

# X-RAIS assists doctors in clinical decisions

Deep Learning solution that analyzes medical images and highlights anomalies generating an automatic report

Interpretation of a medical image in a few seconds to prioritize patients, characterize anomalies, generate reports and reduce the false negative rate of tumor masses. Currently specialized in determining density and detecting masses in mammogram.

## What is X-RAIS?

- A support for physicians on diagnostic images
- Highlights suspicious areas using different intensity levels based on confidence
- Proposes a report describing the anomalies detected
- CE Marking (IIa class) is in progress



## Why X-RAIS

1. Accurate interpretation
2. Risks reduction
3. Fast reporting
4. Reduction of patients' waiting time
5. Machines never tired
6. Integrated with the PACS (Picture Archiving and Communication System)

## The Third Eye

- Artificial Intelligence acts as a Second Opinion Physician
- X-RAIS highlights and classifies tumors in medical images
- Reduces the risk of misdiagnoses

**Only 86.9% of malignant tumors in mammograms are detected [1]**

## Process Enhancement

- **Fast:** each medical image is processed in ~3 seconds
- Patients distributed among doctors
- Patients prioritized based on breast density and clinical risk

**Microsoft Azure platform to speed up the process**

## International Standard

- Reporting compliant with standards acknowledged worldwide
- Breast density and shape/margins of detected masses follow the International ACR BI-RADS standard

**Doctors are provided with useful information for reporting**

"Artificial Intelligence tools will cooperate with doctors without substituting them, allowing higher diagnoses accuracy and faster reports redaction."

- Paolo Poggi, Diagnostic Imaging Director, Istituti Clinici Scientifici Maugeri (Pavia, Italy)

[1] Breast Cancer Surveillance Consortium (BCSC). Performance measures for 1,682,504 screening mammography examinations from 2007 to 2013 by age -- based on BCSC data through 2013. National Cancer Institute. 2017.

# X-RAIS is a Deep Learning solution designed to assist doctors during the analysis of diagnostic images



## PACS Integration

- X-RAIS is integrated with the PACS
- Patients exams processed automatically on Cloud
- Results displayed locally
- Breast masses detected visualized as heatmap



## X-RAIS + MICROSOFT Proof

- High performance computing with Microsoft Azure
- Data security and replication on Azure Cloud Storage

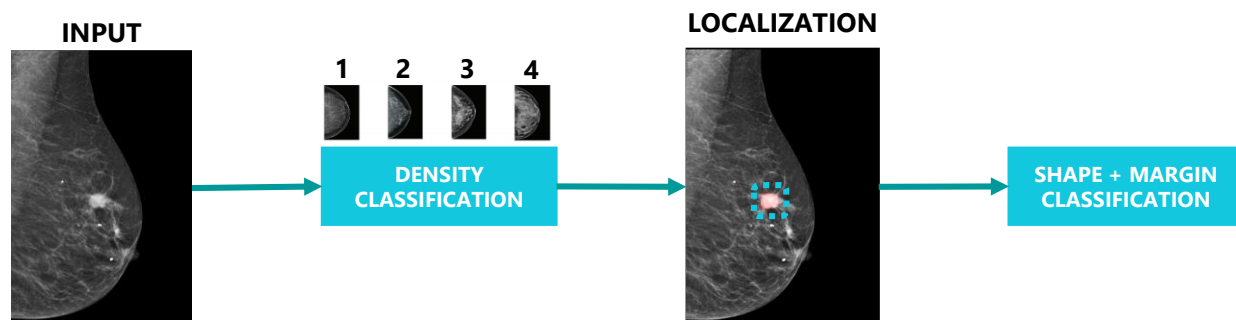
## Our promise to you

X-RAIS will help reducing the number of false negatives while ensuring GDPR compliance for personal data treatment

## An offer to get you started

- No initial fees
- Pay-Per-Use service or Monthly/Yearly subscriptions
- Integration with your PACS

## X-RAIS



## Future Scenarios

- Verticalization on different organs and imaging techniques (e.g., 3D mammogram, ultrasound)
- Radiomics to improve screening analysis by discovering hidden structures in medical images
- Accuracy increase by profiling patients according to their history, personal information and habits

## Why Laife Reply?

- High-level competences in innovative technologies and Healthcare domain
- Specialized in the development of advanced AI solutions for medical diagnoses and clinical decision support processes