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— Exclusive

Perth company raises \$15m for AI software to transform cardiac imaging



Yolanda Redrup Reporter

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A Perth-based medical technology company that tackles the world's biggest killer, heart disease, with artificial intelligence-powered imaging software has raised \$15 million from institutional investors.

Artrya, launched in May 2019 by former management consultant John Barrington and former IBM global industry leader John Konstantopoulos, says its software is a more accurate and less invasive way to detect signs of heart disease than other methods. It has raised the capital to support its commercialisation of the technology.



 $\label{lem:artyaco-founder john Barrington says the company's Al imaging technology could transform cardiac imaging. \\ \textbf{Wayne Taylor}$

The \$15 million has come from investors,including Alex Waislitz's Thorney, Watermark Funds Management, Washington H. Soul Pattinson, Regal Funds Management and SG Hiscock.

Artrya's technology, called Salix, analyses <u>cardiac CT scans</u> in minutes and produces a 3D image and report that provides a more accurate detection of coronary artery disease, including the presence of vulnerable plaque, which is challenging to identify with existing technology.

It can also show the movement of blood through the heart, called a fractional flow reserve. However, it still needs to receive approval from the Therapeutic Goods Administration for this function. Traditionally fractional flow reserve is measured via coronary angiogram – a minimally invasive procedure in which contrast dye and x-ray imaging is used to detect blockages in the arteries.



Speaking to *The Australian Financial Review*, Mr Barrington said he and Mr Konstantopoulos met $3\frac{1}{2}$ years ago and were united in wanting to start their own venture using "AI for advantage".

They agreed they could make the biggest difference in the medical sector and were introduced to cardiologist Girish Dwivedi, a world-leading researcher in vulnerable plaque – soft plaque that is a leading cause of heart attacks. Dr Dwivedi is now the company's chief medical officer.

"Vulnerable plaque is made up of three different biomarkers and to detect each one is manually intensive ... [but] AI is good at going to the sub-pixel level and detecting each biomarker," Mr Konstantopoulos said.

"We can do it in minutes, whereas it would usually take hours or days for a clinician to complete a report." $\,$

Each year almost 18 million people die from heart disease, according to the World Health Organisation. Four out of five deaths are due to heart attacks and strokes.

Artrya's AI software is being trialled by Envision Medical Imaging in Perth.

Algorithms must be trained on substantial data sets and Artrya has contracts with Ottawa Heart Institute, Monash Heart and Envision.

So far its accuracy of detecting stenosis of above 50 per cent (narrowing of the arteries) is more than 90 per cent, for calcification detection Artrya's technology has a 98 per cent accuracy rate, and for vulnerable plaque its accuracy is 75 per cent to 80 per cent.

'Exciting area'

Mr Barrington said the capital raise would help the company commercialise its software in Australia and get regulatory approvals overseas to expand.

"We're moving into pilots in Australia currently and then into commercial usage," he said. "In the second half of this year we'll be applying for international regulatory approvals ... and in 2022 we want to move into targeted international markets.

"We already have class-one TGA approval we received in November last year ... and we'll extend that to class two later this year.

"We plan to be generating revenue in the second half of 2021. We'll target radiology practices in the first instance ... and where the public system is doing imaging, we'll approach those people too."

Watermark chief investment officer Justin Braitling said Artrya was following in the footsteps of companies such as 4D Medical and I-MED, but he was more excited about the investment opportunity posed by Artrya.



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"It's a very exciting area. I had a cardiac CT done recently and traditionally the radiologist gets 150 slices of the heart and then he scrolls through them like this cartoon flip pictures," he said.

"With this, the AI goes through the images and recreates a 3D image.

"The other leader [in the field] is HeartFlow, but we think Artrya has a better mouse trap here using its own AI, which has a much faster response and read out."

Artrya has three patent applications pending and more planned.

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It is assessing its options for further capital raises in the next 12 months, but expects that this funding will see it through to 2022.

Yolanda Redrup is an award-winning journalist who writes on technology and healthcare from our Melbourne newsroom. Connect with Yolanda on Twitter. Email Yolanda at yolanda.redrup@afr.com.au



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