Advanced Discovery

Empower Libraries & Museums to improve discoverability of collections and accelerate research

Libraries and Museums are more than just places to visit. At their core, they are important centers for research and discovery.

Both libraries and museums actively collect and manage millions of items, preserving their collections and making them discoverable, so anyone can benefit from their collections for research and learning.

Technology is an enabler for the digitization of collections, increased discoverability of assets, and supporting faster research without compromising original documents or objects.

Advanced Discovery focuses on four main opportunities for Digital Transformation:

- **Discoverability:** Increase discoverability across collections and institutions with artificial intelligence solutions that proactively surface insights.

- **Digitization:** Support rapid high-resolution digitization of museum collections and library artifacts.

- **Collections & Library Management:** Manage large volumes of collections data at scale with modern databases.

- **Research:** Expand capacity and enable significantly faster research with High-Performance Computing that scales to the needs of modern research.

Key Challenges

- Enabling cross-collection discovery

- Imaging and tagging of assets

- Managing large collections inventory and data storage

- Meeting the needs of researchers

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- How can you improve the discovery of collections for constituents and researchers around the world?
- What challenges do you face in your efforts to digitize documents and objects within your collections?
- What plans are in place to ensure your technology infrastructure can meet current and future needs for managing an ever-expanding collections inventory?
- What opportunities do you see to better enable researchers?

Achieve more in Advanced Discovery

Review the capabilities below to assess where your institution is currently and the path forward on the road to successful digital transformation.

	Entry	Emerging	Advanced	Transformative
Cognitive Search	Constituents and Researchers self-discover collections based on personal interest using search terms.	Additional "like" assets are presented leveraging data from past search behavior, allowing greater cross-collection discovery.	Proactive and automated asset discovery based on interest and preference using pattern and trend recognition. Cognitive search capabilities extract additional metadata from images for real-time enhanced discoverability.	The predictive surfacing of assets and collections considers physical and social context using computer vision, speech recognition, sentiment detection, and natural language processing. Displays highly relevant, timely, and contextual content online and in-person.
Digital Imaging	Manual digital capture and upload of museum collections and library artifacts.	Automated process for 2-D digital capturing of assets with manual data entry for image tagging and metadata.	Automated digitization, classification, and tagging of assets using computer vision to digitally capture objects and artificial intelligence to enrich images and videos.	Computer vision and optical character recognition automatically generate additional metadata for real-time tagging. Machine Learning provides data analysis and intelligence of three-dimensional images and digital documents.
Digital Asset Management	On-premises computing on traditional hardware with manual processes for tracking and protecting assets.	Hybrid architecture with scalable computing power and the ability to expand storage capacity. Digital asset management systems are in place but with limited automation.	Cloud-based architecture with a fully automated digital asset management system. Built-in advanced security to protect and preserve digital assets. Allows any time, anywhere access for asset managers and researchers worldwide.	Digital asset management system is accessible for asset managers and researchers any time from a laptop, tablet, or phone from anywhere. Predictive analytics and built-in advanced security allows for smart search and safe sharing capabilities.
High-Performance Computing	Computing hardware is on-site requiring the investment of IT operations staff.	Hybrid architecture with the ability to access high-performance computing in the cloud on-demand. Researchers within the institution are required to share HPC clusters, servers, and architecture.	Cloud-based architecture delivering high-performance computing at scale empowering researchers with seamless collaboration for greater innovation at a faster speed.	Process and analyze massive amounts of data to accelerate research processes and enable collaboration between researchers worldwide for faster, better teaming and increased research output. Research teams within the same institution have access to a dedicated supercomputer customized based on project needs.

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