teselagen
BIOTECHNOLOGY

Interoperability

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

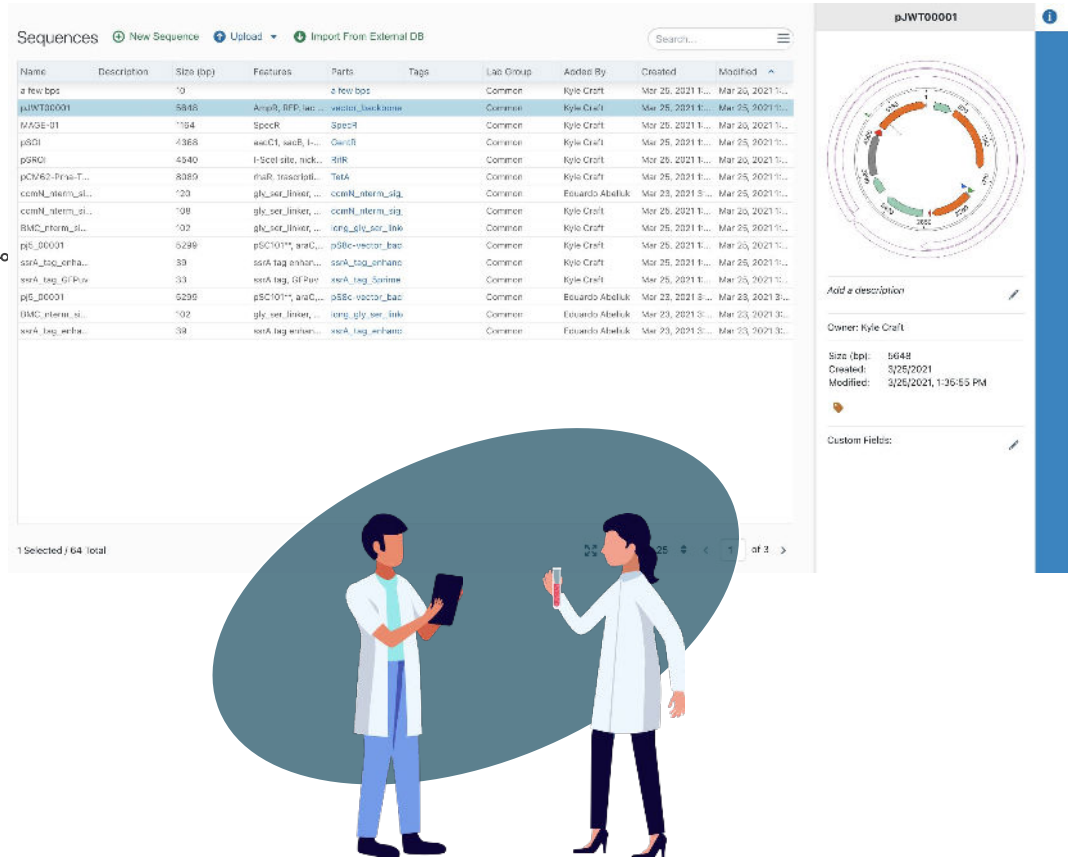
- **Design Management:** From DNA to protein design, to the most advanced large scale combinatorial and hierarchical designs that use state-of-art synthetic biology approaches for product development, our design tools help you design complex libraries that can get built quickly in the lab.

- **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.

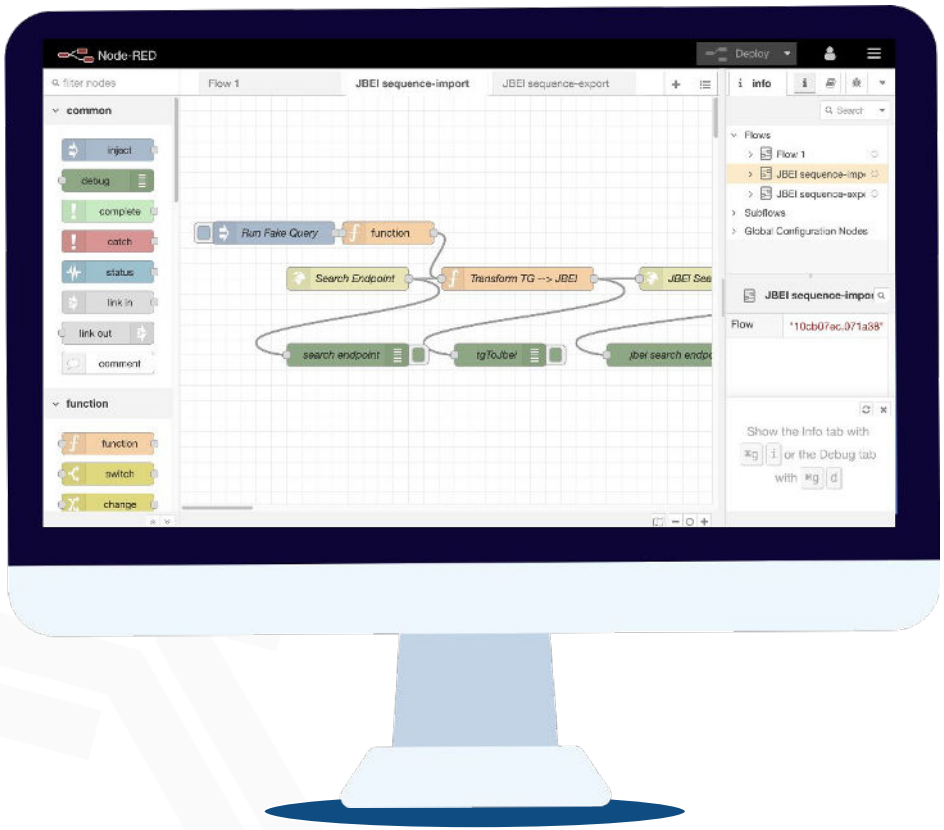
- **Intelligence:** teams can combine their knowledge and data with AI algorithms built to understand biology — leading to new, high performance bio based products faster than ever before. Our AI models allow you to converge on an optimal product ten times faster then using traditional approaches.

Easily import and export your datasets



- TeselaGen supports different **file formats** that can be used to easily import and export datasets from various our various modules.
- We can also provide a **Data Warehouse** service where a custom **ETL** (extract, transform, load) task can be scheduled to push data into a Big Query Dataset, within a private Google Cloud Platform project. These datasets can then be accessed with a variety of tools.

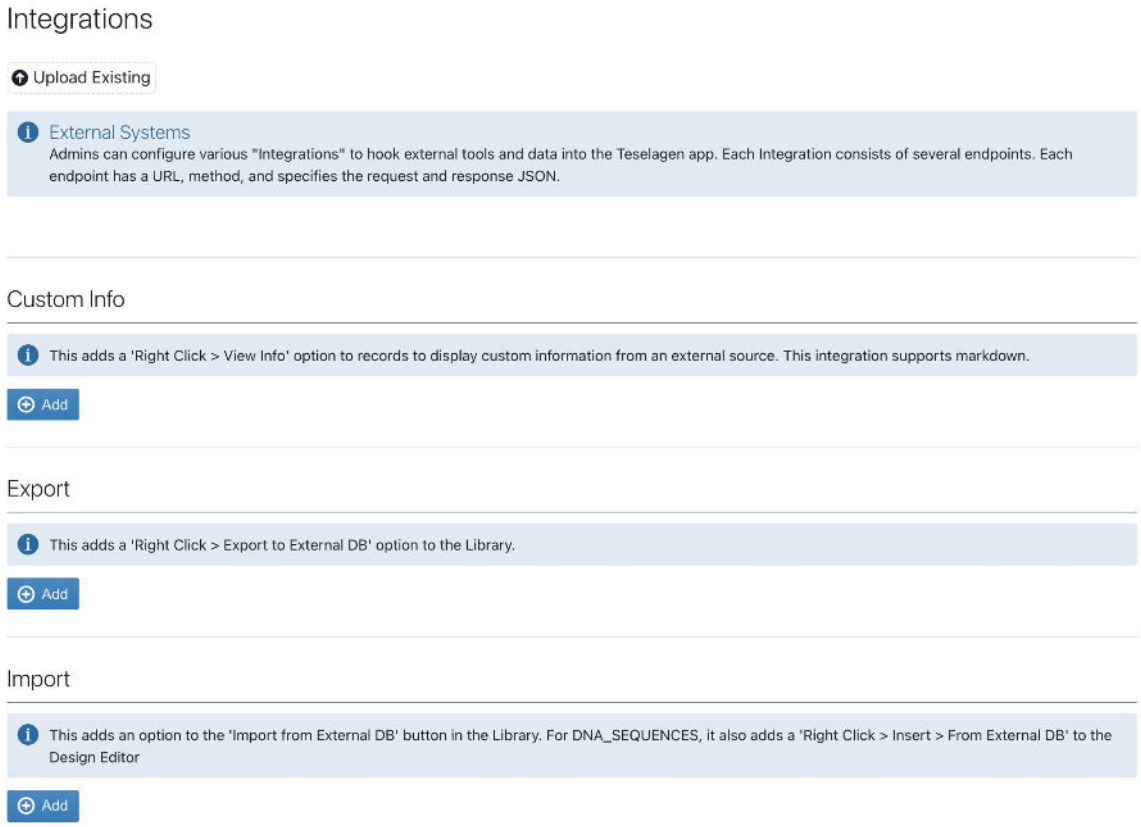
Integration server

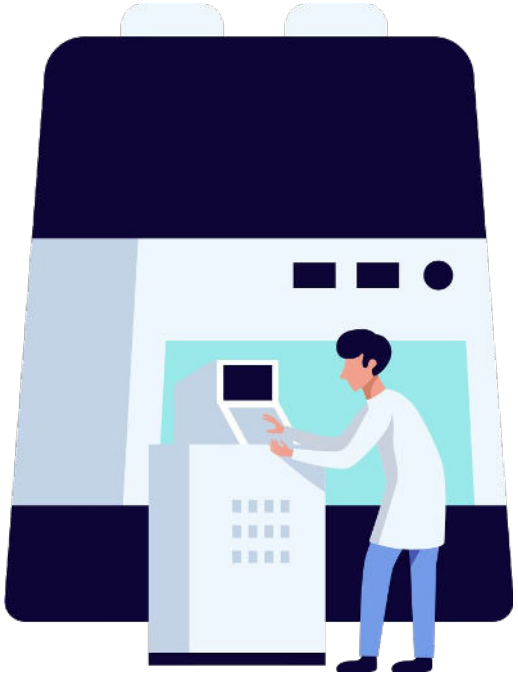


- Our platform offers a number of integration points that can be connected to external API-enabled systems through the use of **webhooks**.
- TeselaGen facilitates an **integration server** that can be configured through a user-friendly interface, to connect our webhooks with external systems.

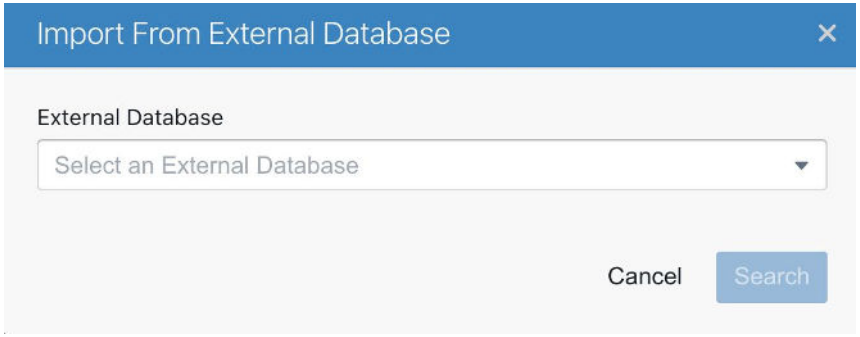
Integrations configurability

- Administrators can easily configure integrations between our platform and external systems.
- Each integration consists of one or several endpoints (URL, method) and specifies request and response objects.





Connecting to external databases



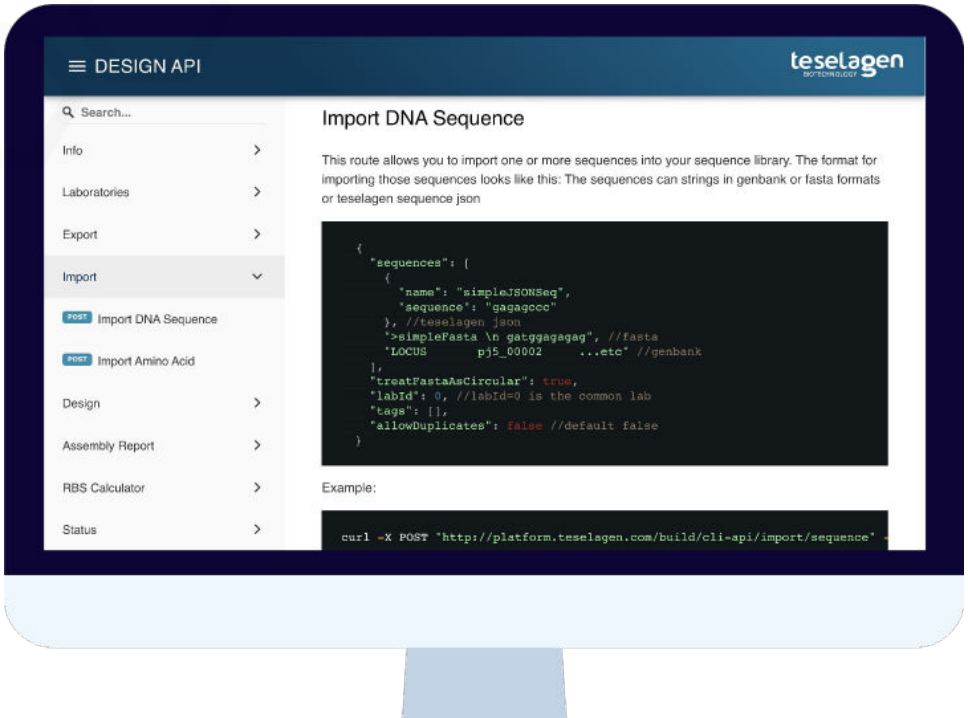
- TeselaGen allows users to import **DNA Sequences, DNA Sequence, Oligos and Amino Acid Sequences** from database or system of their choice into the Design module.
- We offer integrations with a few popular databases and **registry of sequences** and **parts**, such as NCBI, ICE, and Benchling.

Powerful API and CLI tool

- The TeselaGen **CLI** can also be used to interact with the platform remotely, from a **command line interface**. More information at: https://api-docs.teselagen.com/specs/cli

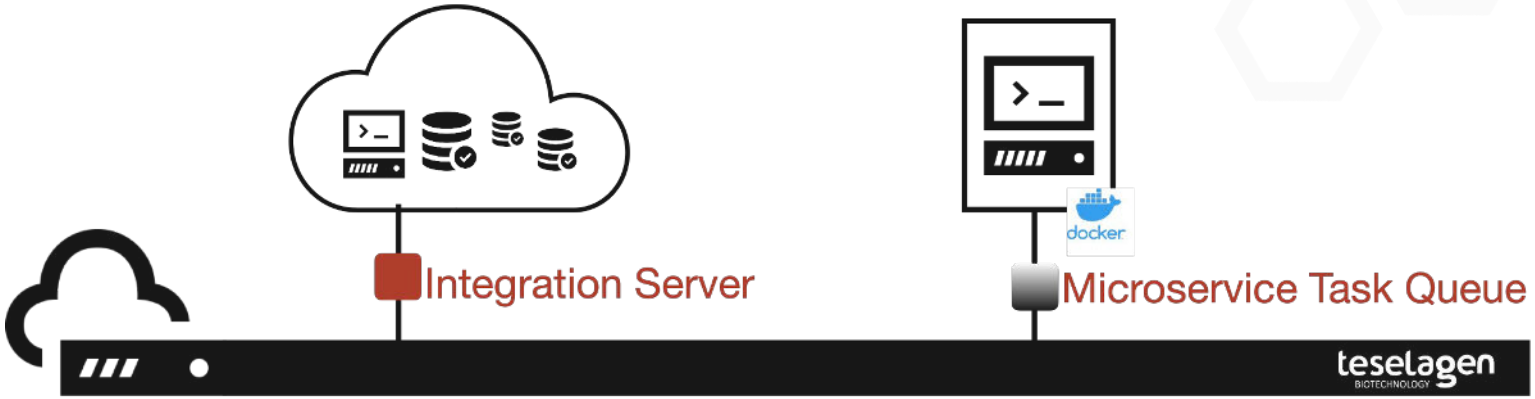
- We also facilitate an **Python API Client** to interface with our API directly from Jupyter notebooks or Python scripts. More information at: https://github.com/TeselaGen/api-client

- TeselaGen offers a powerful **REST API** to interface with the main repositories and tools of the platform. More information at: https://api-docs.teselagen.com



Microservice Framework

- Package third-party tools or algorithms using our **Microservice Framework**.
- These third-party tools will run within a **worker** that can be deployed behind your own firewall, or managed within our own cloud.
- Third-party tools packaged with our Microservice framework can interface with our queue management service and be **long-running tasks**.
- Microservice tasks can run behind our **load balancer**, to weight against currently running tasks and capacity.
- For **an example** on how to use, check our repository: https://github.com/TeselaGen/example-task-server



Highlighting some of our customers using TeselaGen for **DNA and Protein Design**

LanzaTech JBEI TWIST BIOSCIENCE Ansa Biotechnologies TaKaRa

"We love the interaction between Twist and TeselaGen. Together we get speed, lower cost, integration, and security. At the end you get a much lower cost per data point which enables you to do more biology and more science, and ultimately get a better outcome."

-Emily Leproust, PhD. CEO, Twist Bioscience

"Designing and optimizing biology is not easy, and we are in a race to recycle more carbon before it is too late. This collaboration with TeselaGen will extend our capabilities and help us achieve our goals."

-Dr. Sean Simpson, Chief Scientific Officer, and Co-founder, LanzaTech

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Learn more about TeselaGen and request a demo today at:

www.teselagen.com