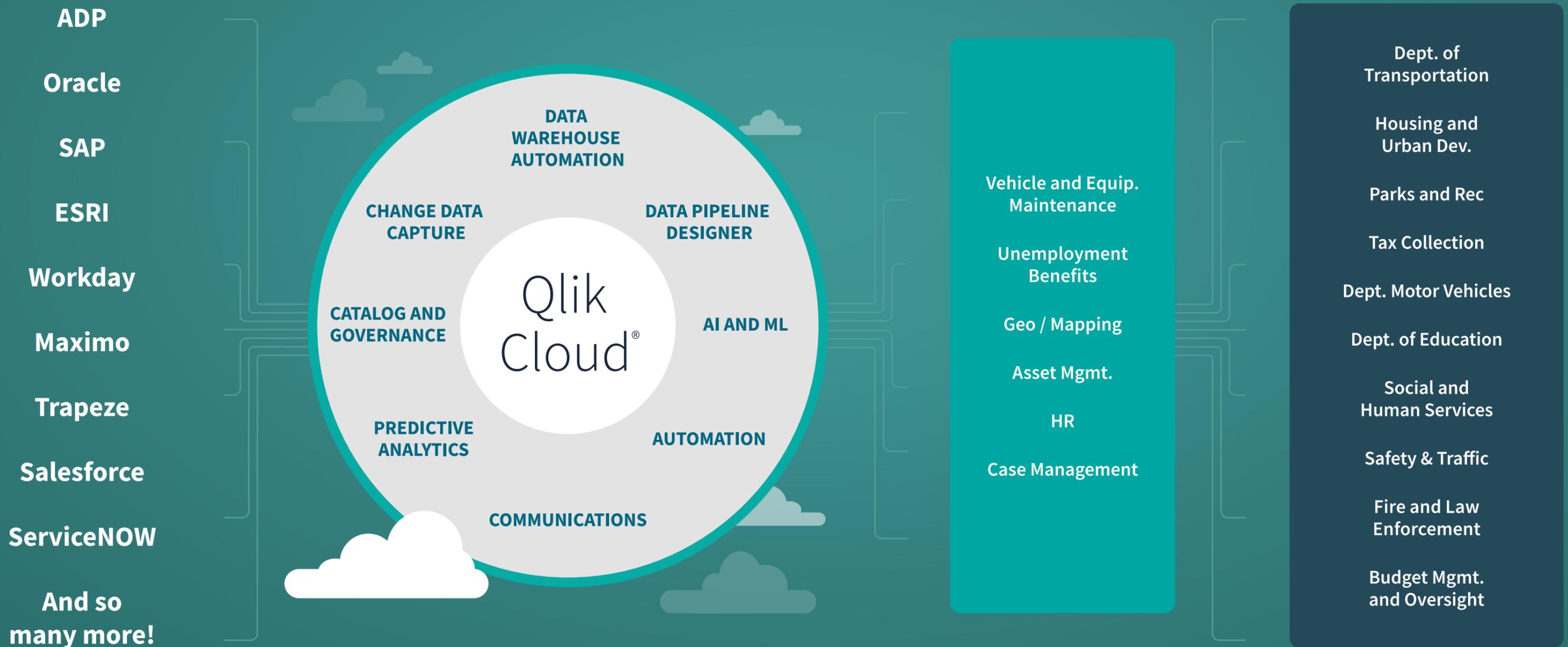
Microsoft Azure

Google Cloud

ON PREMISES

# Unified data ecosystem

Welcome to the future of analytics with Qlik Cloud! Simplify your agency's data flow and seamlessly integrate all your data sources into a single, cohesive hub, empowering your agency with a unified data ecosystem. Gain a comprehensive view of your organization's data and unleash the power of AI, machine learning, and automation to uncover actionable insights, streamline processes, and enhance public services with **the power of data.**



# What does that look like?

Let's look at a day in the life of a Qlik Cloud user group

Qlik Cloud has been specifically designed to move in stride with you. By creating a unified platform that consolidates data integration, enterprise analytics, AI, machine learning, and automation, customers can reach a level of data utilization and value creation never before possible.

Let's look at a scenario around a natural disaster and get a glimpse of how Qlik Cloud utilizes data in stride of operations to ensure teams get the data required to save the day.

The screenshot shows a dashboard interface for 'Natural Disaster Recovery'. At the top, there are navigation icons (home, mail, globe, user, calendar) and a search bar. The main content area displays a timeline of events:

- CONTINUOUS**: **Data Integration** ensures data from weather, emergency, police, hospital, and other data sources are being monitored in real time and continuously integrated into the necessary systems.
- 8:00 AM**:
  - The **Hospital Occupancy app** has an **AutoML** model that runs in parallel with reloads.
  - The ML model was quickly modeled to forecast occupancy and length of stay for hospitals within different driving distances.
  - A data pull has been requested for workforce availability across all medical personnel to integrate into the analysis.
- 8:15 AM**:
  - An **alert** is sent to all agency operation groups that the latest data refresh is completed and that a report with analysis and summary is read.
  - A **PDF report** has been scheduled to be distributed every 30 minutes consisting of hospital statuses, emergency resource allocation, traffic, and related metrics.
- 8:35 AM**:
  - An **automation** workflow has been deployed to send metrics from different Qlik Apps to the web team's system. This allows the state and county websites to broadcast key metrics for disaster response across the region.
- 8:50 AM**:
  - A new **AutoML** model has been developed to provide predictive insights to fire and police department first responders on resources and incident/case management.
  - An automation has been set up to continuously train the ML model off of new data and deliver those predictive insights to first responder systems and mobile devices.

## Business Outcomes

↑ Responsiveness

↓ Inaction

↑ Service Quality

↓ Resistance

↑ Agility

↓ Risk

# 1. Security



## HOW DO I SECURE MY DATA?

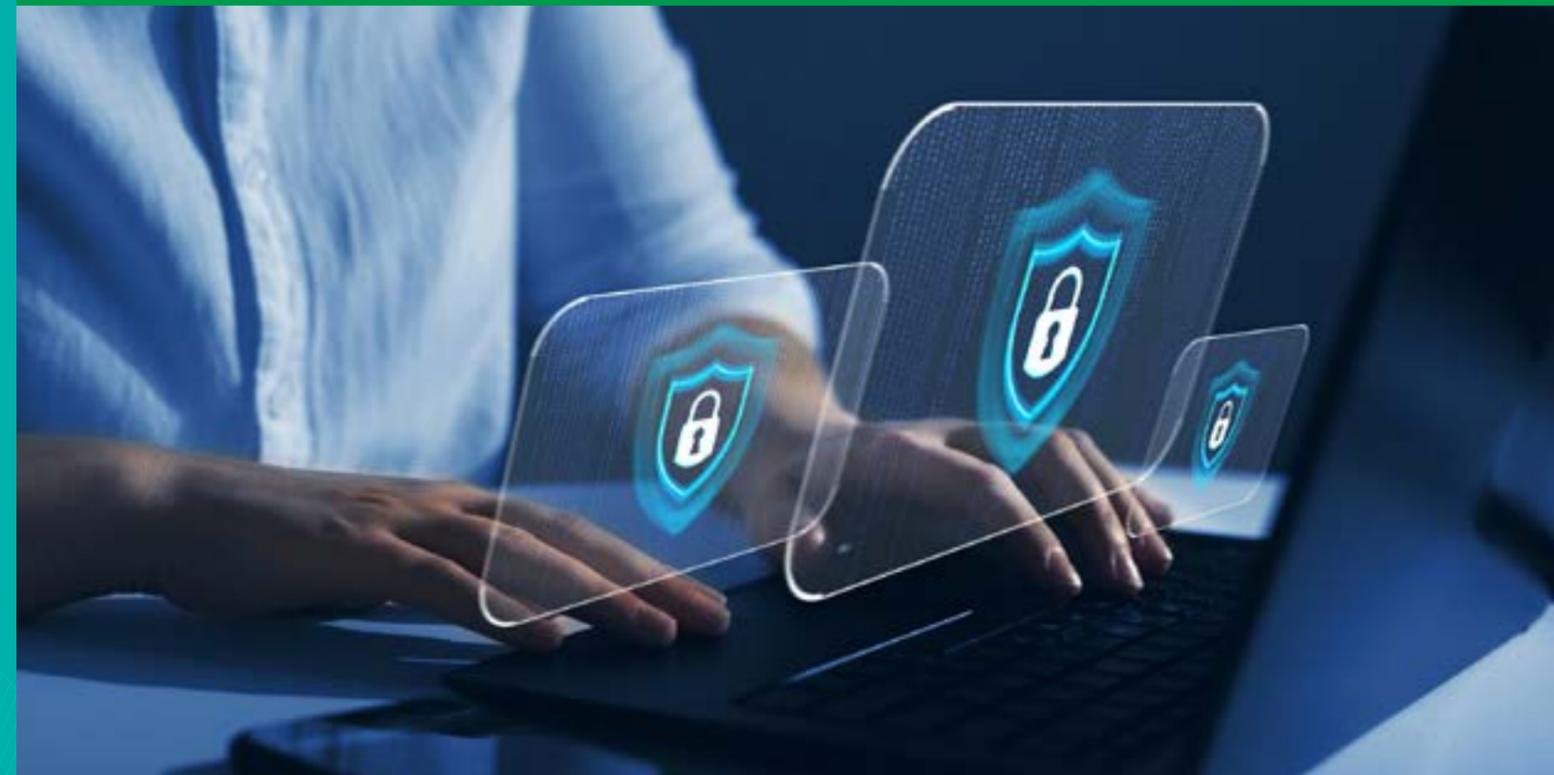
Security By Design at Qlik is an embedded function across the company. It is an integral part of how we develop technology. Qlik provides underlying security and governance controls that support a range of compliance accreditations like FedRAMP, StateRAMP, and HIPAA.

- Customer Managed Keys allow you to bring your own encryption keys and retain control of data encryption (mandatory for hosting Protected Health Information in Qlik Cloud). 
- Single Sign-On securely authenticates users with your existing, internal security user roles and groups (i.e. Okta, Azure AD, HR Systems like Workday, etc.). 
- Field-level security and dynamic data reduction ensures access is seamless across different user groups (i.e. only Directors can see Budget Data). 

## KEY ELEMENTS IN QLIK CLOUD

### Example:

Leverage Qlik Cloud for a variety of use cases like handling PHI data for employees, safeguarding proprietary citizen data, and deploying metric portals for open access data.



## 2. Data Movement



### HOW DO I MOVE DATA FROM SOURCES TO TARGETS?

Data Integration in Qlik Cloud makes it simple to build data pipelines from raw sources into target systems like enterprise data warehouse(s).

- Manage enterprise data pipelines across the entire org and democratize your data. 
- Migrate different analytics elements, like existing QVDs, at a pace that fits your business.
- Utilize Change Data Capture in real time across sources for a reliable stream of data. 

#### Example:

Manage your enterprise data pipelines across multiple sources (ex. Budget, Operations, HR, and more) and move into targeted data analytics environments.



## 3. Data Connectivity

### HOW DO I SAFELY CONNECT TO DATA SOURCES FOR ANALYTICS?

Qlik Cloud comes with a large library of connectors across a variety of load techniques for both cloud and on-premises data sources.

- Analytics Engine – purpose-built for enhanced, intuitive data discovery and primary ingestion technique. ▶
- Direct Query – enables apps to directly query databases for big data and near-real-time use cases.
- Direct Access via Data Gateway provides encrypted connections to Qlik Cloud for securely accessing data residing behind your organization's firewall or VPC. ▶

#### Example:

Unlock the full potential of your data with seamless connectivity for analytics, empowering your agency to gain deeper insights. Qlik Cloud can connect to 100+ sources, including both on-premises and cloud sources:

- Budget
- HR and Recruiting
- Department Apps (Law Enforcement, Water, etc.)
- Capital Planning
- Grants
- Benefits



## 4. Data Management

### HOW DO I DEMOCRATIZE DATASETS THAT ACT AS LIBRARIES FOR USERS WITH GOVERNANCE?

Qlik Catalog centralizes datasets from diverse sources into a single, easy-to-access collection that increases governance, adoptions, and overall trust.

- Business Glossary enforces organizational definitions, increasing governance and reducing uncertainty. ▶
- Catalog offers the ability to tag data and track usage to ensure governance when managing sensitive data like PHI (Protected Health Information).
- Field Level Lineage illustrates data between sources and end-user apps. ▶
- Impact Analysis provides visibility into a data element's dependencies — indicating which databases, apps, or files would be impacted if changed. ▶
- Data Usage offers metrics across content viewing and adoption levels across datasets and applications in the tenant.

#### Example:

Centralize data silos into governed libraries that support everyone — from developers to data stewards to end users. Qlik Cloud resolves data fragmentation and simplifies access to data, accelerating both collaboration and service delivery.



# 5. Analytics



## HOW DO I CREATE ACTIONABLE INSIGHTS WITH ANALYTICS APPLICATIONS?

Qlik Cloud Analytics empowers people at all skill levels to make data-driven decisions and take action in the moment when it matters most. ▶

- Insight Advisor, Qlik Cloud's built-in AI, supports users to ask questions and discover relevant answers with auto-generated visualizations and narrative insights. ▶
- Application building is easy: low-code, drag-and-drop dev with fully interactive visualizations.
- Easily deploy org-wide dashboards and rich self-service environments that enable agencies and constituents.
- Trigger actions and analysis at the object level like chart monitoring, subscriptions, and alerting. ▶

## KEY ELEMENTS IN QLIK CLOUD

### Example:

Qlik Cloud Analytics can fuel predictive analytics across departments and agencies — from finance or law enforcement to social services. Elevate your team with access to insights that drive action.



## 6. AutoML



### HOW DO I USE MACHINE LEARNING FOR PRESCRIPTIVE ANALYTICS?

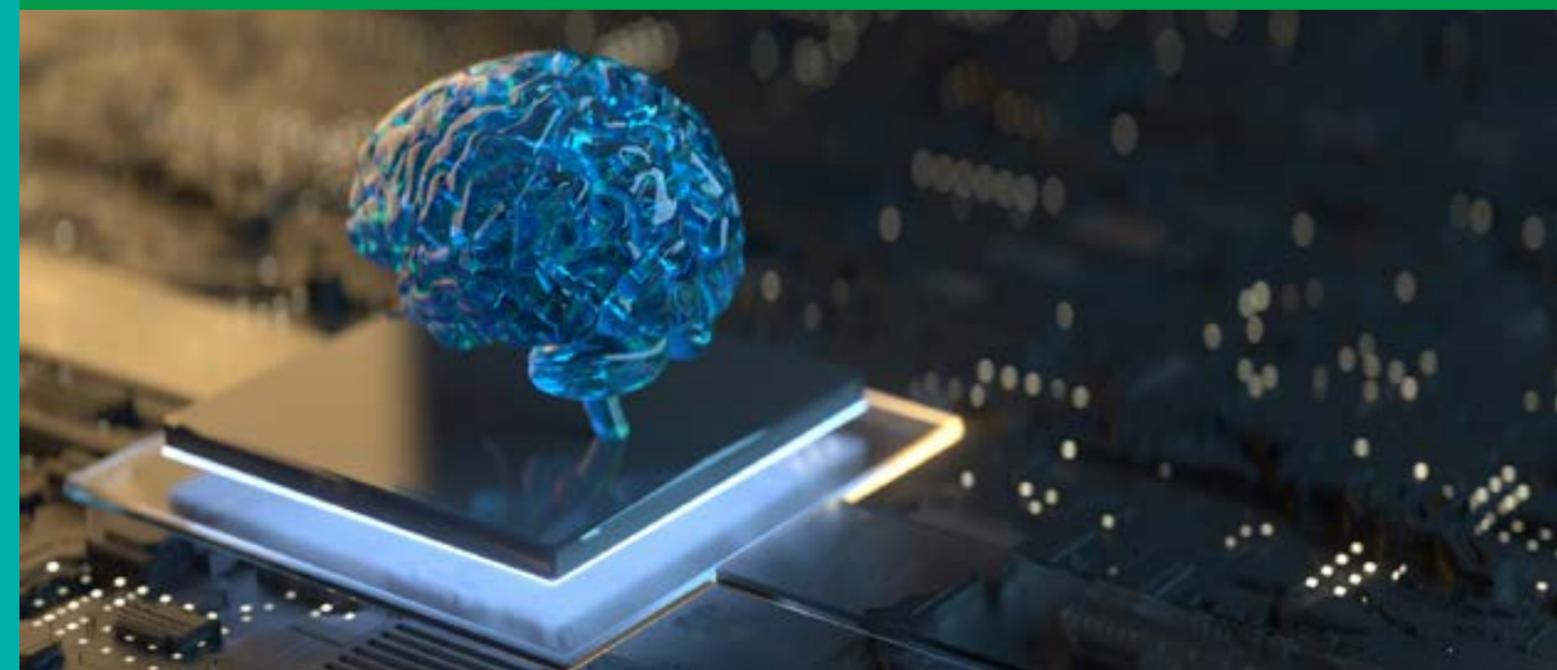
Qlik AutoML is no-code, automated machine learning designed for analytics users and teams. ▶

- Out-of-the-box algorithms for simple deployments.
- Auto-generate and train machine learning models.
- Create predictive analytics with explainability. ▶
- Integrate AutoML results into decision planning.
- Connect to other data science /ML tools.

### KEY ELEMENTS IN QLIK CLOUD

#### Example:

- Financial Forecasting
- Workforce Planning
- Fraud Detection
- Employee Retention
- Property Maintenance
- Crime Prediction
- Public Health
- What-If Scenarios



## 7. Alerts, Reporting, and Mobile

### HOW DO I COMMUNICATE INSIGHTS AND ENABLE INTERNAL/EXTERNAL USERS?

Qlik Cloud offers observability through a variety of communication channels that ensures users stay in the know. Qlik Cloud makes it easy to deploy communications from your analytics assets at the click of a button.

- Alerts for both organizational awareness and individual self-service needs. ▶
- Reporting delivers burst reporting with custom, multi-sheet reports for internal users and anyone in your ecosystem. ▶
- Mobile users can access insights anywhere — even offline! ▶

#### Example:

- Alerts for budget variances and outliers
- Burst reporting to automate performance scorecards
- Mobile access for remote workers (police, utility, water, etc.)



# 8. Automation



## HOW DO I ORCHESTRATE DATAOPS AND LEVERAGE AUTOMATIONS?

Application Automation offers a no-code, drag-and-drop approach to building automations with pre-built workflows and 50+ connectors.

### Examples of Ways to Use Automations:

#### Data and Analytics Ops

- Change control and tenant management
- Back-office workflows and onboarding

#### Communications and Event Triggering

- Alerting and burst PDF reporting 
- Multi-channel (Slack, Teams, and more)

#### Business Processes Integrations

- Submit ServiceNow or Jira tickets
- Update external systems outside of Qlik 

## KEY ELEMENTS IN QLIK CLOUD

### Example:

Automations enables users to initiate actions directly from dashboards or autonomously through dynamic conditions and settings.

- Accelerate business processes like enrollment with integrations across onboarding and payroll.
- Streamline fleet maintenance with alerts and predictive forecasting.
- Automate alerts that support everything from Data Ops for IT to budget variances for departmental leadership.



## 9. Embedding Analytics

### HOW DO I EMBED ANALYTICS INTO SYSTEMS LIKE EPIC, CERNER, OR SALESFORCE?

Easily integrate analytics assets and content into business applications, products, websites, or portals — putting the analytics where decisions are made.

- Easily make data available to the public on government websites. 
- Provide access to budget and community health data to support transparency

#### Example Use Cases

- Public-facing websites  
Example: FDA Adverse Event Dashboard 
- Internal and external portals 
- Business applications and processes

#### Example:

Embed KPIs, visualizations, and datasets into any public-facing website, business application, or internal portal. Qlik Cloud simplifies the ability to share and democratize data for employees and civilians.



# Summary

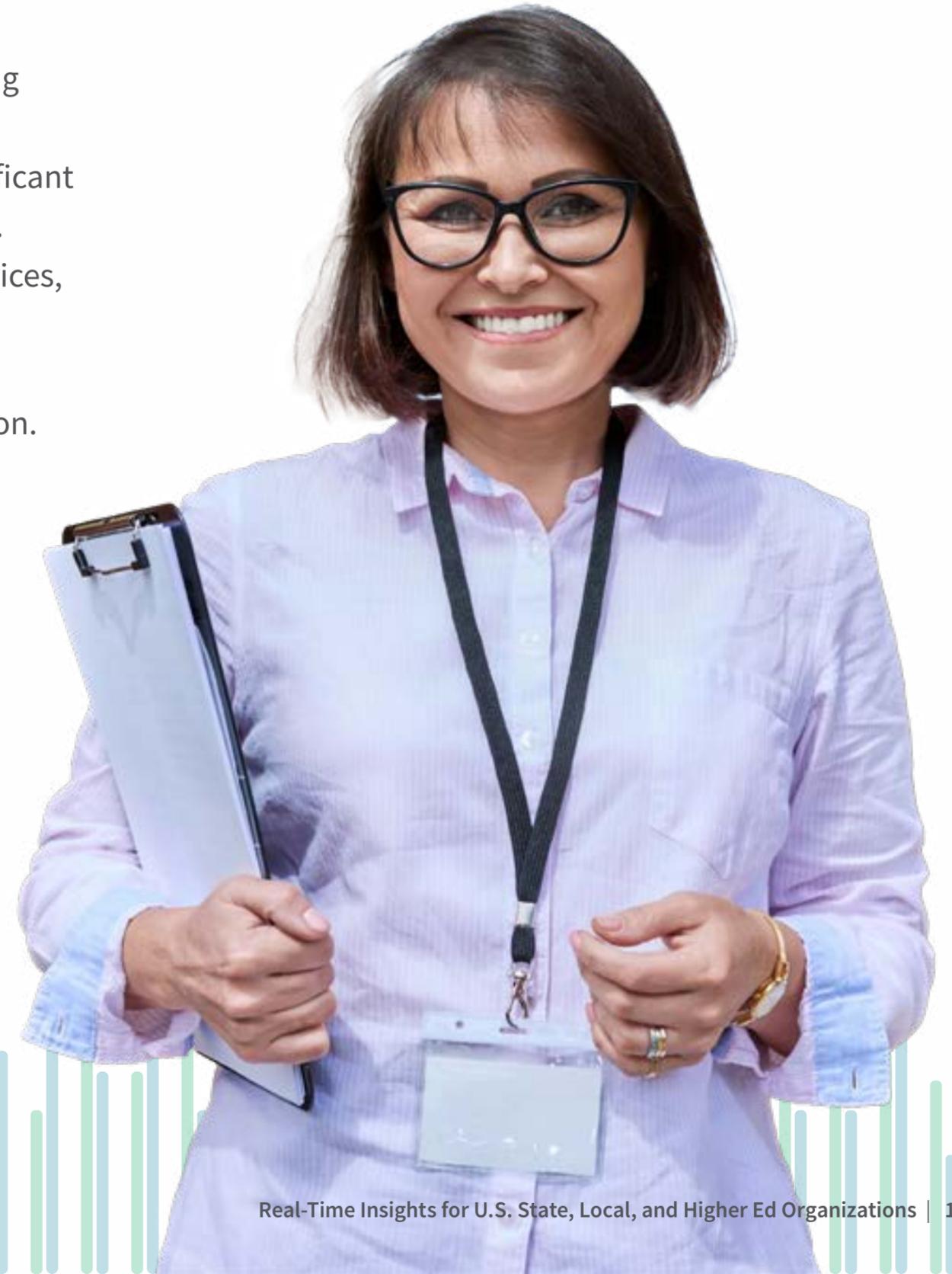
In this insightful eBook, we explored the pivotal role Qlik Cloud can play in revolutionizing state and local government organizations across the United States. These advanced technologies like artificial intelligence (AI), machine learning, and automation offer significant benefits — including enhanced efficiency, cost savings, and data-driven decision making. Through real-world examples, we illustrated how AI-driven tools can improve public services, enhance citizen engagement, and bolster public safety. Moreover, we delved into their potential applications in healthcare, urban planning, disaster response, and more; while emphasizing the importance of data privacy, compliance, and responsible implementation.

Qlik Cloud empowers organizations to digitally transform their operations and leverage data more intelligently to improve their delivery of public services, address social issues more efficiently, and build transparency and trust with citizens. Discover how embracing innovation can shape a brighter future for communities nationwide.

**Ready to see for yourself?**

[Explore Qlik Sense](#)

[Try Qlik Sense Free](#)



Qlik delivers an industry-leading portfolio of solutions for data integration, data quality, and analytics. This includes advancements in real-time data, AI, ML, and automation. The most successful organizations are investing in data to make sense of the increasing amounts and varieties of data from diverse sources. The challenge is to effectively integrate, analyze, and act on the data while ensuring its trustworthiness. With more than 40,000 active customers in over 100 countries, Qlik's solutions work with virtually any data source, target, architecture, or methodology, to ensure customers have the data they need, whenever they need it.

