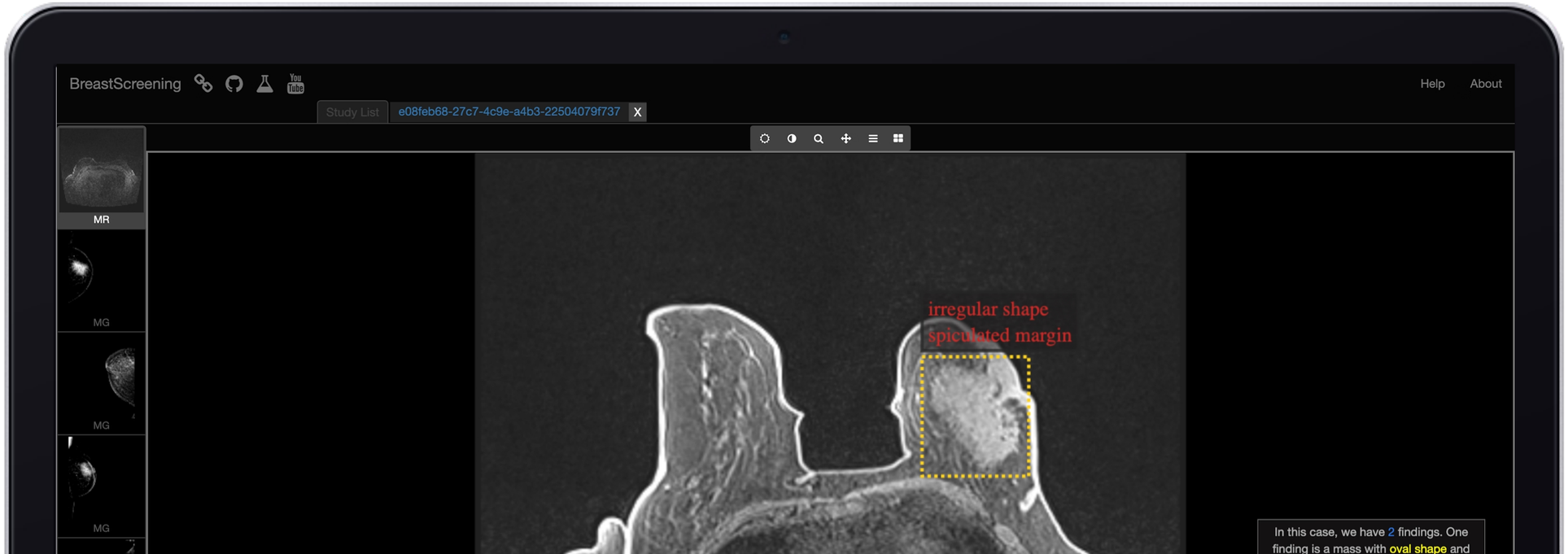
BREASTSCREENING-AI



BUSINESS TEAM

KYLE LEE (BEC)
CFO

MASTAN VEJDANNIA (MSC)
CTO

ANDRÉ FADIGA (MSC)
COO

LÍVIA FERREIRA (BC)
CMO

JOÃO MARIA ABRANTES (MD)
CMEDO

FRANCISCO CALISTO (PHD)
CEO

RESEARCH TEAM

CARLOS SANTIAGO (PHD)
LEAD ARTIFICIAL INTELLIGENCE

NUNO NUNES (PHD)
USER RESEARCH ADVISOR

JACINTO NASCIMENTO (PHD)
COMPUTER VISION ADVISOR

TEAM SUMMARY

- Doctorate of Philosophy (PhD) = 4
- Doctor of Medicine (MD) = 1
- Master of Sciences (MSc) = 2
- Bachelor of Communication (BC) = 1
- Bachelor of Economics (BEc) = 1

Research Experience:

- Jacinto Nascimento (PhD)
- Nuno Nunes (PhD)
- Carlos Santiago (PhD)
- Francisco Maria Calisto (PhD)
- João Maria Abrantes (MD)

VALUE PROPOSITION

LEVERAGE ACCURACY IN BREAST CANCER
DIAGNOSIS THROUGH A **MULTIMODALITY** MODEL

||

26% LESS MEDICAL ERRORS + ~4X FASTER

(REDUCING GOVERNMENT COSTS FROM **$40M** TO **$7M** IN PORTUGAL)

VALUE PROPOSITION

BreastScreening-AI offers a groundbreaking approach in breast cancer diagnostics with its multimodality AI models. These models significantly **reduce medical errors by 26%** and **quicken the diagnostic process fourfold**, enhancing patient care and drastically cutting healthcare costs, potentially saving millions in government expenses. The system also combats clinician burnout and data overload, streamlining healthcare workflows. Targeting the growing AI medical imaging market, especially in America and Europe, BreastScreening-AI's subscription model, priced between $200,000 and $400,000 annually, promises scalability and sustainability. Distinguishing itself from competitors, it integrates mammography, ultrasound, and MRI imaging, supported by AI assistants offering tailored, clinician-focused support. This blend of innovation, efficiency, cost-effectiveness, and user-centric design positions BreastScreening-AI as a transformative force in medical imaging, set to revolutionize breast cancer detection and treatment.

OUR PATENTS

MULTIMODALITY WORKFLOW

+

EXPLAINABLE-AI ASSISTANCE

OUR PARTNERSHIPS

UPMC
LIFE CHANGING MEDICINE

aws

SIEMENS
Healthineers

INTELECTUAL PROPERTY

BreastScreening-AI's intellectual property, encapsulated in **two core patents**, forms the cornerstone of our market strategy and partnership potential. The first patent protects our unique multimodal methodology, integrating various imaging techniques for enhanced breast cancer diagnostics, granting us a competitive edge and market exclusivity. The second patent secures our innovative AI assistants, tailored for clinical decision-making support, reinforcing our commitment to precision medicine. These patents safeguard our technological advancements and bolster our attractiveness to current and future partners. For instance, our partnership with UPMC, involving 10,000 patient cases, is instrumental in refining our AI algorithms. At the same time, collaborations with Amazon and Siemens leverage our patented technologies for computational resources and integration into medical imaging devices, respectively. These patents are pivotal in establishing BreastScreening-AI as a leader in AI-driven medical imaging, offering a unique value proposition to investors and partners in the healthcare sector.

COMPETITION

OUR COMPETITORS

koios™

Lunit

MAMMOSCREEN
by Therapixel

Seno Iris by GE

OUR COMPETITORS

In the competitive landscape of medical imaging AI, BreastScreening-AI stands out among key players like Koios, Lunit, Seno Iris by GE, and Terapixel's MammoScreen. While our competitors are proficient in their respective domains, BreastScreening-AI surpasses them with its holistic workflow coverage, bespoke, user-centric AI assistance, and a unique combination of **multimodal imaging** and **intelligent**, **personalized AI assistance**. This positions BreastScreening-AI as a leader in the field, offering a more comprehensive, efficient, and economically viable diagnostic solution in breast cancer detection.

OUR COMPETITORS

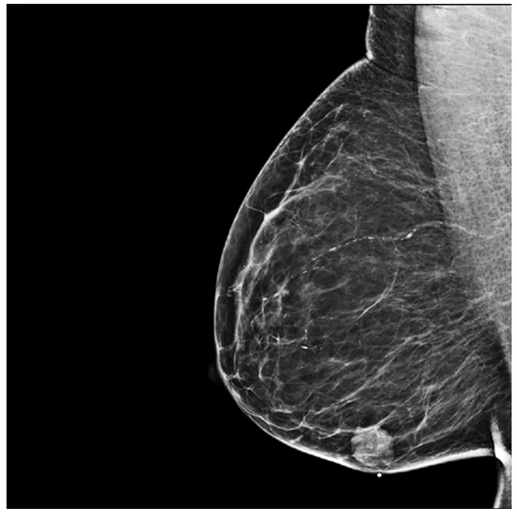
Each of these companies offers unique AI healthcare solutions, but BreastScreening-AI's approach is distinctively revolutionary:

- **Koios Medical (koiosmedical.com):** Specializes in AI for diagnosing breast and thyroid cancer using ultrasound. They have a notable presence in the ultrasound AI market but do not offer the multimodal approach that BreastScreening-AI does.
- **Lunit (lunit.io):** A South Korean company focusing on AI for cancer detection in radiology and pathology, with a strong emphasis on mammography. However, their focus is more limited compared to BreastScreening-AI's comprehensive multimodal integration.
- **Seno Iris by GE Healthcare (gehealthcare.com):** Part of the GE Healthcare portfolio, Seno Iris uses AI for breast ultrasound analysis. While leveraging GE's extensive healthcare technology expertise, they diagnose using ultrasound and MRI separately, unlike BreastScreening-AI's integrated approach.
- **Terapixel's MammoScreen (mammoscreen.com):** Specializes in AI for mammography, offering enhanced detection of breast cancer through mammograms. However, their technology is focused on a single modality.

MULTIMODALITY WORKFLOW

MAMMOGRAPHY

(MG)



LUNIT INSIGHT MMG
TERAPIXEL MAMMOSCREEN

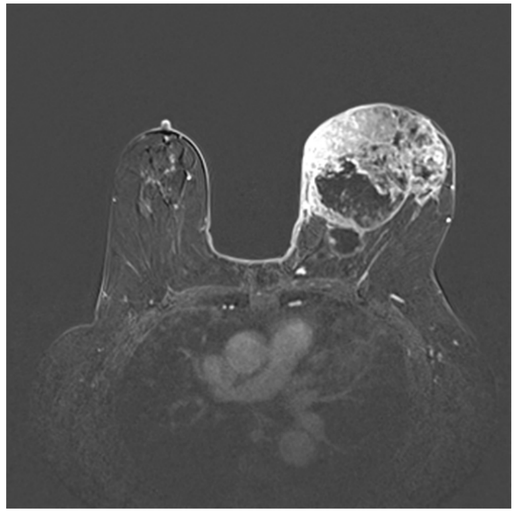
ULTRASOUND

(US)

SENO IRIS BY GE HEALTHCARE

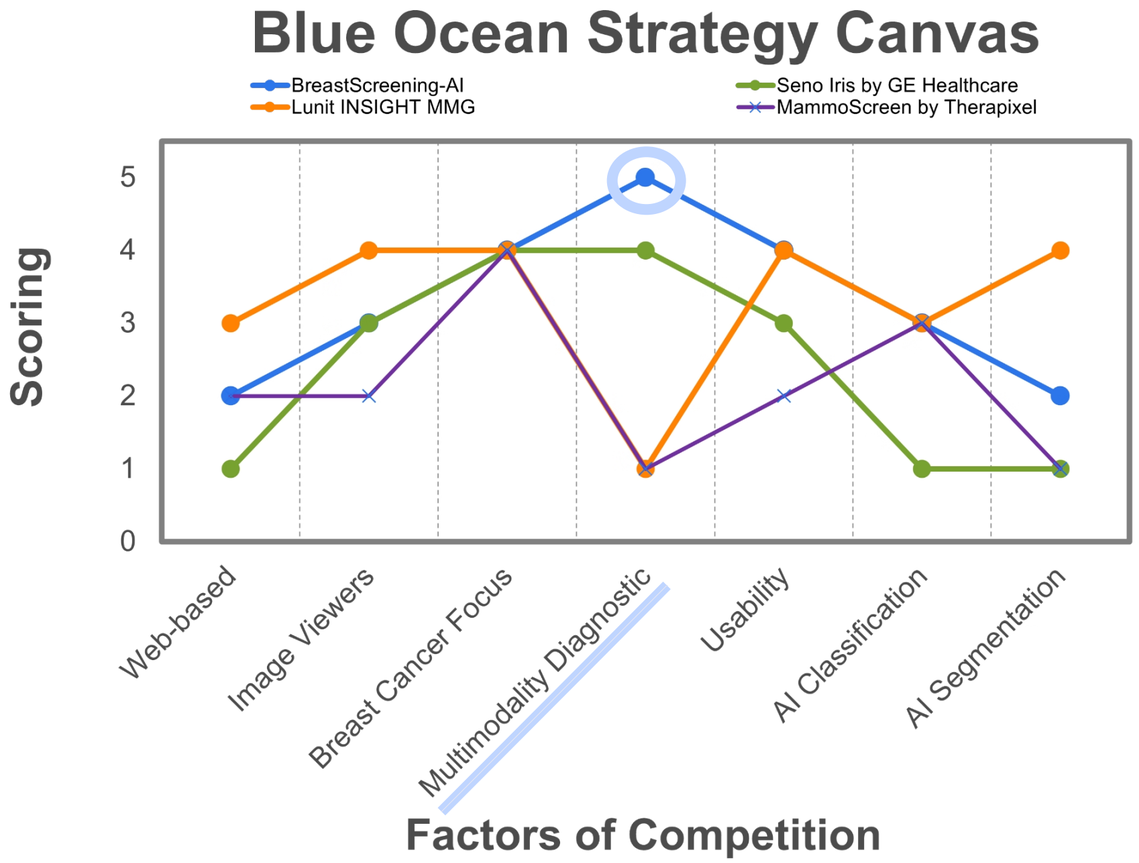
MAGNETIC RESONANCE IMAGING

(MRI)



SENO IRIS BY GE HEALTHCARE

COMPETITORS



+

WHY WE ARE BETTER?

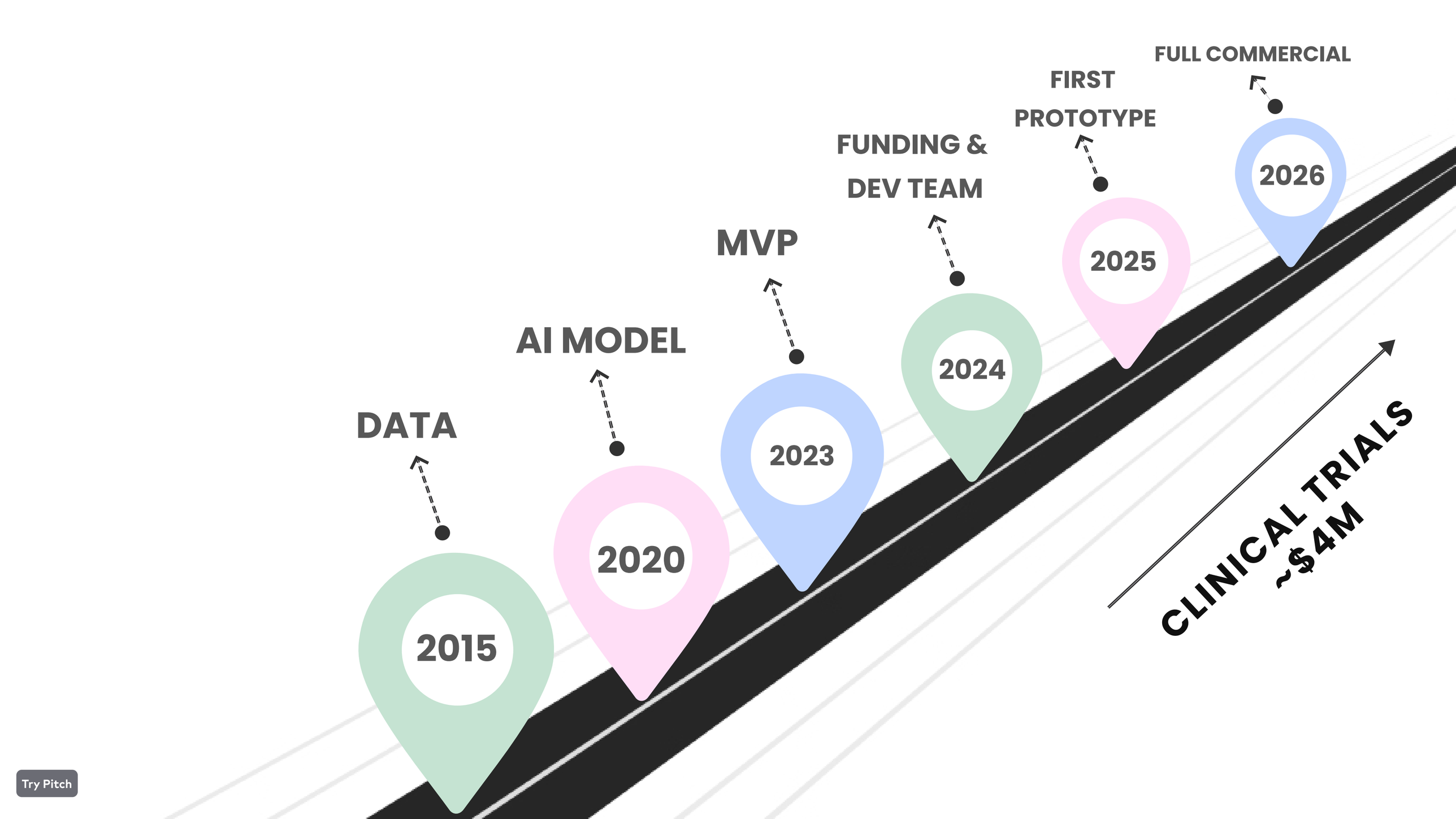
BreastScreening-AI distinguishes itself in the competitive medical imaging AI landscape through its unique **integration of AI explanations that adapt to clinicians' needs and multimodality**. The explainable AI component builds trust and enhances decision-making by providing clinicians with clear, understandable reasoning behind AI diagnoses, which is crucial for regulatory compliance and continuous learning. Meanwhile, combining multiple imaging techniques like MG, US, and MRI, the multimodal approach offers a more comprehensive and accurate diagnostic process, reducing errors and allowing for personalized patient care. This combination of providing detailed, understandable diagnostics and a holistic view of breast cancer sets BreastScreening-AI apart from competitors, who often focus on single imaging modalities. Our approach not only improves the accuracy and reliability of diagnostics but also significantly enhances the user experience for clinicians, positioning BreastScreening-AI as a more advanced, comprehensive, and user-centric solution in the medical imaging AI market.

-Radiologist-
JOÃO ALEXANDRE

"THE EXPLANATIONS COMING FROM THE ASSISTANT GAVE ME HIGHER CONFIDENCE IN THE DECISION."

Calisto, Francisco Maria, et al. "Introduction of Human-Centric AI Assistant to Aid Radiologists for Multimodal Breast Image Classification." International Journal of Human-Computer Studies 150 (2021): 102607.

ROAD MAP

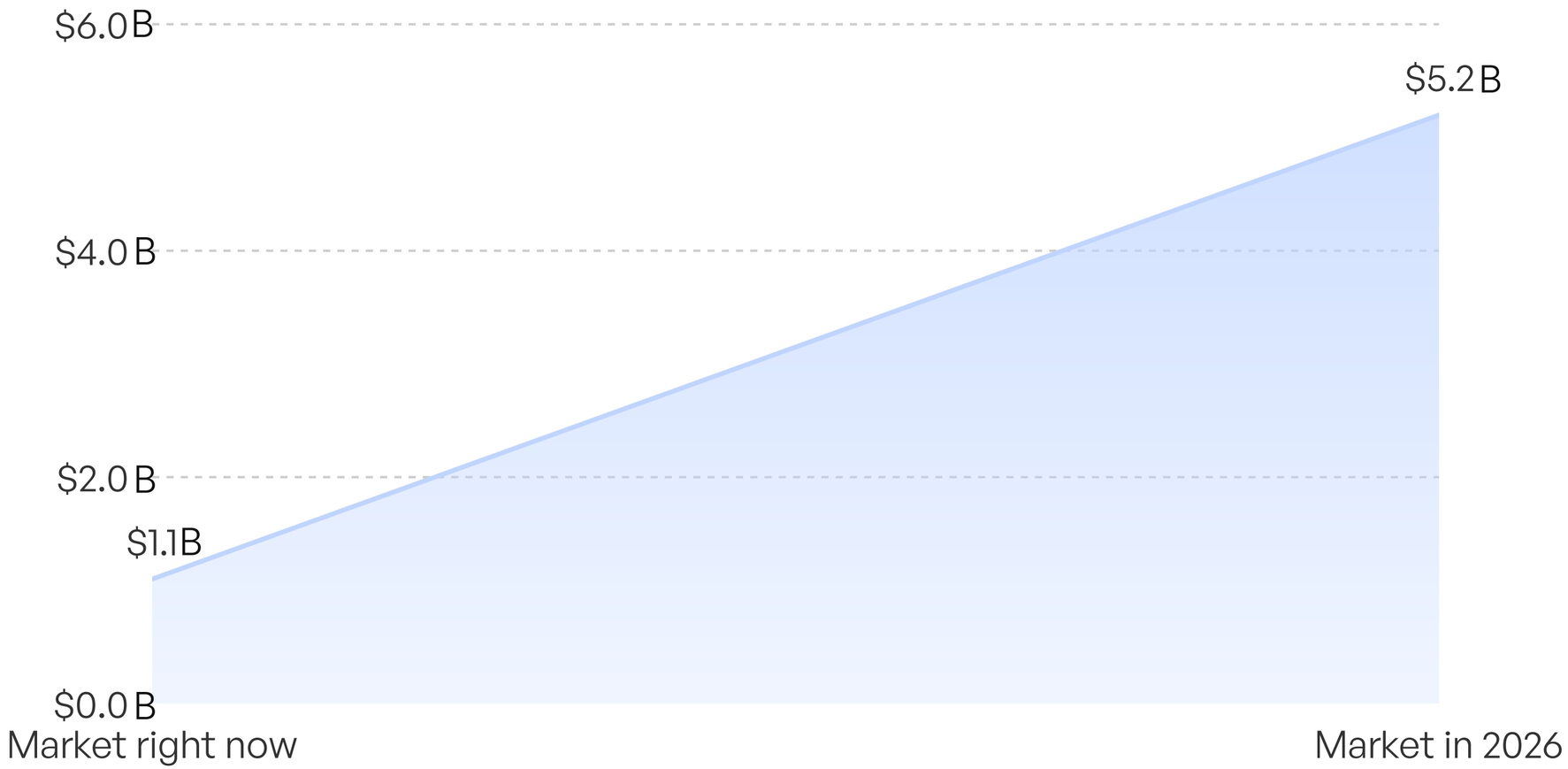

DATA
2015
AI MODEL
2020
MVP
2023
FUNDING &
DEV TEAM
2024
FIRST
PROTOTYPE
2025
FULL COMMERCIAL
2026
CLINICAL TRIALS
~$4M

ROAD MAP

BreastScreening-AI, having successfully developed its MVP, is now progressing towards finalizing a comprehensive prototype within the next year, targeting early adopters in the healthcare sector. Our roadmap includes conducting extensive clinical trials and securing FDA and CE certifications, with **$4 million in funding** planned. Half of this funding is allocated for regulatory approvals and the rest for team expansion, operational costs, and infrastructure development over the next 2 to 3 years. In parallel, we are actively pursuing funding opportunities to support this journey. Our immediate goal is to apply for the "Accelerator" call from the European Innovation Council (EIC) programs, which offers a substantial funding opportunity of €2.5 million in non-dilutive funding and an equity component of up to €15 million. The €100k investment from Portugal Ventures will provide interim financial support as we navigate the EIC application process. We are also exploring other funding avenues, including Portugal2030 and private equity, to ensure a robust financial foundation for our project.

MARKET OPPORTUNITY SIZE

MARKET



MARKET OPPORTUNITY SIZE

The AI in medical imaging market, particularly for breast cancer diagnostics, is experiencing rapid growth, with a **projected CAGR of approximately 36.89%** from 2021 to 2028, and is expected to reach a value of $5.2 billion by 2026 (x.com/FMCalisto/status/1723507352114974777). BreastScreening-AI is strategically positioned to capitalize on this expanding market, offering a unique combination of multimodal imaging and sophisticated AI assistants. This sets us to meet the increasing demand for efficient, accurate diagnostic methods and address the rising prevalence of breast cancer globally. Our technology enhances patient care and aligns with the healthcare industry's need for cost-effective solutions, making BreastScreening-AI a compelling choice in a market ripe with opportunity.

BUSINESS MODEL

BUSINESS MODEL

SUBSCRIPTION-HOSPITALS

$400K YEARLY SUBSCRIPTION
SOM: 200 HOSPITALS
ANNUAL REVENUE : $80M

LICENSING-COMPANIES

$8K MONTHLY
SOM: 12 COMPANIES
ANNUAL REVENUE : $1.15M

MARKET OPPORTUNITY SIZE

BreastScreening-AI's business model capitalizes on two key revenue streams: a **hospital subscription plan** and a **company licensing model**. Hospitals can **subscribe to our AI diagnostic tools** for an annual fee ranging from $200,000 to $400,000, gaining access to our multimodal imaging integration, continuous AI updates, and dedicated support and training. For companies, particularly in the medical imaging and healthcare technology sectors, we offer a **licensing model** at $8,000 monthly, **providing access to our AI algorithms and patented technologies**, with support for **integration and customization**. This dual approach ensures a steady income flow and maximizes our reach and impact across the healthcare sector, catering to both direct end-users and broader markets through company partnerships.

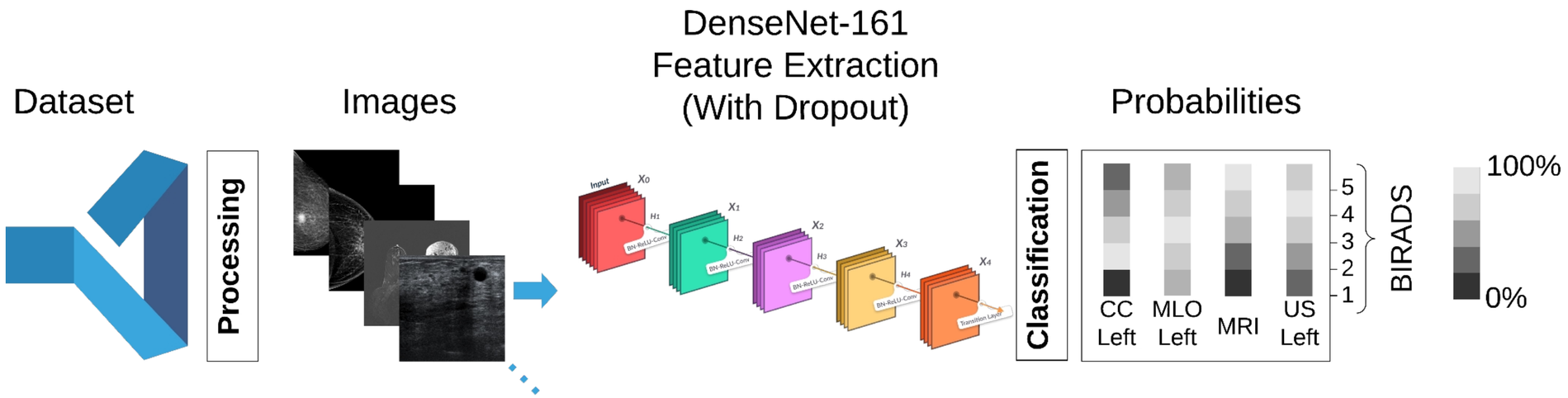
EARLY ADOPTION

EARLY ADOPTION

BreastScreening-AI's pilot program, currently **engaging 52 clinicians across 12 hospitals**, validates its market relevance and user-centric design. This active usage in real-world clinical settings provides invaluable feedback for product refinement and demonstrates the practical applicability and demand for the AI solution. The insights gained from these early adopters are instrumental in enhancing the system, paving the way for broader adoption in the healthcare sector. This early engagement is likely to lower future customer acquisition costs and increase the lifetime value of each user, showcasing the solution's efficacy and potential for widespread market acceptance in medical diagnostics.

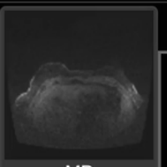
AI MODEL

CAN YOU EXPLAIN MORE ABOUT HOW YOUR AI MODEL WORKS?

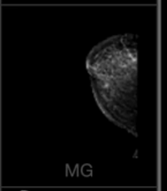


Calisto, Francisco Maria, et al. "BreastScreening-AI: Evaluating Medical Intelligent Agents for Human-AI Interactions." Artificial Intelligence in Medicine 127 (2022): 102285.

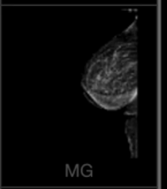
Study List | e08feb68-27c7-4c9e-a4b3-22504079f737 X

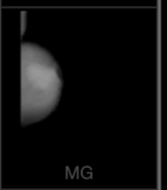

MR

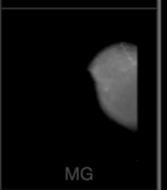

MG


MG


MG


MG


MG


Try Pitch

In this case, we have 4 findings. One finding is a mass with oval shape and spiculated margin. The second finding is a mass with irregular shape and spiculated margin. The third finding is a mass with oval shape and spiculated margin. The fourth finding is a mass with irregular shape and spiculated margin. There are no findings regarding family history or personal history.

With an accuracy of 99.83% , the estimated BIRADS for this patient is: 5

Accept | Reject | Explain

Study List | e08feb68-27c7-4c9e-a4b3-22504079f737 X

WW/WC

MR

MG

MG

MG

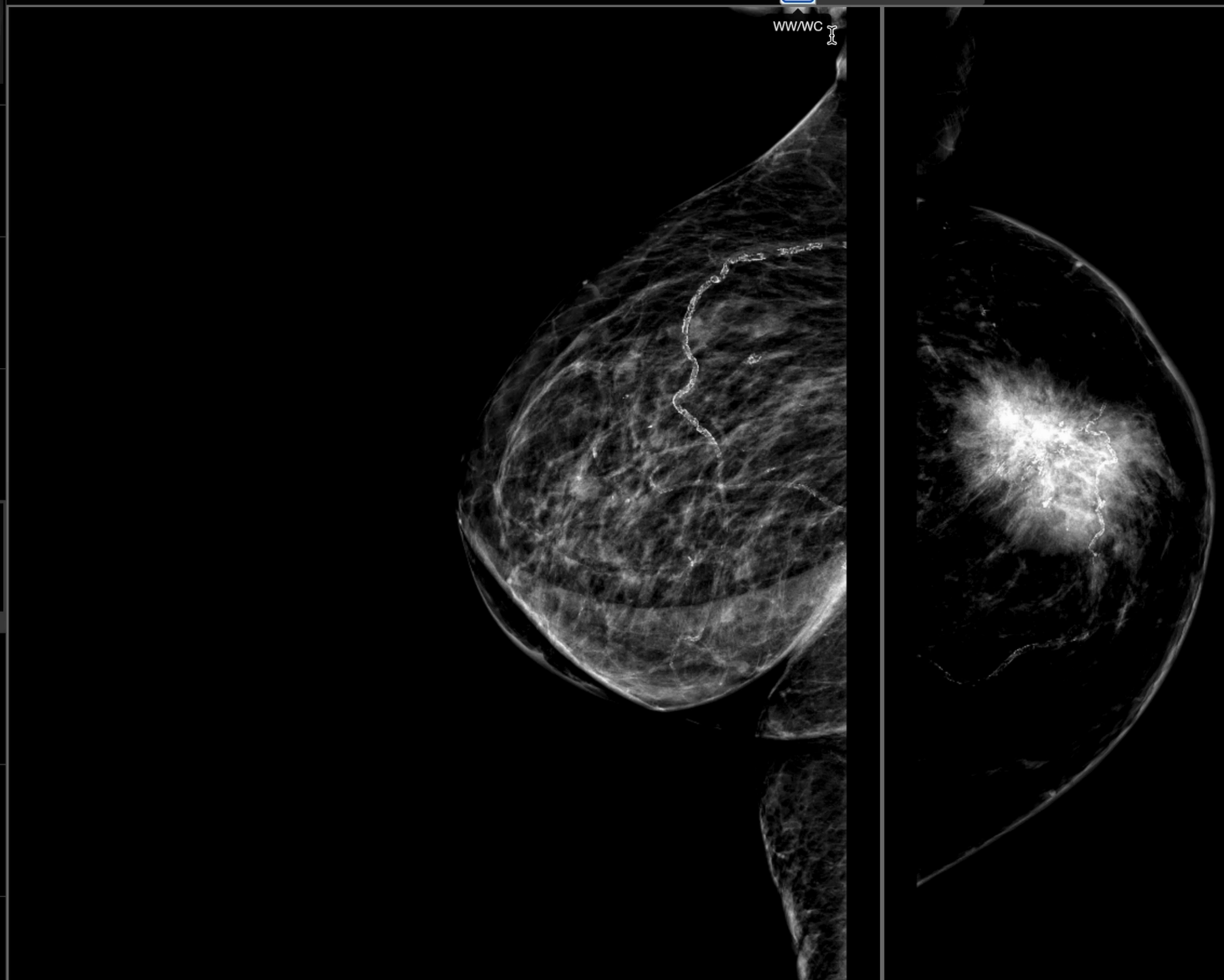
MG

MG

MG

MG

Try Pitch



In this case, we have 3 findings. One finding are calcifications with diffuse distribution. The second finding are calcifications with group distribution. The third finding is a mass with irregular shape, spiculated margin and high density. There are no findings regarding family history or personal history.

With an accuracy of 99.83% , the estimated BIRADS for this patient is: 5

Accept Reject Explain

JOIN US!

THANK YOU !

breastscreeningai@mail.com

@breastscreeningai

BreastScreening-AI

APPENDIX

WHAT DIFFERENTIATES YOUR SOLUTION FROM OTHERS IN THE MARKET?

MULTIMODALITY APPROACH

WHAT DIFFERENTIATES YOUR SOLUTION FROM OTHERS IN THE MARKET?

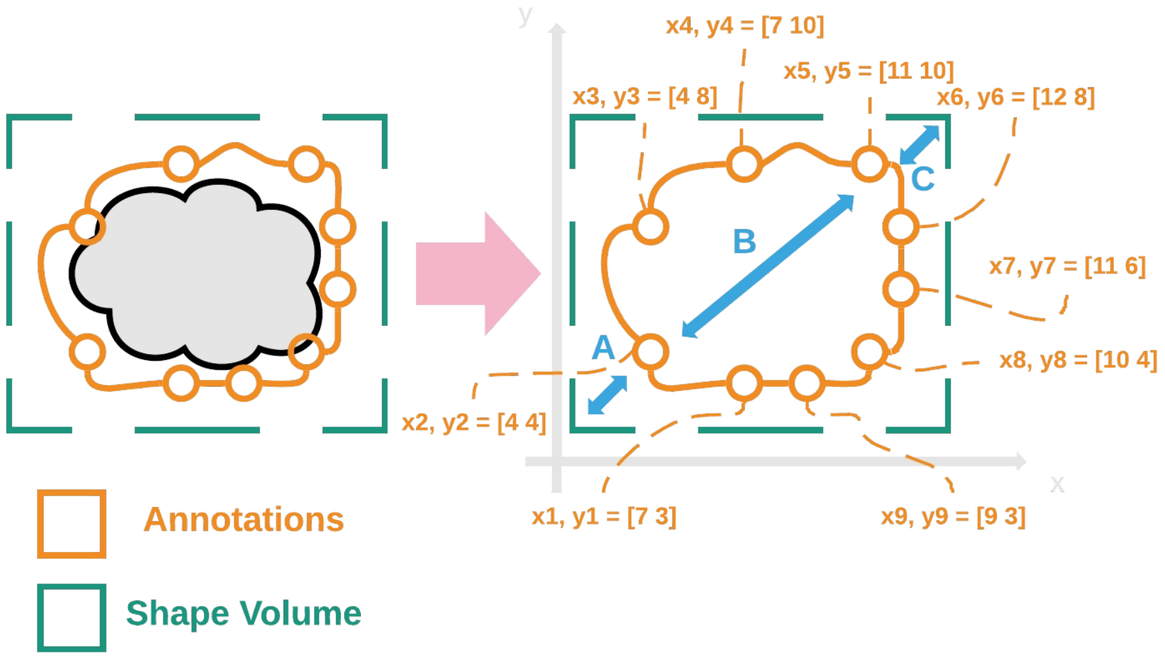
VALIDATION

EXPLAINABILITY

USER INTERFACE

HUMAN-IN-THE-LOOP

HOW HAVE YOU VALIDATED YOUR MODEL'S EFFECTIVENESS?



BIRADS

Final Assessment Categories			
Category		Management	Likelihood of cancer
0	Need additional imaging or prior examinations	Recall for additional imaging and/or await prior examinations	n/a
1	Negative	Routine screening	Essentially 0%
2	Benign	Routine screening	Essentially 0%
3	Probably Benign	Short interval-follow-up (6 month) or continued	>0 % but ≤ 2%
4	Suspicious	Tissue diagnosis	4a. low suspicion for malignancy (>2% to ≤ 10%) 4b. moderate suspicion for malignancy (>10% to ≤ 50%) 4c. high suspicion for malignancy (>50% to <95%)
5	Highly suggestive of malignancy	Tissue diagnosis	≥95%
6	Known biopsy-proven	Surgical excision when clinical appropriate	n/a

MODEL'S EFFECTIVENESS

To validate the **effectiveness of our AI model**, BreastScreening-AI has employed a rigorous training process using **supervised information** guided by the expertise of the head of radiology from each participating hospital. This approach involves providing **detailed lesion location data** for each patient image and a **meticulous severity classification** using the Breast Imaging Reporting and Data System (BIRADS). This method ensures that our AI algorithms are trained on high-quality, accurately annotated data and incorporate the nuanced understanding and classification skills of leading radiology experts. Such a comprehensive training regimen is crucial for developing an AI system that is both highly accurate and reliable in real-world medical imaging scenarios.

HOW DO YOU PLAN TO USE THE FUNDING YOU'RE SEEKING?

	2024	2025	2026
Human Resources	200k	500k	600k
Pilots/Certifications/Trials	100k	200k	1M
Operations	50k	150k	200k
Infrastructure	50k	150k	200k
Total	400k	1M	2M

WHAT ARE YOUR PLANS FOR SCALING YOUR SOLUTION?

WHAT ARE YOUR PLANS FOR SCALING YOUR SOLUTION?