Solution

XENON SOLUTIONS FOR CRYO-ELECTRON MICROSCOPY WORKFLOWS

Cryo-EM is a major advance on electron microscopes, which allows researchers to "see the invisible". The process allows researchers to map individual atoms, molecules, amino acids and proteins, and understand how they interact with cells in their environment in 3D.

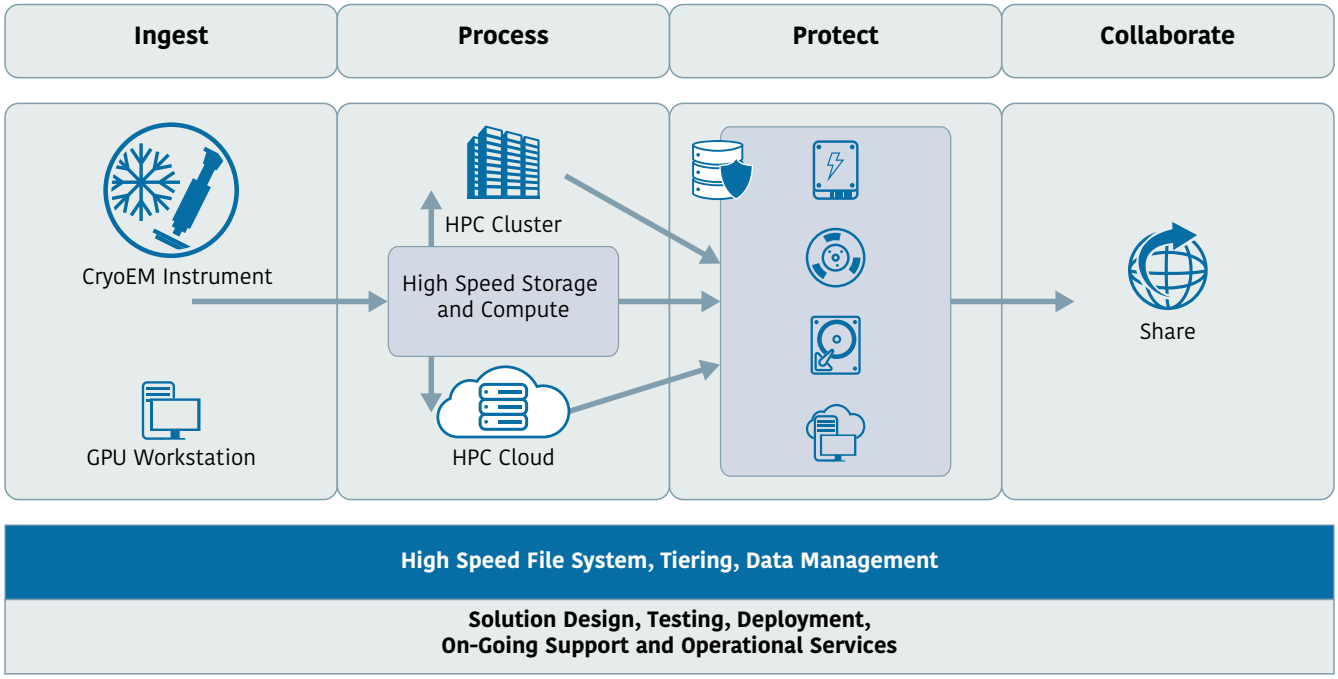
XENON has a long history of providing IT infrastructure solutions which help advance scientific discoveries, and XENON provides significant infrastructure to major Cryo-EM facilities in Australia.

Cryo-EM science is all about the data: how it's collected, processed, protected and shared. How the IT infrastructure solutions is designed significantly impacts on Cryo-EM efficiency and results.

Key IT Infrastructure points for CRYO-EM

- **Data Capture and Ingest** – High performance GPU workstations process data off the Cryo-EM fast enough to enable real-time adjustment of the beam, maximizing instrument usage and accelerating results.
- **Analysis** – High speed and high capacity storage enables a whole data set to be accessed simultaneously to extract micro-graphs and 3D images. At some facilities this is 250TB of data. Combine with the right High Performance Computing resources for fast accurate processing.
- **Protection** – The biological samples are destroyed in the process of imaging through the Cryo-EM, so protecting this data is critical for re-analysis and replication of experiments.
- **Sharing** – Collaboration between researchers is enabled by high speed networks and smart storage systems that can spread data across wide areas.

DATA WORKFLOW



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