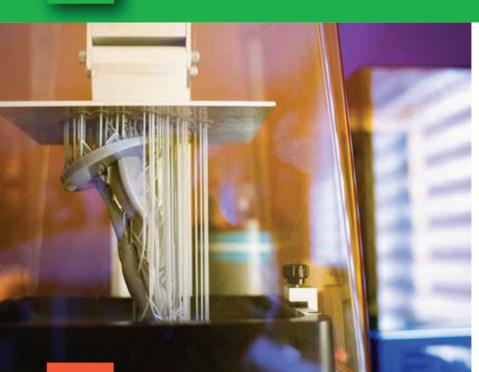
Cryo-EM data challenges and solutions

Ever-growing data volumes mean scalability is key.



Challenge

Typical cryo-EM experiments produce at least 3 terabytes of data, and a single microscope can easily generate petabytes per year. 1 You need storage solutions that scale limitlessly and easily - without breaking the budget – to support the increasing demands for data storage capacity in cryo-EM.

Increased data output demands higher throughput.

Challenge

Upgrading to a faster direct detector camera can increase FPS by nearly fourfold.2 Cryo-EM instruments capture images at a high rate, producing a continuous stream of data. To avoid bottlenecks in the image acquisition and analysis stages, storage solutions must

support high data throughput.



Poor data retention practices undermine progress.



Challenge

Researchers are often unable to archive all the data generated over the course of an experiment, and much of the primary data may not survive the departure of the lead researcher from a lab.3 To identify relevant cryo-EM data for retention and facilitate easy transfers, researchers need intelligent and easy to use data insight and mobility solutions.

Storage failures bring research to a halt.

Challenge

performance storage, 75% reported reduced productivity throughout the year due to storage-related issues.4 Storage downtime threatens project timetables, frustrates IT staff, and increases the risk of losing your data. Reliability should only increase as you scale your storage.

In a survey of admins overseeing high-



Solution Optimize your cryo-EM workflows with Panasas



And that includes data capacity,

performance, and protection. Start with a small entry-point and expand as needed without creating data silos or interrupting workflows.



High-speed data access lets you

quickly retrieve and analyze large datasets and allows multiple teams to work together on the same dataset simultaneously.



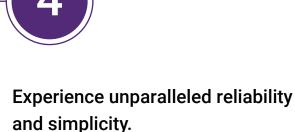
Powerful search and scan capabilities enable you to quickly locate specific

Unlock the full potential of your data.

datasets and experiments, and an easy-to-use data movement tool lets you manage backup and archive options.

foundation supporting it.

Read Customer Success Story



There's a misconception in the high-performance storage space

that you have to compromise system reliability and ease of management to meet your performance needs. Panasas is proof otherwise.

With Panasas in place, scientists carry out their cryo-EM

research without ever having to worry about the storage

lifescience@panasas.com

¹Andrii ludin et al. "EMPIAR: the Electron Microscopy Public Image Archive." Nucleic Acids Research, 51 (D1), 6 January 2023. https://academic.oup.com/nar/arti-