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EMEA HEALTHCARE & LIFE SCIENCES - VIRTUAL

AWS HCLS Workshops

Join our series of free one-day technical workshops on compliance, genomics, machine learning, manufacturing, sustainability, and more. Led by AWS industry experts.

June 27 – July 18 2023

REGISTER TODAY

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Genomic Data Analysis with Amazon Omics

Adam McCarthy

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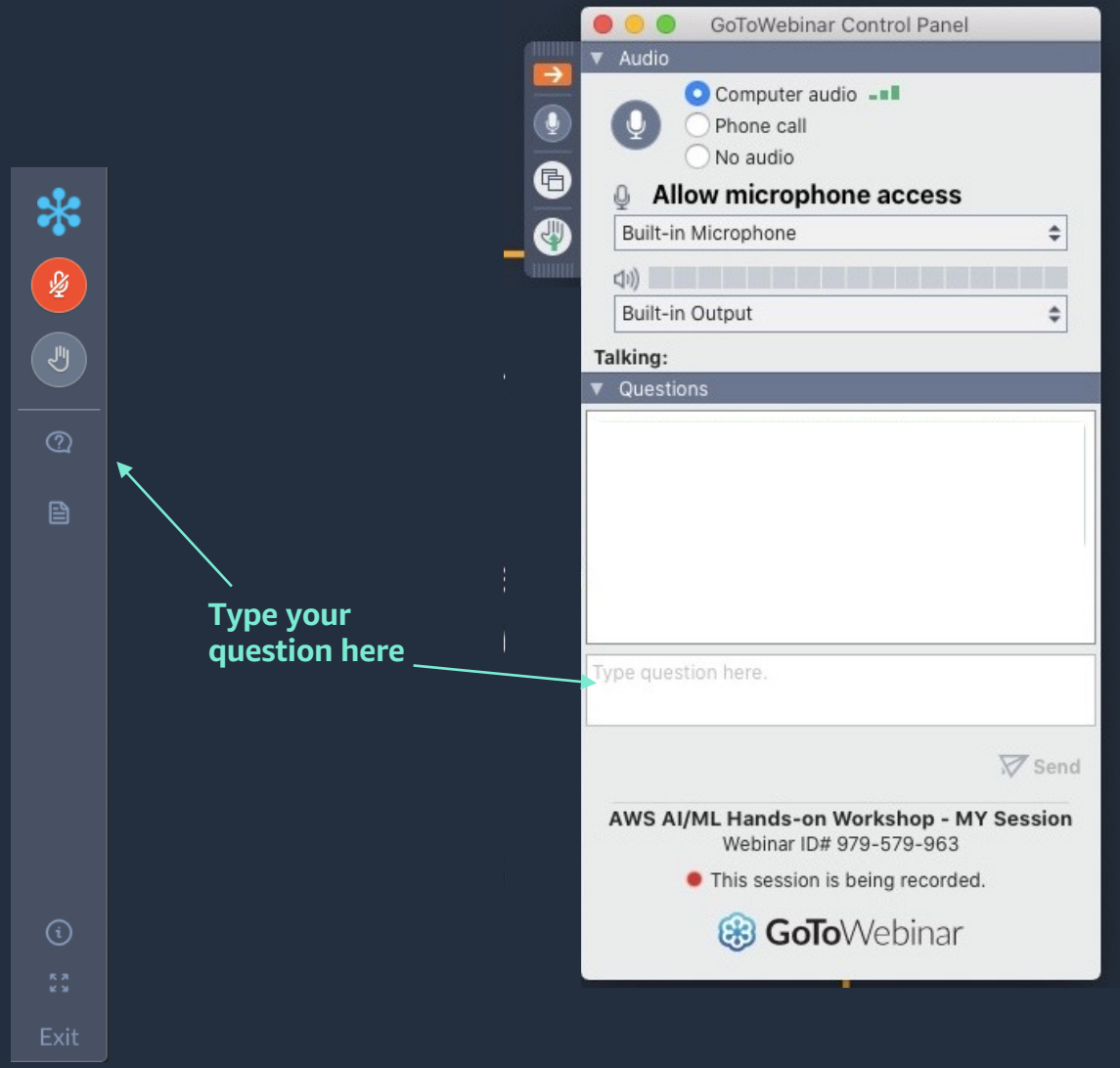
Questions & Answers

If you have any questions or encounter issues during the workshop, our support team is online.

You can submit your query in the GoToWebinar Questions function. To submit questions, select
“Send”



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Agenda

- 13:00 – 13:30 Life Science @ AWS
- 13:30 – 14:00 Account setup
- 14:00 – 16:30 Hands-On Workshop Omics
- 16:30 – 17:00 Wrap-Up and Survery

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Workshop materials and instructions

- https://catalog.workshops.aws/amazon-omics-end-to-end/en-US

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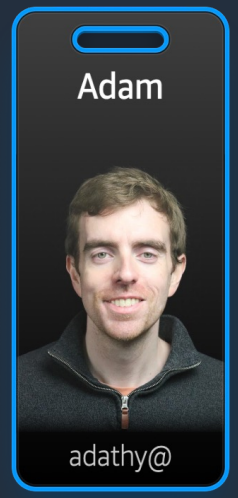
Your presenters today



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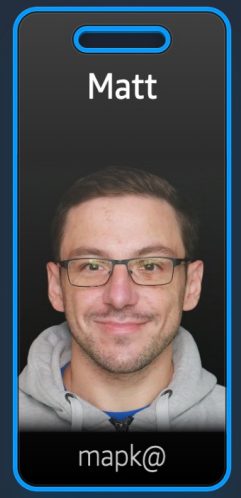

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AWS Healthcare and Life Sciences: Who we are

16+ years
AWS most broadly adopted cloud platform

9+ years
dedicated HCLS team

17+ years
average experience of team

- Global infrastructure
- Security & compliance
- Advanced analytics & AI/ML
- Life science enterprise solutions
- Partner network

AWS HCLS Team: Previous roles

DIGITAL STRATEGIST	CHIEF DIGITAL OFFICER	PHYSICIAN
BIOINFORMATICIST	GENOMICS RESEARCHER	RADIOLOGIST
HEALTHCARE ANALYST	CHIEF MEDICAL OFFICER	INNOVATION OFFICER
CLINICAL RESEARCHER	NEUROSCIENTIST	BIOCHEMIST
PHARMACOLOGIST	ASSOCIATE PROFESSOR	STARTUP FOUNDER

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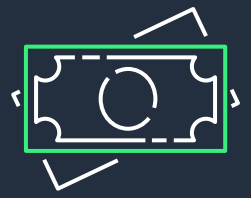
Why life sciences organizations innovate with AWS

LEADING LIFE SCIENCES ORGANIZATIONS LEVERAGE AWS TO:

Accelerate time to discovery & market

AWS delivers the highest performance for machine learning and high-performance computing in the cloud.



Reduce costs & streamline operations

AWS offers a robust portfolio of cost savings tools and services, and offers flexible tiered pricing models.

Seamlessly scale to meet changing needs

AWS offers the most extensive global infrastructure.

Access the largest partner network

AWS for Life Sciences features dozens of vetted life sciences technology and consulting partners.

Raise the bar on security & compliance

AWS supports the most security standards and compliance certifications, including HIPAA.

Reduce barriers to innovation

AWS for Life Sciences provides a curated portfolio of industry tools and solutions for the builder and the buyer.

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Supporting innovation & operational excellence across the value chain

Research & discovery

Clinical development

Manufacturing & supply chain

Commercial & medical affairs

Compliance

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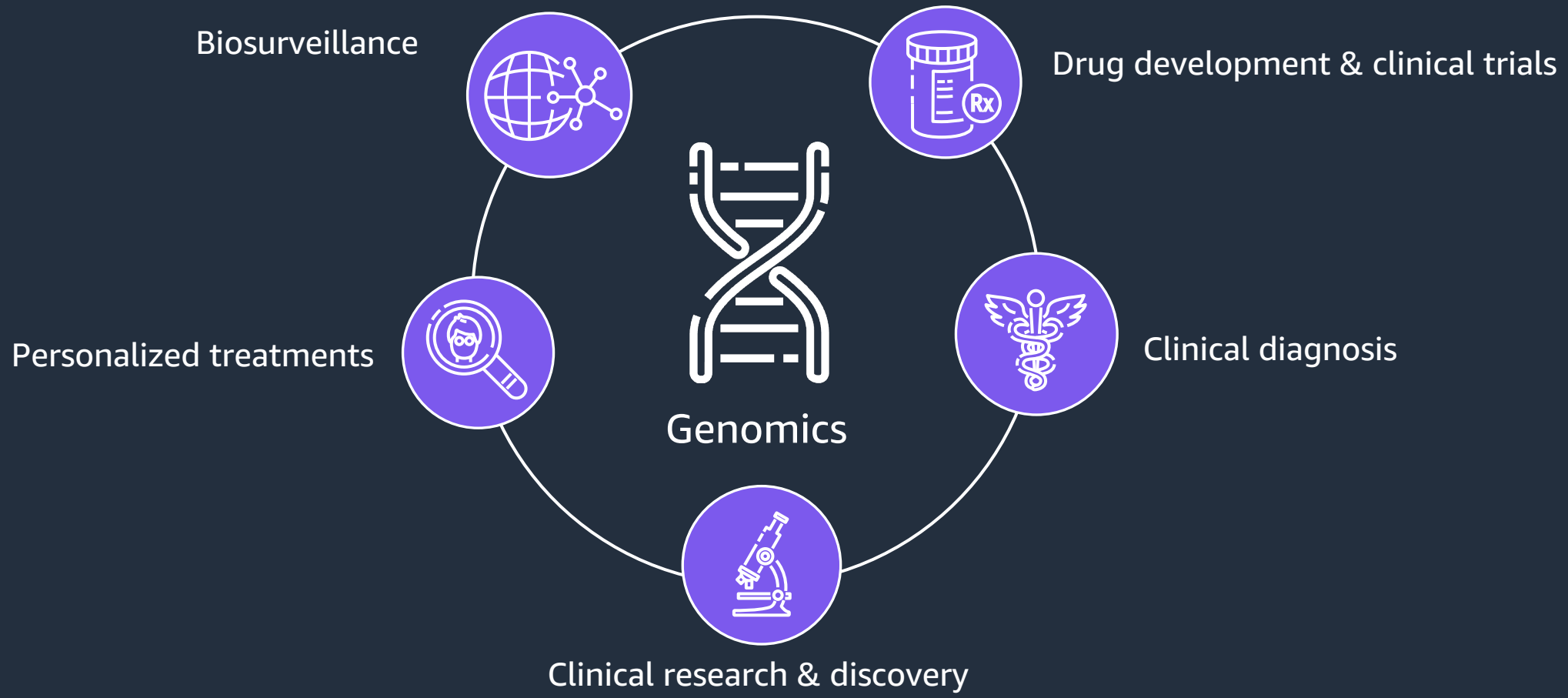
Genomics—a catalyst for personalized health



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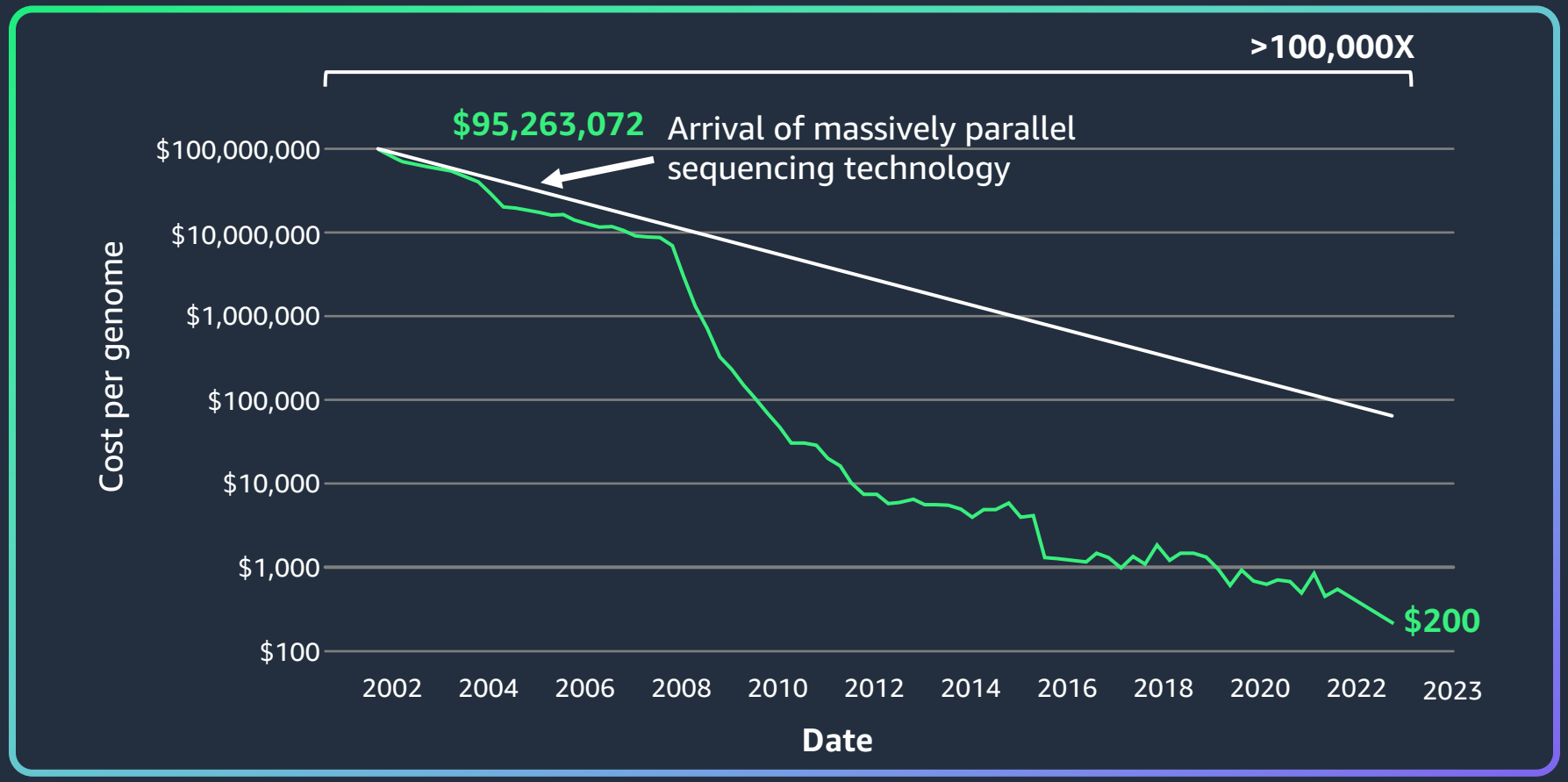
Cost per human genome



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Challenges

Genomic and biological data has the potential to transform how we treat disease—but its scale is complicated and costly to manage

- Tens of millions of whole genomes to be sequenced and stored in the next 5 years
- Multiple specialized tools and workflow languages required
- Special security, privacy, and compliance requirements mandated

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The genome is just the beginning

MOVING TO MULTI-OMICS

Genome

DNA
(blueprint)

Transcriptome

RNA
(protein synthesis)

Epigenome

Methylation
(environment)

Microbiome

Bacteria
(diet and drugs)

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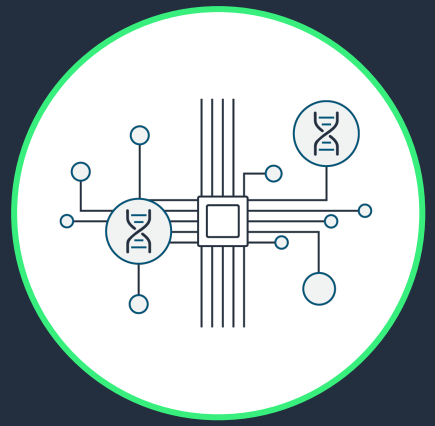
AWS for Genomics

CURATED PORTFOLIO OF VALIDATED TOOLS, SOLUTIONS, AND PARTNERS ACROSS THE GENOMICS WORKFLOW

Data transfer & storage



Workflow automation & secondary analysis

Data aggregation & governance

Tertiary analysis & machine learning

Clinical application

Security & compliance

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Amazon Omics

A purpose-built service that helps healthcare and life science organizations build at-scale to **store, query, and analyze** genomic, transcriptomic, and other omics data. By removing the undifferentiated heavy lifting, you can **generate insights** from omics data **to improve health and advance scientific discoveries**

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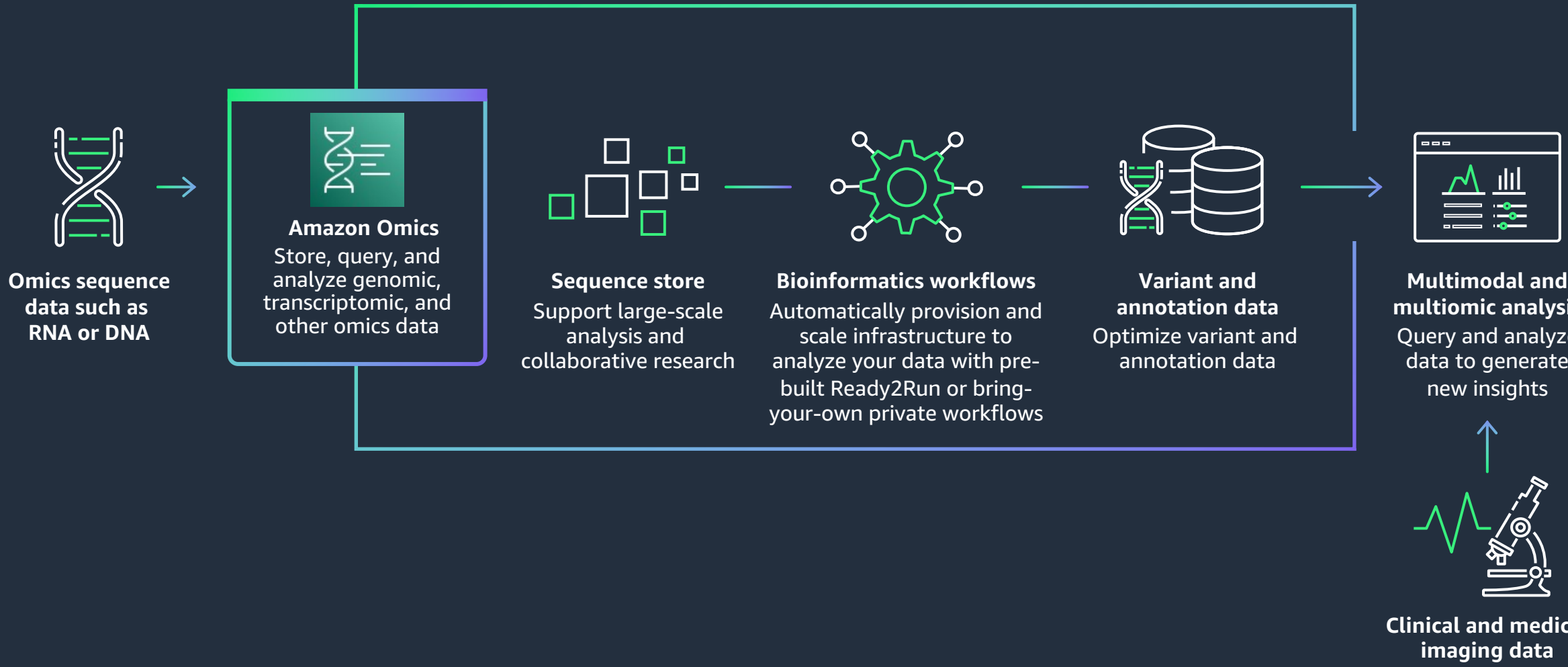
How it works



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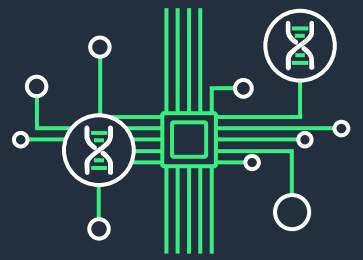
Benefits

Multiomic and multimodal analysis

Population-level scale



Fully managed bioinformatics computation

Built-in security, privacy, and compliance

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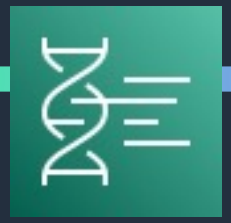
Multimodal analytics

PURPOSE-BUILT SERVICES FOR HEALTHCARE AND LIFE SCIENCES



Amazon Omics

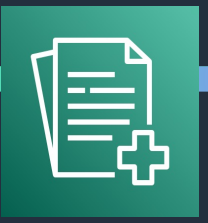
Transform genomic, transcriptomic, and other omics data into insights

Amazon HealthLake Imaging

Provide a complete view of individual or patient population imaging

Amazon Comprehend Medical

Understand medical context using natural language processing



Amazon Transcribe Medical

Automatically convert medical speech to text

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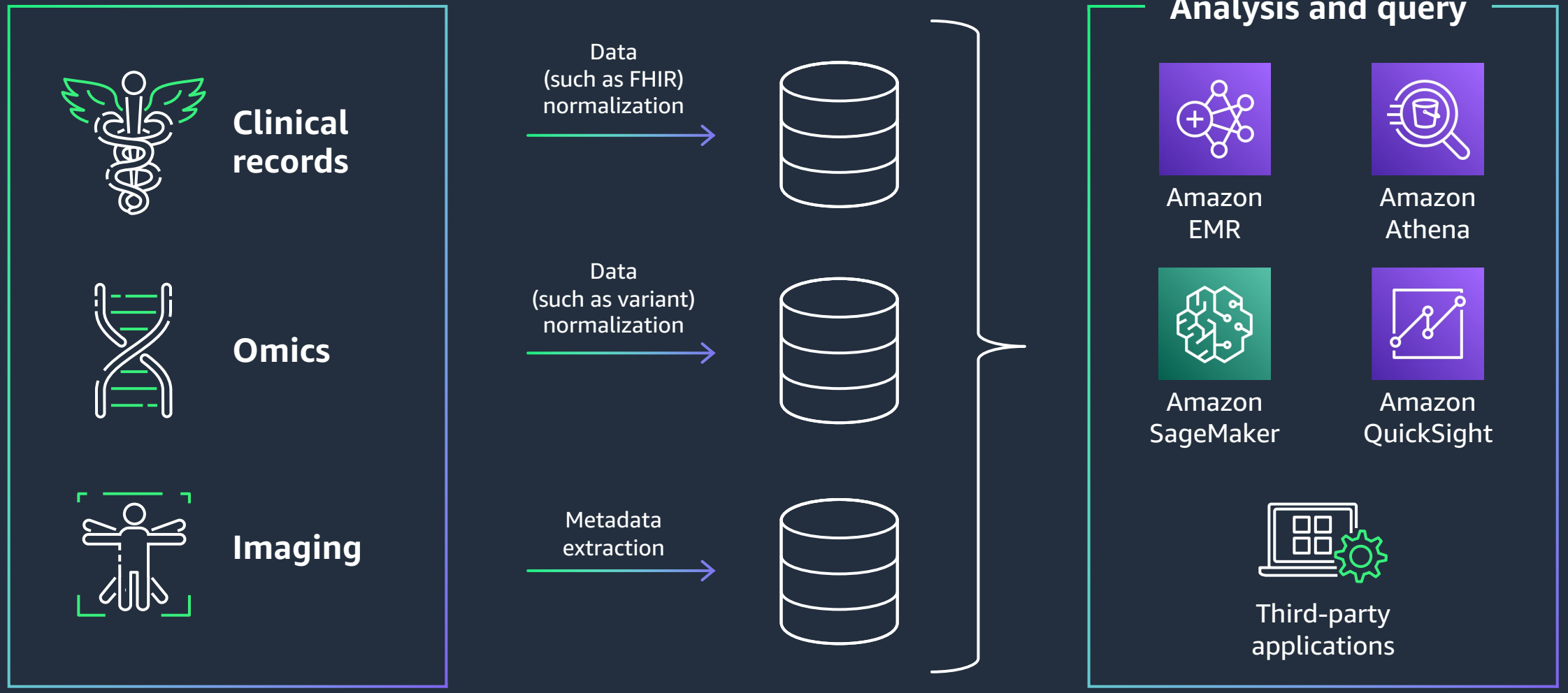
Multiomics and multimodal analyses



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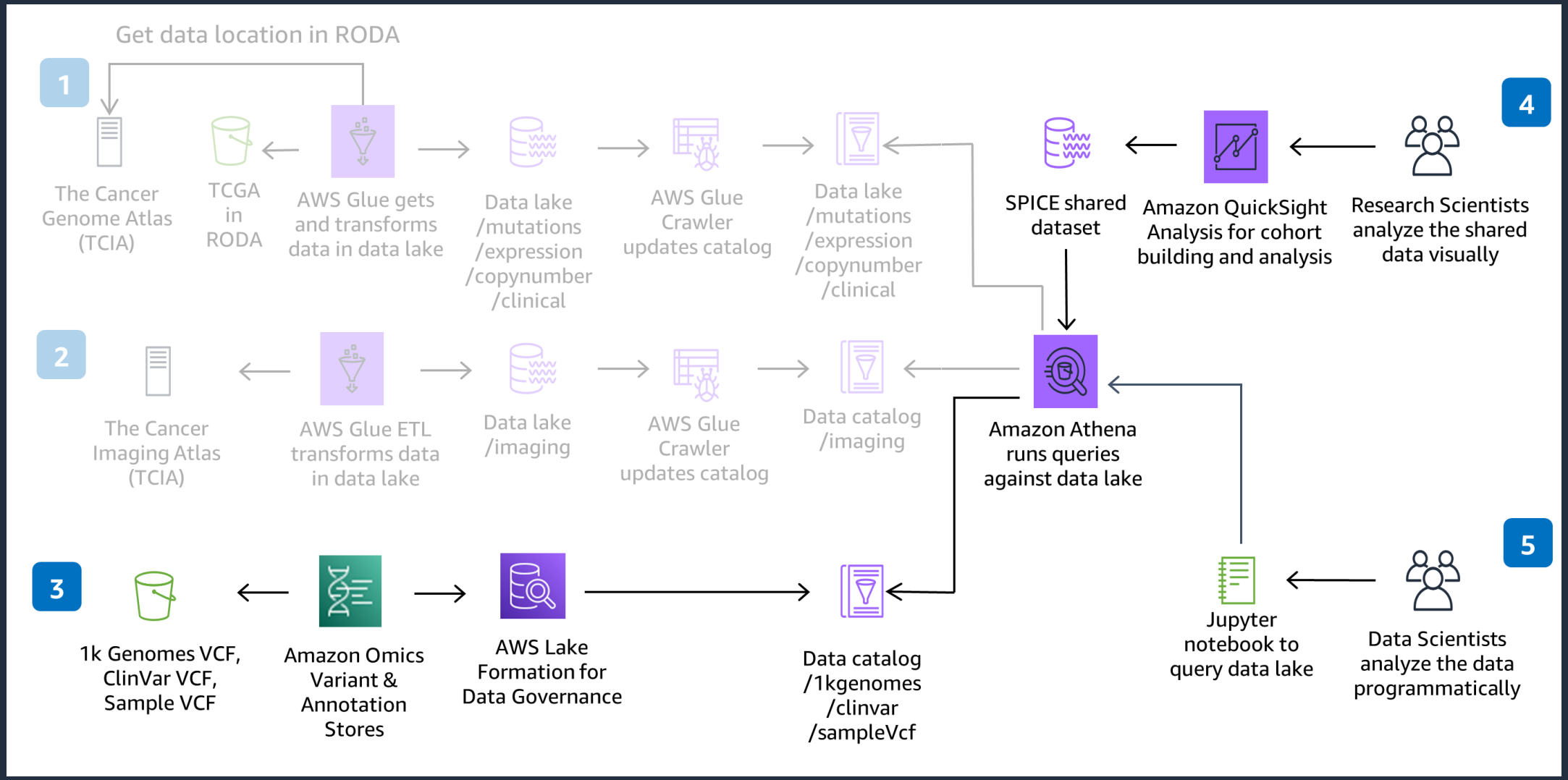
Multiomics and multimodal analyses



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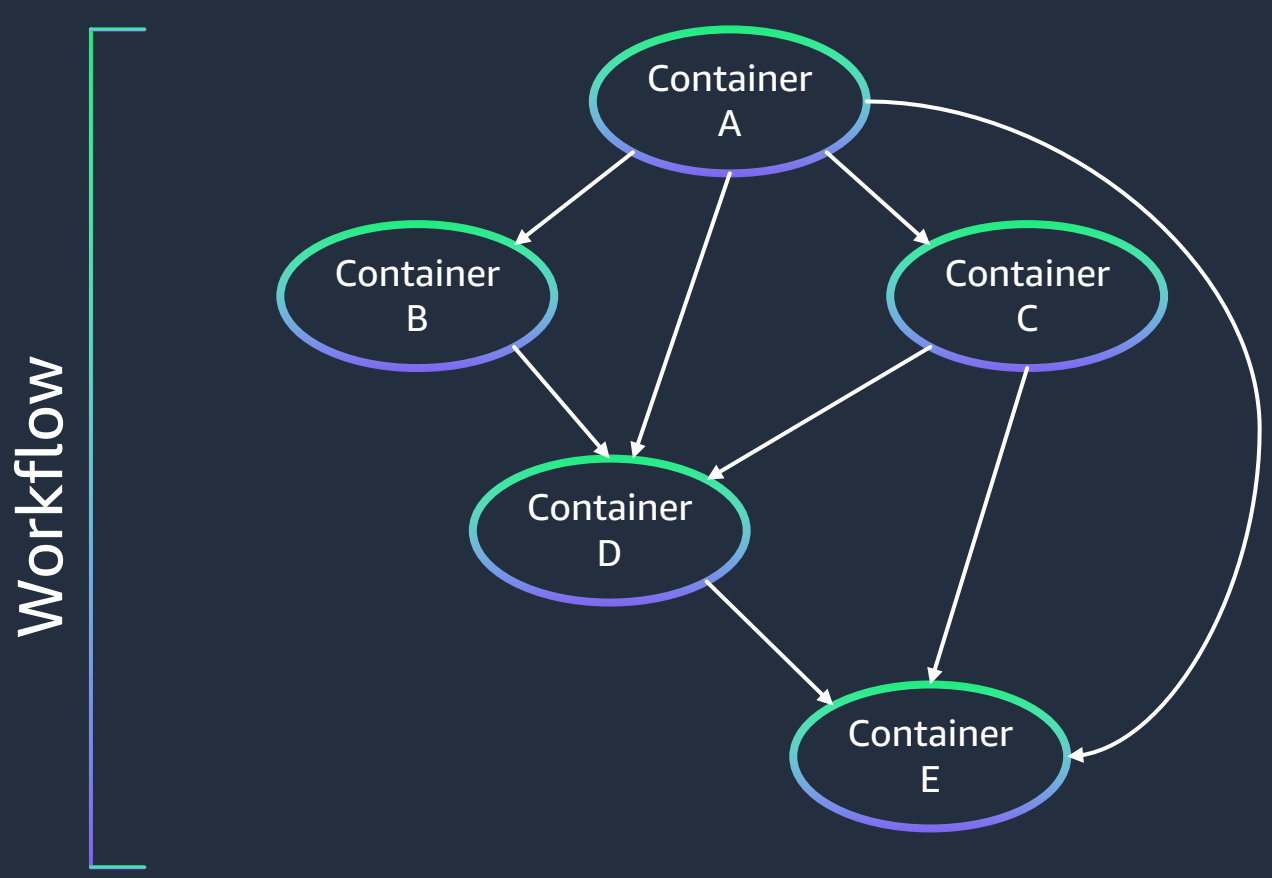
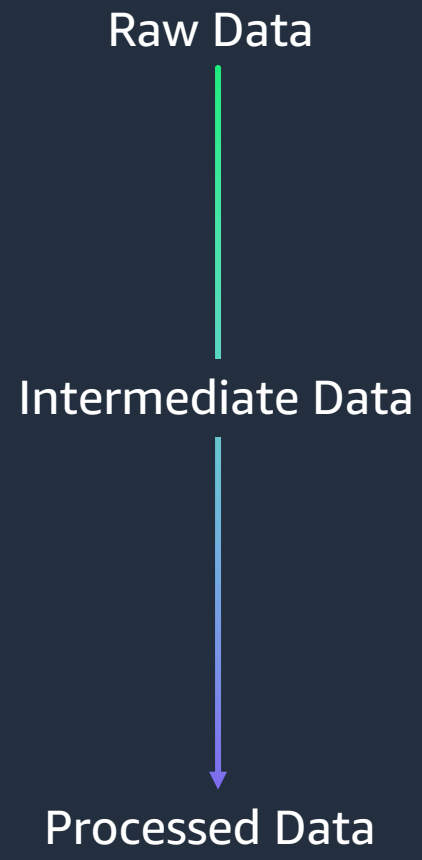
Workflows





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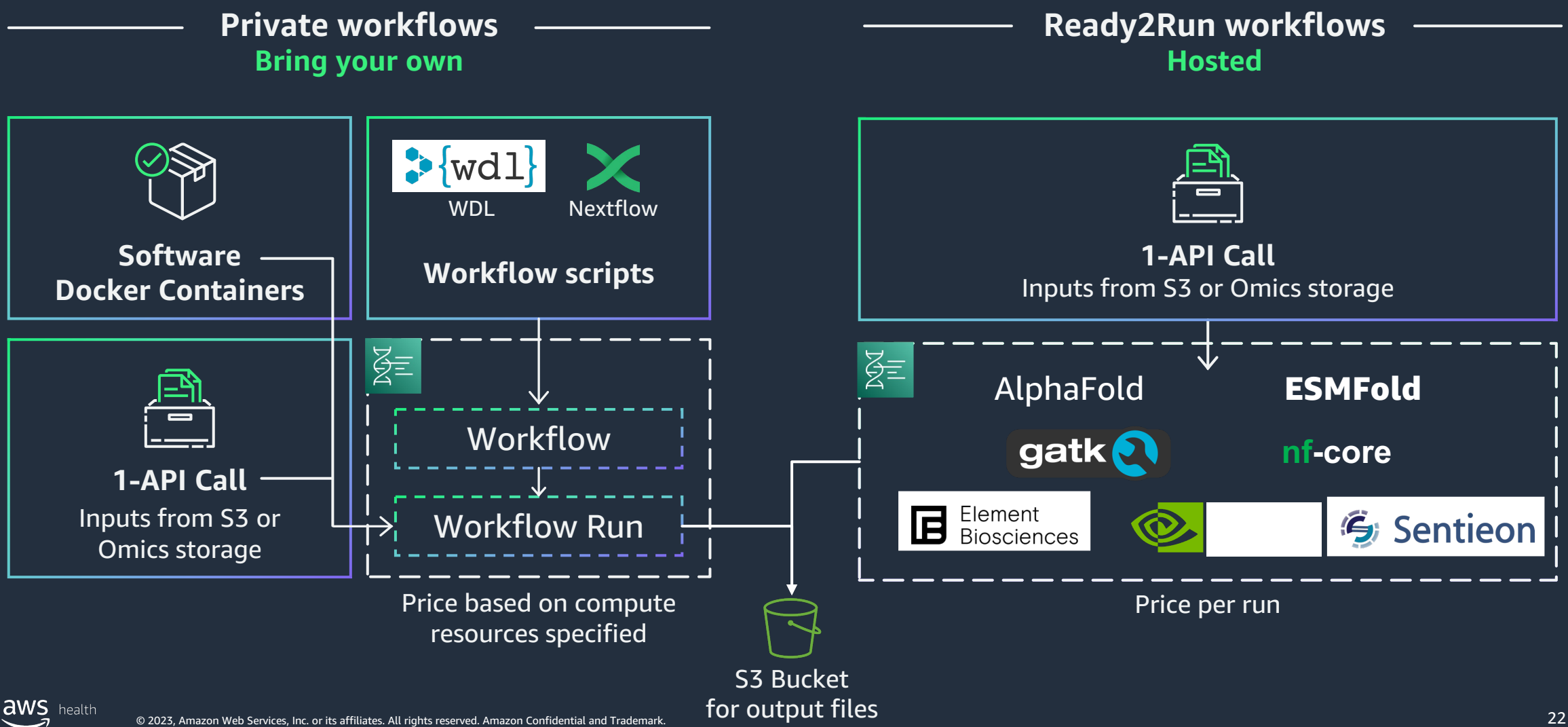
Omics workflows



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Get started

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Please complete the workshop survey

https://www.aws-experience.com/emea/dach-cee/event-survey/078ff5fc454d-bc8a-dac4-c070-37629df1

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EMEA HEALTHCARE & LIFE SCIENCES WORKSHOPS

https://aws-experience.com/

- ☑ June 27th: AWS Cloud Fundamentals
- ☑ June 28th: Genomic Data Analysis with Amazon Omics
- ☐ July 4th: Machine Learning
- ☐ July 5th: AWS for Pharma Manufacturing
- ☐ July 6th: Security, Encryption & Data Protection Immersion Day
- ☐ July 11th: Sustainability
- ☐ July 13th: High-performance computing
- ☐ July 18th: Compliance in the Cloud