RUBEE® Breast AI INSIGHT Package

Powered by Lunit INSIGHT MMG and INSIGHT DBT

Embedded intelligence, supporting the clinical workflow

That's life in flow.

AGFA HealthCare

Embedded augmented intelligence, advancing the clinical workflow

RUBEE® and the significance of the Enterprise Imaging platform

Healthcare systems across the globe are exploring the potential application and benefits of Artificial Intelligence when it comes to improving quality care, focused on outcomes.

The path towards realizing the benefits opens another opportunity: addressing the interoperability and integration aspects. Already, there are hundreds of start-ups and developers working in the healthcare arena, each focusing on highly specific applications. Selecting which ones you need, and then integrating them into your system and workflows is far from simple.

RUBEE®, as part of your Enterprise Imaging platform, enables a seamless Augmented Intelligence (AI) experience for your clinicians. Carefully curated 'packages' embed best-of-breed AI apps that work seamlessly to support your clinical workflow from start to finish.

You get more out of your AI investments, while enriching the value of your Enterprise Imaging. It's a win-win-win for your hospital, your clinicians and your patients.

RUBEE®
AI PACKAGES
Augmented Intelligence

What are RUBEE® AI Packages?

With RUBEE AI Packages, you can enable our AI specialty packages into your clinical workflows. RUBEE visualizes the metadata generated by algorithms such as deep learning, machine learning, image analysis and natural language processing. It also uses that information to automate and optimize your workflows, all within your Enterprise Imaging ecosystem.

Forward-thinking and clinically relevant

'Augmented Intelligence' (AI) does just that: offering a set of tools that let your clinicians maximize the value of their own expertise, increase their productivity and enhance the diagnostic process. But to get the real benefits to your clinicians, the tools need to be embedded right into the workflows and systems they use every day.

Your Enterprise Imaging system already offers a forward-thinking, multi-specialty platform that consolidates your hospital's wealth of data. With RUBEE AI Packages, it also becomes your AI-enabled ecosystem.

Standards-based workflows are embedded with niche and specialty-focused AI apps, delivering clinical relevance. No need for an additional, complex and costly dedicated AI platform or marketplace. And, instead of worrying about which apps to select and how to integrate them, you are leaping ahead with an ecosystem of seamlessly embedded AI.

Best-of-Class AI apps, Specialty Packages

We have taken the guesswork out of your AI journey. Our AI specialty packages have been carefully curated to enable interoperability and integration of best-of-class algorithms. You can be confident that all the algorithms come from reliable companies, and trained on evidence-based data. Most of all, they are powered by RUBEE® AI Packages, ensuring that they meet your specific clinical needs from start to finish. So, there's no 'trial and error': just proven value.

Enrich your Enterprise Imaging workflows

With AI fully embedded in your Enterprise Imaging platform, your clinicians see benefits all along the line.

- Task assignments and case distribution are smoothly automated, based on the metadata generated from the AI apps
- Hanging protocols get 'smart', with dedicated reading protocols
- Report automation by auto-including AI results into the reporting workflow

Offering advanced visualizations, workflow optimization and automation, RUBEE® AI Packages help your clinicians to focus their efforts on cases that require immediate attention.

RUBEE® Breast AI INSIGHT Package

Workflow-centric AI solution that supports cancer detection and visualization

Powered by Lunit INSIGHT MMG and INSIGHT DBT

Radiology plays a critical role in timely diagnosis and treatment of breast cancer. Yet the high volume of cases combined with the need to avoid unnecessary costs, such as unnecessary biopsies, is putting the radiologist under greater pressure than ever.

Machine learning and deep learning models can relieve some of that pressure, by prioritizing the cases that need to be reviewed first and reducing interobserver variability.

AGFA HealthCare's Breast AI INSIGHT package, powered by Lunit INSIGHT MMG and INSIGHT DBT embedded and embedded in your Enterprise Imaging solution, is a workflow-centric, evidence-based AI package that lightens the radiologist's workload while enhancing the early detection of breast cancer through cost-effective, quality diagnostic services. It thus supports medical imaging to help further contribute to enhancing long-term survival rates for women with breast cancer.

Lunit

Enhanced workflow and augmented detection

AGFA HealthCare's Breast AI INSIGHT package (RUBEE® + Lunit INSIGHT MMG and INSIGHT DBT) helps improve the screening and diagnostic workflow with advanced visualizations, workflow orchestration and triage benefits, dedicated reading protocols and report notifications.

By enabling AGFA HealthCare's Breast AI INSIGHT package, radiologists can focus on the cases that require immediate attention, and by helping detect cancer early, the Breast AI Insight package supports the delivery of cost-effective, quality care.

- FDA and CE-cleared AI solution that supports 2D Mammo and 3D Mammo breast density assessment
- Optimized for screening and diagnostic workflows
- Helps reduce recall rate by enhancing reader performance
- Highly performant solution for women with fatty and dense breast tissue
- RUBEE-enabled triage, prioritization, visualizations and smart hanging protocols

Fast triage of normal cases

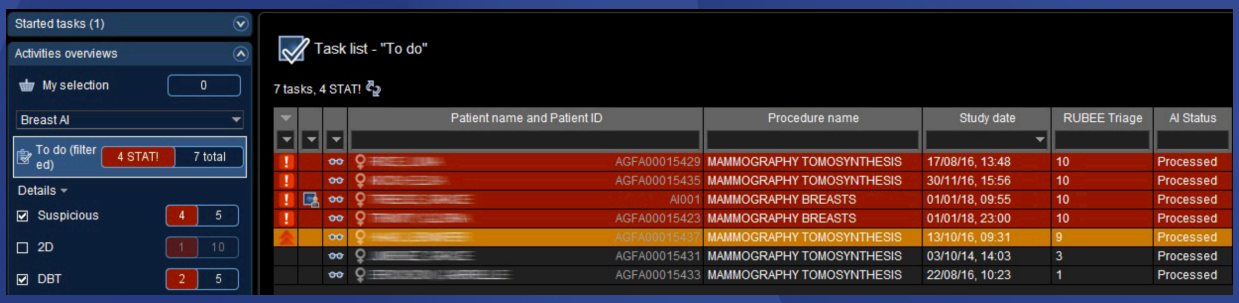
According to the abnormality scores generated by AI, radiologists can successfully triage up to 60% of all cases without human interpretation, which can reduce their mammogram interpretation workload by more than half.(i)

60%

Triage up to 60% of all cases without human interpretation

+50%

Reduce workload by more than half (½) in mammogram interpretation.



Rule out

60% of all cases with scores below a rule-out threshold could be triaged to a no-radiologist work stream and interpreted as negative.

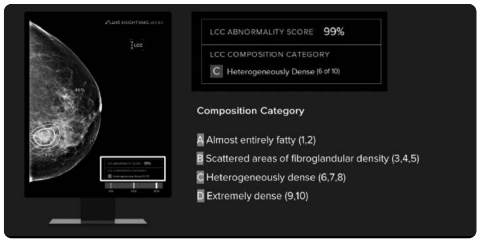
Rule in

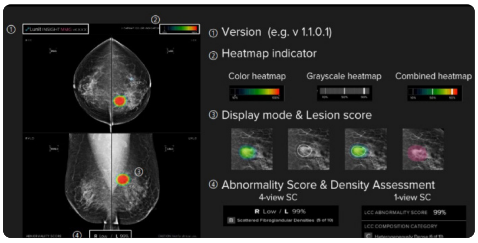
Detect more cancer cases that were originally interpreted by double reading as normal. Cases interpreted as normal but with scores above a rule-in threshold could be considered for supplementary breast imaging tests to detect more cancer that could have been missed.

Advanced visualization

The Breast AI INSIGHT package provides:

- The location information of detected breast cancer in the form of heatmap and outlines.
- An abnormality score for each side of the breast, which reflects the AI's calculation of the actual presence of the detected breast cancer.
- Breast density assessment, categorized into four types: 'Almost entirely fatty', 'Scattered areas of fibroglandular density', 'Heterogeneously dense', and 'Extremely dense'.





Structured reporting

LUNIT INSIGHT MMG, DBT and Enterprise Imaging support DICOM Structured Reporting.

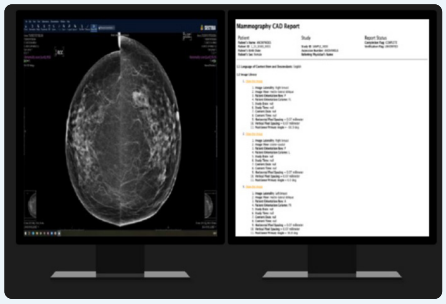
9%
9% increase in dense breast cancer diagnosis with AI

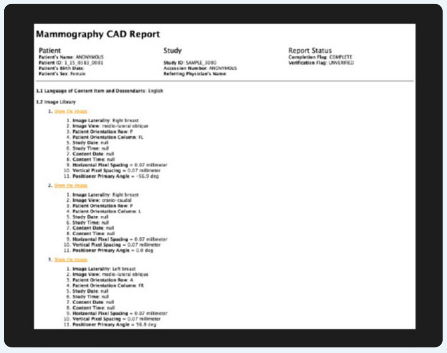
22%
22% increase in fatty breast cancer diagnosis with AI

91%
91 % AI detection accuracy of T1 breast cancer

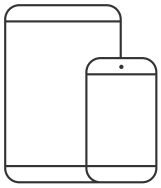
87%
87 % AI detection accuracy of nodenegative cancer

1. **Detect more breast cancers**
   The combination of first-reader radiologists and Lunit AI detects more breast cancers, than not only the first-reader and second-reader radiologists but also the double reading by radiologists.[2]
2. **Improved reading performance of general radiologists and breast specialists.**
   General radiologists can use the AI analysis results to improve their reading performance, at a level up to that of breast specialists.[3]
3. **Early diagnosis of breast cancer**
   Radiologists can detect T1 and node-negative breast cancer with 91% and 87% accuracy, respectively.[4]
4. **Support for decision-making on BI-RADS 3 and 4 cases**
   For difficult cases classified as BI-RADS 3 or 4, radiologists can compare their reading result and decide with confidence whether additional exams such as ultrasound and biopsy are needed.
5. **Improved diagnostic accuracy for dense breasts**
   Radiologists can improve their diagnostic accuracy for dense and fatty breasts by up to 9% and 22%, respectively.[5]



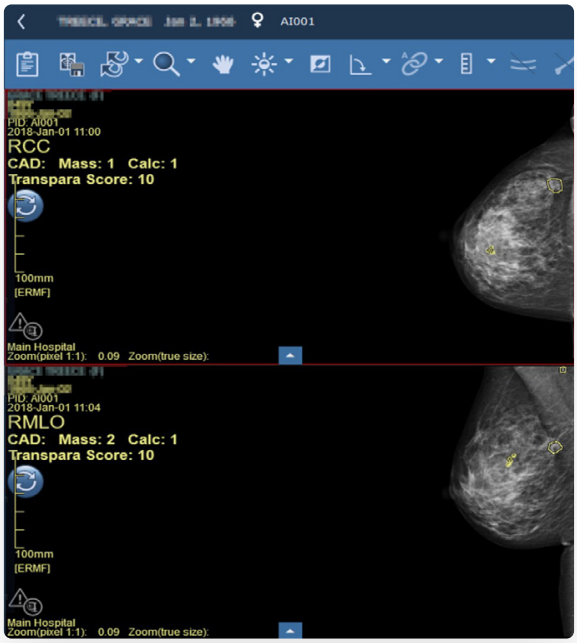


XERO® Universal Viewer powered by RUBEE®



XERO® Universal Viewer

"The optional[6] XERO® Universal Viewer Xtend Breast AI mammography tools enhance collaboration, with visualization of detection aid (CAD markers) and exam scores."



(1) Karin Dembrower, Erik Wåhlin, et al. Effect of artificial intelligence-based triaging of breast cancer screening mammograms on cancer detection and radiologist workload: a retrospective simulation study THE LANCET Digital Health. 2020

(2) Mattie Salim, Erik Wåhlin, Karin Dembrower, et al. External Evaluation of 3 Commercial Artificial Intelligence Algorithms for Independent Assessment of Screening Mammograms. JAMA Oncology. 2020

(3, 4, 5) Hyo-Eun Kim, Hak Hee Kim, et al. Changes in cancer detection and false-positive recall in mammography using artificial intelligence: a retrospective, multireader study. THE LANCET Digital Health. 2020

(6) If you already have XERO Xtend, the Breast AI tools will be active.

Contact your AGFA HealthCare Client Executive to get started

or email enterpriseimaging@agfa.com

Enterprise Imaging Platform

AGFA HealthCare