Case Study

CyArk Simplifies World Cultural Heritage Recording and Archival with Lyve Cloud

Massive 3D data project library becomes simpler to manage, access, and share.

CyArk overcame significant data management challenges, which arose as a result of its newly adopted remote work setting and the global growth of its team, by moving all its data from on-prem servers to Seagate's Lyve Cloud. This boosted productivity, saved staff time, and provided employees, heritage site managers, historians, researchers, and educators with immediate, secure, and complete access to their huge data sets.

- Boosted staff productivity

- Saved time accessing 3D project data sets

- Improved access to project data for educators and researchers

- Reduced IT costs and complexities

CyArk digitally preserves the world's cultural heritage.

CyArk is a nonprofit organization dedicated to digitally capturing the world's most significant cultural heritage sites. To safeguard and explore human civilization, CyArk deploys LilDAR 3D laser-scanning equipment, drone video, and photos to create highly detailed 3D models. Data from those models can later be used by researchers, historians, educators, conservators, and the public. CyArk has captured hundreds of historic sites, including Pompeii, Angkor Wat in Cambodia, Chichen Itza, the temple of Wat Phra Si San Phet in Thailand, the Leaning Tower of Pisa, and the Tower of London.

Their Goal

CyArk must efficiently manage an ever-growing data library of human history.

CyArk aims to digitally preserve cultural monuments and to ensure humanity retains access to the stories and details of these historically significant places. But to secure the data—as well as organize it, process and add to it, make it available, and bring it to life— CyArk must do more than capture data. CyArk must efficiently manage a profuse and ever-growing library of projects at all levels—from enormous complete data sets down to individual detail files.

Data is central to CyArk's mission, and easy access to large data sets is crucial.

Every CyArk preservation project generates multiple terabytes (TB) of unstructured data, as the organization's 3D laser scanners collect millions of individual data points a second to create 3D point clouds. The data is ever–growing, and its importance increases as CyArk's mission extends beyond cataloguing into active preservation efforts such as providing blueprints to rebuild a monument after an earthquake or monitoring erosion in real time to protect cliffside archaeological sites.

"We're doing 3D documentation of the world's cultural heritage, and everything we aim to do derives from the data we collect and organize," says John Ristevski, CEO of CyArk. "Whether we're telling stories about these important places or sharing data with educators or researchers, keeping that data accessible is central to every component of our mission. If the connection to the data isn't optimal, that seriously detracts from the mission."

To meet its goal of full accessibility in the face of an ever-growing mountain of data, CyArk recently moved its entire project library and data-management processes onto Lyve Cloud.

In its early years, CyArk's process for moving and storing project data was simple. Project leaders would bring portable drives to each historic site and keep two copies of the data they captured. Returning to CyArk's offices, members of the team plugged the drives directly into CyArk's on-premises server and copied all the data to make it available on their local network to everyone at the office.

Because of the pandemic and a growing global team, CyArk last year adopted a fully remote work model, eliminated its offices, and moved its data center to a smaller site. Unfortunately, relying on their on-prem servers presented problems. Maintaining the systems came with costs. Making staff available to run and maintain the systems was a drain on productivity. It became harder to access project data sets, and the

systems' limitations made data management and workflow inefficient.

To access project data, a remote project manager had to ask a local team member to drive to the facility, boot up the server, pull the files, then upload them to a traditional cloud-based file-sharing service. With data being moved piecemeal, it was hard to keep track of which files were being worked on, which were the newest version, and which were ready to be archived—, and teams often ended up creating multiple copies of data sets.

The team needed a more centralized system. They tried using the traditional file-transfer service to replicate and hold all their data but faced problems with timely and accurate transfers. "We immediately hit a wall—file transfer limits, connection timeouts, trouble restarting the upload," recalls Ristevski. "The service would say an upload is complete, but we'd find it's missing some data—and there was no direct way to verify the data we'd loaded was an exact copy of the original data."

The service offered no real data-management tools and sharing data among team members was difficult. "People had trouble accessing files, and found they were always needing to request access to specific folders," Ristevski says. "There was no organized way to provide access rights to certain data sets for a given team or individual."

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Lyve Cloud enables full control and efficient access to CyArk's data.

After looking at several options, CyArk settled on Seagate's Lyve Cloud.

"We found that Lyve Cloud could provide us full control of our data, sustain our workflows without disruption, and enhance productivity," Ristevski says.
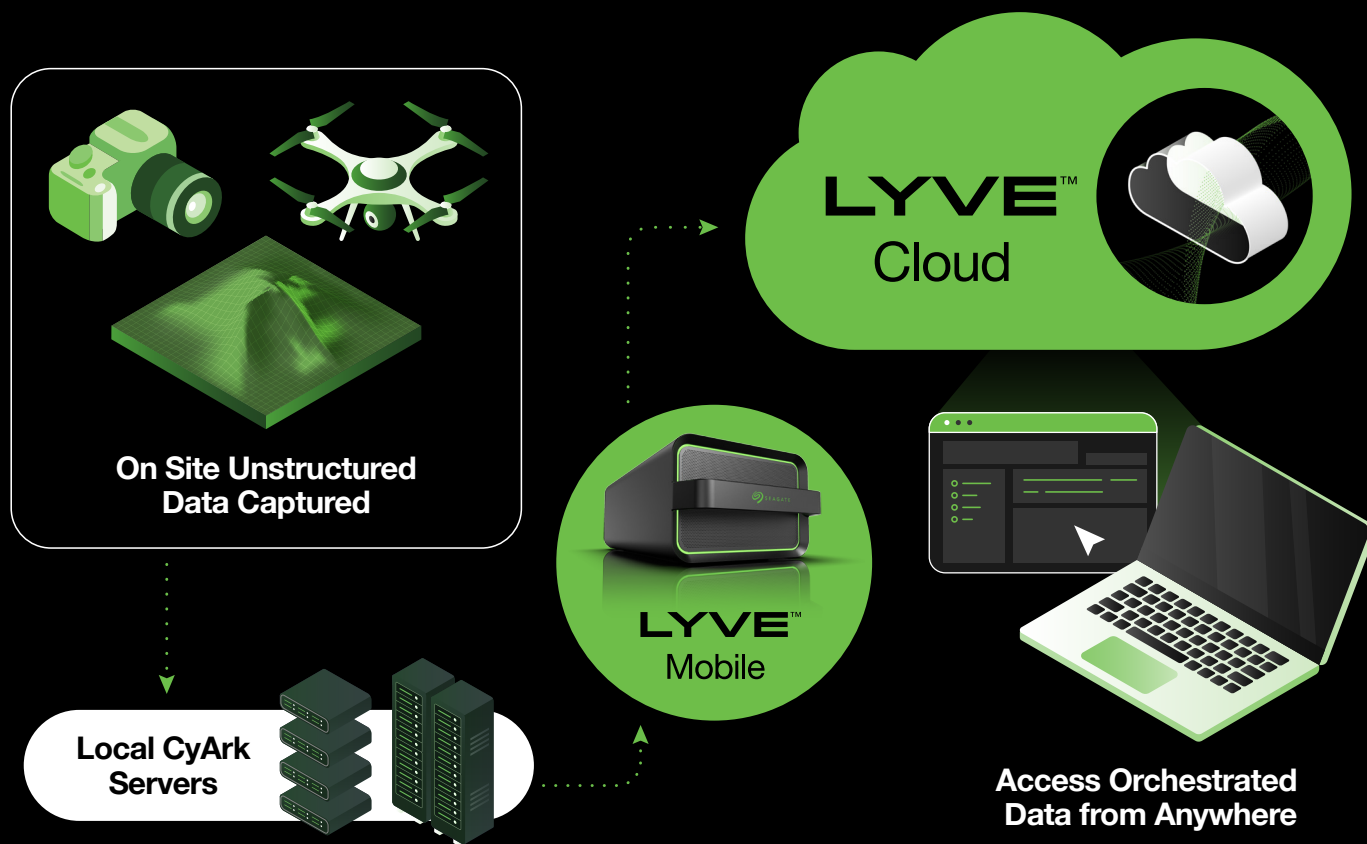
To move its enormous cache of data into Lyve Cloud, CyArk realized transferring across networks would involve big costs and long wait times. The team opted to use Seagate's Lyve Mobile data transfer service, which deploys rugged mobile storage arrays to securely transfer mass data in days, not weeks.

"The process was simple," says Ristevski. "Seagate shipped the Lyve Mobile Array units to us. We plugged them into our server and quickly copied all the data, then shipped the arrays to the Lyve Cloud site. Now we have an exact copy of all our data easily accessible in Lyve Cloud."

The process was fast. By the time CyArk's data managers told Ristevski the transfer was underway, all the data had already appeared in Lyve Cloud. By avoiding network transfer delays, Lyve Mobile saved CyArk weeks of lost production.

CyArk and Seagate Lyve Data Migration Workflow

On Site Unstructured Data Captured

Local CyArk Servers

LYVE™ Mobile

LYVE™ Cloud

Access Orchestrated Data from Anywhere

Better data management, easier access, increased productivity.

Lyve Cloud solved the issues CyArk hoped it would. It enables better data management while providing employees, heritage site managers, historians, researchers, and educators with immediate, secure, and complete access to their data sets. CyArk's day-to-day workflow is much more efficient, saving time each day and increasing productivity into the future. Processes that previously took multiple weeks are now completed within a day. And thanks to Lyve Cloud's simple, predictable pricing and zero add-on charges or egress fees, CyArk has significantly reduced costs by fully eliminating its data center real estate and all IT maintenance expenses.

"Providing stable access to our entire data library all in one place is huge—we can organize our data once instead of having to replicate it two or three times," Ristevski says. "We have full control to manage all our data, who has access to it, who can read and write—so every team has what it needs. Lyve Cloud also makes it much simpler to share our files with external research and educational partners for the common good."

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JOHN RISTEVSKI, CEO OF CYARK

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