



Accelerate innovation in Healthcare and Life Sciences with HPC on AWS

With Amazon Web Services, researchers can access purpose-built HPC tools and services along with scientific and technical expertise to accelerate the pace of discovery.

Simplify and accelerate drug design cost-effectively

AWS delivers virtually unlimited compute capacity to Relay Therapeutics to accelerate molecular compound analysis for faster drug development. [Read the full case study.](#)

Benefits

- Simplified analysis and orchestration
- Optimized drug discovery process
- Scalable compute resources

Impact

- Reduced compute costs by 50%
- Reduced molecular compound analysis time from months to days

Avoid upfront investments or lengthy procurement cycles. The AWS pay-as-you-go pricing allows you to pay only for the capacity you use, and Amazon Elastic Cloud Compute (EC2) Spot Instances can help you save up to 90% on compute costs.



\$41

Every dollar spent on HPC in HCLS generated \$41 in profit or cost savings¹



Optimize AI medical imaging workloads

On AWS, UC San Diego Health accelerated COVID-19 detection. AWS provided the infrastructure to facilitate machine learning-based algorithm to analyze chest X-rays for COVID-19 characteristic signs. [Read the full case study.](#)

Benefits

- HIPAA-secure environment
- Cost-effective and highly scalable cloud infrastructure
- AWS support and speed to deploy

Impact

- Infrastructure for AI-enabled image analysis deployed in 10 days
- Almost 13,000 X-rays analyzed in 9 weeks



Take advantage of HPC focused compute, scalable storage solutions, advanced machine learning and data integration services to meet the most demanding imaging workloads.

93%

of healthcare leaders confirm AI is absolutely essential, very important or important to their strategy²



Accelerate time to insight in modeling and simulation

AWS enables Bristol-Myers Squibb, to build a secure, self-provisioning portal for hosting research to run clinical trial simulations on-demand. [Read the full case study.](#)

Benefits

- Reducing cost while extending capabilities
- AWS infrastructure security and compliance

Impact

- Running simulations 98% faster
- Time to discovery reduced by almost a year
- Reduced sample size

Leverage on-demand HPC resources to facilitate emerging initiatives that analyze and predict future medical states at the atomic, cellular, and biological level.



Run computationally intensive genomics workloads

AstraZeneca leverages AWS to accelerate the use of genomics for developing innovative medicines by building a cloud-based bioinformatics solution for rapid genomic processing and analytics. [Read the full case study.](#)

Benefits

- Rapid genomics data processing at scale
- Saved time with easily accessible and customizable infrastructure

Impact

- Over 51 billion statistical tests processed in 24 hours
- Genomic insights delivered to over 40 drug discovery projects in 2020
- Moving closer to the goal of analyzing two million genomes by 2026

Use AWS services to securely analyze, store and share genomic data through HPC solutions that support each step of the genomics value chain.



Better outcomes and faster science on AWS



Configure your HPC compute

Meet your HPC workload demands flexibly by selecting and mixing the best compute profile to match your requirements.



Deploy rapidly

Quickly respond to new business demands by launching an HPC cluster in minutes.



Pay-as-you-go

Only pay for HPC resources you use and after completion, decommission them in minutes.



Leverage purpose-built tools and services

Choose from a wide variety of instance types and services to match your unique scientific requirements.



Accelerate time to insight

Expedite your research with HPC services, scalable storage solutions and access to secure collaboration platforms such as [AWS Data Exchange \(ADX\)](#).



Innovate without infrastructure constraints

Secure the HPC resources required to fuel healthcare and life sciences workloads and advance the pace of innovation.

Learn how HPC on AWS can accelerate your research <https://aws.amazon.com/hpc/hcls>

¹ <https://www.businessweekly.co.uk/news/biomedtech/hpc-revolutionising-speed-life-science-research>

² <https://www.aain.healthcare/sponsored/9667/topics/ai-healthcare-2020-leadership-survey-report/ai-healthcare-2020-leadership-1>