



AWS FOR GENOMICS:

# Transfer & Store Genomic Data



The growing scale of genomic data poses challenges in both the transfer of data from the sequencer to the cloud in a secure and timely manner and the growing costs associated with storage. In many cases, organizations are required to store genomic data for extended periods of time, further increasing storage costs.

To help genomics organizations reduce costs, enhance security, and do more with their data, [AWS for Genomics](#) offers a robust portfolio of curated industry tools.

## Why AWS



### Securely scale globally

AWS for Genomics enables life sciences organizations to scale globally on demand with the AWS Global Cloud Infrastructure, the most secure, extensive cloud offering. With over 84 Availability Zones across 26 geographic regions, you can scale while adhering to data security and sovereignty regulations.



### Reduce costs, increase functionality

AWS for Genomics offers storage and compute offerings at a variety of price points. Services such as Amazon EC2 Spot Instances offer up to 90 percent discounts compared to on-demand compute prices. For long-term storage of infrequently used data, Amazon S3 Glacier provides secure data archiving starting at \$1 per terabyte per month.



### Enhance industry collaboration

The Registry of Open Data (RODA) on AWS makes it easy for people to find datasets that are publicly available through AWS. RODA hosts over 70 life sciences databases, including the Cancer Genome Atlas and Genome Aggregation Database. Companies like Genomics England leverage AWS to enable global, cost effective, and secure access to large genomic databases to accelerate research.

“ By hosting on AWS, we can democratize access to our data. All researchers need is a small budget to fund compute costs and access to a computer. ”

**Genomics England**

[Read the case study »](#)

## illumina

“ For the last decade, we’ve collaborated with AWS to provide secure and scalable tools and services to researchers around the globe to power these innovations. By leveraging Amazon EC2 Regions globally, we’re bringing compute to the data, supporting customers in all regions while allowing them to maintain data sovereignty. ”

[Read the case study »](#)



## Transfer & Store Genomic Data use cases



### Data Transfer & Migration

The Data Transfer & Migration use case focuses on solutions for the secure transfer and storage of genomic data with featured AWS services including Amazon S3, AWS Database Migration Service, and AWS DataSync.



### Secure Collaboration

The Secure Collaboration use case focuses on solutions that enable secure and compliant industry collaboration, featuring the AWS Shared Responsibility Model, AWS Identity and Access Management (IAM), federated data access through the Athena and Redshift Federated Query, and Amazon S3.



### Genomic Data Sharing

The Genomic Data Sharing use case is focused on solutions for responsible and secure sharing of genomic data, and highlights the Registry of Open Data on AWS solution alongside Amazon Healthlake, Data Lake as Code, and Service Workbench.

## Innovate with AWS for Genomics

AWS for Genomics matches the needs of the genomics industry with innovative technologies to provide scalable, secure, and cost-effective tools that accelerate genomic discoveries. From solutions to migrate and securely store genomic data in the AWS cloud, to tools to accelerate secondary and tertiary analysis, to services to integrate genomic data into multi-modal datasets, AWS for Genomics offers a curated portfolio of validated AWS and AWS Partner solutions across the genomics workflow. For more information, visit <https://aws.amazon.com/health/genomics>

## AWS Customer Success

### Illumina »

Illumina delivers integrated systems for analyzing genetic variation and biological function. Illumina builds on AWS to gain more compute power while reducing monthly costs, enabling the organization to pass along cost savings and scalability to its customers.



### Genomics England »

The Department of Health established Genomics England (GEL) to sequence 100,000 whole genomes from NHS patients with rare diseases. Upon successful completion of the project, GEL transitioned from project to platform using AWS to give researchers intelligent tools and secure access to these massive datasets to help them advance personalized, predictive, and preventative genomics healthcare.



### BC Cancer »

Artem Babaian, Ph.D., a researcher at the University of British Columbia, leveraged the National Center for Biotechnology Information (NCBI) Sequence Read Archive (SRA) on the AWS Registry of Open Data to identify 130,000 new viruses in 11 days.

If you have questions, please click here to get started: <https://pages.awscloud.com/GenomicsContactSales.html>