Qlik

Calibrate for Crisis

Top 10 BI & Data Trends 2023

Qlik
30 YEARS

50 offices
around the world

~3,600
employees

12 state of the art development centers
across North America, Europe and Asia

>$1B invested
in innovation

Gartner® Magic Quadrant Leader
Analytics and Business Intelligence Platforms
Data Integration Tools
Data Quality Tools

Qlik Cloud

2x Growth
SaaS customers YoY

>40,000
customers

1,850
partners

235,000+
community members

4.5/5
customer service satisfaction

75% of customers up & running in 4 days

500K databases moved to the cloud

2x growth in monthly active users YoY

5.5 million automation runs monthly

4.5 trillion rows of data loaded daily

3 out of 4
who try AutoML deploy models on Qlik Cloud

Extensive Data Software Portfolio

Move · Transform · Understand · Action · Trust

Supporting 500+ Charities and NGOs

impacting the world

Direct Relief · C40 CITIES · Mercy Ships

Leading companies count on Qlik

10 of the top 10
Pharmaceutical Companies

6 of the top 10
Retail Brands

7 of the top 10
Utility Companies

10 of the top 10
Manufacturing Companies

15 of the top 20
Financial Services Companies

7 of the top 10
US Healthcare Companies

Power — and data — are shifting.

Both are becoming fragmented.

At this moment in history, we're in a perfect storm. **Geopolitical, social, and economic concerns are churning**. We're seeing a rise in conflict and isolationist tendencies; instead of a move toward cooperation, local regulations are amping up. In the economy, confidence is low, recession fears are high, and rising interest rates – plus inflation – are impacting borrowing.

What do these factors have in common? More than a few scholars are claiming that we're in the midst of a shift toward de-globalization.

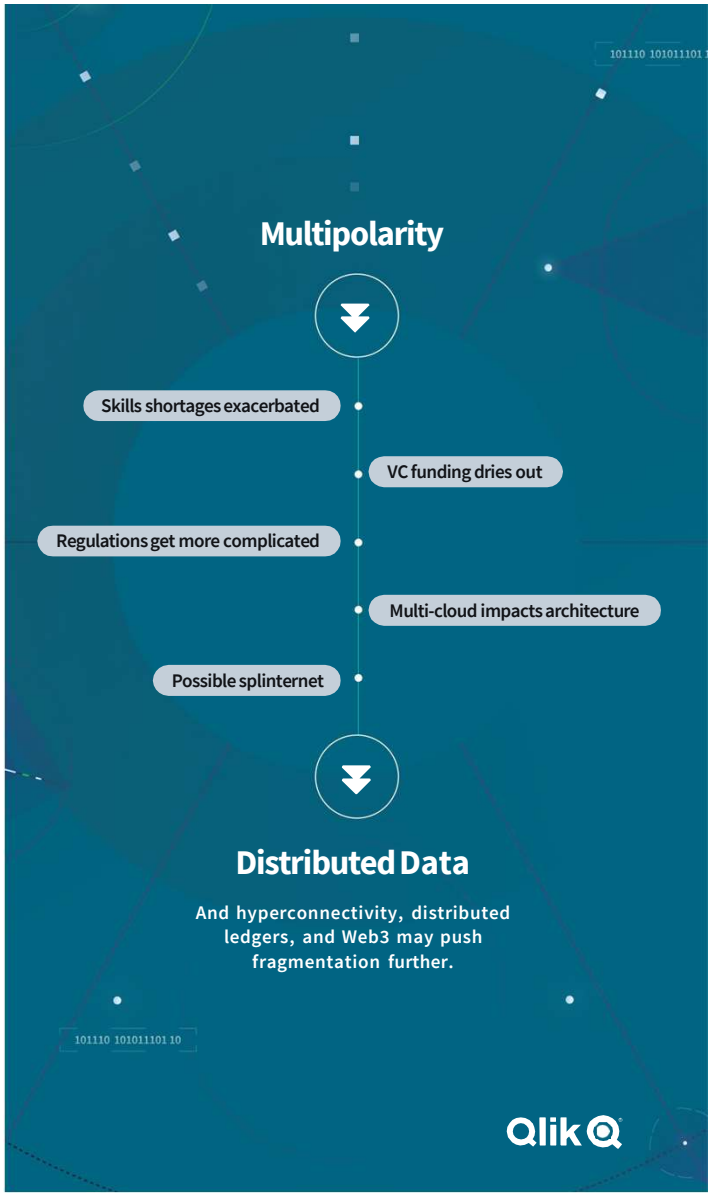
As it plays out, we'll see new fractures in old structures and the emergence of a state of multipolarity, or the distribution of power among multiple entities. And while the jostling will occur at the international level, we'll feel the impacts locally, in both our businesses and personal lives. Among other repercussions, we'll be challenged with energy shortages, currency fluctuations, broken supply chains, and struggling markets. Multipolarity will also have a significant impact on information technology. (See sidebar.)

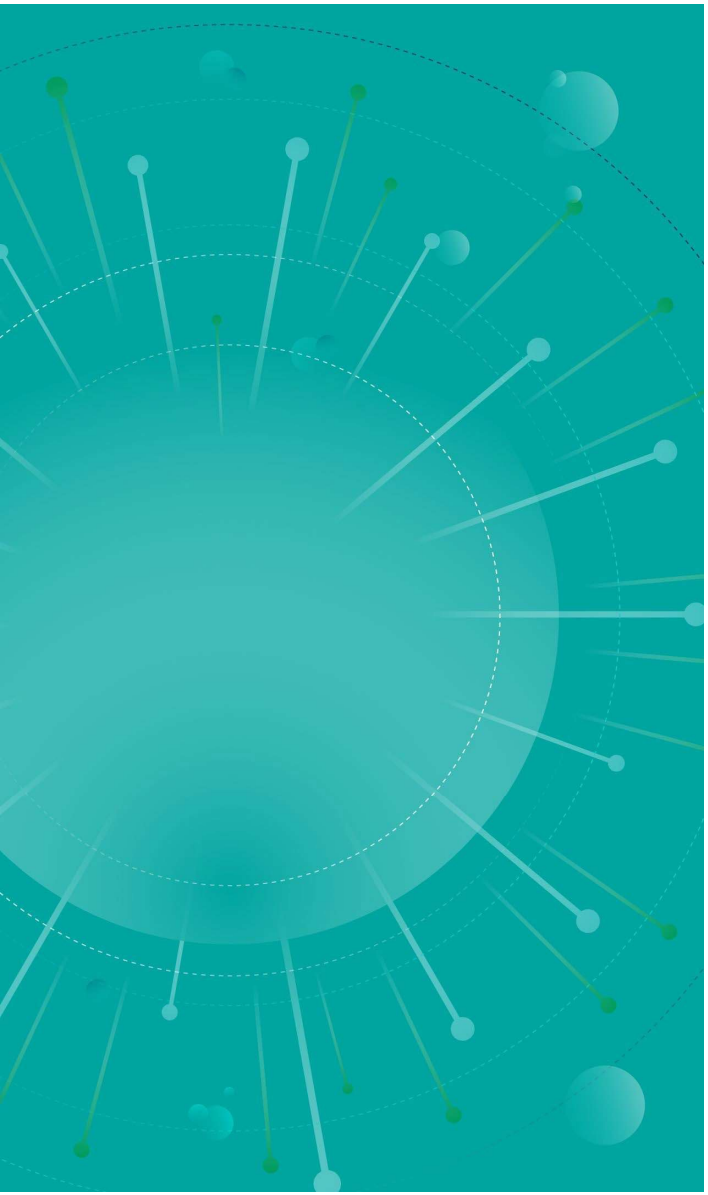
As data and analytics professionals, we need to adjust to more fragmentation, with its disparate data centers, disrupted supply chains, nonstop innovation, and hampered access to skilled labor. And in a world where crisis has become a constant, calibrating for it becomes a core competency – so we can react in the moment and anticipate what's coming next.

Data has left the building

According to Gartner, by 2025, more than 50% of enterprise-critical data will be created and processed outside the data center or cloud.

— Gartner [1]





It's time to calibrate for crisis.

And that requires two key competencies.

During the pandemic, organizations acquired new technology simply to keep the lights on. In that sudden modernization, systems and processes became a chaotic tangle. Now it's time to play catch-up in areas like governance, responsiveness, and cloud costs.

In these challenging times, nearly 7 out of 10 global tech leaders are concerned about the growing technology investment required to remain competitive.[2]

But few, if any, are looking to reduce their data efforts. Instead, surveys indicate[3] that data integration, analytics, automation, API management, and AI are all top technologies CXOs rely on for crisis management. And now's the time to use them. In the coming year and beyond, we believe it will be important to focus on two areas in particular:

Calibrate the decision

Hone your decision accuracy – at speed and scale – to better react to, adapt to, and even anticipate unexpected events.

Calibrate the integration

Work to achieve connected governance – the ability to access, combine, and oversee distributed data sets – to handle a fragmented world.

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Top 10 BI & Data Trends 2023

Calibrate the decision

1. Supply chain disruption meets real-time data
2. Decision velocity – at scale
3. Optimizing across low-code and high-code
4. The human/machine arms race
5. Data stories that compel action

Calibrate the integration

6. Market consolidation opens new opportunities
7. What's old is new again – in the cloud
8. "X-fabric" holds connected governance together
9. AI moves deeper into the pipeline
10. The rise of derivative and synthetic data

The way forward.

What do these trends mean for you?

In a fragmented world where crisis has become a constant, it's important to innovate and be prepared. Start by thinking through how these trends apply to your organization.

- Identify use cases where real-time data and decision velocity can address challenges
- Leverage the right mix of code optimization for your business users and engineers
- See how data storytelling can be more closely linked to action
- Use innovations in natural language to bring data querying, insights, and actions to more people
- Look for ways to converge siloed technologies
- Use a fabric not just for your data but for other artifacts as well
- Apply AI earlier in the data pipeline
- Leverage the VC crunch to remediate urgent skills shortages
- Look at derivative and synthetic approaches as ways to maximize value in a distributed world

It's about more than just the technology.

Data professionals of all kinds will play a key role in calibrating through crisis. In a deglobalizing world, localized sourcing of those professionals will become increasingly important. Key to this is increasing the data literacy of your existing workforce, using both education and technology.

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Qlik
Analytics
Trends 2023
The world is fragmenting. Geopolitical, social, and economic changes are disrupting the way we do business. But it's not all doom and gloom. Crisis breeds opportunity. Position your organization to take advantage by understanding the coming trends.

Calibrate the decision

1 Supply chain disruption meets real-time data

Anyone who has attempted to buy a new car (or computer, or construction materials) in the last few years knows how seriously supply chains have been compromised.

Disruptions can happen anywhere in the world, and they require an immediate response.

That means acting on contingency plans and even, if possible, "pre-acting" – in other words, using forecasts and scenarios to pivot before things begin to break down. The infrastructure to handle real-time data has been in place for some time, but the critical use cases and ultimate potential haven't been fully explored. Now they should be. We're faced with managing inventory when raw materials are scarce and shipping is disrupted; needing to pinpoint supply chain bottlenecks to backfill and work more effectively with partners; and having to shift resources to tackle new opportunities or address humanitarian needs when conflicts arise. And the pace of these issues is only going to accelerate.

The Impact

The pandemic and conflict in Ukraine have created significant components shortages. This backdrop has become the trigger for organizations to update their data-delivery pipelines, from batch-oriented to near real-time data. And as more edge devices appear on the grid – producing continuous, high-volume streams of data – more opportunities to leverage real-time data will arise.

Analyst Prediction

"By 2027, 60% of spending on data capture and movement technology will be on streaming data pipelines, enabling a new generation of real-time simulation, optimization, and recommendation capabilities."

— IDC[4]

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ACTIVE INTELLIGENCE STORY

Running Real-Time Supply Chain Response

Challenge

- Storing data across multiple locations was hindering decision-making for manufacturing operations team
- Struggled to get timely visualization of trends in the business
- Difficulty getting information from ERP system and external systems

Solution

- Moved analytics to the cloud with Qlik Cloud
- Developed 60 cloud analytics apps to help monitor delays in shipments
- Extra information from partners can be added into the core ERP system

ANALYTICS SERVICES

Cloud Analytics
Mobile Analytics
Alerting

Value

- Access to a single, up-to-date, and accurate version of the truth regarding performance and inventory levels
- Reduction of waste by a factor of four
- Improved customer experience for major retail clients
- Reduction of infrastructure and maintenance costs

In The Business Moment

Whitworths has the ability to see potential shortfalls and alert suppliers to ensure the gap is either minimized, or doesn't happen.

ACTIVE INTELLIGENCE STORY

Building a Smart Enterprise

Greene Tweed

In The Business Moment

"On-time delivery metrics for each plant get triggered if things are below a certain threshold."

David Hufnagle, Manager of Enterprise Data and Analytics

Data boosts operational success

URBAN OUTFITTERS

Qlik and Snowflake support in-the-moment decisions

Challenge

With 550 stores in the USA and 100 across Europe and the UK, clothing and accessory retailer Urban Outfitters needed daily actionable data from business units in different time zones and using various systems and technologies. Manually compiled reports caused serious and time-consuming operational roadblocks, compounded by the COVID-19 pandemic.

Solution

Consolidation and migration to the cloud were the way ahead, with an increased use of real-time data to support in-the-moment decision making. Urban Outfitters created an end-to-end data pipeline with Qlik and Snowflake that supplies actionable data across many facets of the business. Snowflake fed by Qlik Data Integration now streams 50GB of data per day.

Results

Over 240 Qlik apps are now in production, providing insights into store performance, e-commerce sales, distribution centers and supply chain logistics. Qlik and Snowflake accelerate processing, responses and adaptability, while automated production of store reports makes them instantly available. Real-time data access also gives staff Active Intelligence where and when they need it.

Solution Overview

Customer Name
Urban Outfitters

Industry
Retail

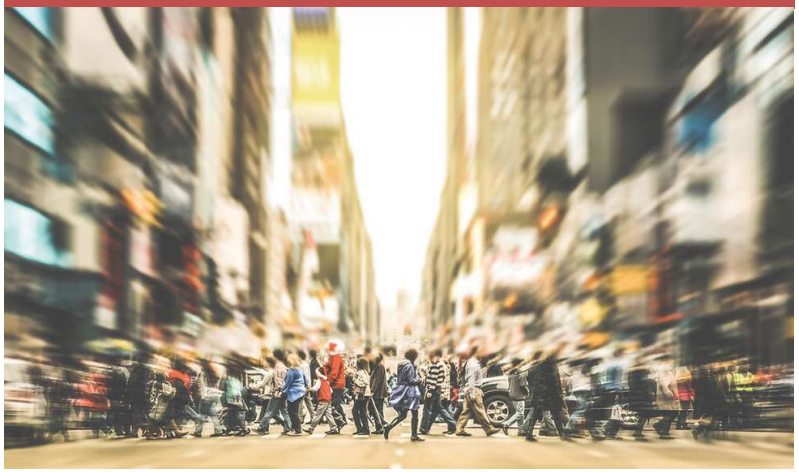
Geography
Philadelphia, USA

Partner
Snowflake

snowflake®

"Qlik has provided a longer runway and a more sustainable way to operate with fewer inhibitors than we had before. Using it to obtain a holistic snapshot of a store's performance throughout the day is our ultimate aim."

Joanna Matthy, Director of Workforce Management, Urban Outfitters



Calibrate the decision

2 Decision velocity — at scale

Once you have real-time data in place, the next step is to tune your operational decisions to the same pace.

For example, during times of inflation, it's unsustainable for a retailer to push all their cost increases to customers. Instead, they should improve efficiencies – thousands of them, occurring thousands of times a day.

Automation will help. According to Gartner, 95% of decisions based on data can be at least partially automated,[5] and in a more challenging environment, automation will accelerate. But even though analytics, AI, and automation can make more and faster decisions than humans, make sure to place humans at the beginning and the end of decision-automation cycles for design and review.

Decision velocity at scale is also about shortening the data-to-action pipeline for humans – decreasing the time it takes for people to find data and increasing the frequency of acting on it. In addition to technology, data literacy is a key enabler for that. And finally, decision velocity leaves a big data trail, with patterns that can be analyzed. That will create an opening for decision-mining.

The Impact

New roles will emerge with a focus on decision innovation – such as Chief Decision Officer, Decision Designer, and Decision Engineer. These roles should be tasked not only with automating routine decisions but also with addressing the biggest, thorniest problems you face.

Analyst Prediction

"By 2026, 85% of enterprises will combine human expertise with AI, ML, NLP, and pattern recognition to augment foresight across the organization, making workers 25% more productive and effective." — IDC[6]

Qlik

DATA ANALYTICS SNAPSHOT

Avon and Somerset Police
SERVE.PROTECT.RESPECT.

Avon & Somerset Constabulary, UK

Using data & analytics to drive efficiency, effectiveness and legitimacy in all police work

Challenge

- Inefficient command centre operations.
- Lack of self-service offender management solutions for officers to increase their success rates and reduce overall harm in the area.
- More direct resource allocation within the Constabulary.

Solution

- Qlik deployed to cover A&SC Command Centre and every officer employed by to Constabulary to prevent crime, reduce cost, reduce harm, save time and lower the number of crimes in the area by improving the productivity of Officers delivering the key intelligence they need (either in the station or on patrol) to do their jobs more effectively.

Results

- Crewing efficiencies (remove unnecessarily double-crewed vehicles)
- Removed delayed logs/Instantly logged – earlier dispatch and more jobs dispatched
- Triage of cases allows more effective use of resources
- Significant increase in capacity due to workload reduction – less officer 'down-time'

QLIK.COM

Solution Overview

Customer Name
Avon & Somerset Constabulary

Industry
Public Sector

Geography
England, UK

Function
Cross-functional

Business Value Driver
Reimagined Processes
Customer Intelligence

Applications deployed across all policing operations; from officers on the bear to analytics for the chief.

"Policing's greatest asset is its people, but its biggest opportunity is technology. Forces are making strides in this area, but the pace of progress needs to be faster. Avon & Somerset are leading the way."

UK Policing Minister, Nick Hurd

LEAD WITH DATA Qlik

FINANCIAL TIMES
THURSDAY 19 JULY 2018
FT.COM

UK Police

How police force uses data to assess risk and predict crime

How police force uses data to assess risk and predict crime

ROBERT WRIGHT – PUBLIC POLICY CORRESPONDENT

graphic so that officers can make quick decisions.

"It draws that data together and cross references it in a way that helps you understand threat, risk, demand, opportunity," Mr Marsh said.

Ayesha Giles, a detective inspector, pulled up a screen illustrating an offender's criminal record in the force's control room at Portishead, just outside Bristol.

caretaker even though a police force held information showing he was a sex offender.

"The failings to share and use information to protect the most vulnerable are well-documented in that case," Mr Marsh said.

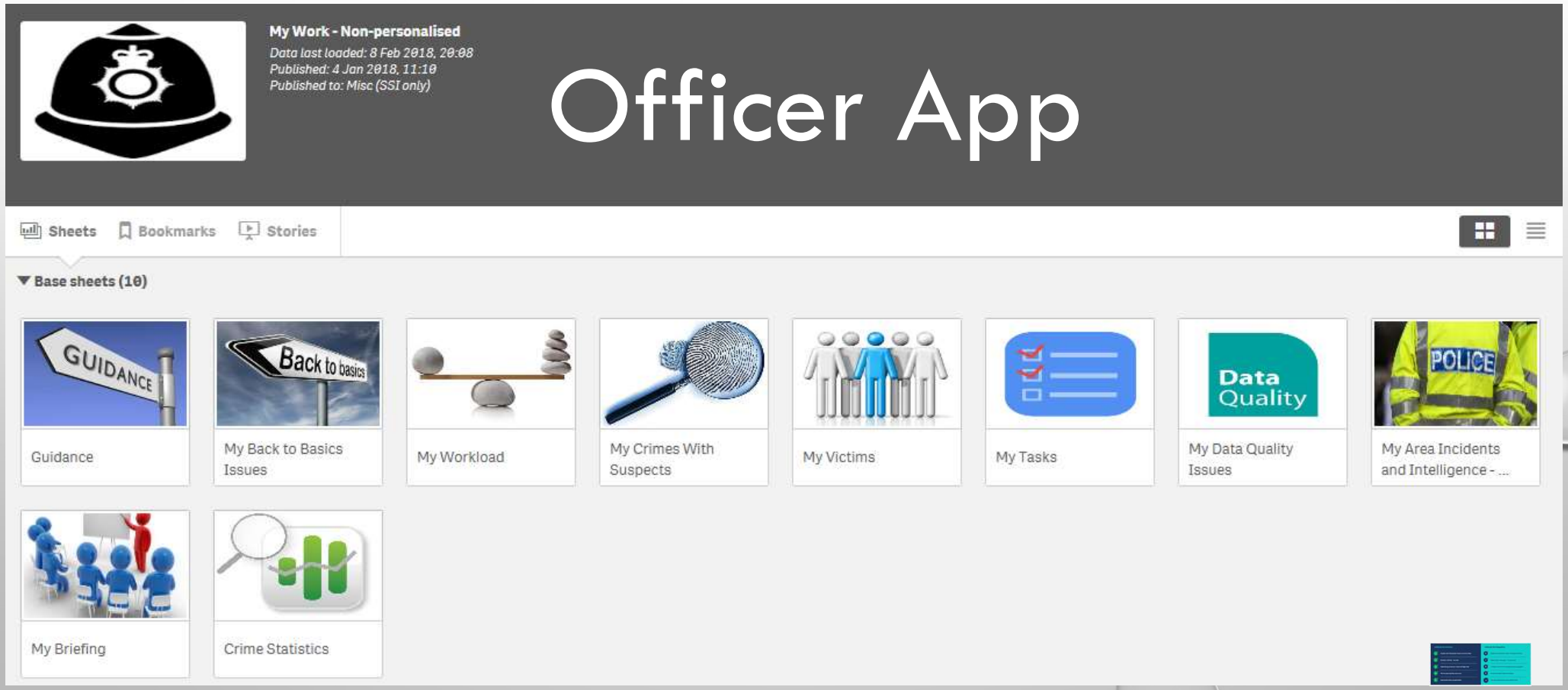
More recently the same failings contributed to a tragic case closer to home. In 2013, Bijan Ebrahimi, a disabled refugee from Iran, was murdered in Bristol. Ebrahimi had made scores of calls to the police alleging harassment by his neighbours but had been dismissed as a nuisance.

Sean Price, a senior executive at Qlik Technologies who worked until earlier this year for Avon & Somerset Police, said tests had shown the software would have flagged Ebrahimi up to officers as one of the most at-risk potential victims in the force area.

"You need the analytics to join things up," Mr Price said. "If that model was operational at that time, that murder could have been prevented."

Officers self empowered to manage their suspects, victims, top demand locations, latest incident picture – all in one app

Officer App



Calibrate the decision

3 Optimizing across low-code and high-code

In recent years, we've seen the emergence of low-code tools for building applications, enabling non-technical workers to compose their own apps.

These tools not only drive the creation of apps, they also increase the consumption of data and insights. For example, application automation enables workers to create chains of events triggered by data. AutoML gives business analysts access to the most advanced algorithms. And data transformations within data-delivery pipelines can be largely automated, too.

One prominent tool is GitHub Copilot (based on GPT-3), which translates plain English into code. **GitHub estimates that Copilot generates roughly 30% of the application code created on the site.**[7]

On the other hand, some organizations have progr ammers and app developers who simply want prompts they can code in. This is particularly the case in data engineering and data science, as those fields get reinvented for cloud. To cater to these needs, we've seen the emergence of high-code tools, which provide templates for coders who want maximum flexibility.

The Impact

These two camps will always exist, though many use cases will gradually evolve from high-code to low as repeatable workflows are identified and markets mature. Still, the choice shouldn't be between low-code and high-code. Instead, it should be code optimization, focusing on the highest productivity and best business outcomes given the available skill sets.

Analyst Prediction

"By 2023, 60% of net-new applications will be developed with no-code/low-code platforms, up from 30% today."

— IDC[8]

Qlik

DATA ANALYTICS

FINANCIAL SERVICES

Ikano Bank

Supporting the journey to analytics modernization

Overview

Originally a part of home furnishing company IKEA, Ikano Bank operates in Austria, Denmark, Germany, Finland, Norway, Poland, Sweden and the UK. It offers smart banking services for savings, loans for private customers and factoring and leasing services for businesses.

As part of its strategy to move away from inflexible and static reports, Ikano Bank adopted on-premises QlikView before switching to Qlik Sense SaaS and Qlik Cloud. It used Qlik Data Transfer to move data sources to the cloud and uses automated applications to accelerate onboarding and other key processes. Ikano Bank now benefits from a democratized data environment based on inspiration, self-help and dialogue.

Theme
Modernization, SaaS

Product
QlikView, Qlik Sense SaaS, Qlik Cloud, Qlik Data Transfer

Geo
Sweden, EMEA

LOB
Finance, IT, Operations

Business Value Driver
Reimagined Processes

Read more Presentation

"Qlik Sense has enabled us to monitor transactions on a much more granular level, leading to on-demand monitoring and deviation analysis."

Robert Eberhardt, Central Accounting Manager, Ikano Bank

Calibrate the decision

4 The human/machine arms race

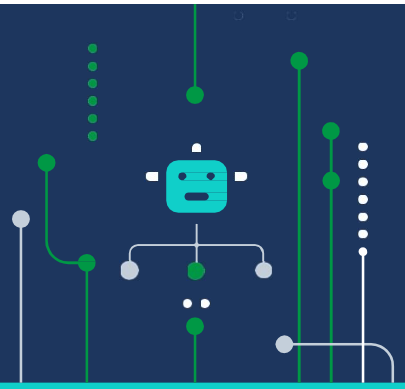
In the summer of 2022, a Google engineer claimed that one of the company's chatbots (named LaMBDA) had achieved consciousness, or a human level of self-awareness.

Google stated that his claims were unfounded [9] – and the engineer was fired for violating company security policies – but this incident shows how far machines have come in a short time.

Because natural language models have been trained on massive troves of data using deep-neural-network machine learning, they've reached a paradigm shift. Perhaps the most widely publicized is GPT-3.

It's so capable that it's spawned a number of services, from code optimization, to writing marketing copy, to mimicking the voices of authors like Kafka and Hemingway.[10]

There are now 5 - 6 global developments even bigger than GPT-3,[11] models trained on even larger data sets. Where those will take us, we can only imagine. We may be about to cross the Rubicon where machines can finally pass the Turing test.



The Impact

In the space of data and analytics, natural language capabilities will have huge implications for how we query information and how it's interpreted and reported. We'll find not only the data we're looking for but also the data we hadn't thought to ask about.

Analyst Prediction

"In the next five to 10 years or sooner, based on the groundbreaking innovation in AI, TuringBots will be created by several tech vendors." — **Forrester Research**[12]

Calibrate the decision

5 Data stories that compel action

For decades, we in the data industry have shared a mantra: *Provide the right information to the right user at the right time.*

That's more important now than ever. But in a fragmented world, where data is distributed and time is scarce, it's tougher to do.

Fortunately, you don't have to get all the data to all the people all the time. **Having the right slices of small data at the right time is more useful.** And not every insight has to be arrived at through user exploration. Many can be more prescriptive and recommendation-oriented, delivered straight from the data.

Data storytelling has been touted as the way to get data to make sense to users; **stories can reach people emotionally – and compel them to act – when data alone does not.** But data storytelling needs to be much more than adding charts to infographics or PowerPoints. It needs to be connected with action.

The Impact

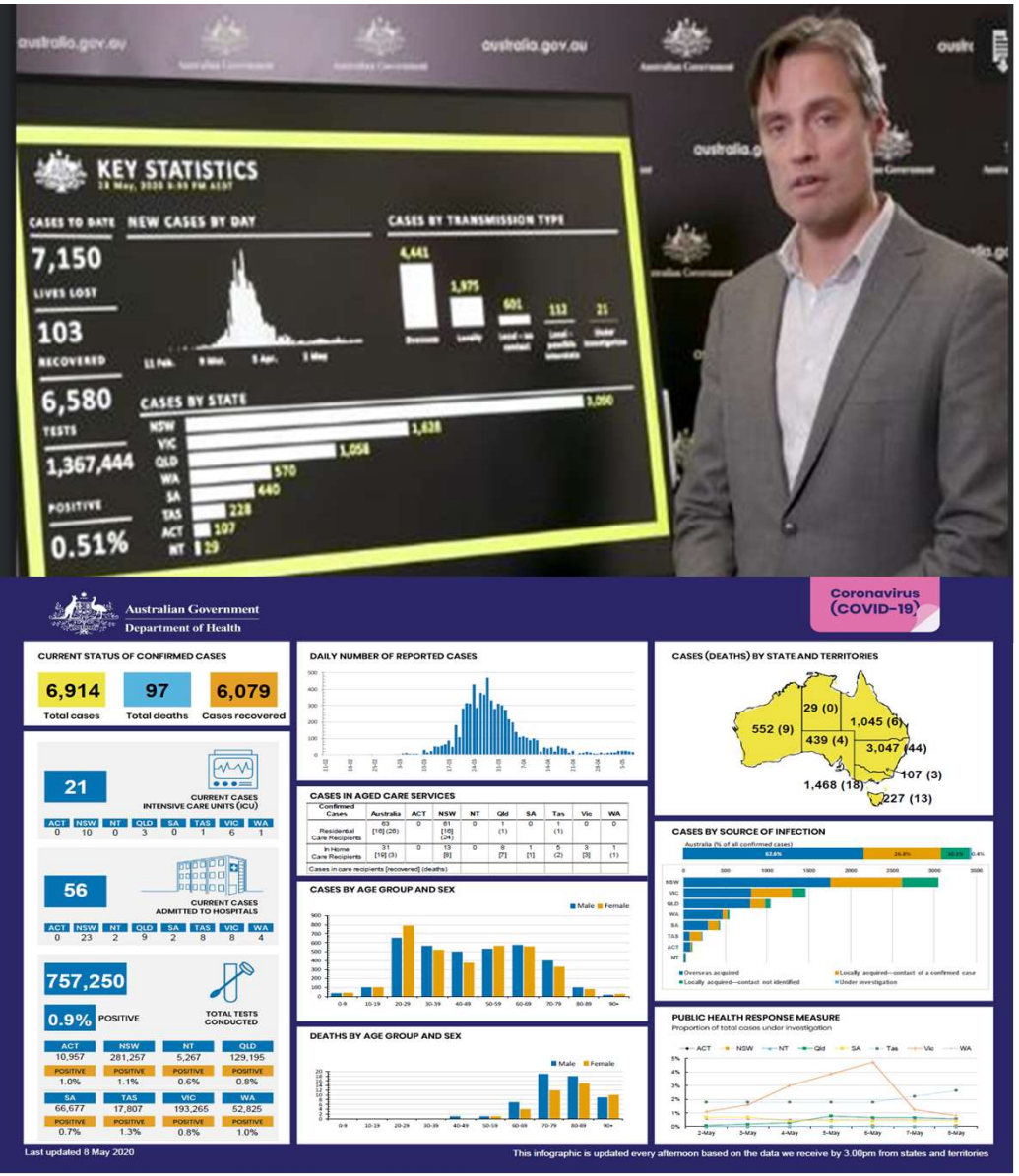
To connect storytelling to action, you need to add three steps:

1. Predicting what will happen next and suggesting best actions with AutoML
2. Using alerting, reporting, and automation to bring stories into workflows at the right time
3. Embedding not just dashboards but micro-stories into the systems where people work. That will move data storytelling from insights you *could* act on to insights you *do* act on.

Analyst Prediction

"By 2025, data stories will be the most widespread way of consuming analytics, and 75% of stories will be automatically generated using augmented analytics techniques." — **Gartner**[13]

Qlik



governed
reliable
timely

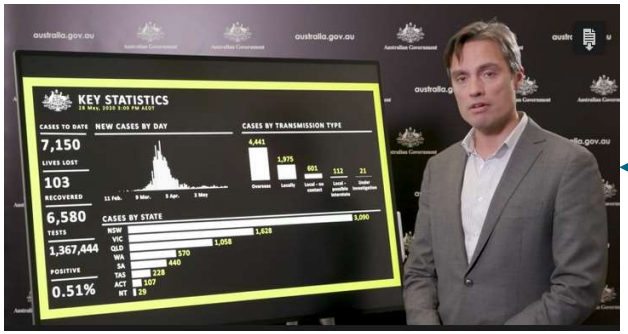
Enabling the Delivery of Critical Public Health Information During Pandemic

Australian Government
Department of Health

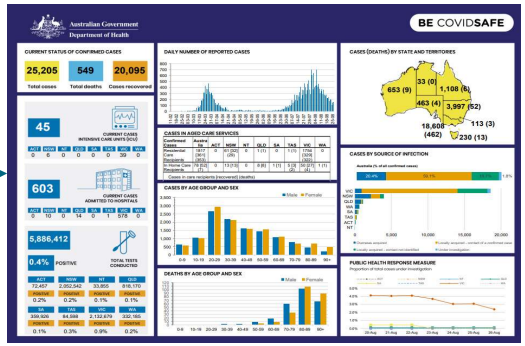
Federal DoH; COVID Response

Trusted Data and Analytics Discovery to Support Decision Making

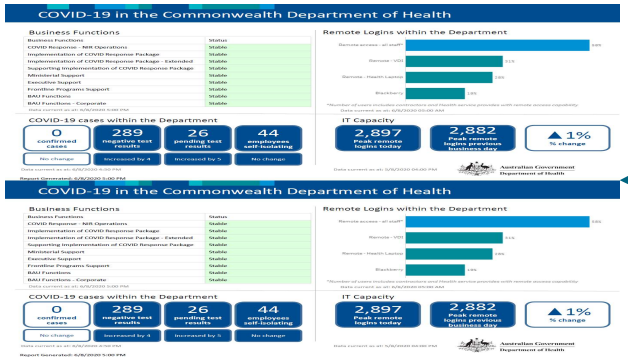
COVID-19 Public Announcements



Prime Minister Placemat



Pandemic Incident Management

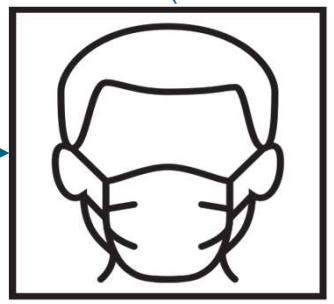


Qlik NPrinting®

Qlik Sense®

Face Mask Reporting

(refer to handout)




Qlik
Data Integration Trends 2023
The world is fragmenting. Geopolitical, social, and economic changes are disrupting the way we do business. But it's not all doom and gloom. Crisis breeds opportunity. Position your organization to take advantage by understanding the coming trends.

Calibrate the integration

6 Market consolidation opens new opportunities.

In an increasingly fragmented world, there's also a market trend in the opposite direction: convergence.

We're seeing the consolidation of previously siloed systems, including data integration, management, analytics/AI, visualization, data science, and automation.

Combining these functions opens opportunities that weren't possible before. It makes it easier for data producers and consumers to collaborate, starting with the product, outcomes, or decisions they have in mind and working backward to build agile data pipelines around their business goals.

Common standards and APIs enable interoperability. And when a vendor operates across more segments, convergence is even easier. This isn't about going "all-in" on one data stack, which can lead to vendor lock-in or compromise compliance. Instead, choose platforms that can work with multiple stacks, and consolidate the data across them.

The Impact

The move toward consolidation on the supply side is met by the demand side. In challenging times, CFOs and CEOs get more involved in the business, and they want to see ROI articulated clearly. This will help drive pricing models away from per-user toward the value generated. After all, you can't predetermine who in your organization should use what tool when you don't know where the next challenge will come from. Instead, facilitate general access to tools and platforms, in a governed way, and build from there.

Analyst Prediction

"By 2023, the stand-alone data preparation market will disappear, and data preparation capabilities will be embedded within modern data management, analytics, and data science tools."

— Gartner[14]

Qlik

DATA ANALYTICS

PUBLIC SECTOR

NSW GOVERNMENT | Customer Service

NSW Dept of Customer Service

Using data to drive Australian building reform

Overview

Australia has a history of poorly constructed buildings where owners have even had to flee homes that were falling apart. Of the country's 700,000 apartment blocks built since 2000, 300,000 were in New South Wales and 97% were defective.

For greater control over developers and to restore confidence, the Better Regulation Division (BRD), the NSW regulatory body for the building and construction industry, used Qlik Sense Enterprise SaaS to launch a regulatory analytics program. Analyzing data from many sources across three tiers of government, it produces reports that ensure buildings are fit for purpose and developers are accountable.

Theme
Data Driven Organization, SaaS

Product
Qlik Sense Enterprise SaaS

Geo
Australia,
APAC

Business Value Driver
Reimagined Processes

Function
Finance, HR,
Supply Chain Management

"This platform combines 17 different government data sources into a single view to support major reform."

Damien Roache, Program Manager Regulatory Analytics,
NSW Dept of Customer Service

Customer Case Study

Single View of Customer

Problem:

We can't access all our customer data – it's in too many different systems

How do we know we are focusing on our high 'risk' customers?

Solution:

Create Single View of Customer - Licenced Builder

Easy-to-use interface

Data Accuracy: Match Confidence Score algorithm

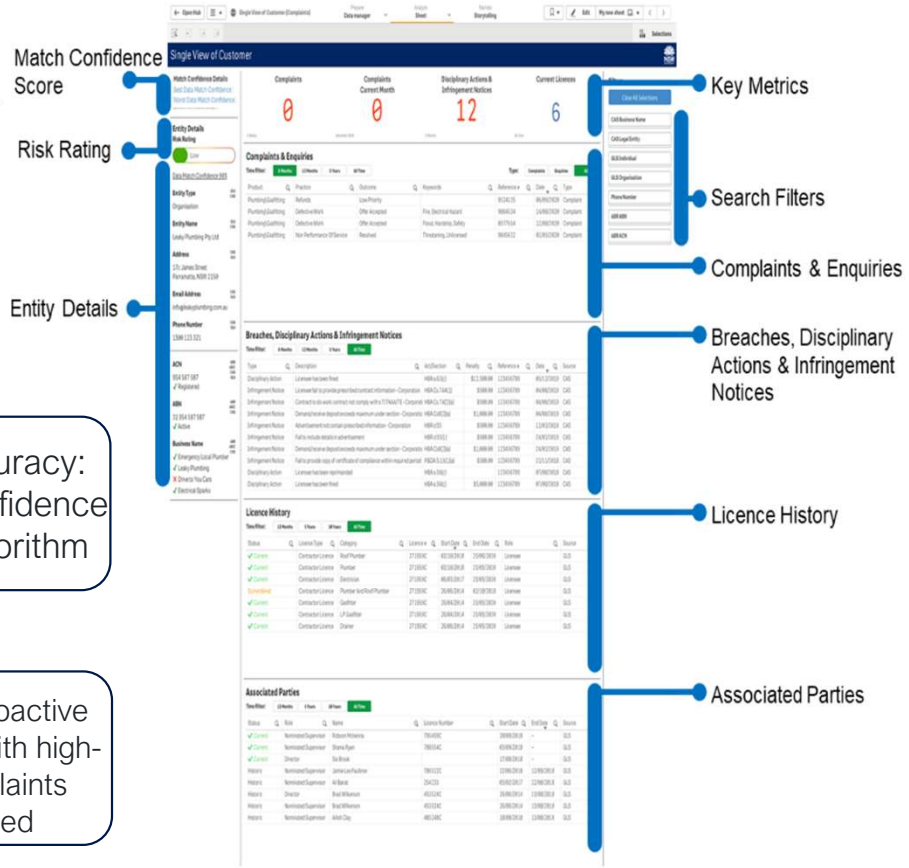
Results and outcome:

Enabled faster handling and turnover time

Improved efficiencies with staff focusing on higher value work

Enabled Proactive regulation with high-risk complaints prioritised

We now had our B – Builder key player



Single view of Customer
Descriptive

Single view of Business Compliance & Site

Single view of Risk Ratings

Single view of Industry for Government

Technology Stack utilised:

Azure snowflake talend Qlik Sense

bank btpn

"Real-time data gives the bank an immediate and detailed picture of every customer. At a macro level this helps spot trends and potential issues. At an individual level this enables the bank to deliver relevant products and services,"

Duddy Christian Hayanto, Head of Data Engineering, Bank BTPN

Leading digital transformation of Indonesia's banking sector

CHALLENGES

- Improve the speed and availability of data, enabling faster and more personalized customer service
- Reduce the strain on the core banking systems

BUSINESS OUTCOMES:

- Helps create a 360-degree view of the bank's customers and inform future service developments
- Prevents interruptions to the core banking system
- Enables near real-time data access for multiple business units

LEAD WITH DATA Qlik

Calibrate the integration

7 What's old is new again — in the cloud

During the pandemic, organizations quickly modernized applications and moved data to the cloud.

As these changes mature, many of the same issues from the on-prem world are rearing their heads. For example, after you adopt a cloud warehouse or lake, you need to tackle data movement, transformation, metadata catalogs, and so on.

These needs are driving investment in a multitude of software segments around warehouses and lakes – including semantic layers and data integration, movement, sources, and observability.

This has created a Wild West of startups (often dubbing themselves part of "the modern data stack") fueled by venture capital, each going after one specialization. And while winners will certainly emerge, the vast majority will disappear as industries mature and consolidate. And this trend will accelerate as VC funding goes from boom to bust. (In Q3 2022, VC funding declined 53%, an early signal of what may come.[15]) In other words, expect a big wave of M&A as small vendors look for the exit. It happened in the on-prem world, and it'll happen again in the cloud.

The Impact

From a cost perspective, it's not sustainable for organizations to work with a wide array of niche vendors. Fortunately, many of the features will be recreated in the larger integrated data and analytics platforms. As cloud markets mature, managers may abandon architectures reliant on too many startups that struggle. Instead, these startups may be used as a source for "acqui-hires."

Analyst Prediction

"To help alleviate the developer skills shortage, 55% of organizations will use cloud marketplaces and tech startup acquisitions as their most important approaches to software sourcing by 2024."

— IDC[16]

Qlik

ACTIVE INTELLIGENCE STORY

Transforming Air Travel

VANCOUVER INTERNATIONAL AIRPORT

In The Business Moment

Time Savings

20 Min

Reduction in Minimum Connection Time

- Significantly cut time to run report 33 hrs to 40 sec
- Stayed competitive as major hub airport

> "By showing in real time the flights that are at risk of being delayed because of slow baggage loading, we can make adjustments to ensure the plane is in the air on time."

Hanif Vallani, Lead Data and Analytics Architect

ACTIVE INTELLIGENCE STORY

Transforming Air Travel

VANCOUVER INTERNATIONAL AIRPORT

Challenge

- Get better insights on how passengers, bags, and planes move through the airport
- Scale and optimize BI operations leveraging interconnectivity of data in real time
- Optimize minimum connection time and improve passenger experience

Solution

- Data hub ecosystem connects everything and delivers data across the organization
- Situational awareness dashboard leverages real-time data to inform fast decisions
- Apps give immediate insights on intertwined subprocesses: security, customs, baggage screening

Value

- Reduced minimum connection time (MCT) from 90 min to 80 min (70 min without COVID)
- Significantly cut the time to run MCT report from 33 hours to 40 seconds
- Stayed competitive as major hub airport between Asia and North America

DATA SERVICES
CDC Streaming
Data Catalog

ANALYTICS SERVICES
Corporate dashboard
Self-service analytics
Reporting

CUSTOMER SUCCESS
Partner
Implementation
Services

Qlik LEAD WITH DATA

In The Business Moment

"By showing in real time the flights that are at risk of being delayed because of slow baggage loading, we can make adjustments to ensure the plane is in the air on time."

Hanif Vallani, Lead Data and Analytics Architect

LEAD WITH DATA Qlik

ACTIVE INTELLIGENCE STORY

Analytics Data Pipeline

Data Catalog
Cataloging large amounts of data, saving business from getting lost.

Corporate Dashboard
Situational awareness dashboard leverages real-time data to inform fast decisions.

Data Hub
Created data hub ecosystem with Qlik and Snowflake

CDC Streaming
Replicating all their data into various zones, so analysts can work without going back to, and potentially compromising, the source system. Even harnessing data for gate optimization and situational awareness.

Self-Service Analytics
Apps give immediate insights on intertwined subprocesses, such as security, customs, baggage screening.

Qlik LEAD WITH DATA

VANCOUVER INTERNATIONAL AIRPORT

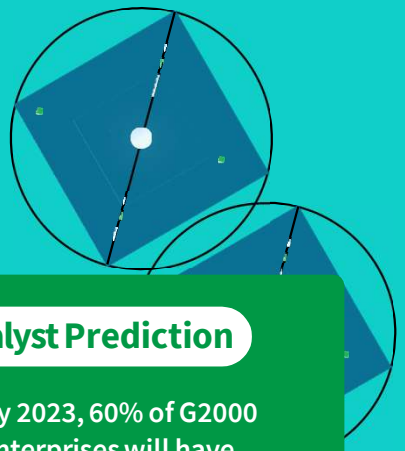
"We want to embed data intelligence in everything we do, so the hub is designed to supply data to whoever, or whatever, in our organization needs it."

Hanif Vallani, Lead Data and Analytics Architect

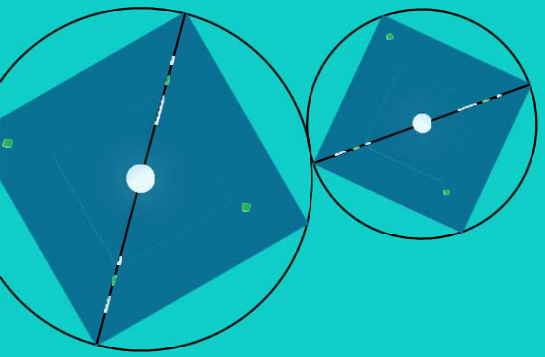
Upshot Story Video

Calibrate the integration

8 “X fabric” holds connected governance together



The discussion in recent years has been about data fabric (as well as hubs and mesh), an important methodology that connects distributed data sets through semantic models. But for connected governance, we need more than that.



In a world with millions of builders, we need other fabrics, or “X fabrics.” These include application fabric, BI fabric, and algorithm fabric – and right now, these methodologies are even less mature than data fabric.

Being able to reuse data and analytic assets is critical, spanning models, scripts, and analytics content. And the need for reuse also underscores the importance of the catalog, as well as its evolving role. Common APIs will make it possible to have modularity and composability, and catalogs can provide the oversight that spans artifacts.

The Impact

For connected governance, you need X fabrics. You also need to certify artifacts based on how trustworthy they are – for example through watermarking based on thresholds. Every organization today is looking for better ways to access their data and analytic artifacts. And in a distributed world, orchestration becomes even more important.

Analyst Prediction

“By 2023, 60% of G2000 enterprises will have a data control plane architecture to enable DataOps, propel ML-based data engineering, reduce data risks, and propel innovation among Gen D workers.”

— IDC[17]

Qlik

DATA INTEGRATION SNAPSHOT

Vale gains yearly benefit of $600m

Global mining giant uses Qlik to optimize critical operations

Challenge

Vale's global operation involves complex and resource-intensive distribution processes. These were managed by manual and disconnected processes, with different departments handling their own functions. The lack of an integrated view led to mismatches between production and transport capacity, logistical inefficiency, and product quality management issues.

Solution

Vale developed the Centro de Operações Integradas (Integrated Operations Center, or COI) using Qlik Replicate IaaS with Microsoft Azure in tandem with a range of data repositories, with Qlik Replicate acting as the principal enabler of the process. Qlik's agentless operation meant it could read application databases and transaction logs without impacting their activity.

Results

COI enabled a new integrated planning process. Users can now define and build their own dashboards, while corporate dashboards enable insights and support decisions at board level. The launch of COI in 2017 delivered results almost immediately, enabling benefits in terms of sales won, costs saved, and efficiencies gained worth $300 million after just one month.

Solution Overview

Customer Name
Vale S.A.

Industry
Mining

Geography
Brazil

Function
Operations, Supply Chain Management

Business Value Driver
Reimagined processes

Primary Source & Target
Sources: In-house databases and systems based on Oracle and shipping software based on SQL Server
Targets: SQL DW, SQL DB, and SQL Views

"Everybody's in the same place; they can see the same information updated in near real time. That's the interaction Qlik is enabling."

Jordana Reis, Enterprise Integration Architect, Vale S.A.

qlik.com

Calibrate the integration

9 AI moves deeper into the pipeline

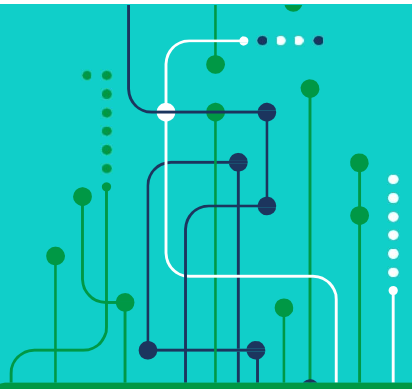
As we mentioned in Trend 6, analytics, automation, and AI are converging, increasingly overlapping with each other. In the process, they're cross-pollinating, generating new insights that weren't possible before.

But what about moving those components deeper into the data pipeline, before an application or dashboard has even been built? There are several ways this could benefit organizations.

Using AI in data management would shift the perennial 80/20 distribution (between preparing the data and analyzing it) by automating more of the rote tasks in data engineering. It could, for example, automate anomaly detection and reporting, take advantage of self-healing, use just-in-time deployment, and find risky attributes such as PII data. Algorithms would be able to "crawl" the data and surface insights outside your hypothesis. And finally, automated annotations and tagging would drive better engagement with less skilled integrators.

The Impact

More AI in the data pipeline doesn't mean that humans won't be involved. After all, humans are exceptionally good at synthesizing complex problems with multiple component parts. But AI will automate some of the more manual data preparation tasks, so data engineers and scientists can focus on more impactful work.



Analyst Prediction

> "Through 2024, manual data integration tasks will be reduced by up to 50% through the adoption of data fabric design patterns that support augmented data integration."
>
> — Gartner[18]

ACTIVE INTELLIGENCE STORY

Leading Predictive Healthcare

NHS
University Hospitals of Morecambe Bay
NHS Foundation Trust

Challenge

- Reconsider business planning practices to address massive backlog of procedures due to COVID-19
- Increase precision with which medical professionals operate
- Predict number of patients arriving at ED each hour
- Predict hypertension

Solution

- Cloud-first approach for analytics with Qlik Sense, used in combination with Snowflake and with DataRobot for predictive modeling
- Apps used on mobile and large screens (Command Centre), with data alerts notifying staff about changing events such as patient movements

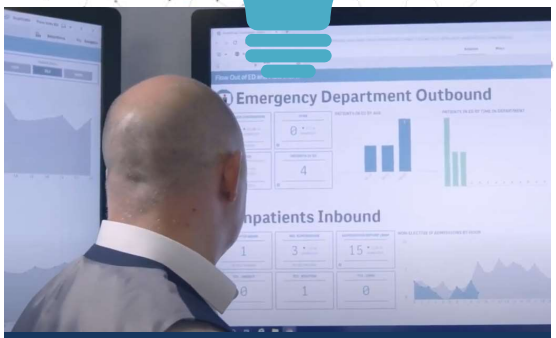
Value

- Allows healthcare providers to become more proactive and deliver better patient care
- Helps manage COVID-19 with live tracking of infectious patients, while delivering highly accurate hour-by-hour demand forecasts for accurate workflow planning

ANALYTICS SERVICES

Self-Service Analytics
Cloud Analytics
Mobile Analytics
Alerting

In The Business Moment



COVID-19 specific apps help front-line staff proactively work in changing events with real-time notifications

ACTIVE INTELLIGENCE STORY

SAMSUNG

In The Business Moment

Challenge

- Access to timely data on store performance was required to ensure retail success
- Replace inefficient and lengthy Excel store reports
- Evolve how Samsung Electronics UK's 100+ area development managers (ADMs) and store staff can collaborate

Solution

- Mobile retail marketing analytics app to track store performance, for use by ADMs every time they visit a store
- Alerting capability ensure focus on actionable insights for which remedial action must be taken
- Geo-mapping capability supports efficient, in-the moment planning of store visits

ANALYTICS SERVICES

Self-Service Analytics
Alerting

Value

- Improved productivity: new app saves each ADMs 2 hours per week and increases the efficiency of field visits by 20%
- Retail marketing is streamlined and the app is being considered for roll-out across other European divisions

"We're able to show store managers their own real-time Samsung sales data and suggest ways of selling more or encouraging customers to upgrade."

Paul Asquith, Insight and Reporting Manager, UK

Calibrate the integration

10 The rise of derivative and synthetic data

Data is a liquid asset; it can look different for different purposes.

And today, it's easier than ever to alter data for different use cases or transform it into formats for specific targets. Data that has been transformed, processed, aggregated, correlated, or operated on is called "derivative" data. Derivative data has been especially useful for test data management – creating, managing, and delivering test data to application teams.

But now, with new privacy laws and integrity issues, it's becoming essential to obfuscate data even further.

In other situations, useful data simply doesn't exist. The lack of available user data, for example, can be problematic for small businesses, who won't be able to train their AI models with vast data sets. Or an enterprise may want to run experiments and what-if analyses for cases – simulations of financial crime and fraud, for example.

In both of the scenarios above, synthetic data can be an option. Synthetic data is data that has not been generated from real operations.

The Impact

Thanks to a number of factors – including data re-use, testing, privacy laws, missing data, and the need for data to train AI models – we'll see more derivative and synthetic data.

Analyst Prediction

"By 2030, synthetic data will completely overshadow real data in AI models."

— Gartner[19]

The way forward.

What do these trends mean for you?

In a fragmented world where crisis has become a constant, it's important to innovate and be prepared. Start by thinking through how these trends apply to your organization.

- Identify use cases where real-time data and decision velocity can address challenges
- Leverage the right mix of code optimization for your business users and engineers
- See how data storytelling can be more closely linked to action
- Use innovations in natural language to bring data querying, insights, and actions to more people
- Look for ways to converge siloed technologies
- Use a fabric not just for your data but for other artifacts as well
- Apply AI earlier in the data pipeline
- Leverage the VC crunch to remediate urgent skills shortages
- Look at derivative and synthetic approaches as ways to maximize value in a distributed world

It's about more than just the technology.

Data professionals of all kinds will play a key role in calibrating through crisis. In a deglobalizing world, localized sourcing of those professionals will become increasingly important. Key to this is increasing the data literacy of your existing workforce, using both education and technology.

Qlik


Qlik
TO BE CERTAIN.