



DATA INTEGRATION PLATFORM

Platform Architecture

Automated. Centralized. Harmonized. Prepared for data science + AI. These are the goals of an end-to-end, comprehensive data engineering project to effectively handle experimental data. Custom, point-to-point approaches are expensive, cumbersome to maintain, and costly. This big data challenge is only getting worse with innovations like automation and high throughput instruments generating more data, faster. Don't hire expensive consultants or stitch together multiple vendors/platforms - let us do the data engineering for you.

Activate the flow of your experimental data

Automate

the end-to-end process,
reducing error and saving time

Harmonize

data + metadata in a standard
format, enabling semantics



Centralize

in the cloud, eliminating
point-to-point integrations

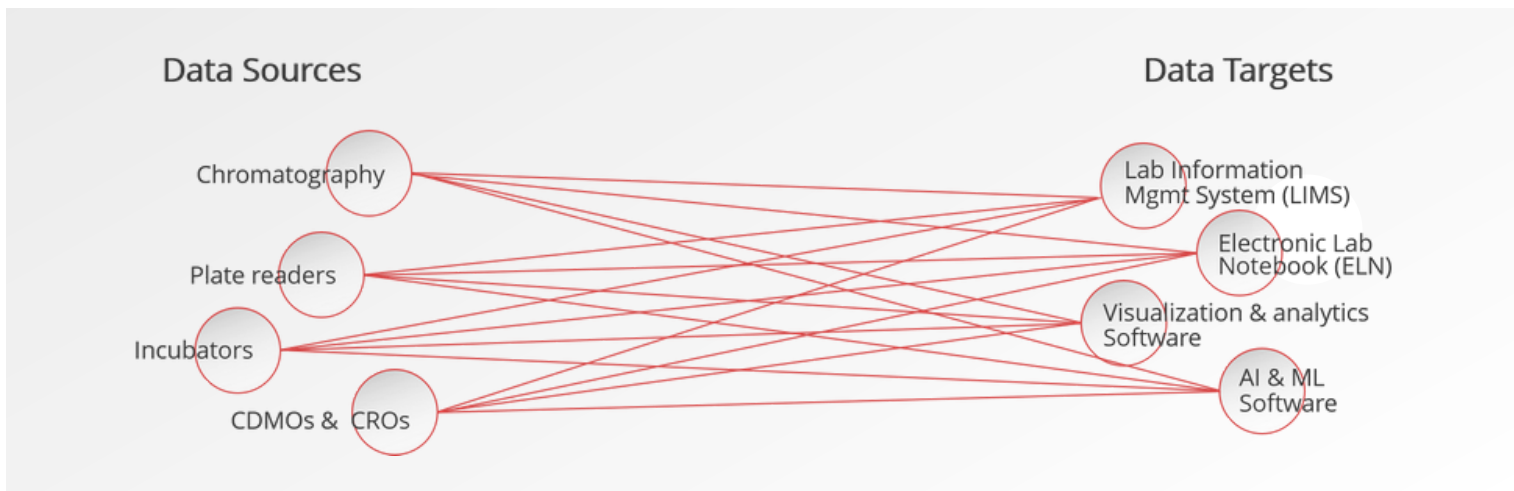
Prepare

data for exploration and
analysis with AI + data science

PLATFORM ARCHITECTURE

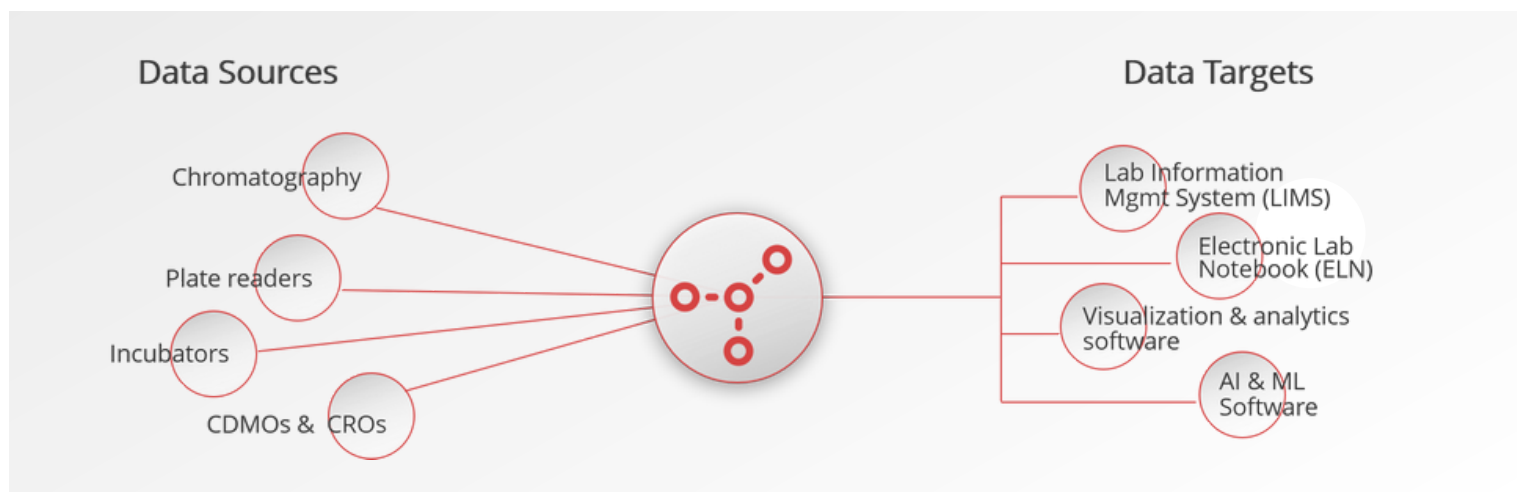
The TetraScience Data Integration Platform is the all-in-one, end-to-end solution that does the data engineering to make your experimental data accessible and actionable. We'll do the dirty work, you focus on the value-add like data science, AI, ontology strategy, and semantic web. Here's the difference:

Typical lab informatics architecture



**point-to-point <> manual <> one-off
cumbersome + expensive maintenance <> low agility**

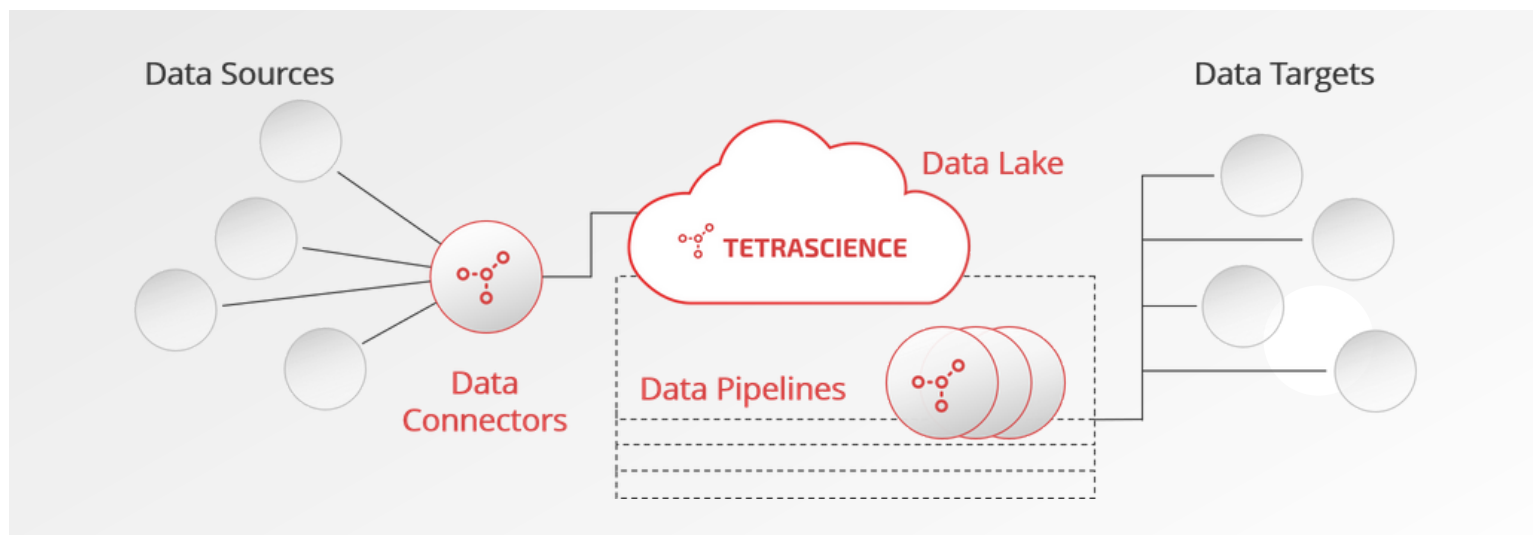
With the TetraScience Data Integration Platform



**automated <> flexible and agile <> scalable <> secure <> future-proof
continuous innovation and upgrades <> application ecosystem**

PLATFORM COMPONENTS

There are 4 essential components to an end-to-end solution. You could engage with different vendors, each with an industry agnostic specialty, and stitch them together. Our platform includes all four components. And we are 100% life sciences focused.



Connectors for data acquisition

Automatically collect data from the most popular instruments in the labs. Software, file, or IoT based. In the cloud, on-premise, or from a partner (e.g. CRO). As long as the data isn't written down on paper, we can securely capture it, validate it, and add metadata + tags

Data lake for management

Manage, search, and store your experimental data in a central, cloud native repository. Built on AWS S3 for industry-leading security and scalability. Options for single- and multi-tenant deployment

Pipelines for data processing

Orchestrate the flow of your data using pipelines. Move your data to the ELN for analysis or close the loop with lab automation instructions. Transform your data by performing calculations, checking for errors, or converting to a selected format (e.g. Allotrope)

Data harmonization for action

The built-in TetraScience Intermediate Data Schema (IDS) serves as a universal adapter, automatically harmonizing all of your experimental data. Use the IDS as-is, or further transform to your schema/ontology of choice

ADDITIONAL INFORMATION

Vendor neutral

We work with all data sources and all data targets - anyone or anything that generates data, and anywhere you want to send your data. We have an open source approach to use or build in compatibility with common programming languages, APIs, SDKs, consortia ontologies, etc.

Life Sciences focused

Our platform is purpose-built for life sciences R&D. Our solution scientists and engineers have Ph.D.s in genomics, cellular & molecular physiology, biochemistry, and more, and have spent significant time in the R&D lab. Paired with our data & software engineering team, we understand the data - where it comes from, how it is used, and questions you might want to investigate. Our CEO is on the board of the Allotrope Foundation and the Pistoia Alliance.



Scalable and flexible

We believe our platform should enable your business, not block it. Use the platform to connect one instrument, all the instruments in a single lab, or your entire R&D ecosystem. Add as many pipelines as you need. Scale your data lake infinitely at an affordable price point. Use our "out-of-the box" capabilities or customize to meet your specific needs. Focus your team on the value-add projects unique to your organization while we do the maintenance and upgrades, adding agility and continuous innovation.



TETRASCIENCE

TetraScience is the leader in transforming the Digital Lab. We provide an advanced data engineering solution that makes life sciences R&D data truly accessible and actionable. More than 80 leading pharmaceutical and biotech companies rely on our cloud-native Data Integration Platform and applications to automatically centralize and harmonize their experimental data, preparing it so you can focus on value-add activities like data science and AI, trend identification, and anomaly detection and response. Activate the flow of your data.

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