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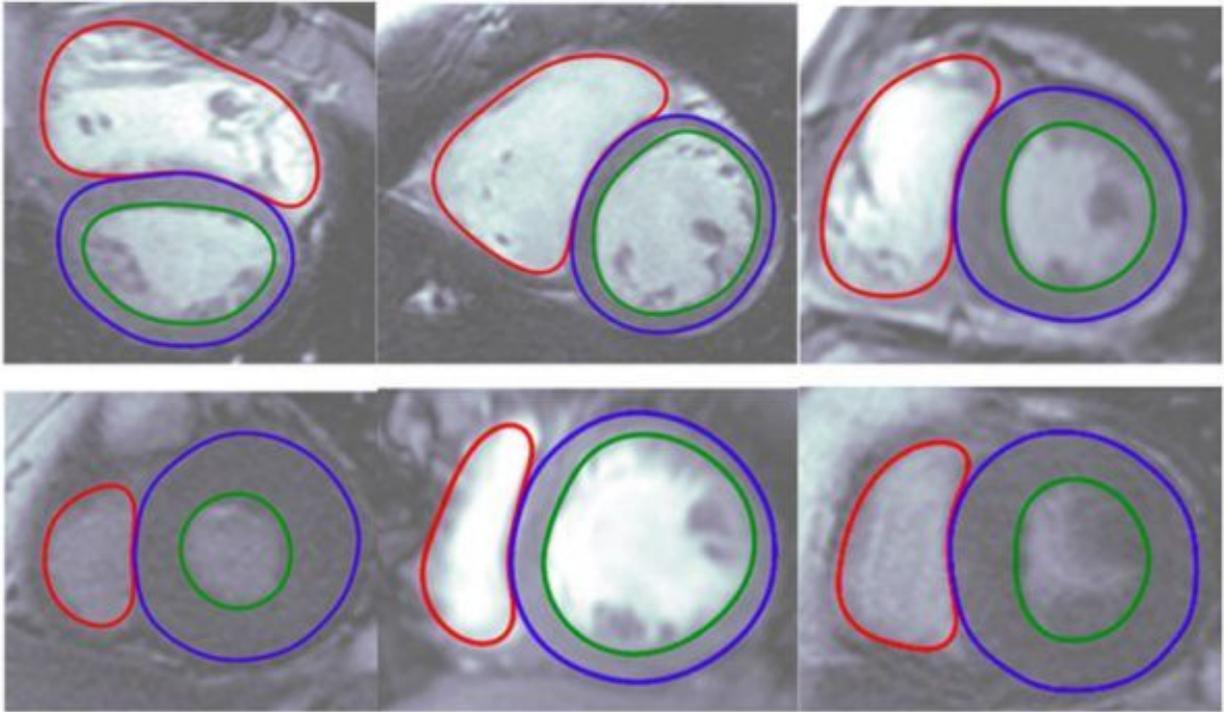
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Startup Arterys wins FDA clearance for AI-assisted cardiac imaging system

By [NANCY CROTTI](#)

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Cardio DL-generated contours of the insides and outsides of the ventricles of the heart.

A San Francisco startup has landed Food and Drug Administration approval for artificial intelligence-assisted cardiac imaging in the cloud.

[Arterys Inc.](#)'s Cardio DL program applies deep learning, a form of artificial intelligence, to automate tasks that radiologists have been performing manually. It represents the first FDA-cleared, zero-footprint use of cloud computing and deep learning through AI in a clinical setting, the company said.

Arterys developed the technology by mining a data set of more than 3,000 cardiac cases. Cardio DL produces editable, automated contours, according to a company statement. It can provide accurate and consistent cardiac measurements in seconds, as opposed to one hour for manual processing.

Obtaining an image of a heart through MRI is a complex, time-consuming process that Arterys is working to improve, according to Arterys CEO Fabien Beckers.

Radiologists have traditionally used software to segment and draw contours around the ventricle to determine how the heart is functioning, Becker said. The new, AI-assisted software can provide deep learning-generated contours of the insides and outsides of the heart's ventricles to speed up the process and improve accuracy.

“It's the new way of doing medical imaging, a cloud medical imaging application that can have AI embedded in it,” he said. “It has the potential to make sure that physicians benefit from the work of thousands of other physicians and can be transforming healthcare in a positive fashion.”

The application, which won approval in Europe in December, runs in a standard web browser. The patient's data is sent to a cloud server for computational analysis, and only the hospital and the physician know the patient's identity, Beckers said.

Arterys won 510(k) clearance from the FDA in November for its software, which connects to an MRI machine to allow non-invasive, precise quantification of blood flow through the heart.

“I think that this is the way healthcare should be for everything,” Beckers said. “We never had a platform to do this before.”

Arterys [raised \\$12 million in Series A financing](#) in March 2016 to expand its commercial operations. GE Ventures, the Stanford-StartX Fund and Norwich Ventures joined Emergent Medical Partners, who led the round. Existing investors Asset Management Ventures, AME Cloud Ventures and Morado Ventures also participated.

The Arterys system became commercially available globally to installed and new GE Healthcare MRI scanners through an application called ViosWorks in the fall of 2016.

Cardio DL will be commercially available in March 2017, according to Beckers.

Next, Arterys plans to expand its service into oncology imaging, using AI to track how tumors are changing, though the company will need additional FDA and European Commission clearance to commercialize that.

Photo: Arterys

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Arterys, artificial intelligence, California, cardiology, deep learning, radiology, San Francisco, U.S. Food and Drug Administration