



Build your applications with confidence on the most secure, reliable, and extensive global cloud infrastructure

With millions of active customers, AWS provides you with the largest and most extensive cloud infrastructure—delivering the security, performance, and scale you need to responsibly power your next-generation innovations.

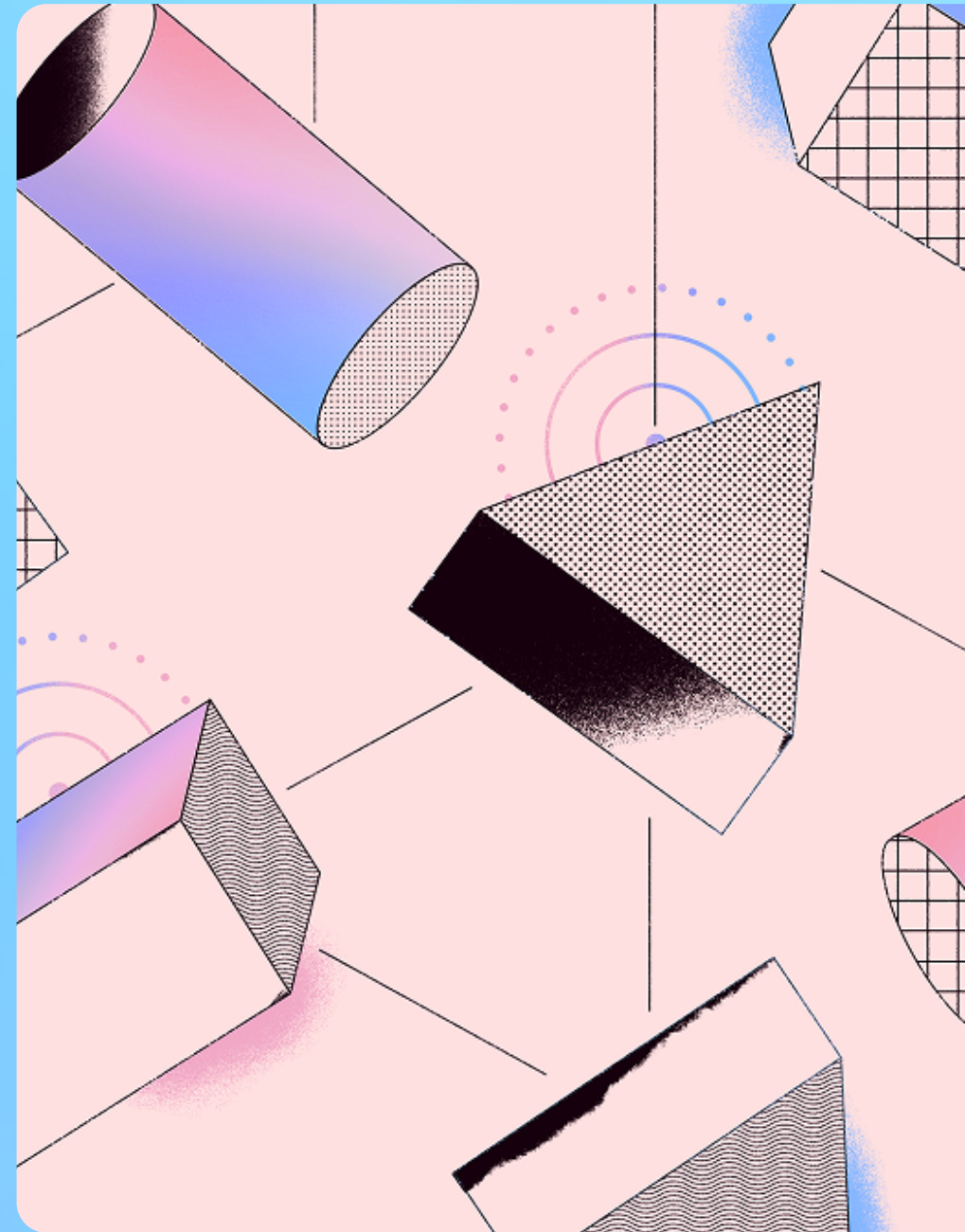


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Top of mind for business leaders and decision makers

As organizations shift to the cloud to enhance efficiency and scalability, business leaders are carefully evaluating providers based on critical decision-making factors. Security remains a top priority, requiring organizations to have appropriate controls in place to prevent inadvertent access to sensitive data and safeguard critical information. Organizations are increasingly looking to their cloud providers to offer a secure infrastructure on which they can build and run their workloads with confidence.

Having control over digital assets, or digital sovereignty, is also more important than ever. Today, organizations face increasing complexity in achieving digital sovereignty. This is especially true in the government, healthcare, and finance sectors, where data control and compliance are highly regulated. The European Commission's 2025 State of the Digital Decade report, for example, puts technological sovereignty at the core of its recommendations for European Union (EU) member states.¹

In addition to security and digital sovereignty, reliability is a key consideration. As cloud infrastructure powers mission-critical applications, even brief outages can significantly impact business. A robust cloud infrastructure with high uptime ensures consistent performance and availability, enabling uninterrupted operations and swift recovery from unexpected incidents.

As artificial intelligence (AI) and data-intensive applications reshape industries, another essential factor is fast performance and scalable infrastructure. When milliseconds matter, high-performing cloud infrastructure can help organizations remain competitive. Beyond speed, applications must scale dynamically during traffic surges without impacting services and release capacity during quieter periods to optimize costs.

While industries undergo digital transformation at an accelerating pace, the difference between market leaders and followers depends on having a cloud foundation specifically architected to nurture innovation—one that not only meets today's technical requirements but continuously evolves to support tomorrow's breakthroughs.

AWS Global Infrastructure: Meeting organizations' most demanding requirements

With an unwavering commitment to meet customer needs, Amazon Web Services (AWS) delivers the most secure, reliable, and extensive global cloud infrastructure built with innovation in mind. This eBook dives deeper into how AWS Global Infrastructure addresses the top priorities of organizations of all sizes across the globe.



Most secure and reliable infrastructure

At AWS, [security is our top priority](#). AWS is architected to be the most secure global cloud infrastructure on which customers can build, migrate, and manage applications and workloads. This is backed by the trust of our millions of customers, including the most security sensitive organizations like government, healthcare, and financial services.

Secure by design

AWS prioritizes security at every level, from data centers to network architecture, with built-in safeguards across silicon, virtualization, and service layers. Our 24/7 monitored, custom-built infrastructure meets the world's strictest security standards. Data on the AWS global network is automatically encrypted, and you retain full control over your data's encryption, movement, and retention.

Network monitoring with automated mitigation techniques gives underlying AWS services protection against common, frequently occurring infrastructure attacks. Customer content and data is isolated from AWS using the [AWS Nitro System](#). Nitro System's security model is designed to restrict access to customer data, using specialized hardware and software to protect it from outside access during processing on [Amazon Elastic Compute Cloud \(Amazon EC2\)](#). Nitro provides a strong physical and logical security boundary, enforcing restrictions that ensure no one, including AWS, can access customer workloads on Amazon EC2 without authorization.



Sony Music operates more securely with AWS Services

As [Sony Music Entertainment Japan \(SMEJ\)](#) grew, it faced the challenge of scaling up as well as safeguarding its expanding digital infrastructure. As the music production and distribution company continued to diversify and expand its number of AWS accounts, inconsistencies in security protocols began to emerge. After its parent company issued new cloud governance guidelines in 2018, SMEJ built a scalable, cost-effective solution on AWS. Using AWS Security Hub, SMEJ has created a standardized system to streamline security management across its AWS estate. SMEJ Guardrail is now being used across more than 300 AWS accounts and helps protect 1,300 websites launched by its teams.

Most advanced set of digital sovereignty controls and features available in the cloud

AWS has always believed that for the cloud to realize its full potential, customers must have the choice and control over how they secure and manage their data. AWS provides customers with the flexibility to choose how and where they run your workloads. The [AWS Digital Sovereignty Pledge](#) is AWS's commitment to providing customers with the most advanced set of sovereignty controls and features available in the cloud. AWS continues to expand its capabilities to help customers meet their digital sovereignty needs, without compromising on performance, innovation, security, or scale.

For European customers in highly regulated industries, the upcoming [AWS European Sovereign Cloud](#) offers a new, independent infrastructure, designed to help meet evolving sovereignty needs. AWS European Sovereign Cloud will be locally controlled in the European Union (EU), led by EU citizens, and subject to local laws. It will also have independent governance, and a dedicated Security Operations Center.

To further meet digital sovereignty and regulatory needs for classified and sensitive workloads, [AWS Dedicated Local Zones](#) provides customers with a fully managed configurable private infrastructure operated by AWS. It's built for exclusive use in a specified location and offers additional security and governance features to help monitor and control access so that you can easily meet data isolation, in-country data residency, and compliance requirements.

Highest availability

AWS global infrastructure offers the highest availability and reliability enabling organizations to deliver uninterrupted services to customers, maintain operational continuity during disruptions, and build the trust essential for long-term success.

Unlike other cloud providers, each AWS Region consists of a minimum of three isolated Availability Zones (AZs). AZs are physically separated from each other (up to ~100 kilometers apart) to prevent correlated failures but close enough to use synchronous replication with single-digit millisecond latency. Common points of failure in self-managed infrastructure are not shared across AZs. In fact, AZs are designed to prevent a shared-fate scenario (e.g. power outages, fires, natural disasters). Every data center, AZ, and AWS Region is interconnected via a purpose-built, highly available, and low-latency private global network infrastructure.

Customers are increasingly choosing AWS to host their cloud-based infrastructure and realize increased performance, security, reliability, and scale wherever they go. AWS was named a Leader in the [2025 Gartner Magic Quadrant for Strategic Cloud Platform Services \(SCPS\)](#) report for the 15th consecutive year.

Gartner, Magic Quadrant for Strategic Cloud Platform Services, By Alessandro Galimberti, Dennis Smith, Carolin Zhou, Ed Anderson, Tony Harvey, Douglas Toombs, 4 August 2025. Gartner does not endorse any vendor, product or service depicted in its research publications and does not advise technology users to select only those vendors with the highest ratings or other designation. Gartner research publications consist of the opinions of

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"AWS is a strategic partner and has been since the beginning of our cloud journey. Singapore Government's Smart Nation and Digital Government Group (SNDGG) collaborated with AWS to define and build Dedicated Local Zones to help us meet our stringent data isolation and security requirements, enabling Singapore to run more sensitive workloads in the cloud securely. In addition to helping the Singapore government meet its cybersecurity requirements, Dedicated Local Zones enable us to offer its agencies a seamless and consistent cloud experience." ²

Chan Cheow Hoe, Government Chief Digital Technology Officer of Singapore

²["AWS Digital Sovereignty Pledge: Announcing new dedicated infrastructure options."](#) AWS, August 2023

Largest and most extensive global footprint

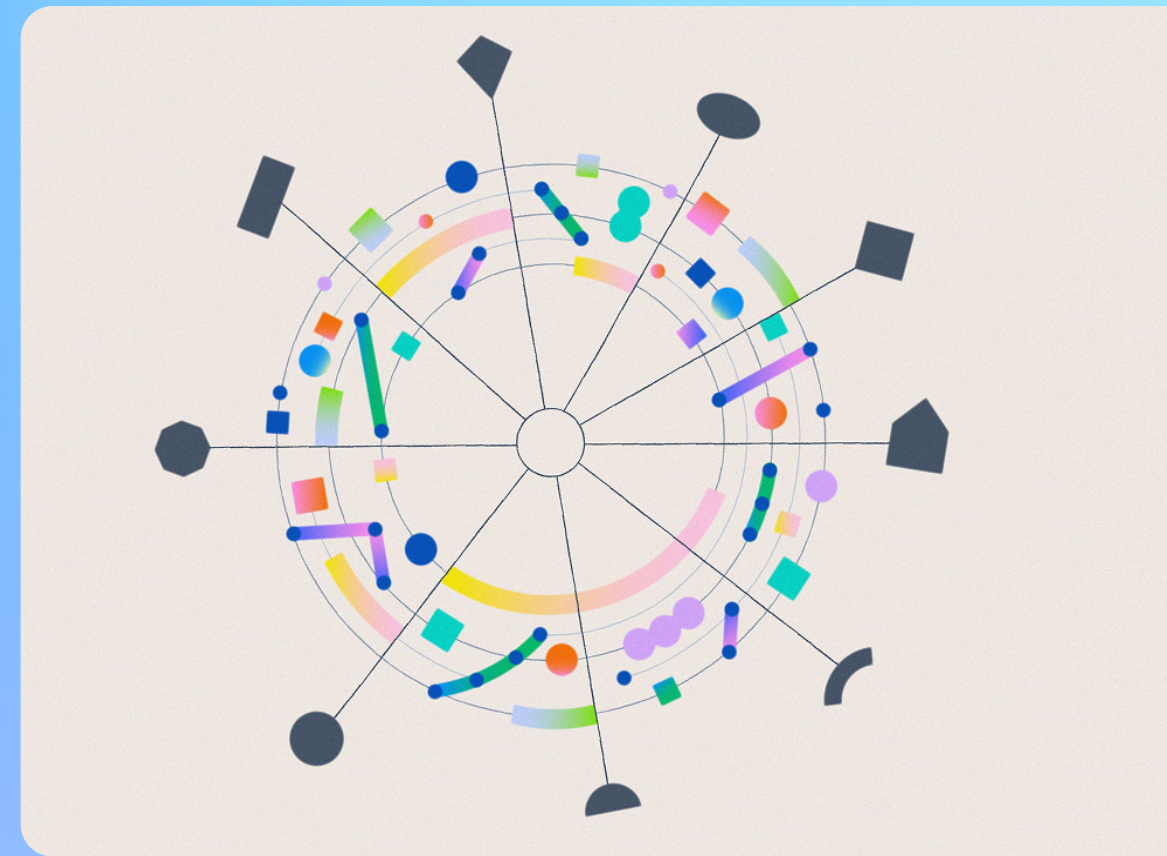
AWS offers the largest and most extensive global infrastructure footprint and [resilient global network](#) to run any application. With AWS, you can deliver performance and scale for the most demanding workloads.

Most extensive global infrastructure

AWS has more combined Regions, Availability Zones, and Points of Presence (PoPs) than any other cloud provider so that you can run your workloads wherever you need. The AWS Global Infrastructure is designed to optimize performance with the least latency and packet loss and most performant network quality. This is accomplished through a completely redundant 400 Gigabit Ethernet (GbE) fiber network backbone, often offering terabits of capacity across different Regions.

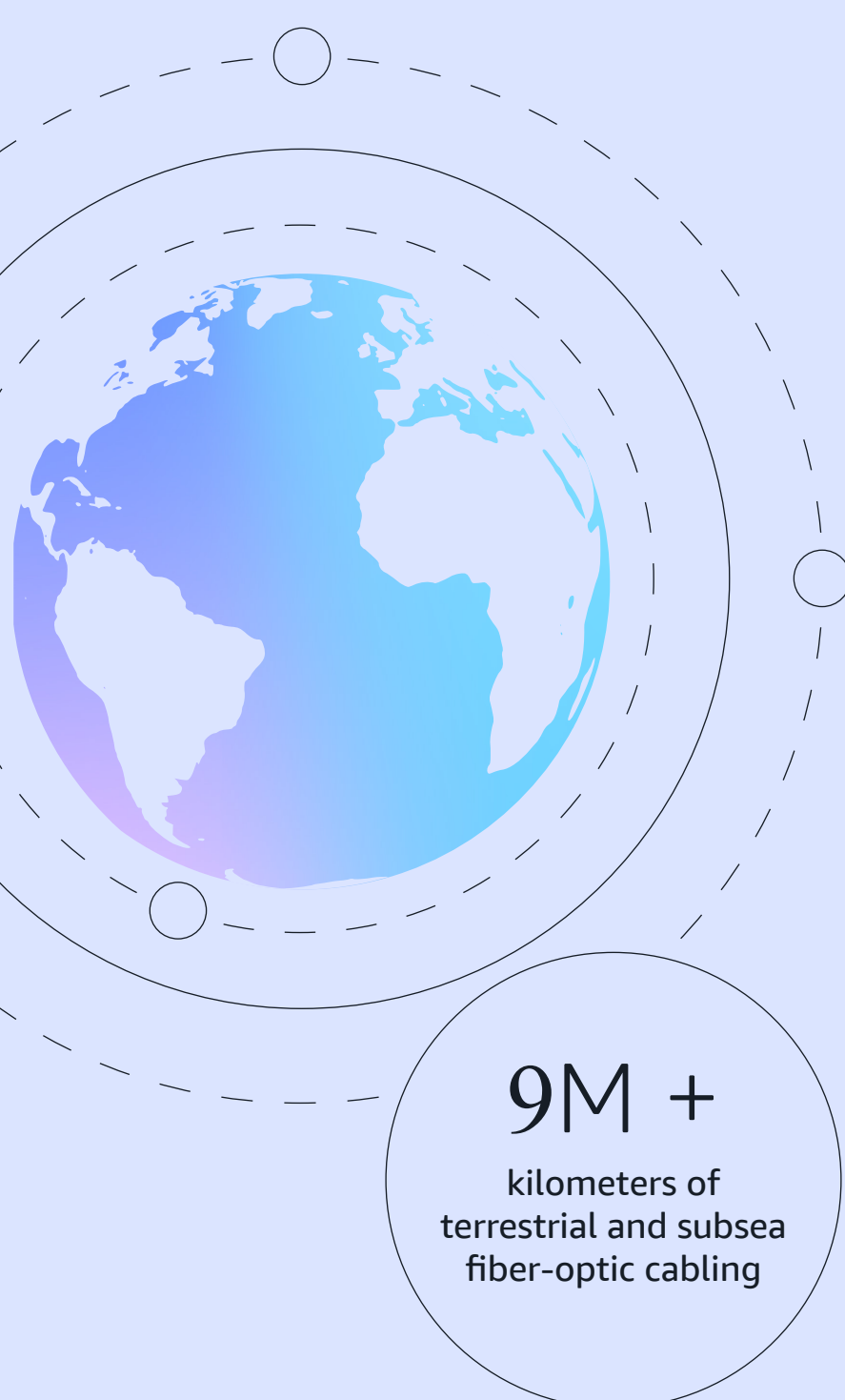


³["IDC MarketScape: Worldwide Public Cloud Infrastructure as a Service 2025 Vendor Assessment,"](#)
IDC, January 2025



“AWS is a Leader in the public cloud IaaS market through service breadth and continuous innovation. Their extensive global infrastructure, combined with custom silicon initiatives like Graviton and significant AI investments, positions them uniquely to serve enterprise needs. Their proven track record in scalability, established developer community, and aggressive investments in AI infrastructure, make them the go-to choice for organizations requiring sophisticated cloud capabilities.”³

Dave McCarthy, Analyst and Excerpt Author, [IDC MarketScape: Worldwide Public Cloud Infrastructure as a Service 2025 Vendor Assessment](#)



9M +
kilometers of
terrestrial and subsea
fiber-optic cabling



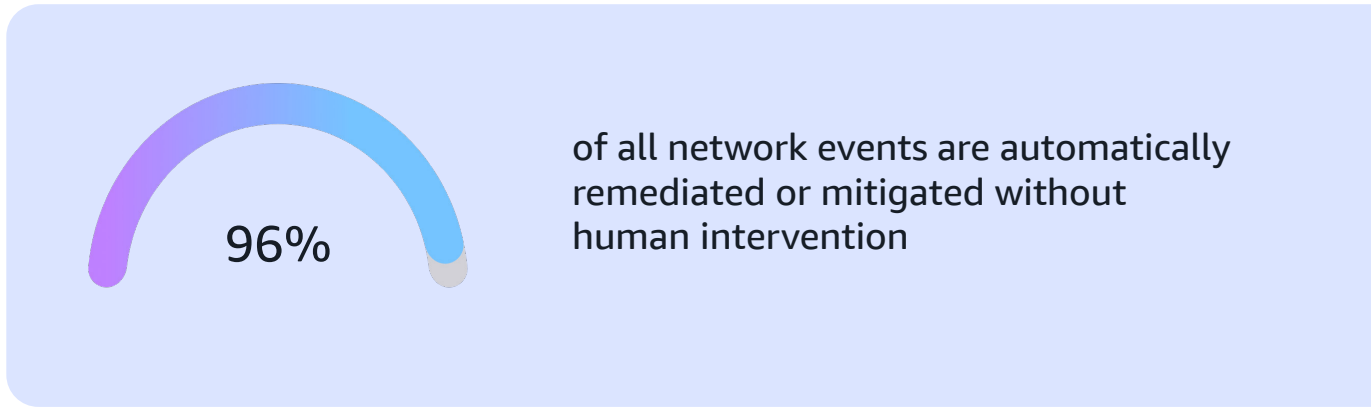
Largest private network

AWS has the largest private network connecting all AWS Regions, Availability Zones, and edge locations. By operating the global infrastructure network backbone end-to-end, AWS can optimize routing, minimize latency, and ensure consistent security controls with minimal third-party dependencies. The AWS global network has more than nine million kilometers of terrestrial and subsea fiber optic cabling, and it's constantly growing.

Powerful network backbone

The AWS Global Network is built from the ground up to be the most resilient and highly available network in the cloud, featuring centralized traffic monitoring and routing, automated network management tools, and geographic diversity and redundancy built into every aspect of its network infrastructure.

This high-speed global backbone offers faster data transfer, higher throughput, and lower latency. These capabilities enable improved performance of the most-demanding workloads, such as data-intensive, multi-region, real-time, or streaming applications.



Wide range of infrastructure solutions

AWS offers a wide range of infrastructure offerings that deliver a consistent cloud experience for your applications in the cloud, on-premises, or at the edge.

Unparalleled flexibility and choice

AWS gives you unparalleled flexibility and choice, offering a broad range of infrastructure options—including AWS Regions, AWS Local Zones, AWS Dedicated Local Zones, and AWS Outposts—to run workloads wherever you need.

Edge locations for low latency

AWS extends its infrastructure to the edge through multiple services. Amazon CloudFront delivers millisecond-latency content through 700+ PoPs in 100+ cities, and 900+ embedded PoPs across 300+ cities. AWS Local Zones, in 30+ metropolitan areas, support applications requiring single-digit-millisecond latency, local data processing, or specific data residency requirements. AWS Wavelength offers AWS infrastructure and services embedded within 5G networks in 30+ cities worldwide.

These services help you securely deliver workloads with reduced latency, run real-time applications like gaming and live video streaming, or leverage 5G for innovative mobile and IoT solutions, while reducing data transfer costs and improving performance.



NETFLIX

Netflix brings the cloud closer to its studio users

When [Netflix](#) built a visual effects (VFX) studio in the cloud using AWS, the entertainment company's goal was to facilitate collaboration among artists and content creators around the globe through remote workstations. Netflix uses Local Zones to access select AWS services closer to its artists and to achieve single-digit millisecond latency from its studios to the Local Zones. By accessing AWS compute services on Local Zones, Netflix can achieve low latency for applications and facilitate virtual workstations for its VFX studio users, fostering collaboration among artists.

“By taking advantage of AWS Local Zones, we have migrated a portion of our content-creation process to AWS while creating an even better experience for artists.”

Stephen Kowalski, Director of Digital Production Infrastructure Engineering, Netflix

Data residency and digital sovereignty solutions

AWS offers a range of solutions for workloads that need to remain on premises, or on custom-infrastructure built for exclusive use by specific customers. AWS Outposts brings AWS infrastructure and services to virtually any on-premises or edge location. In addition to meeting data residency requirements, Outposts can be used to support near-real-time processing for the most demanding applications and for application cloud migrations where there are local system interdependencies. Dedicated Local Zones help customers meet regulatory and digital sovereignty needs by providing a configurable infrastructure with services and features designed to meet your regulatory requirements. Dedicated Local Zones offer custom infrastructure built for the exclusive use of community of users.

Consistent cloud experience

AWS enables a truly consistent cloud experience on any workload and benefits from the same AWS infrastructure, services, APIs, and tools in any region around the world and across all environments. With AWS you can build once and deploy anywhere, with minimal code changes.

Millisecond latency delivered through:

700+
PoPs in 100+ cities

900+
embedded PoPs in 300+ cities



Optimized for performance and innovation

AWS is committed to helping you innovate responsibly. That's why our infrastructure is designed to deliver high performance and increased efficiency.

Up to 4.1x

AWS infrastructure is up to 4.1 times more energy efficient than on-premises and can reduce workloads' carbon footprint by up to 99%

Optimized for AI

AI workloads are pushing cooling requirements beyond the capabilities of conventional air cooling. That's why AWS has developed a more efficient liquid and multi-modal cooling system. This reduces the energy consumed by mechanical equipment by up to 46 percent during peak cooling, while maintaining current water usage levels.

AWS has also been innovating the way power is used in our data centers. Using generative AI-based software, we're optimizing rack positioning to reduce unused or under-utilized power. These combined software and hardware advancements enable us to deliver 12 percent more compute power per site for demanding workloads. It also means we can provide the same amount of compute capacity, with fewer physical data centers.

Investing in carbon-free energy

AWS continues to invest in additional sources of carbon-free energy around the world to responsibly meet our electricity requirements. This includes more than 600 renewable energy projects across the globe, including battery storage, solar and wind farms, and rooftop solar projects on buildings we operate. And in 2024, we signed [three nuclear energy](#) projects to help power our data centers. Nuclear power has a decades-long record of providing consistent, reliable, carbon-free energy for communities around the world.

600+

renewable energy projects announced across 28 countries



Becoming water-positive by 2030

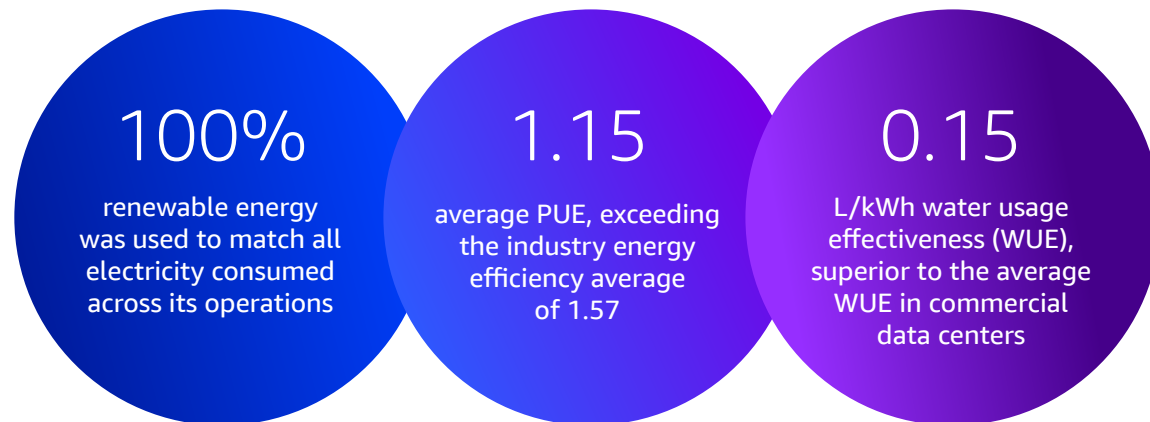
AWS has committed to becoming water-positive by 2030 with the aim of returning more water to communities and the environment than we use in our direct operations. By the end of 2024, we were already 53 percent of the way towards achieving this goal.

We're expanding our use of sustainable water sources, reusing as much water as possible, and using sophisticated cloud-based IoT technology to optimize water efficiency and detect leaks in real time. In addition, we're supporting a variety of water replenishment projects around the world.

High efficiency in power usage

Our latest data center designs achieve a Power Usage Effectiveness (PUE) rating of 1.08 – extremely close to the theoretical perfect score of 1.0. This demonstrates that nearly all the energy used is for actual computing, rather than overheads. As a customer, this gives you the peace of mind that you're innovating responsibly, with your workloads running on highly energy-efficient infrastructure.

According to [IDC's research survey](#), AWS datacenters achieved:⁴



⁴ ["IDC MarketScape: Worldwide Sustainable Cloud Datacenter 2025 Vendor Assessment,"](#) IDC, July 2025

Billions

of dollars spent across carbon-free energy projects including nuclear, battery storage and renewables



5 years

Amazon is the largest corporate purchaser of renewable energy globally for the fifth year in a row, according to BloombergNEF.

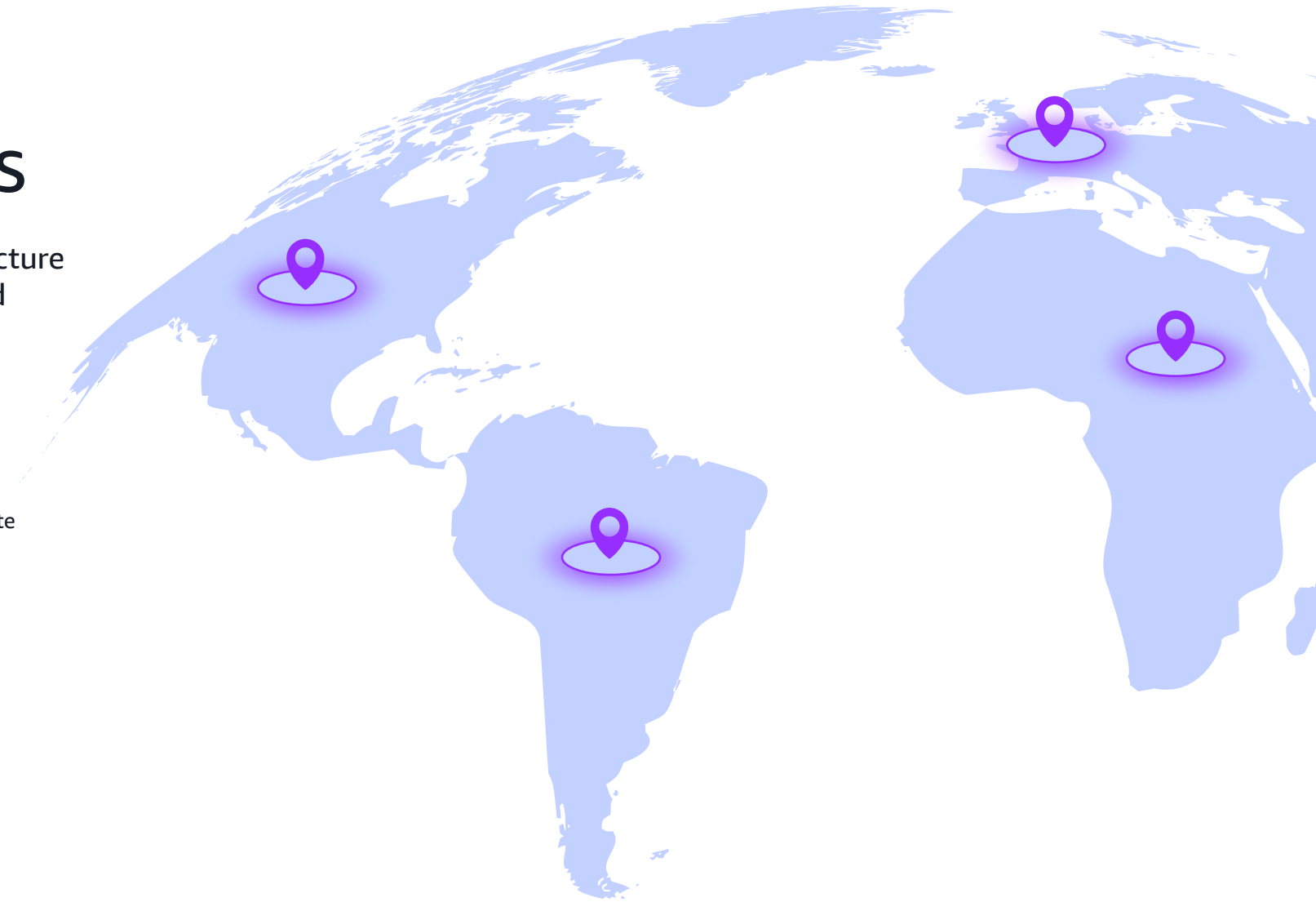
AWS Global Infrastructure solutions

AWS global infrastructure offers a wide range of infrastructure solutions so that you can run your workloads however and whenever you need.

Regions and Availability Zones

AWS Regions are physical locations around the world where our data centers are clustered. We call each group of logical data centers an Availability Zone (AZ). Each AWS Region consists of a minimum of three, isolated, and physically separate AZs within a geographic area. Unlike other cloud providers, who often define a region as a single data center, the multiple AZ design of every AWS Region offers highest availability and resilience. Each AZ has independent power, cooling, and physical security and is connected via redundant, ultra-low-latency networks.

Find your nearest AWS Region and Availability Zones →



Local Zones and Dedicated Local Zones

Local Zones bring AWS compute, storage, database, and other selected AWS services close to end users and workloads in metro areas. Local Zones can be used to run low-latency applications, meet data residency requirements for regulatory and compliance-sensitive workloads, and easily migrate legacy on-premises applications for low latency hybrid deployment. AWS also offers fully managed Dedicated Local Zones built exclusively for customers and placed in a customer-specific location or data center to meet mandatory regulatory and digital sovereignty needs.

Learn more about AWS Local Zones and their locations →

Amazon CloudFront

Amazon CloudFront is a content delivery network (CDN) that securely delivers content with low latency and high transfer speeds. CloudFront reduces latency through more than 700 dispersed PoPs, automated network mapping, and intelligent routing. Security is backed by traffic encryption, access controls, VPC origins, and AWS Shield Standard to defend against DDoS attacks.

Find out more about Amazon CloudFront →



AWS Outposts Family

AWS Outposts delivers AWS infrastructure and AWS services to virtually any on-premises or edge location for a truly consistent hybrid experience. Outposts solutions allow you to extend and run native AWS services on-premises using familiar AWS services, tools, and APIs. Outposts enables you to extend AWS compute, networking, security, and other services on-premises for low latency, local data processing, and data residency needs.

Discover the AWS Outposts Family →

AWS Wavelength

AWS Wavelength enables developers to build and deploy applications that meet data residency, security, and low-latency requirements by leveraging AWS services and APIs. Wavelength can be used to build applications using granular data residency controls, accelerate machine learning inference at the edge, and enable low latency for real-time applications for a consistent experience.

Explore AWS Wavelength →

AWS Direct Connect

AWS Direct Connect establishes a dedicated network link from your premises to an AWS Region, bypassing internet service providers in your internet path, and reducing bottlenecks, or unexpected increases in latency. Direct Connect extends your existing network to improve application performance, reduce networking costs, and manage large datasets securely with multiple encryption options.

Get started with AWS Direct Connect →



Accelerate your next-generation innovation with AWS Global Infrastructure

AWS provides the largest and most extensive cloud infrastructure, to support your next-generation innovations. Whether you're looking to get started with an idea, scale enterprise-class workloads around the world, or deliver demanding real-time services, AWS Global Infrastructure offers the security, performance, scalability, flexibility, and efficiency you need, to meet your requirements responsibly.

Join the millions of active customers from virtually every industry including public sector, large enterprises, SMEs, and startups using AWS, and choose from a global community of trusted cloud partners, offering diverse expertise, to help you realize your goals on AWS faster.

[Get started today →](#)

[Build the skills needed for a successful cloud journey →](#)

