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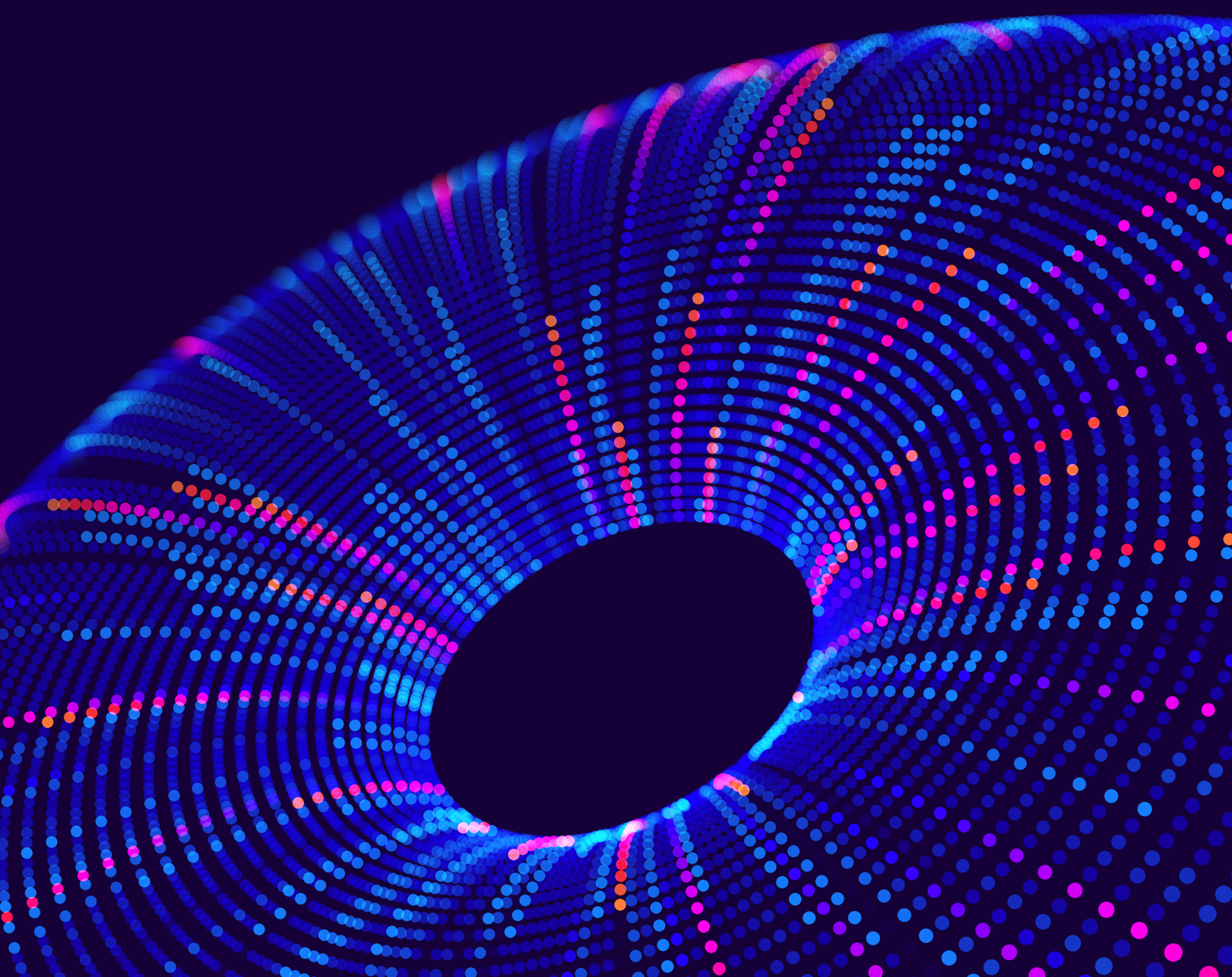
Where data means more

BROCHURE

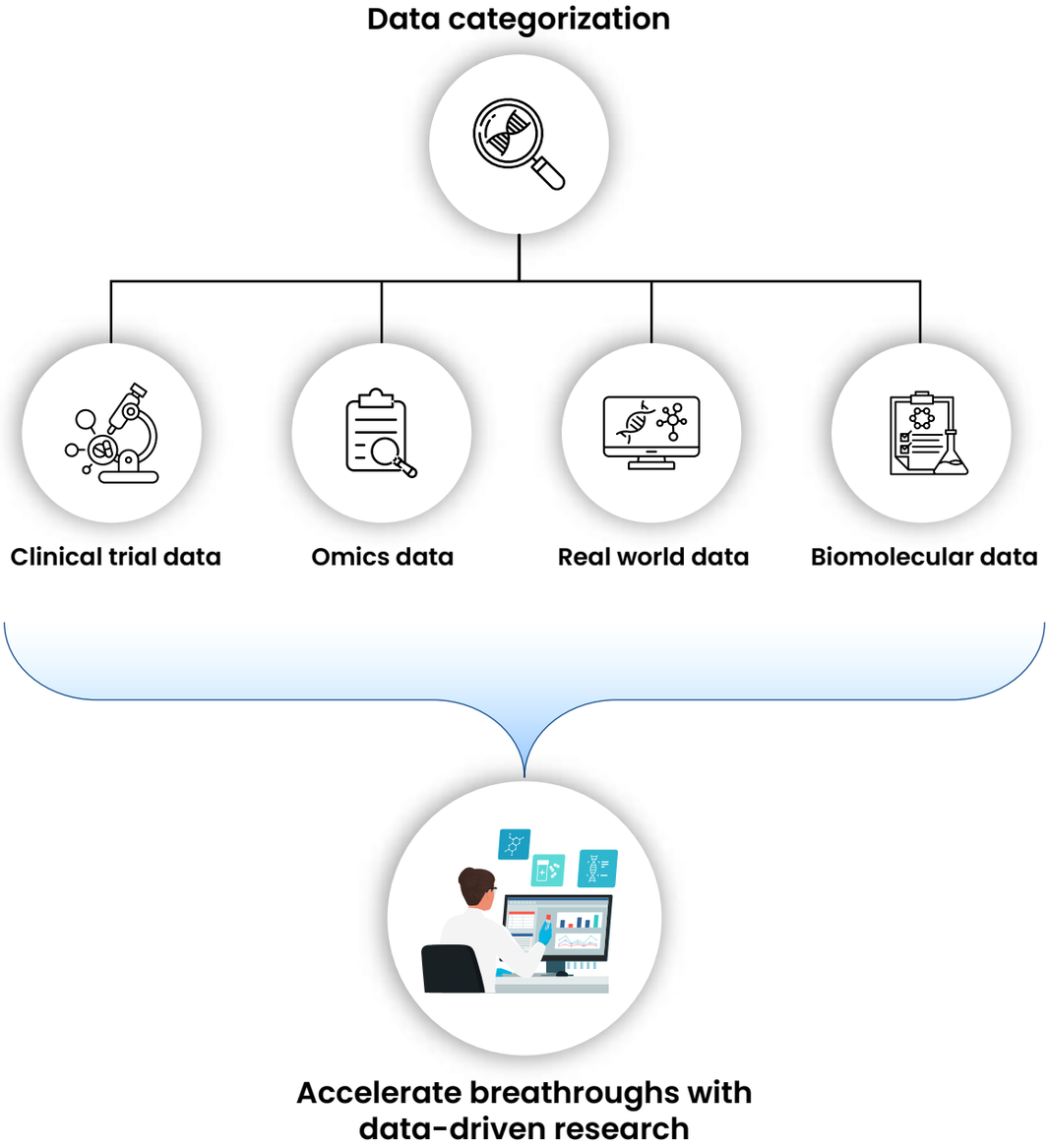
Excelra's Data Asset Solutions



Transforming Biomedical Data into Actionable Insights for Drug Discovery

Data assets play a critical role in the advancement of drug discovery research. Integrating OMICS datasets of diverse data types such as genomics, transcriptomics, and proteomics helps researchers to understand disease pathophysiology and decipher drug mechanisms of action (MoA). Excelra leverages these data assets to provide comprehensive solutions that enhance diagnosis, treatment selection, and drug discovery efforts.

Types of Data Assets in Biomedical Research

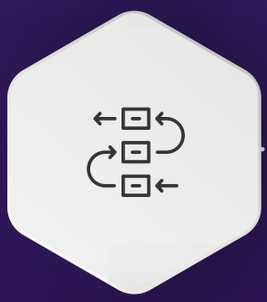


Excelra's Approach to Building Data Assets

Step 01

Objective

Goals and Scope of the study



Step 02

Planning

Study design, Workplan, Different technologies, Timeline

Step 03

Data collection and processing

Data asset creation, acquisition and quality check, Ontology / Semantics, Data enrichment, Data preprocessing, integration and interoperability

Step 04

Enablers

Data accessibility, Metadata curation, Formatting, Mulitomics data analysis and complex data integration, Computational power

Step 05

Solution

Bioconductor R packages for collected data, NLP, python modules to format metadata, AWS cloud computing to process complex data, AI and ML application to process Mulitomics dataset

Excelra's Expertise in Data Asset Development

Building high-quality biomedical data assets comes with challenges like heterogeneity, incompleteness, and integration complexities. At Excelra, we address these challenges through a systematic approach to data sourcing, curation, and harmonization. Our team of experts integrates multi-omics data to support critical areas of drug discovery, from target identification to patient stratification and drug repositioning. Our solutions not only help in understanding the disease landscape but also facilitate the identification of biomarkers that are crucial for diagnosis, treatment selection, and drug efficacy prediction.

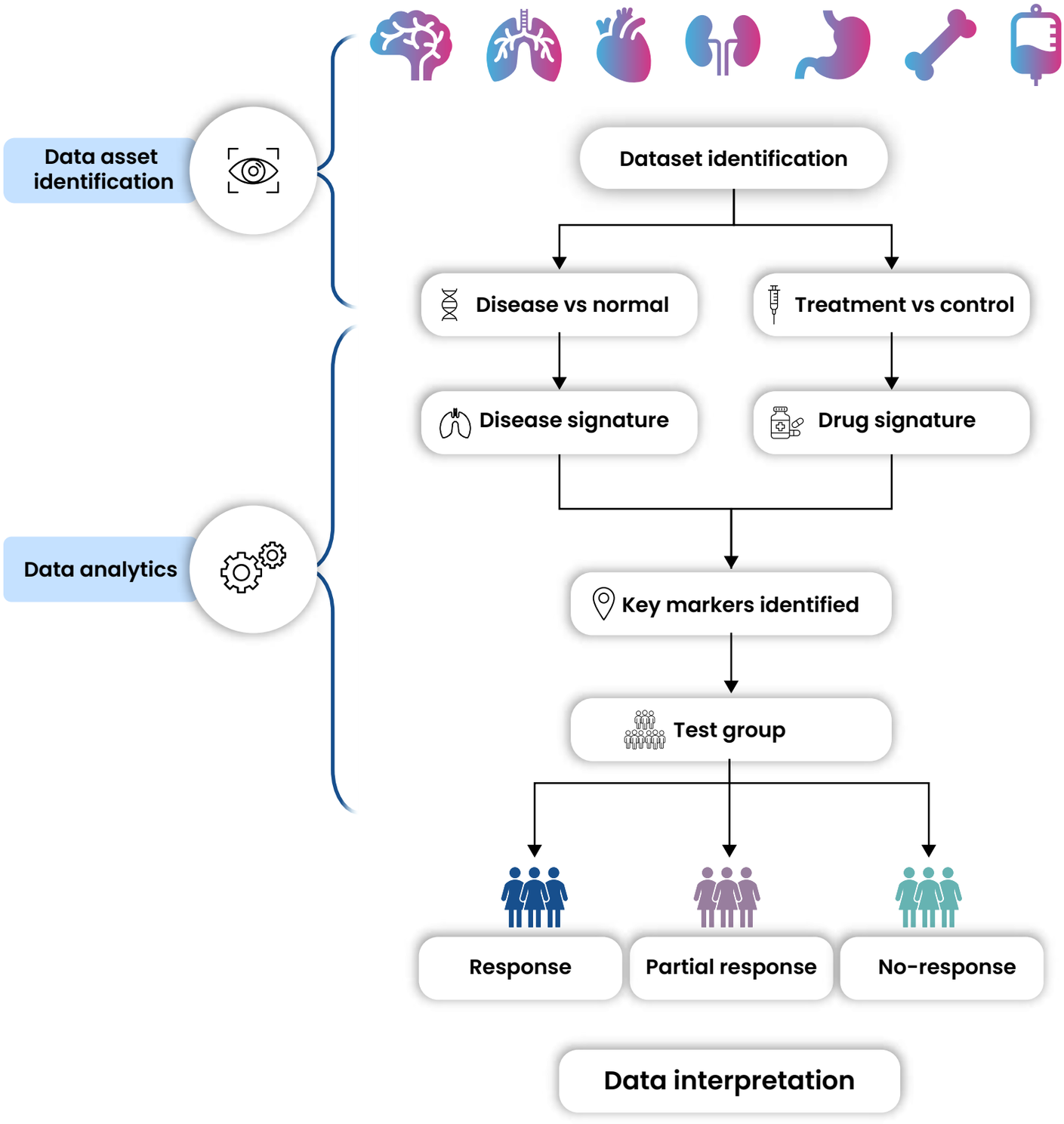
Data Curation & Standardization	Our experts ensure datasets are cleaned, validated, and structured for seamless integration across multiple sources.
Omics Data Harmonization	Advanced techniques correct batch effects, normalize diverse datasets, and enhance cross-platform compatibility.
AI/ML-Ready Assets	We prepare data assets optimized for machine learning, ensuring high usability for predictive modeling and analytics.
Multi-Omics Integration	Our tailored frameworks enable easy integration of genomics, proteomics, and transcriptomics data for deeper biological insights.

Excelra's expertise ensures that data assets are FAIR (Findable, Accessible, Interoperable, and Reusable), empowering biopharma companies to accelerate drug discovery and development.

Use Case: Accelerating Patient Stratification with Data Assets

Biopharma companies aim to prioritize indications for novel drugs and optimize patient stratification. Traditional methods involve costly and time-consuming clinical trials. Excelra's data asset solutions leverage publicly available datasets to identify biomarkers for patient stratification, reducing time and resource investment.

By analyzing transcriptomics data, we detect molecular anomalies in diseased samples and compare them with known drug signatures. This approach helps predict patient response, enabling better treatment decisions and accelerating drug development.

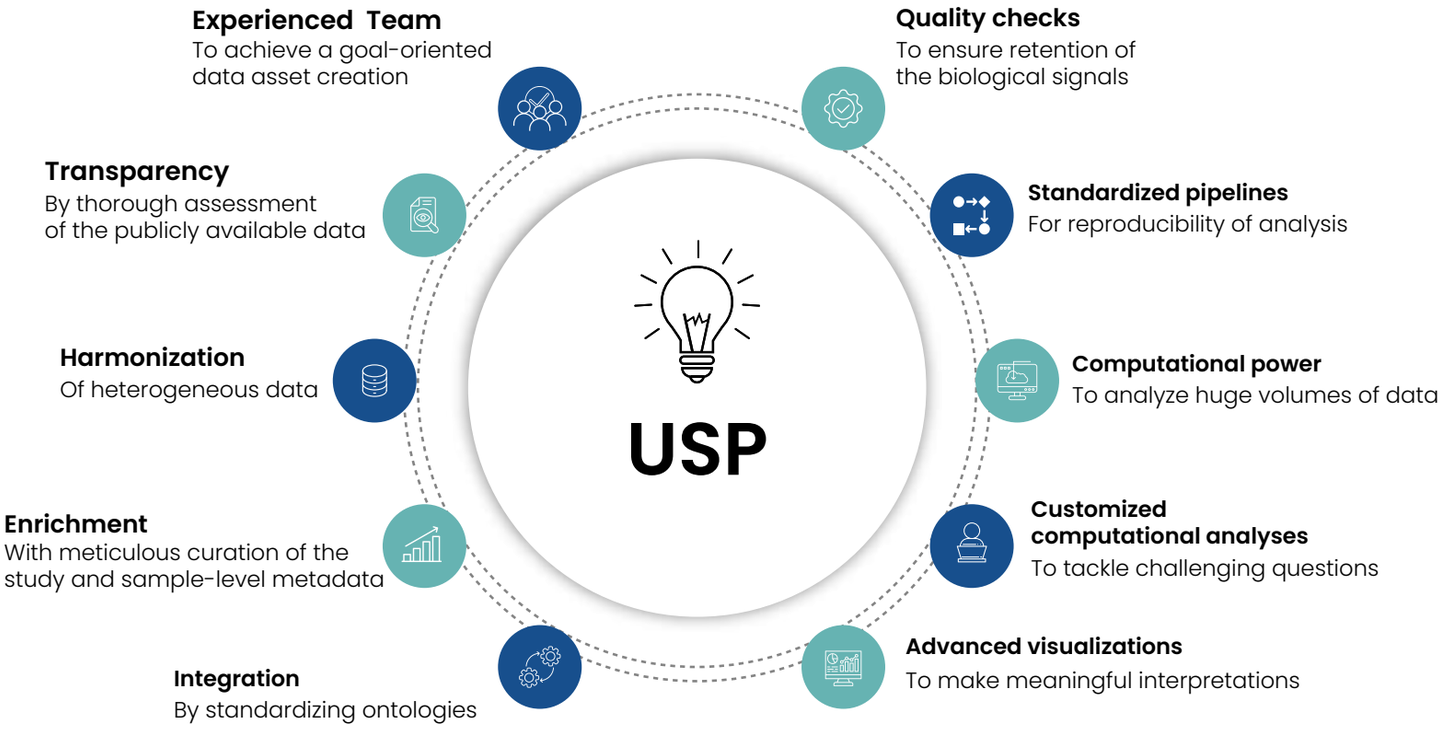


Key Applications

Applications of data asset

	Data types	Outcomes
MoA elucidation	Genomic data, transcriptomic data, proteomic data, metabolomic data	Target Identification, optimizing existing treatments, minimizing adverse effects
Disease landscape	Epidemiological data, clinical trial results, genetic information, biomarker data, treatment outcomes	Understanding of disease epidemiology, etiology, pathophysiology, clinical manifestations, treatment options, and outcomes
Drug repositioning	Drug databases, electronic health records, clinical trial data, biomedical literature	Guide in drug discovery and development, identify potential drug candidates, and develop effective targeted therapies
Target signature	Aggregating diverse datasets encompassing genomic, proteomic, metabolomic, and clinical information	Guide in drug discovery and development, Identify potential drug candidates, effective targeted therapies
Drug signature	Integration of diverse datasets including genomics, proteomics, metabolomics, and clinical data	Drug induced changes in gene expression, protein levels, or other cellular responses
Disease signature	Diverse datasets spanning genomics, transcriptomics, proteomics, and clinical information	Disease associated molecular alterations, such as gene expression, protein levels, and other cellular processes

Excelra's Unique Selling Points for Biomedical Data Asset Creation



Transform Your Data. Accelerate Your Discovery.

Let us help you transform data into actionable insights for advanced drug discovery and development.

Where data means more

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Contact us today to Unlock the potential of your biomedical data with Excelra's comprehensive data asset services.

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