

teselagen  
BIOTECHNOLOGY

for **Biological Data Management**

*Make Life Better™*

# The Artificial Intelligence enabled Operating System for Biotechnology.

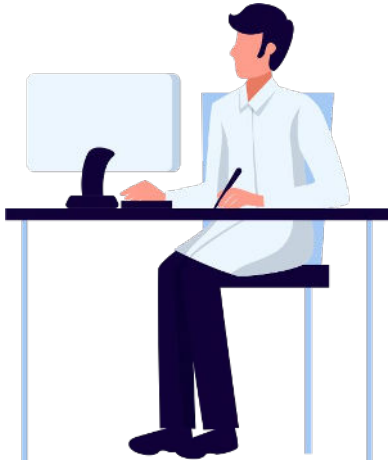
The TeselaGen® operating system connects biologists, lab technicians, and bioinformaticians so that they can collaboratively design and build experiments, organize and standardize data, test and continually learn. Our modern approach, coupled with artificial intelligence modeling, has opened the door for a radical transformation of biology and chemistry, enabling rapid expansion of potential applications.

TeselaGen's founding team met at Stanford while working on problems in computational and molecular biology. The team includes an elite group of engineers, biologists and physicists from Stanford, Cal, MIT and Harvard with wide experience in synthetic biology, molecular biology, automation, artificial intelligence, software development, and business development. TeselaGen has been now deployed by a number of small startups, Fortune 50 companies, as well as emerging innovators in biopharmaceuticals, agriculture, and specialty chemicals.

## **Reduce cost and time to market.**

Our Artificial Intelligence-enabled operating system radically accelerates product development of therapeutics, high value chemicals, and agricultural products. TeselaGen has demonstrated that it can increase the design and build speed, as well as reduce the costs associated with research & development, by an order of magnitude.

# TeselaGen as your Operating System for R&D.



## ➤ Why TeselaGen?

Large and small companies that participate in the bio-economy are replacing traditional methods with modern biotechnology and machine learning driven techniques. This is opening the door for a radical transformation of biology and a rapid expansion of potential applications. This increased demand requires a secure, scalable, interoperable, protocol-driven platform that can span multiple users working on multiple projects across large, geographically distributed organizations.

## ➤ The four pillars of our system

- **Design Management:** From DNA to protein design, to the most advanced large scale combinatorial and hierarchical designs that use state-of-art synthetic biology approaches for product development, our design tools help you design complex libraries that can get built quickly in the lab.
- **Lab Management:** A fully integrated laboratory management system that knows how to talk to you and your robots. Our system can orchestrate workflows, hands off to automation, manages samples, freezers and inventory, coordinates inventory and purchasing, guides quality control, and keeps track of everything you need to apply machine learning to optimizing your product.
- **Data Management:** All too often, data is scattered and isolated in places that make it hard to find and difficult to use. Our system provides a connected resource that acquires data from analytic and monitoring equipment and brings it together, links it to your design-build process, transforms it and makes it ready for analysis, predictive modeling, and machine learning.
- **Intelligence:** teams can combine their knowledge and data with AI algorithms built to understand biology — leading to new, high performance bio based products faster than ever before. Our AI models allow you to converge on an optimal product ten times faster than using traditional approaches.

# Data Standardization

- The platform provides a **single repository of data** and a set of unified workflows for data input which facilitate standardized data collection and storage
- Access to all the data pertaining to experiments in the form of standardized output files and a **RESTful API** in order to access data programmatically.



## Meta Data

Diagram illustrating the Meta Data structure and a corresponding data table.

The Meta Data structure includes the following fields:

- Assay Subject Class
- Descriptor Type
- Measurement Target
- Measurement Type
- Unit Dimension
- Unit Scale
- Unit

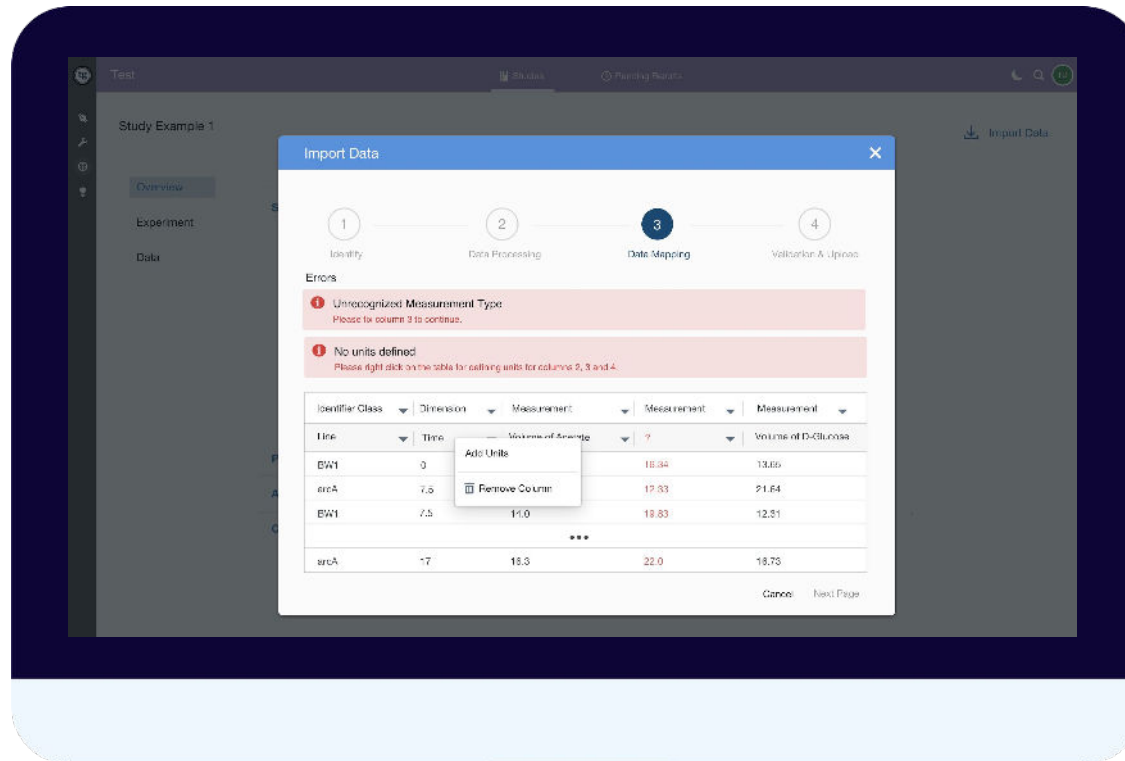
Below the Meta Data structure is a table with the following columns:

Strain ID	Enzyme A	Enzyme B	Production	Production Unit
1	Variant A0	Variant B1	0.874	g/L
2	Variant A0	Variant B2	1.966	g/L
3	Variant A1	Variant B0	0.934	g/L
4	Variant A1	Variant B1	1.862	g/L
5	Variant A1	Variant B2	2.912	g/L

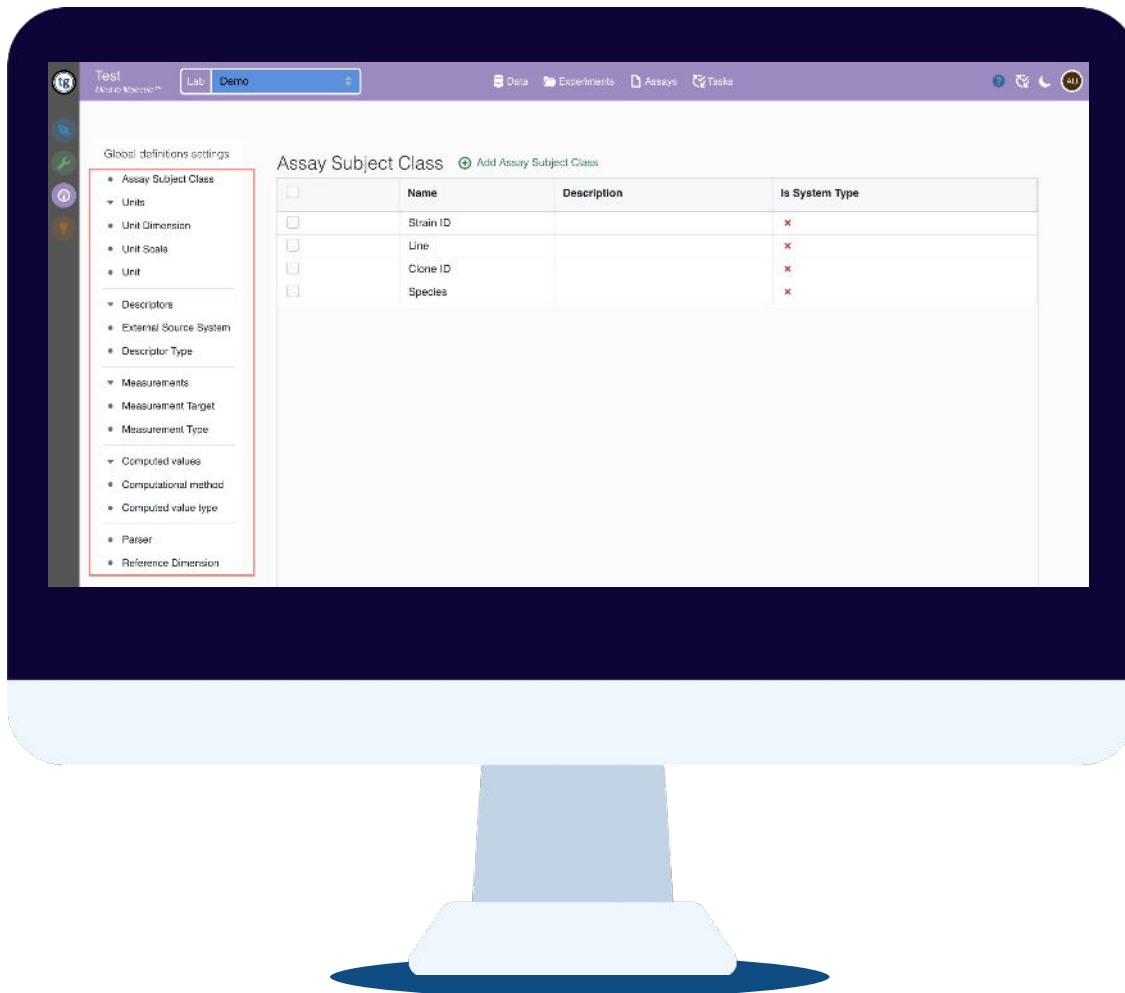


# Easily import and manage your biological data

- Automatically **validate** the datasets that are being imported, and generate the corresponding warnings or error messages.
- Create your own assay types, descriptors, measurement types and units, if needed.

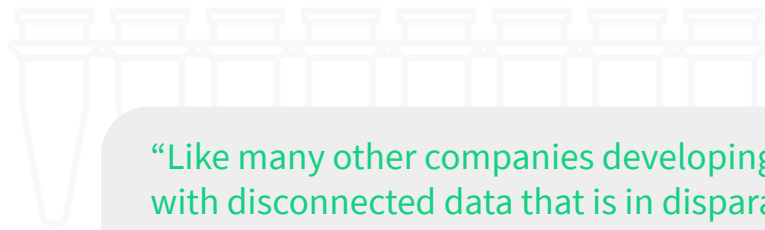


# Customizable entities



- Create custom parsers for easily importing files from **any analytical equipment**.
- Share and reuse your **data import parsers** over and over again to import your favorite datasets (e.g., metabolite concentrations, protein expression levels, oxygen input rates, etc).

# Some Partners using **TeselaGen**



“Like many other companies developing specialty chemicals, we struggle with disconnected data that is in disparate formats and difficult to analyze, particularly as we scale up. TeselaGen’s expertise and experience working with companies to optimize their scale-up make the company an ideal partner.”

*-Vikram Pandit, CEO, Phycus Biotechnologies*



“We’re looking forward to working with TeselaGen to streamline the information flow throughout fermentation processing, which will help our partners accelerate time to market for their innovative products.”

*-Deepti Tanjore, ABPDU Director, Berkeley Lab*







**Learn more about TeselaGen and  
request a demo today at:**

**[www.teselagen.com](http://www.teselagen.com)**