Tessera rewrites the business of DNA with trusted datasets

The advantage of Quilt is data versioning, because we can link to the exact and correct version of any analysis. We adopted Quilt right after adopting Nextflow Tower, to create a better DevOps environment. So for us, Quilt was part of the data maturity process. Now we can really trust the data, and share it with the scientists directly.

—Yohann Potier, **Director of Data Platform at Tessera**

As a pioneer in gene writing, Tessera Therapeutics is changing the way humans treat diseases by perfecting the ability to insert short or long messages into any genome. Tessera sought a solution to **ensure that more than 12 terabytes of scientific data are findable, accessible, interoperable, and reusable** (FAIR) across large, cross-functional teams of wet scientists and computational biologists. Tessera leverages a combination of Quilt and Nextflow to accelerate its gene-editing discoveries to market.

Challenges	Solutions with Quilt + Nextflow
Data siloed on instruments, necessitating sensitive, direct access to machines and instruments	Use Nextflow pipelines to **automatically sweep data from instruments to the cloud** as Quilt data packages in Amazon S3
Email and document stores strained by large datasets	**Share large datasets and link them to Electronic Lab Notebooks** with concise Quilt package URLs that point to sealed, canonical versions of data
Numerous, divergent copies of files and uncertain data lineage hampered finding and filing processes	Leverage S3's flexible storage and Quilt's data version control to track across historical changes, as well as to **identify sealed datasets with cryptographically verifiable Quilt URLs**
Commingled raw inputs and final outputs led to **uncertainty around the location of the latest and most accurate data**	**Quilt's data lifecycle organizes data by doneness** into raw, refined, and curated phases

Key benefits to Tessera's business

- **Coherency** - Teams know precisely which version of the dataset they should use, where to find it, and what the dataset contains.
- **Confidence** - Experimental results are sealed as Quilt packages that include the full data context (metadata, charts, documentation, lineage) and are findable via the Quilt web catalog.
- **Control** - Data are secured by Amazon IAM so that the right people see the right data at the right time.

About Quilt Data and AWS

Quilt brings seamless collaboration to 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 seamless collaboration in Amazon S3.