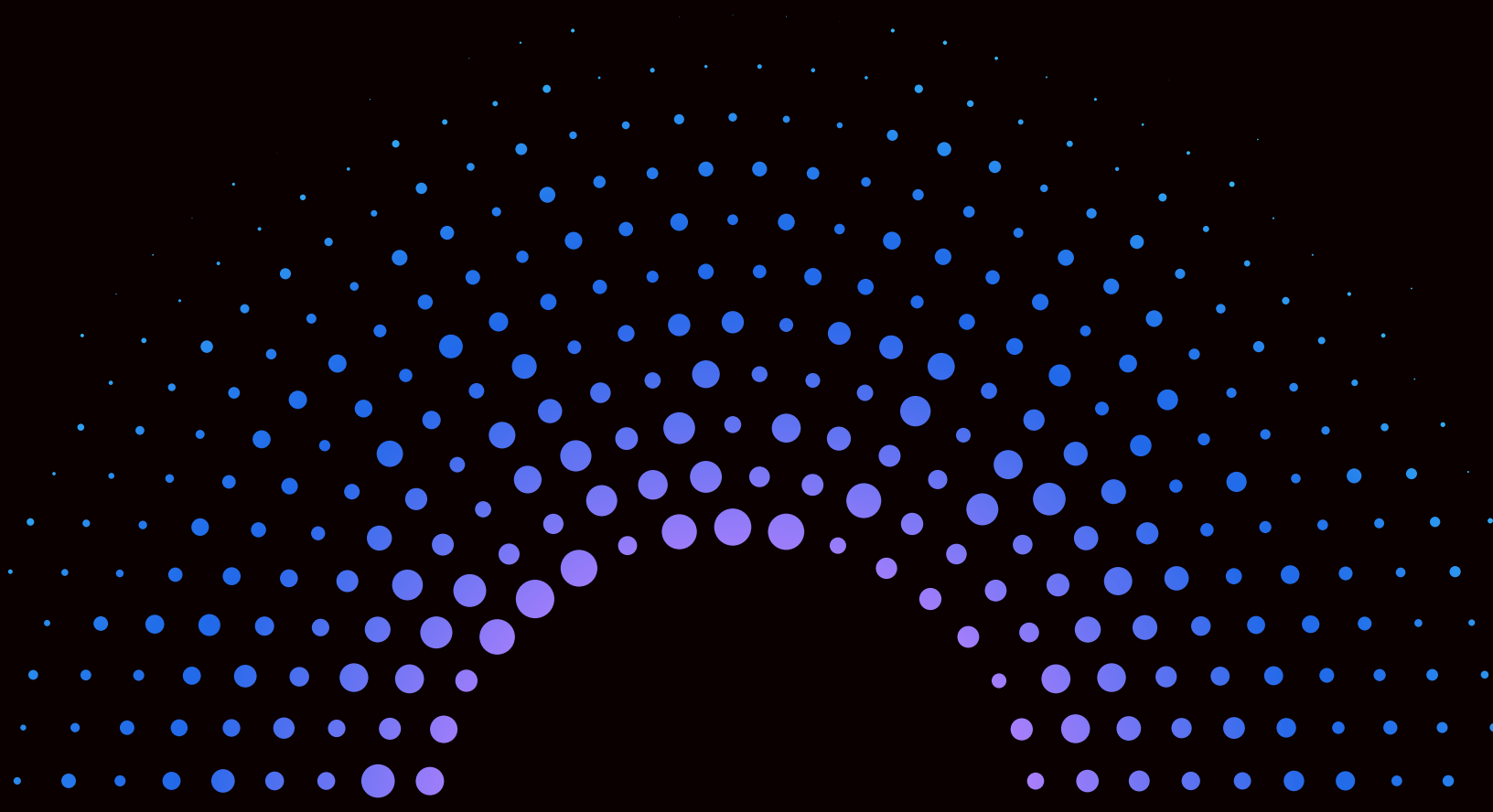




*Empowering  
Ophthalmology  
AI Development*  
**Through Unified  
Reader Workflows**

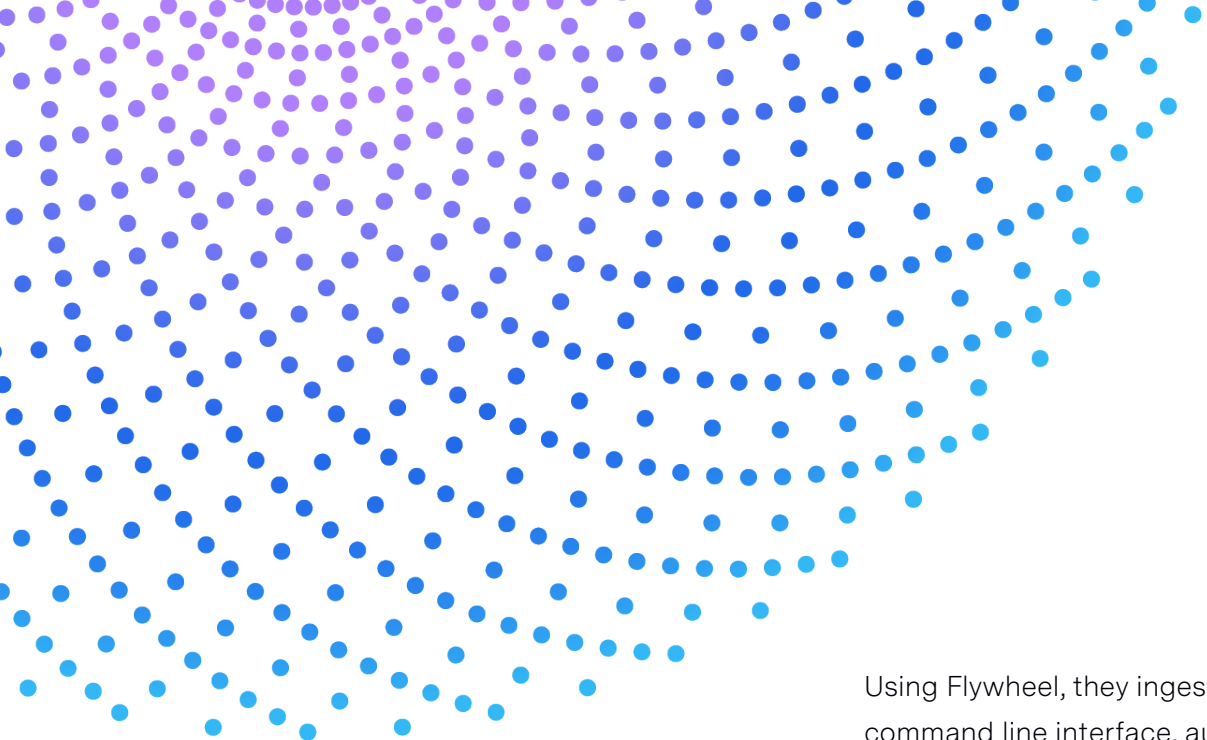


## The Challenge

AI can be a powerful tool for those developing new drug-based ophthalmological therapies, helping pharmaceutical organizations identify novel therapeutic targets and accelerate clinical trial workflows. One such company sought to fuel AI development by building a rich ophthalmology imaging database from previous clinical trials. Their goal was to create high quality ground truth annotations for Optical Coherence Tomography (OCT) images, essential for training and testing robust machine learning algorithms.

But the company's existing process was slow and fragmented. The team had to ship raw imaging data on physical drives to reading centers, where readers would perform annotations on disconnected platforms. Once complete, reading centers would send the annotated files back, where the team reconciled them with internal data and finally loaded them into high performance computing environments for analysis. Each annotation campaign could take three months or more, significantly delaying their time to trial and go-to-market for new AI models and therapies.

**3+**  
*months saved*  
per annotation campaign



## The Solution

The company deployed Flywheel as the backbone for its ophthalmology reader workflows, using Flywheel's Reader Studies module to enable a fully integrated approach to annotation and data management.

Using Flywheel, they ingested OCT via command line interface, automatically de-identified with Flywheel's de-identification Gears and curated their data to acquisition parameters. Embedded reader workflows allowed specialists to perform pixel level grading and volumetric annotation directly within the platform, eliminating the need for external tools and physical data transfers.

This structured framework helped support the company to collect, view and act on data faster, within a single, secure, cloud-based environment. With a streamlined process for generating ground truth data at scale, they could kick machine learning efforts into high gear and improve consistency across any imaging-based research efforts.

Data gathered, de-identified and curated in just *days*



## The Outcome

By consolidating all functions into a unified platform, months-long data delays became a thing of the past. Suddenly, annotation campaigns could be completed in a matter of days, saving significant time and resources.

Not only were they able to reduce manual effort on data handling, but they also improved data quality and traceability, ensuring their annotated data was standardized and ready for downstream AI development. With significantly compressed research timelines, the company is moving closer to deploying clinically validated ophthalmology models, continuing to lead the path forward in groundbreaking ophthalmological care.

**40+**  
*ophthalmological  
datasets ingested,*

representing 14 campaigns across seven studies

Visit [flywheel.io](https://flywheel.io)  
[Schedule a demo](#) or get in touch with a  
[Flywheel representative](#).