

Google Cloud Delivers on the Promise of AI and Data Interoperability with New Medical Imaging Suite

Hackensack Meridian Health and Hologic advance their work with new medical imaging technology

SUNNYVALE, Calif., Oct. 4, 2022 /PRNewswire/ -- Google Cloud today announced Medical Imaging Suite, a new industry solution that makes imaging healthcare data more accessible, interoperable and useful.

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Medical imaging is a critical tool used to diagnose patients, and there are billions of medical images scanned globally each year. Imaging data accounts for about 90 percent of all healthcare data¹ and, until now, these complex images have been highly dependent on humans to read. In addition, the number of images continues to grow, increasing the workload for radiologists and other healthcare professionals tasked with interpreting these images for clinicians and patients. Google Cloud enables the development of AI for imaging to support faster, more accurate diagnosis of images, increased productivity for healthcare workers, and improved care access and outcomes for patients.

"Google pioneered the use of AI and computer vision in Google Photos, Google Image Search, and Google Lens, and now we're making our imaging expertise, tools, and technologies available for healthcare and life sciences enterprises," said Alissa Hsu Lynch, Global Lead of Google Cloud's MedTech Strategy and Solutions. "Our Medical Imaging Suite shows what's possible when tech and healthcare companies come together."

Google Cloud's Medical Imaging Suite addresses common pain points organizations face in developing AI and machine learning models, and uses this to enable data interoperability. Components of the Medical Imaging Suite include:

- **Imaging Storage:** [Cloud Healthcare API](#), part of the Medical Imaging Suite, allows easy and secure data exchange using the international [DICOMweb](#) standard for imaging. Cloud Healthcare API provides a fully managed, highly scalable, enterprise-grade development environment and includes automated DICOM [de-identification](#). Imaging technology partners include [NetApp](#) for seamless on-prem to cloud data management, and [Change Healthcare](#), a cloud-native enterprise imaging PACS in clinical use by radiologists.
- **Imaging Lab:** AI-assisted annotation tools from [NVIDIA](#) and [MONAI](#) help automate the highly manual and repetitive task of labeling medical images, and Google Cloud also offers native integration with any DICOMweb viewer.
- **Imaging Datasets & Dashboards:** Organizations can use [BigQuery](#) and [Looker](#) to view and search petabytes of imaging data to perform advanced analytics and create training datasets with zero operational overhead.
- **Imaging AI Pipelines:** Using [Vertex AI](#) on Google Cloud can accelerate development of AI pipelines to build scalable machine learning models, with 80 percent fewer lines of code required for custom modeling.
- **Imaging Deployment:** Finally, the Medical Imaging Suite offers flexible options for cloud, on-prem, or edge deployment to allow organizations to meet diverse sovereignty, data security, and privacy requirements—while providing centralized management and policy enforcement with [Google Distributed Cloud](#), enabled by [Anthos](#).

Earlier detection of prostate cancer

[Hackensack Meridian Health](#), a network of healthcare providers in New Jersey, is beginning to use the Medical Imaging Suite to de-identify petabytes of images with future plans to build AI algorithms to predict metastasis in patients with prostate cancer, a life-threatening outcome disproportionately affecting Black men in the U.S.

"We are working towards building AI capabilities that will support image-based clinical diagnosis across a range of imaging, and be an integral part of our clinical workflow," said Sameer Sethi, SVP and chief data and analytics officer at Hackensack Meridian Health. "Google Cloud's imaging capabilities, including standardized storage and de-identification, are helping us unlock the value of our imaging data so clinicians and researchers are equipped with digitized decision support that fits into their clinical workflow. Google's Medical Image Suite is also fundamental to us applying AI and machine learning to this data to predict and prevent disease, helping to save more lives."

Improving cervical cancer diagnostics

[Hologic](#), a global medical technology company, developed the first CE-marked digital cytology platform for laboratories, which combines a new AI algorithm for cervical cancer screening with advanced volumetric imaging technology. The platform helps cytologists and pathologists identify precancerous lesions and cervical cancer cells in women. Next, Hologic plans on expanding the platform's capabilities using the Medical Imaging Suite.

"We've partnered with Google Cloud to use the Medical Imaging Suite to enhance our current Genius Digital Diagnostics System," said Michael Quick, vice president of Research and Development, Innovation at Hologic. "By complementing our expertise in diagnostics and AI with Google Cloud's expertise in AI, deep learning, and its cloud-based technologies for imaging storage, we're evolving our market-leading technologies to improve laboratory performance, healthcare provider decision-making, and patient care."

Medical Imaging Suite privacy and security

Privacy and security are of the utmost importance in all aspects of Google Cloud's Medical Imaging Suite. Through the implementation of Google Cloud's reliable infrastructure and [secure data storage](#) that support HIPAA compliance—along with each customer's layers of security, privacy controls and processes—customers are able to protect the access and use of patient data.

Google Cloud's ecosystem of delivery partners provides expert implementation of services for Medical Imaging Suite to help healthcare and life sciences organizations deploy at scale. These partners include CitiusTech, Deloitte, Omnigen, Slalom, and Quantiphi.


About Google Cloud

Google Cloud accelerates every organization's ability to digitally transform its business. We deliver enterprise-grade solutions that leverage Google's cutting-edge technology – all on the cleanest cloud in the industry. Customers in more than 200 countries and territories turn to Google Cloud as their trusted partner to enable growth and solve their most critical business problems.

¹ S. K. Zhou *et al.*, "A Review of Deep Learning in Medical Imaging: Imaging Traits, Technology Trends, Case Studies With Progress Highlights, and Future Promises," in *Proceedings of the IEEE*, vol. 109, no. 5, pp. 820-838, May 2021, doi: 10.1109/JPROC.2021.3054390.

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