

Celsius scales precision medicine with minimal infrastructure changes



*There were some big players, but they all required that you commit to their way of doing things. And they'll also take your million dollars. We knew we were going to want to **do things exactly the way we wanted** to. You guys care about the right things. You have the customer's best interest in mind, and you're very responsive. It's a good investment, instead of trying to build it in house.*

—Greg Desmarais, **Senior Director, Data & Software Engineering at Celsius**

Celsius Therapeutics is on a quest to leverage the power of single cell genomics to discover novel drug targets and precision therapeutics associated with cancer and autoimmune disease.

Challenges	How Quilt Helps
“Early on, we had a requirement to retain all of our data , maintain full versioning of every data set we generate, and to be able to track data sets down to very specific attributes and characteristics of the data that was used to generate that data set.”	“We've got almost 50 million objects in our main registry, and almost 130,000 packages , and each one of those has a variety of metadata associated with them.”
Scale from startup to production	“We've gone from zero to somewhere between 500 gigabytes without any major infrastructure change . That was a bit of a surprise. I didn't have to do much to support the type of growth that we've seen, which has been very fast.”
Uniformly access all our data types <ul style="list-style-type: none"> ● FASTA, HDF5 ● Pickled raw binary data ● HTML, PNGs ● CSV, TSV, Parquet, JSON 	“All of our data access that is in our data lake is mediated by Quilt. We have internal computational biologists that use it. We have internal applications that access the data through Quilt. We do have a substantial automation infrastructure which interacts with our data lake through Quilt. So it's our main mediator to the data itself.”
Build apps to give scientists exactly what they want	“We provided wrappers around Quilt's Python API that were essentially business objects that allowed scientists to say I'm looking for a particular type of data for a particular sample. Can you give it to me? And then it would figure out where to go.”

Quilt brings seamless collaboration to Amazon S3 by connecting people, pipelines, and machines using visual, verifiable, versioned data packages. Quilt Data is an Amazon Advanced Technology Partner. Amazon Web Services provides secure, cost-effective, and scalable big data services that can help you build a Data Lake to collect, store, and analyze massive volumes of heterogeneous data.

Visit quiltdata.com to learn more about the Quilt data mesh for life sciences.