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Investor Presentation: Data and AI



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ASX:VHT

**1 in 8 US women
will develop
breast cancer***

**Saving Families
from Breast Cancer**

Detection to Prevention Using AI

*American Cancer Society 2021 estimates

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Volpara Health Technologies Ltd

Volpara (ASX:VHT) is a health technology software company with an integrated breast health platform designed to deliver **personalized care** for the ~92M women screened for breast cancer globally each year.

Our platform is one of the most clinically validated in the industry and features individual patient management through to enterprise-wide analytics, all licensed on a subscription (SaaS) basis.

Sales are both direct and through electronic health record (EHR) companies, GE Healthcare, Fuji Medical, and others, and we estimate this to be a US\$750M ARR market.

Based in Wellington, New Zealand, we have about 200 staff spread across the globe, with the United States our biggest market.

With the data we're collecting, we aim to change the paradigm of screening from detection to prevention in order to dramatically reduce the global death toll of ~700,000 women each year:

Predict | Monitor | Detect & Empower™

Key commercial status to
end Q2 (30 Sept 2021):

~13.4M+

US screenings are contracted to use at
least one Volpara product, that's ~34%

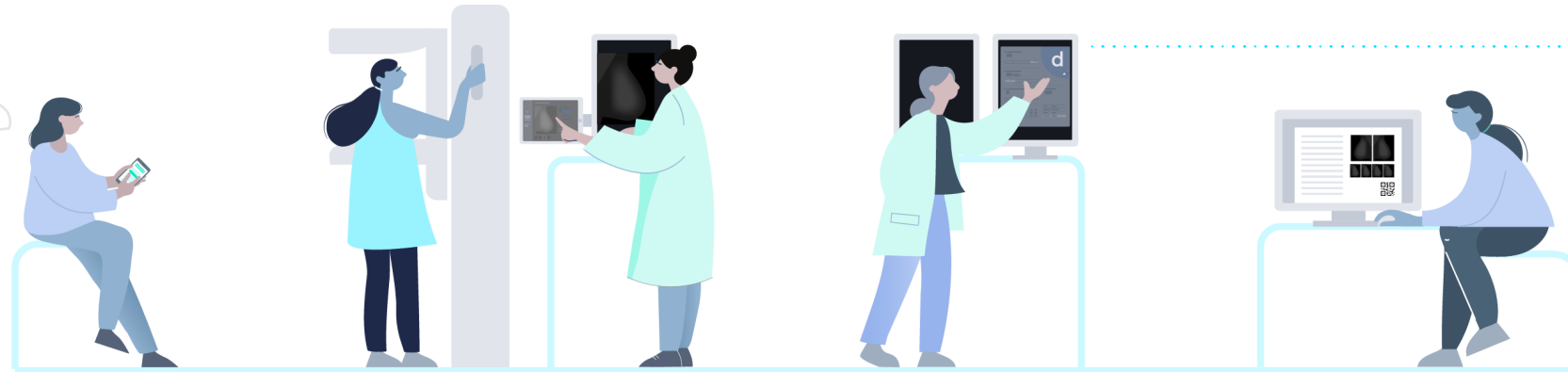
US\$20.4M+

Annual Recurring Revenue
from 700+ customers

90%+

Gross Margin
Up from 86% in FY2020

Volpara Breast Health Platform – delivering personalised care



Density Score

Objective, automated breast density score to personalise breast care

Risk Score

Patient's likelihood of developing breast cancer (Tyrer-Cuzick v8 Lifetime Risk Model)

Transpara by ScreenPoint

Detect and diagnose cancers faster

Risk

A full program for identifying and managing high-risk patients

Live

Get fast imaging feedback for relevant on-the-job training

Scorecard

View patient risk insights essential for early detection

Patient Hub

Speed your workflow with customisable communications

Potential triage paths



Ultrasound

Intermediate risk
High density



Genetic testing

High risk
Meet guidelines



MRI or contrast-enhanced mammography

High risk

Patient Hub

Customisable patient reporting and tracking



Analytics

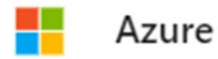
Monitor your team's performance with automated image-quality metrics



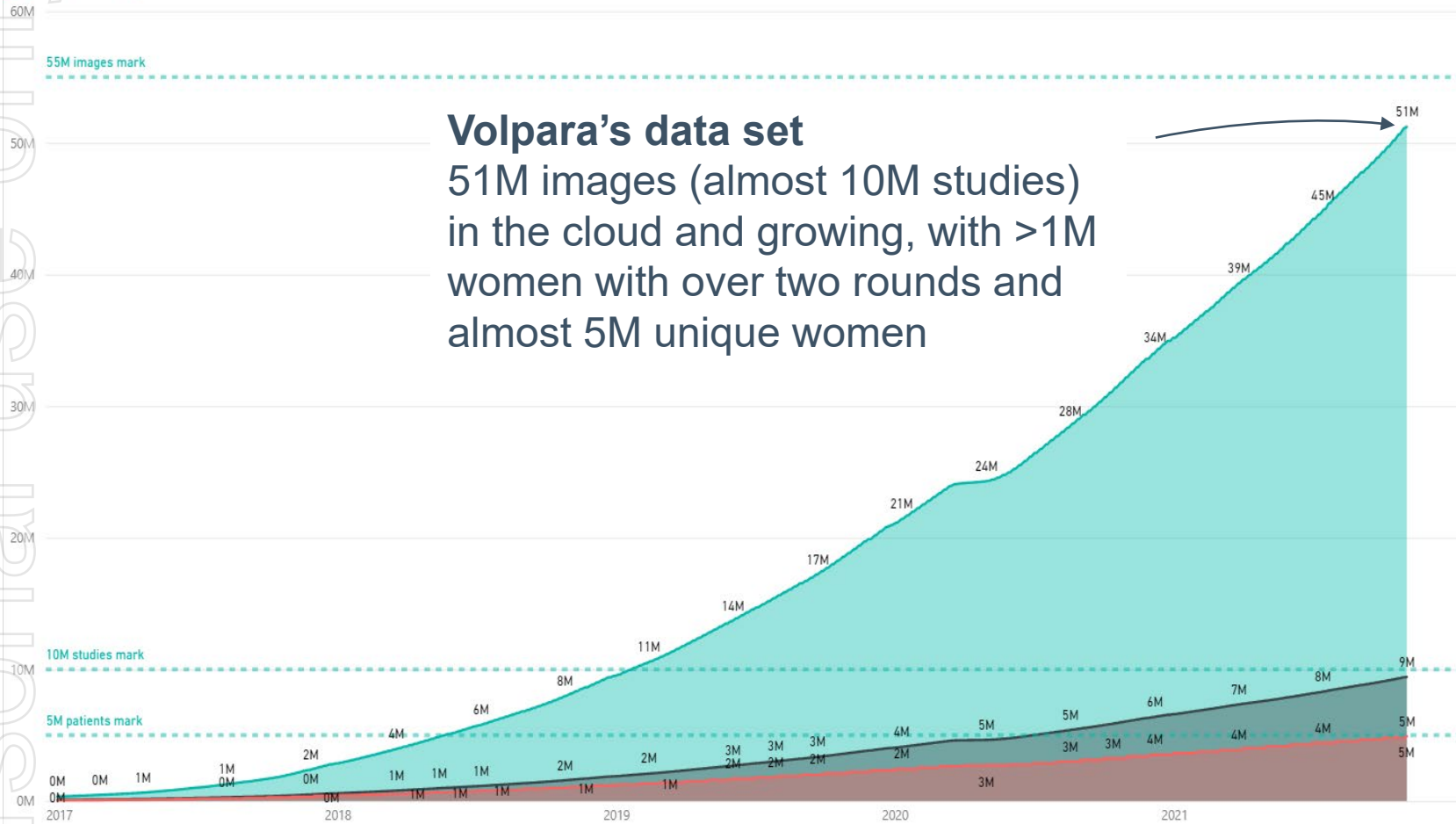
Products provide the data to fuel AI and knowledge

Number of Images Over Time

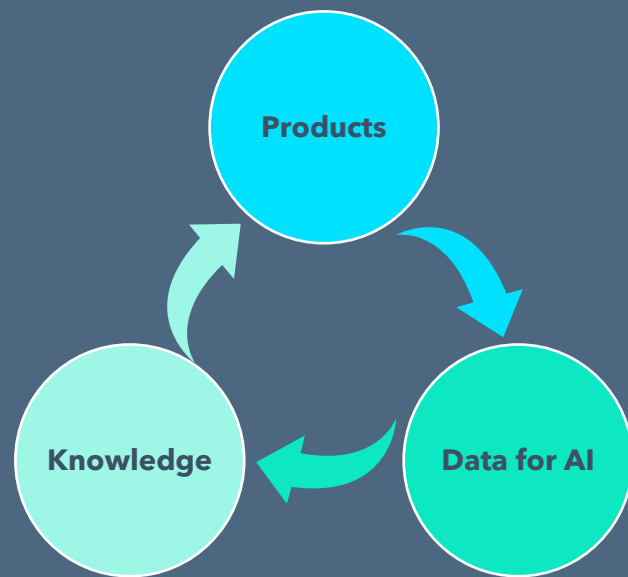
Images Studies Unique Patients



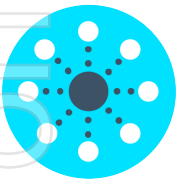
Volpara's data set
51M images (almost 10M studies)
in the cloud and growing, with >1M
women with over two rounds and
almost 5M unique women



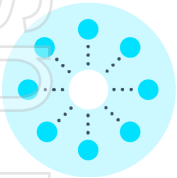
This virtuous cycle is our biggest asset in our work to save families from cancer



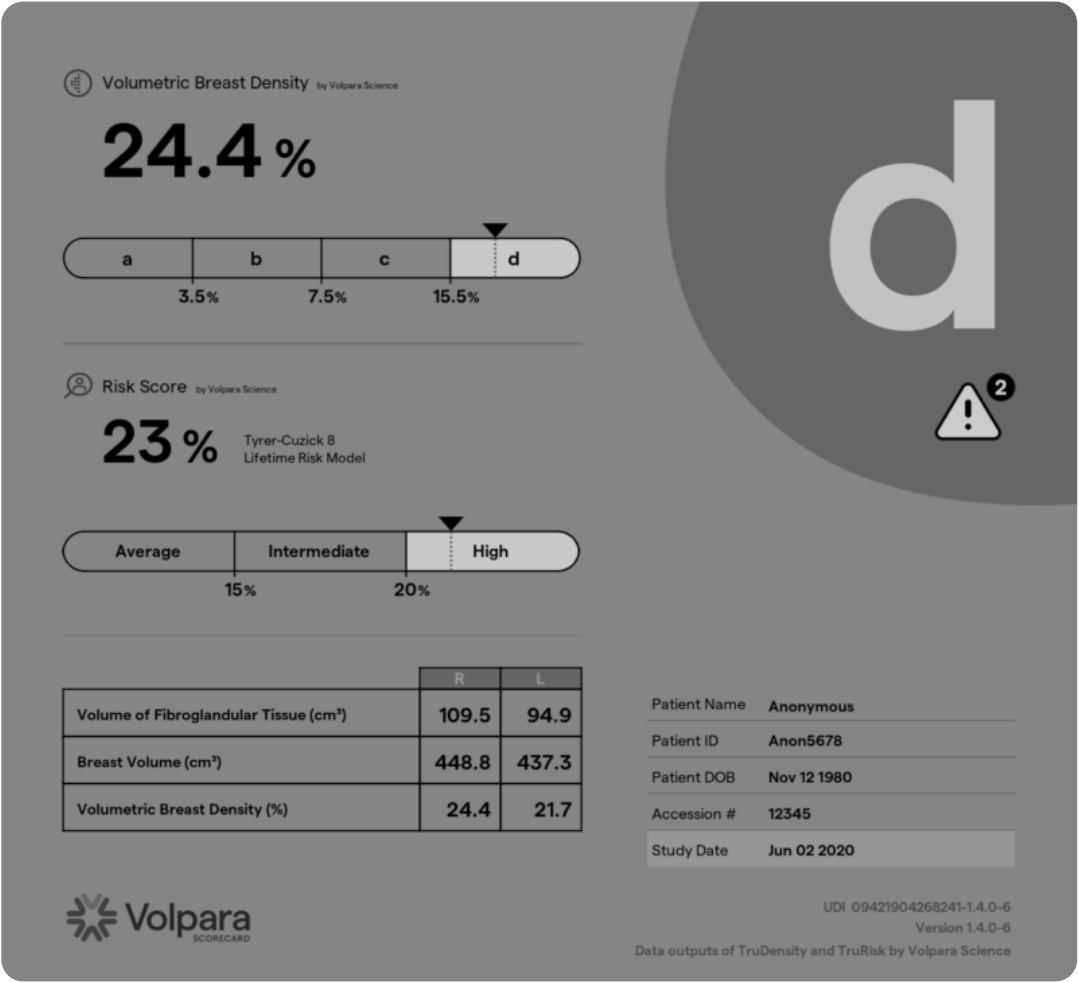
Data in use: Volpara Scorecard 4.0 and onwards



Built on the massive diverse datasets we have from multiple x-ray vendors and populations, including enough rare cases for us to work around.



Built on data flowing from Patient Hub telling us how radiologists are reading, before and after Volpara—effectively, we have a prospective AI trial platform.



PRODUCTS PROVIDE THE DATA TO FUEL AI AND KNOWLEDGE

Data in use: Quality benchmarks

Basset paper

1993

(Manual Assessment)

6

Mammography technologists

1,000

Mammography images

Huppe paper

2018

(Manual Assessment)

5

Mammography technologists

340

Mammography images

Volpara Analytics benchmarks

2021

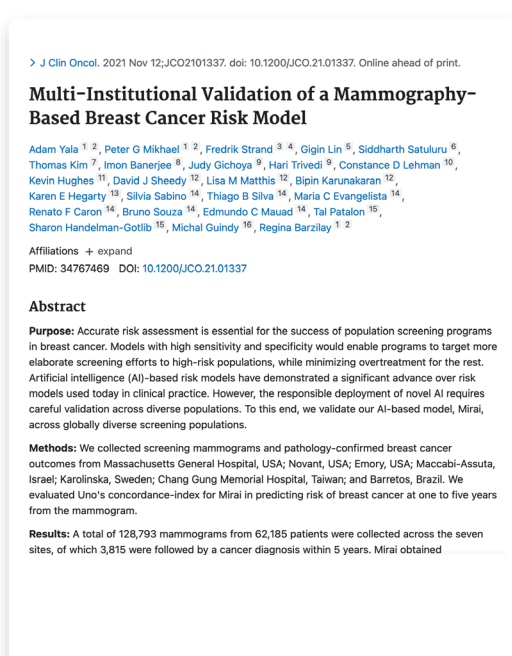
2,000+

Mammography technologists

3 million+

Mammography images

Future innovation: the right data is the key to AI success

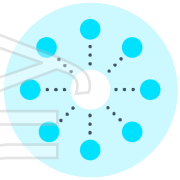


“Promising results in smaller studies are not replicated in larger studies. Prospective studies are required to measure the effect of AI in clinical practice.”

“...getting AI to work across vendors and sites is extremely difficult.”

“Moreover, Mirai was only developed and tested using Hologic mammograms. Future work will be needed to test and adapt this technology to more mammography vendors and to tomosynthesis images.”

Data must be linked, curated, and standardized for AI

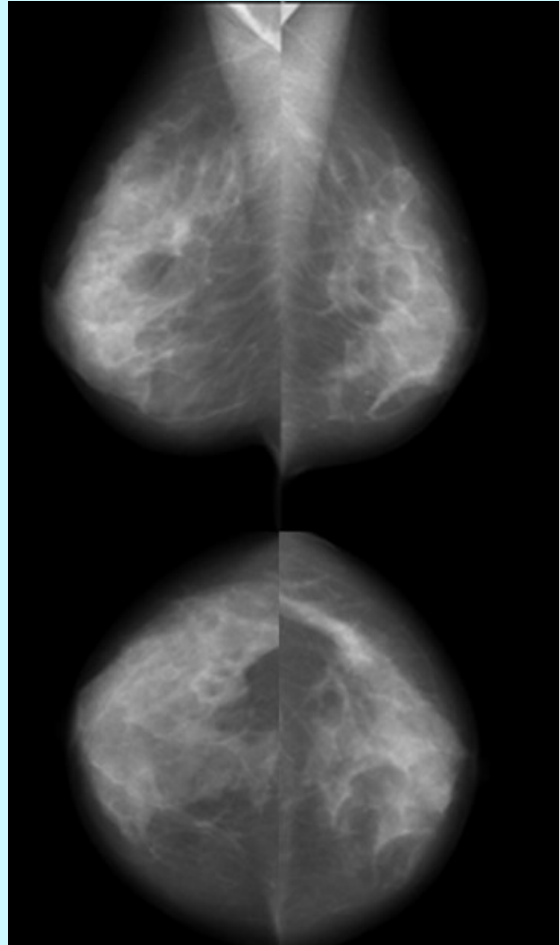


The raw data is quantitative and much more standardized. Volpara stores the raw data—currently, only single projections.

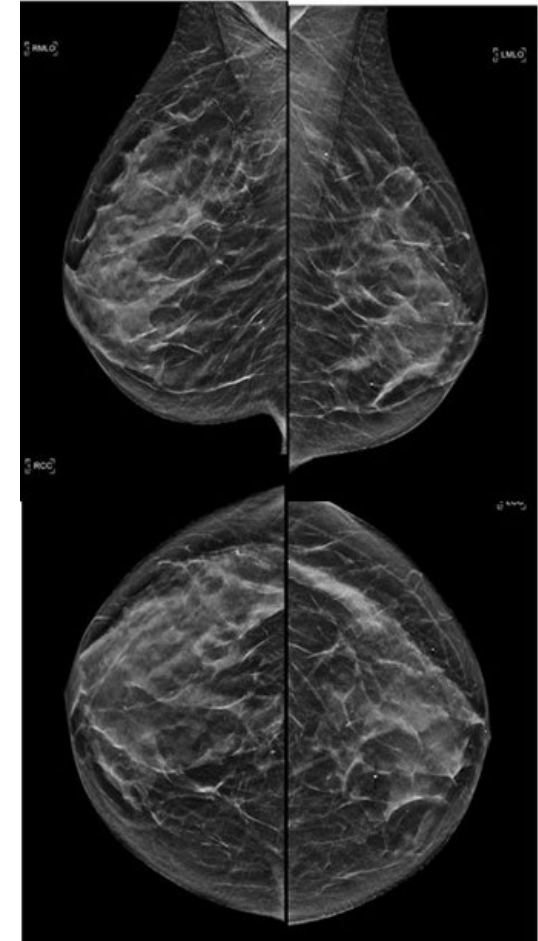


We are now rolling out software to link up Patient Hub information with the images in the cloud to allow rapid development of new models, reports, and insights.

“Raw” data direct from the x-ray



“Presentation” data stored on the PACS
Manufacturer-specific processing; can be adjusted by user



Predict | Monitor | Detect & Empower



Predict

Predict who is going to get breast cancer far better than current models by using data of millions of women, not just thousands, from imaging, history, and genetics



Monitor

Monitor women to ensure prevention strategies are working, but also to check that drugs like HRT are not increasing cancer risk through density changes



Detect

Detect the earliest signs of cancer using standard & temporal CAD



Empower

Empower women to make informed decisions around their personalised breast care by providing knowledge, silo-breaking data access in the cloud, and content grounded in science



Review > Cancers (Basel). 2021 Oct 27;13(21):5391. doi: 10.3390/cancers13215391.

Biological Mechanisms and Therapeutic Opportunities in Mammographic Density and Breast Cancer Risk

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Affiliations + expand

PMID: 34771552 PMID: PMC8582527 DOI: 10.3390/cancers13215391

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Abstract

Mammographic density is an important risk factor for breast cancer; women with extremely dense breasts have a four to six fold increased risk of breast cancer compared to women with mostly fatty breasts, when matched with age and body mass index. High mammographic density is characterised by high proportions of stroma, containing fibroblasts, collagen and immune cells that suggest a pro-tumour inflammatory microenvironment. However, the biological mechanisms that drive increased mammographic density and the associated increased risk of breast cancer are not yet understood. Inflammatory factors such as monocyte chemoattractant protein 1, peroxidase enzymes, transforming growth factor beta, and tumour necrosis factor alpha have been implicated in breast development as well as breast cancer risk, and also influence functions of stromal fibroblasts. Here, the current knowledge and understanding of the underlying biological mechanisms that lead to high mammographic density and the associated increased risk of breast cancer are reviewed, with particular consideration to potential immune factors that may contribute to this process.

Keywords: breast cancer risk; fibroblasts; hormones; immune signaling; inflammation; mammographic density.