



The ultimate guide to building a data foundation in the generative AI era

Three key attributes to help your organization unlock the full power of your data



Table of contents

Introduction	3
Becoming data-driven	5
Comprehensive	8
Integrated	13
Governed	18
Conclusion	24



INTRODUCTION

Data is the spark that leads to meaningful innovation

Now more than ever, data is at the center of every application, process, and strategic decision. It's the genesis for modern invention, and in today's fast-changing and complicated landscape, how you put your organization's data to work can be the key to accelerating innovation and accomplishing your organizational goals. The stakes are high. Organizations that have advanced insights-driven capabilities are able to scale their mission delivery and outperform on their goals.

The advent of generative AI also puts renewed emphasis on the importance of data. When you want to build generative AI applications that are unique to your organization's needs, data is the differentiator. Data is the key to moving from generic applications to generative AI applications that create real value for your customers, constituents, students, patients and your organization.



There's no need to reinvent the wheel

Becoming a data-driven organization begins with the right data foundation. The good news is that a proven data foundation already exists—and organizations are already capturing its benefits using Amazon Web Services (AWS). For example, the [United States Food and Drug Administration \(FDA\)](#) has migrated 27 key food-safety workloads to AWS cloud technologies. The systems support more than 10,000 internal and external application users, letting the FDA collaborate with partners to identify and respond to food-borne pathogens faster than before. [Manchester Airports Group](#) is using generative artificial intelligence (AI) and enhanced data exchange to transform operational processes and drive real-time status updates from core systems all the way out to passengers in real-time.

Building the right data foundation that will transform your organization is attainable. Read on to explore the fundamentals.

BECOMING DATA-DRIVEN

Key challenges and considerations

More data than ever is being generated and stored

On-premises tools and legacy data stores can't meet today's demands. Organizations need data stores that can scale to keep up with petabytes to exabytes of data. And they need to be able to store this data in a cost-efficient way without sacrificing performance.

Data siloed across multiple sources creates productivity and cost inefficiencies

Organizations must deal with diverse data types—including log files, clickstreams, voice, and video—which are typically stored in silos across multiple data stores and departments. This makes it difficult to harness the data and extract actionable insights. To transform the infrastructure from a source of complexity and expense to an engine of value creation, organizations must break down these silos to unify all their data.

The current state of decision-making is unsustainable

Gartner reports that 65 percent of decisions made today are more complex (involving more stakeholders or choices) than they were 5 years ago.¹ To make better and faster decisions, organizations must be able to perform analytics and machine learning (ML) operations in an agile, cost-effective way—using optimal tools and performance to scale for each use case. They can no longer waste time constantly redeploying and reconfiguring infrastructure to scale performance and capacity.



¹ ["How to make better business decisions,"](#) Gartner, October 20, 2021





Trying to maintain data governance is a full-time job

Traditional data architectures require risky, complicated management procedures because data is accessed from so many places. Granting, tracking, auditing, and removing employee access—while simultaneously remaining in compliance with a growing number of regulations—is a full-time job. Automating these mandatory data governance tasks frees modern teams to shift their focus back to innovation.

Analytics and machine learning adoption is still impeded by a lack of skills and inertia

Many organizations are struggling to make progress with scaling analytics and ML tools. Gartner finds that organizations investing in AI moved just 54 percent of their AI proof-of-concept pilots into production.² A continued lack of data and ML skills and quantity or quality of data to train on are some of the issues slowing progress in this important area. Still, the need to help public sector users leverage data-driven decision-making (DDDM) is growing.

Data is increasingly difficult to secure

There was a time when IT teams chose between making their architectures fast or making them secure. Now, they need to do both. Meanwhile, 97 percent of organizations experienced increased cybersecurity threats from 2022 to 2023, according to Accenture's State of Cybersecurity Resilience 2023 report—while the percentage of successful breaches from external networks remains high, at 61 percent.³ How can organizations maximize privacy and security?

² ["How to make better business decisions,"](#) Gartner, October 20, 2021

³ ["State of Cybersecurity Resilience 2023: How cybersecurity boosts enterprise reinvention to drive business resilience,"](#) Accenture, 2023

Three key attributes that can help your organization unlock more value from data

Highly data-driven organizations are three times more likely to report significant improvements in decision-making compared to those that rely less on data.⁴

Implementing a data foundation that makes data management easier at every step of the journey—from ingesting, storing, and querying data to analyzing, visualizing, and running ML models—requires three fundamental attributes. Regardless of your organization’s challenges, your data foundation should be:

Comprehensive: Provide the right tools with the optimal price performance for any user, type of data, and use case

Integrated: Break down silos to connect all your organization’s data, so it can be put to work effectively

Governed: Free your teams to move faster with governed data access when and where your users need it to speed innovation

Successfully becoming a data-driven organization may also require a broader mindset shift—in which both goals and decisions are supported by a data foundation that encompasses people, processes, tools, and education.



COMPREHENSIVE

Provide the right tools, with optimal price and performance, for any user and data type

Organizations need to build a sustainable data foundation that can meet their needs now and in the future. It takes more than just a single data lake, data warehouse, or business intelligence (BI) tools to harness data effectively. It requires a data foundation with a comprehensive set of tools that accounts for the scale and variety of data and the many purposes for which you want to use it.

Building with a cloud provider that innovates to continuously bring you all the data tools you'll need with the right price performance for your use case ensures you have a data foundation that grows with you. AWS has the broadest and deepest set of data capabilities to support any data workload or use case. From databases for applications to storage for data lakes to analytics to ML and end-user tools, AWS provides the right capability in each area, so you don't have to compromise on performance, cost, or results. AWS is continually accelerating its pace of innovation, so you will never outgrow AWS for your data needs.

Scaling data-driven applications

Build applications on a modern data foundation for the best price and performance for your use case at scale using AWS databases. More than 100,000 organizations, for example, achieve the performance and availability of commercial-grade databases at one-tenth the cost using [Amazon Aurora](#). For use cases such as graphs, streaming, and documents, AWS offers eight purpose-built database engines, each uniquely designed to provide optimal performance for your applications, transforming the economics of database ownership.



Data Foundation Tip

Achieve a cost-effective data foundation without sacrificing performance. Enable your organization to maximize its current capabilities by optimizing cost:

During COVID-19, North Carolina's [Division of Employment Security](#) scaled to support 200,000 daily calls by transitioning to [Amazon Connect](#), with features like self-service claim status helping reduce call volume by 20 percent.

[Mental Health Innovations](#) operates the UK's first free 24/7 text messaging support service for anyone struggling to cope with mental health issues. They utilized technologies like [Amazon Redshift](#) and [Amazon QuickSight](#) for better data management and insights, leading to more rapid crisis interventions, enhanced volunteer training, and more cost-effective operations.

The [National Biodiversity Network Trust](#) saved 30% processing time on mission-critical data updates while reducing overall costs using [Amazon EC2](#) and [Amazon CloudWatch](#).



NC DEPARTMENT OF
HEALTH AND
HUMAN SERVICES

MENTAL
HEALTH
INNOVATIONS



AWS works with more than
2 million
customers
to solve some of the most
complex data problems
in the world.



Powering data lakes and data warehouses

Organizations use data lakes and data warehouses to unify datasets and apply analytics and ML to aid in decision-making and create new data-driven customer experiences.

For years, AWS has helped hundreds of thousands of customers build data lakes to store data reliably and securely store structured and unstructured data with services like [Amazon Simple Storage Service \(Amazon S3\)](#), [AWS Glue](#), and [AWS Lake Formation](#). There are hundreds of thousands of customers with AWS-powered data lakes. For data warehousing with super fast query results across many different data sources.

Optimize storage performance and speed up data access

For your most frequently accessed data, storage classes such as S3 Express One Zone can improve data access speeds by 10 times and reduce request costs by 50 percent compared to S3 Standard.

Providing analytics for all use cases

True agility helps organizations adapt quickly to changing mission needs. Empower your organization's teams to ingest, combine, and run historical, real-time, and predictive analytics on your data with AWS analytics services. This includes services for SQL querying, log analytics, streaming, and Apache Spark. For data warehousing with super fast query results across many different data sources, [Amazon Redshift](#), a petabyte-scale data warehouse, delivers up to six times better price performance than other cloud data warehouses. With generative AI inside of Amazon Redshift, you can generate SQL queries using natural language. And AI-driven scaling and optimizations for Amazon Redshift Serverless helps you optimize between cost and performance by learning from your patterns.

For big-data querying, you can support more big-data frameworks than any other provider using [Amazon EMR](#), with up to two times faster time-to-insights. Our customers achieve more than three times performance with Apache Spark when they run our fully supported and AWS-optimized runtimes for EMR.

Innovating faster with services that make ML and AI more accessible

Organizations have been using ML to add intelligence to existing processes, automate time-intensive manual tasks, and accelerate innovation using data. Now, with generative AI, they have the opportunity to reinvent customer experiences and applications.

With AWS, you have access to the most comprehensive set of AI and ML services. [Amazon Bedrock](#) is the easiest way to build and scale generative AI applications with foundation models (FMs) to create new content and ideas, including conversations, stories, and images. With Bedrock, you can use your own data to easily and securely customize FMs from AI21 Labs, Anthropic, and Stability AI, as well as [Amazon Titan](#) models via an API. AWS also offers a wide range of services that allow you to add AI capabilities like image recognition, forecasting, and intelligent search to applications with a simple API call. To build your own ML models, [Amazon SageMaker](#) provides all the tools necessary to easily build, train, and deploy ML models at scale.

Enabling data insights throughout the organization

It's no longer just data-savvy individuals who can rapidly extract valuable, relevant insights from data to help inform decision-making. ML-powered BI solutions, such as [Amazon QuickSight](#), enable easy connectivity to data sources. Business analysts can use this data to showcase fresh trends and predictive insights on interactive BI visualizations and dashboards.

Amazon Q, our generative AI-powered assistant, helps you in [QuickSight Q](#) to author dashboards and create compelling visual stories from your dashboard data using natural language. Users can self-serve meaningful insights with ease. Even if they ask vague questions in natural language, they will receive comprehensive and contextual answers that explain the data completely using visuals and narratives.

Boosting data proficiency

When your employees know how to use data effectively, they can help your organization achieve its data objectives. Invest in educating and upskilling your workforce in data, analytics, and ML with [AWS Training and Certification](#).



Scale data-driven decision-making throughout your organization

Empower staff to:

- Meet varying analytic needs from the same source of truth with unified business intelligence on [Amazon QuickSight](#)
- Extract key insights faster using [Amazon Q](#), a generative AI powered assistant
- Build dashboards and create compelling visual stories using natural language with Amazon Q in QuickSight
- Generate accurate ML predictions without prior experience using [Amazon SageMaker Canvas](#)—with no coding required
- Simplify governed access to data for business users with [Amazon DataZone](#)
- Access more than 150 professional development courses related to data, analytics, and ML via [AWS Training and Certification](#)



South-Central Ohio Major Crimes Unit Delivers Justice and Public Safety Faster with Digital Evidence Solution



The South-Central Ohio Major Crimes Unit struggled to manage growing volumes of digital evidence with limited staff. The agency deployed Scout PD, an intelligent digital evidence management system from AWS Partner Revir Technologies, to automate tasks like file hashing and metadata extraction. Scout PD runs on AWS GovCloud (US) and was deployed in under an hour. With Scout PD, the Major Crimes Unit accelerated evidence discovery from weeks to hours. For example, in a homicide case, Scout PD analyzed 1,000 file types in 10 minutes versus six weeks manually. With the time savings, detectives can work on more cases. Scout PD streamlined processes, eliminated silos, and helped the understaffed Major Crimes Unit operate more efficiently. According to the commander, by using Scout PD to work faster, they are helping save lives in the opioid epidemic.

“Now is the time to use data to help people to understand what actions we can take to create a more diverse, more equitable, and a more inclusive work environment and to build the future we all want to create.”

Dennis Lowe,
Commander of the South-Central Ohio Major Crimes Unit

[Read the full story >](#)



POLICE
department

Evidence

CASE# 158-745

Public Prosecutor's Office of San Luis democratizes evidence access



The Argentine province of San Luis implemented a new criminal justice regulation requiring digital records for investigations be accessible to all parties. This led to the creation of the Maletín Fiscal web system to store and share case files. Originally hosted on-site, it was migrated to Amazon Web Services' cloud for enhanced scalability, reliability and security.

Key results include processing over 14,870 cases since February 2022 and assisting 123 prosecutors. Moving to the AWS cloud delivered 60.25% cost savings compared to on-site infrastructure, as well as better availability and continuity of service during any adverse conditions. Looking ahead, San Luis is developing a new cloud-native case management system with AWS over 3 years. The province continues modernizing its justice system via digital transformation, as mandated in its constitution granting citizens the Right to Digital Inclusion.

[Read the full story >](#)



INTEGRATED

Break down silos to connect all your organization's data, so it can be put to work effectively

Opportunities to transform your business with data exist all along the value chain. But making such a transformation requires you to see the full picture of your customer and business. With data spread across multiple departments, services, on-premises databases, and third-party applications, you need to be able to easily integrate data across silos to get the best insights. Companies have various approaches to how they are unifying data—data mesh, lake house, data fabric, and so on—but typically, it involves a data lake as a foundational element. Data lakes allow you to collect, store, organize, and process valuable data from your data silos and make it available to analytics, visualization, and AI tools in a governed way.

Embracing a zero-ETL future

Many organizations have multiple data lakes in addition to data warehouses, databases, analytics tools, ML tools, and SaaS applications. Integrating data across silos requires complex extract, transform, and load (ETL) pipelines, which can take hours (or even days) to complete. That's just not fast enough for modern decision-making. Organizations should adopt technologies that automate or eliminate ETL where possible.

AWS is investing in a zero-ETL future so you can quickly and easily connect and act on all your data, no matter where it lives. This includes:

- Enabling near real-time analytics on your transactional data with zero-ETL integrations between Amazon Redshift and several AWS databases, such as Amazon Aurora MySQL, Amazon Aurora PostgreSQL, Amazon RDS for MySQL, and [Amazon DynamoDB](#)
- Bringing ML to the data source with no data movement or ML exporting using SageMaker integration into Amazon Redshift, Aurora, Athena, and Neptune





- Using generative AI to make data integration and processing easier and faster with Amazon Glue
- Providing zero-ETL integration between Amazon OpenSearch Service and Amazon DynamoDB so you can run near real-time search queries and the zero-ETL integration between Amazon OpenSearch Service and S3 lets you easily perform complex queries and visualizations and identify anomalies without moving data
- Making it possible to run queries across data stored in operational databases, data warehouses, and data lakes to provide insights across multiple data sources with no data movement using [Amazon Athena](#) and Amazon Redshift

When ETL is necessary for use cases where you need to combine multiple datasets or add value through transformations, AWS continues to invest in AWS Glue—a serverless, scalable ETL and data integration service that makes it easier to discover, prepare, move, and integrate data from multiple sources for analytics and machine learning.

Analyzing all your data and third-party data

To break down data silos, you can't have connections to only some of your data sources—you need to be able to seamlessly connect to all of them, whether they live in AWS or external third-party applications, on premises, or even in another cloud environment. AWS is investing in a future where you can automatically integrate hundreds of data sources—no matter where they live.

Increasingly, organizations are also harnessing third-party data to deepen insights by joining this third-party data with their own data. [AWS Data Exchange](#) enables AWS customers to access third-party data through files, tables, and APIs from more than 300 data providers and more than 3,500 data products, all from one place. Third-party data from partners and customers is also being used, which increases the need for comprehensive governance policies to protect the data. Data clean rooms—protected environments where multiple parties can analyze combined data without ever exposing the raw datasets—have emerged as a solution. [AWS Clean Rooms](#) helps organizations and their partners securely analyze and collaborate on their datasets—without sharing or revealing the underlying data.

Improving public health through data exchange

Challenge

Public health agencies faced data fragmentation, incomplete health records, and lack of interoperability, hindering their response to myriad public health issues.

“Epidemiologists in public health departments now have more data to monitor and analyze for syndromic surveillance, immunization monitoring, chronic disease surveillance, and medication compliance purposes.”

Kevin Borchert,
Vice President of PDMP and Pharmacy Programs for CyncHealth

Result

Innovative health information exchanges (HIEs) hosted on AWS helped agencies coordinate their responses. Michigan and California HIEs enabled streamlined electronic lab reporting to public health. Nebraska’s HIE expanded prescription drug monitoring to include all medications, providing comprehensive histories to inform treatment. Vermont’s HIE augmented limited public health data to accelerate case investigations and fill critical gaps.



How Virginia unleashed the power of data



The Commonwealth of Virginia established a data governance framework to enable secure data sharing between government agencies and private organizations. Virginia leveraged AWS services like [Amazon RDS](#) and [Amazon Redshift](#) to operate the data platform. An opioid addiction pilot demonstrated the power of unified data to solve local problems. The framework then enabled rapid pandemic response by providing decision makers with secure dashboards through [Amazon WorkSpaces](#), surfacing real-time intelligence while maintaining privacy.

“We suddenly had the data to know where cases were rising rapidly. We could see testing rates, ... see infection rates, and then surface intelligence through our AWS environment to local decision makers. We were able to shift our financial and human resources away from establishing alternate care facilities at different locations throughout the state to implementing statewide testing.”

Carlos Rivero,
former Chief Data Officer, Commonwealth of Virginia

[Read the full story >](#)

ENGIE accelerates its zero-carbon transition



[ENGIE](#), a global utility company in the process of a zero-carbon transition, built its Common Data Hub data lake on AWS. ENGIE worked with [AWS Professional Services](#) during the solution design and implementation and formed an internal service team to oversee the platform. With more than one thousand projects worldwide currently on the Common Data Hub, ENGIE eliminated its data silos, empowering every department with equal access to a common data framework.

“We were convinced that AWS was a good solution for many reasons, including the cost model—and especially in terms of data storage.”

Gregory Wolowiec,
Technology Team Leader at ENGIE Data Programs

[Read the full story >](#)



GOVERNED

Free your teams to move faster with governed data access

Beyond being comprehensive and integrated, it's equally important to ensure that all consumers of your data—whether human users, applications, engines, or AI/ML models—can access data where and when it is needed with the right level of control. With the right data governance strategy in place, you can move faster with the right data access—right when it's needed.

As more data migrates to the cloud and new AI/ML models consume vast amounts of data, enterprise data governance models must evolve in lockstep. IT and organization leaders need up-to-date policies to protect data as it moves back and forth among different repositories and to accommodate changing privacy and data security regulations about where data can be stored.

Simplifying data access permissions

Implementing a successful data governance strategy presents a unique set of challenges. Giving internal or external consumers their data—with the right level of access to specific datasets—is complex and time-consuming. Teams often engage in heavy lifting, such as manual scripts or investigating individual data clusters, to figure out which consumers have access to what data.

Manual work can also lead to costly data quality issues across different teams and departments. Without centralized governance tools, data gets locked down in siloes, which means you won't be able to access and analyze all the data you may need to solve problems or identify large areas of opportunity.

“The key to good [data] governance is figuring out how to define access, then getting out of the way. By that I mean creating exception processes, rather than taking an approach that any time you need data, you have to ask someone in a central organization for it.”⁵

Rahul Pathak
VP of Relational Database Engines
at AWS

AWS governance portfolio

- Catalog, discover, share, and govern data to allow everyone across your organization to act on it using Amazon DataZone
- Govern and audit the complete AI/ML development cycle using features in Amazon SageMaker
- Catalog data across data lakes, data warehouses, and databases using AWS Glue
- Govern and audit actions taken with data in your data lake on Amazon S3—or govern data sharing in Amazon Redshift—using AWS Lake Formation



Developing a data governance strategy

[An AWS/MIT insights report](#) shows that data governance is the top priority of chief data officers (CDOs), with more than 65 percent noting “establishing clear and effective data governance” as their leading responsibility. CDOs also spend a lot of their time on governance—with more than 63 percent saying data governance initiatives are a top focus area.⁶

Without a data governance approach that supports innovation, organizations will find it hard to be data-driven and, ultimately, to remain competitive. After all, the more time workers spend grappling with data, the less time they spend innovating with it. For success, a data governance strategy must align with funded business initiatives. Because a standalone data governance strategy without integration into funded organization initiatives risks failure.

AWS is investing across the data journey to enable end-to-end data governance with less effort. With data governance on AWS, organizations have control over where their data sits, who or what has access to it, and what can be done with it at every step of the data workflow. AWS offers a portfolio of services that help organizations understand, curate, and protect the data.

For example, with Amazon DataZone, administrators and data stewards can manage and govern access to data—while data engineers, data scientists, product managers, analysts, and other users can discover, use, and collaborate with that data to drive insights for your business. With the new generative AI capability in Amazon DataZone—AI recommendations for descriptions—you can automatically generate descriptions and context for your data sources, including highlighting essential columns, suggesting relevant analytical use cases, and even highlighting potential risks such as PII data. For your AI and ML models, Amazon SageMaker can help you govern and audit the end-to-end ML development cycle. Additionally, data engineers and developers can catalog data across data lakes, data warehouses, and databases using AWS Glue—which comes with data quality rules that check for data freshness, accuracy, and integrity. And with AWS Lake Formation, you can govern and audit the actions taken with data in your data lake on Amazon S3 and data sharing in Amazon Redshift.

⁶ “2024 CDO Insights: Data & Generative AI” AWS/MIT Insight Report, 2024

Using AI and ML responsibly

AI and ML are some of the most transformative technologies we will encounter in our generation—to tackle organizational and societal problems, improve citizen experiences, and spur innovation. With the widespread use and growing scale of AI, it's critical that the technology is built in a responsible way.

While most organizations have begun their journey to responsible AI, the majority (95 percent) are struggling to operationalize across key elements of responsible AI, including fairness, explainability, robustness, security and privacy, transparency, and governance. Ensure your AI and ML models are built in a responsible way—with data practices that mitigate bias and protect data privacy—using AWS resources.

- Leverage purpose-built capabilities like [Amazon SageMaker Clarify](#) to identify and address potential biases in their machine learning models
- Enable transparency with tools like AWS AI Service Cards and Amazon SageMaker Model Cards
- Train your teams on fairness and bias with a course from [Machine Learning University](#)
- Give data scientists governance controls to gain end-to-end visibility into ML models (including training, version history, and model performance) with SageMaker
- Build generative AI applications responsibly with Amazon Titan foundation models, which can detect and remove harmful content in the data, reject inappropriate content in the user input, and filter the models' outputs that contain inappropriate content such as hate speech, profanity, and violence. Titan Image Generator has built-in safeguards against biases and includes invisible watermarks on all images to identify them as AI-generated
- Use Guardrails for Amazon Bedrock to implement safeguards to your use cases and responsible AI policies

Data Foundation Tip

Through 2025, Gartner estimates 80 percent of organizations seeking to scale digital operations will fail because they don't take a modern approach to data and analytics governance.⁷ For success, you need to make sure your data is in the right condition to succeed—with the right data available to the right people and applications. Download the [Data Governance Master Class](#) guide for step-by-step guidance on modern data governance—from planning and organizing to building and deploying.



Using the cloud to integrate homelessness data with whole-person care services

The Regional Task Force on Homelessness in San Diego County needed to better coordinate homelessness services across organizations. They migrated to Bitfocus's Clarity Human Services system, built on AWS, for its integration capabilities. This reduced duplicate data entry and improved data quality, freeing up resources for training and engagement.

AWS's scalable infrastructure allowed Bitfocus to handle increased demand seamlessly. By leveraging AWS's managed services like Amazon RDS and Amazon VPC, Bitfocus reduced costs and improved efficiency. The user-friendly system increased provider participation, and with robust analytics, San Diego gained insights to inform policies.

“The technology is helping us share data and collaborate across our community to meet our mission and the mandates that we have to protect client level information; it's user-friendly for the 1,200 people who have to enter data which has reduced support cases, decreasing response times. As a result, we have reallocated resources to training and community engagement which has increased [data] participation in the community”

Tamera Kohler,
Chief Executive Officer, Regional Task Force on Homelessness

[Read the full story >](#)



Toronto Metropolitan University gains a new eye on energy

Toronto Metropolitan University partnered with FuseForward to create a smart campus platform on AWS. The platform collects data from tens of thousands of IoT sensors across campus buildings. It ingests 500,000 records daily into [Amazon Kinesis Data Streams](#), giving researchers visibility into equipment faults and energy usage through data visualizations. Machine learning can be used to predict maintenance needs and optimize energy efficiency. The digital twin campus model will eventually integrate building, infrastructure, and city data to inform smart city decisions.

“The solution is giving us visibility into things we couldn’t see before. It’s almost like having a full-time energy manager watching every single piece of equipment and flagging things that don’t look right or aren’t working.”

Jenn McArthur,
Associate Professor, Department of Architectural Science at
Toronto Metropolitan University

[Read the full story >](#)



Making security more strategic

AWS has prioritized security since day one—with continuously protected, high-performing, resilient, and efficient infrastructure for your workloads and applications. World-class security experts who monitor the AWS infrastructure also build and maintain our broad selection of innovative security services—which can help simplify the complexities of your own security and regulatory requirements.

AWS Security services and solutions can enable a mix of important advantages:

- **Getting to insights faster** – Provide the right level of access to your resources at all times while maintaining confidence that your data is protected. [AWS Security](#) is built with performance in mind, so you get maximum protection and data governance that doesn't slow you down.
- **Reducing downtime** – Tougher, more modern cloud security helps keep your enterprise moving, so you don't have to stop analyzing data to perform a discrete security process—it can be integrated every step of the way.
- **Staying within your budget** – AWS keeps security cost-effective and scales with the evolving needs of your security risks and requirements, protecting your organization's investments and its commitment to data initiatives.
- **Keeping your focus** – From infrastructure to services, AWS is secure by taking security into account at every step, so you can spend more time transforming data into better decisions that drive mission results and less time worrying about security and governance.

A history of unmatched reliability and security

- **Amazon S3:**
Store and retrieve any amount of data with the best security
- **AWS Lake Formation:**
Build a secure data lake in days with fine-grained access control
- **Multi-AZ Regions:**
Ensure seamless failovers if an Availability Zone (AZ) is disrupted



CONCLUSION

The next wave of innovation will be driven by data and AI

Leaders have been on a quest to make data a strategic asset to fuel innovation with data and AI. Innovation is accelerating everywhere. But whether it's ML, AI, or generative AI, success depends on relevant, high-quality data, which is why leaders must be tenacious about building a solid data foundation.

Building the right data foundation for your organization is possible—no matter its size, location, or organization needs. AWS provides the most comprehensive set of services for any workload, type of data, and desired outcome.

Learn more about why AWS is the best place to unlock value from your data and turn real-time insights into meaningful innovation. And explore how we can help your teams with infrastructure, tooling, and implementation support via the world's leading professional services and partner network. When it comes to data and AI, AWS customers know how to do it better.

[Learn more about reinventing your organization to be data-driven >](#)

Discover the top data use cases to maximize organization value

How can you take advantage of your data to improve citizen, patient, and student experiences, optimize and reinvent supply chains, elevate decision making, build modern applications, and more? Explore prime improvement opportunities for your organization in the [7 essential, data-driven solution areas for leaders: Maximizing mission success with data](#) eBook.