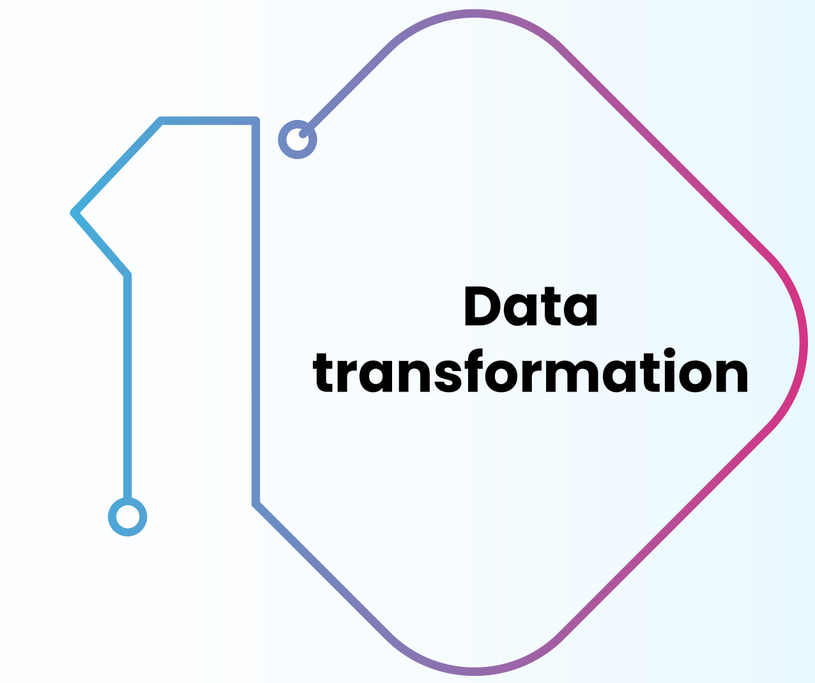
Bioinformatics services

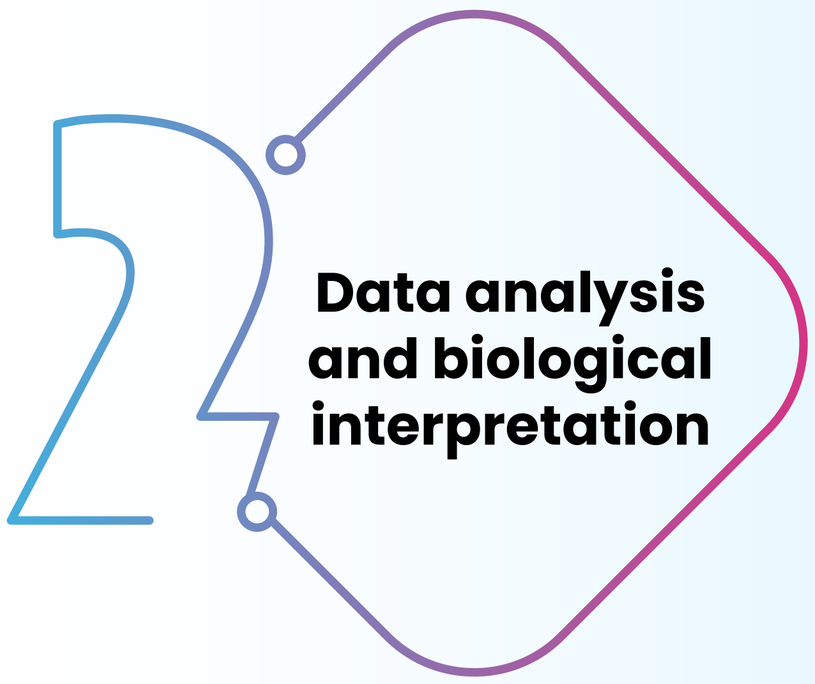
The Bioinformatics™
POWERHOUSE

excelra

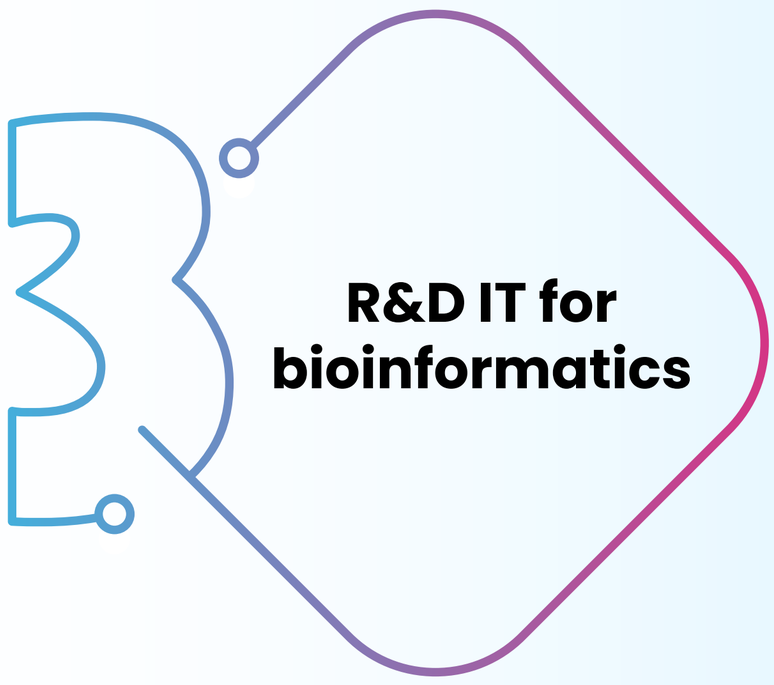
How we turn data into value



- Extraction and curation
- Annotation and normalization
- Integration



- Bioinformatics data analysis
- Immunomics
- Biomarker discovery and development



- Omics pipeline development
- Application development and visualization
- Cloud systems for data storage and analysis

1 Data transformation

FINDABLE ACCESSIBLE INTEROPERABLE REUSABLE FAIR

Extraction and curation

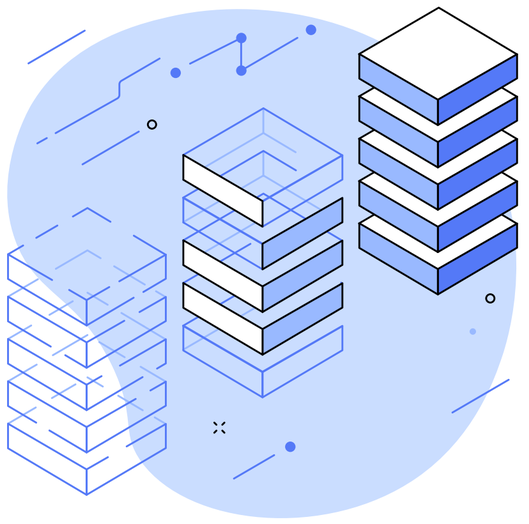
Metadata curation

Gold standard datasets

Custom databases

Our capabilities

- Structural organization of data from varied sources including public and proprietary databases, publications, patents, regulatory documents, conference proceedings, health records, etc.
- Data sharing and delivery in multiple formats (.tsv, API, etc.) to simplify ingestion into internal repositories
- Implementation of standard ontologies in structured data to comply with industry norms

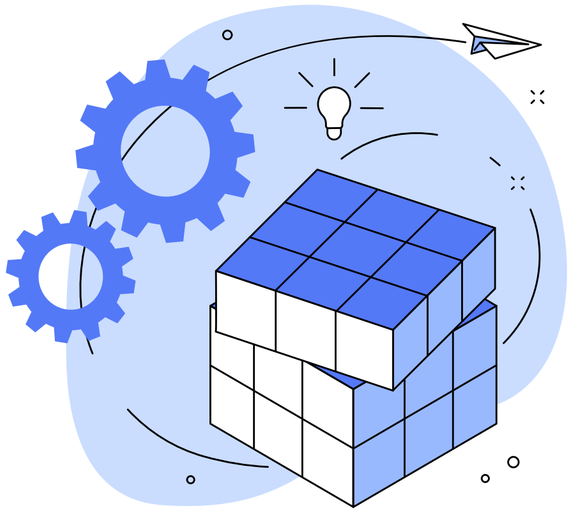


Annotation and normalization

Pan-TA gene expression datasets

Normalization of datasets

Metadata management of associated attributes



Our capabilities

Cleansing and normalization:

- Normalization of datasets and batch correction
- De-duplication, missingness analysis, outlier strategies, clustering analysis, and QC

Annotation and enrichment:

- Ontology mapping across domain vocabularies for interoperability
- Text mining and string-based matching for enrichment from literature

Integration

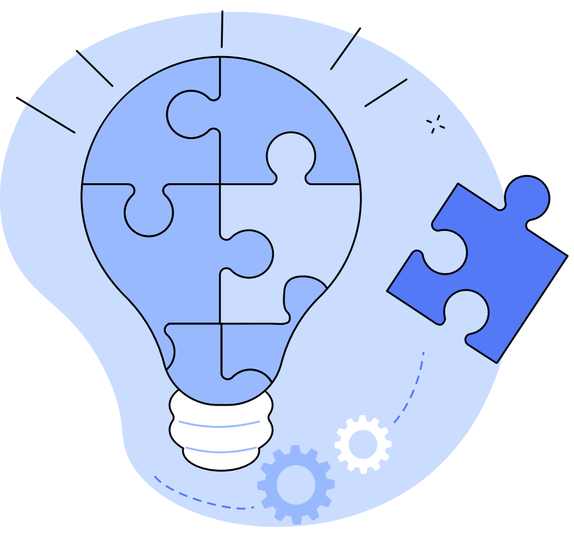
Ontology mapping and management

Semantic solutions

Data FAIRification

Our capabilities

- Source data analysis, variable mapping, and clustering
- Data model development, database architecture, ETL development, and testing
- Warehousing, maintenance, gap analysis, and redundancy check



Data analysis and biological interpretation

Target ID and development | Biomarker ID and development | Agrigenomics | Immunomics

Our capabilities

- Multiomics data analysis and interpretation
- Real-world evidence through the analysis of clinical patient data
- Customized pipelines for data analysis
- Systems biology simulations
- Predictive machine learning, modeling, and simulations

Our platforms

- Online Pipeline Platform (OP^2) to access and run data analysis pipelines
- ImmunoRaptor platform to easily manage and analyze immune repertoire sequencing data

R&D IT for bioinformatics

Configurable dockerized omics analysis pipelines

Cloud systems for data storage and analysis

SME consulting for infrastructure development

Intuitive visualization dashboards

Excelra-client engagement:

Conceptualize, design, and develop in collaboration with clients

- Service-oriented architecture (SOA), microservices architecture, and cloud-based custom application and platform development
- Agile, Scrum, Visual Studio Team Services (VSTS), Jira and GitLab are employed for development process
- Framework development is done on R shiny, HTML, JS, NextFlow, etc.
- Visualization is done on Spotfire, Tableau, R shiny, etc.
- Automated, functional, and performance testing of developed applications and platforms
- Cloud-based (AWS, AZURE, GCP) as well as on-premises deployment of applications and platforms

Custom pipeline development:

- Building pipelines for a variety of bioinformatics analyses
- Primary, secondary, and tertiary analysis for a variety of data for multiple domains, i.e., genomics, single-cell, proteomics, immunology, microbiome and vaccinology
- CryoEM, DEL library hit identification, etc.
- Complex downstream analysis including cell deconvolution and off-target analysis
  - Creating containerized pipelines as per custom need
  - Functional validation with client-provided test data or data from public domain
  - Deployment on various data analysis and management tools including DNANexus, SevenBridges, AWS etc.
  - Job scheduling with NextFlow, AirFlow, SnakeMake, etc.

Modes of engagement

Fixed-term engagement (FTE)

FTE agreement is based on estimated headcount and timeframe

Fee for service (FFS)

FFS engagement is project based, with defined goals and milestone-based delivery

Excelra’s service workflows deliver rapid, agile improvements to on your team's drug discovery and development journey. We meet all your bioinformatics needs with our service-friendly infrastructure and our cross-functional team of experts.

- Dedicated cloud space for data sharing, compliant with all relevant regulations
- Access to tools, technologies, and knowledge bases
- Quick turnaround time with open, timely, and clearly defined communication
- Regular project updates

Why us?

Experienced domain experts and consultants
Over 1000 employees, highly qualified in science, statistics, and data engineering

Long-term relationships
9 out of 10 of our customers return to us for new projects

We work with the leaders
16 of the top 20 pharma companies trust us with their data

A customer-first culture
Meeting customer objectives and improving customer experience are our top priorities

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Where data means more

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https://bioinformaticspowerhouse.com/

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