InnoMatch

powered by

EIC INNOVATION PROCUREMENT PROGRAMME

ADVANCE Chest CT

case study

contextflow

with the support of

UZ LEUVEN

Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Innovation Council and SMEs Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

PILOT: Contextflow GmbH & Universitair Ziekenhuis Leuven

ADVANCE Chest CT | Healthcare and Medical Artificial Intelligence Imaging

30 to 40

DAILY CHEST SCANS PROCESSED

Live hospital CT scans processed automatically by AI every single day

19 PATTERNS

LUNG TISSUE PATTERNS SCORED

Automated detection and volume scoring for complex lung disease patterns

100% PRE-FETCH

ZERO-WAIT AI RESULTS

AI findings generated automatically before radiologists open the patient file

100% COMPLIANT

FULL PRIVACY PROTECTION

Zero data privacy breaches under strict European health data regulations

PILOT PROFILE

EIC Awardee: Contextflow GmbH

Solution: ADVANCE Chest CT

Partner: Universitair Ziekenhuis Leuven (UZ Leuven University Hospital, Belgium)

Testing Ground: On-premise secure virtual server integrated into Agfa Enterprise Imaging PACS processing 30 to 40 live diagnostic chest scans daily

Sector & Challenge Focus: Healthcare and Medical Artificial Intelligence Imaging

The Challenge

Major teaching hospitals handle massive numbers of chest X-ray scans. At UZ Leuven in Belgium, radiologists interpret over 15,000 chest Computed Tomography (3D chest X-ray) scans every year. Manually searching through hundreds of scan slices per patient to identify tiny lung nodules (potential early cancer signs), measure scarring from Interstitial Lung Disease, or track Chronic Obstructive Pulmonary Disease is time-consuming and mentally exhausting, leading to reporting backlogs and diagnostic fatigue.

The Solution

ADVANCE Chest CT is a European-certified (CE-marked) Artificial Intelligence software. Integrated directly into the hospital's central Picture Archiving and Communication System (the database radiologists use to view scans), the AI automatically analyses chest CT scans in the background. It detects lung nodules, calculates a cancer likelihood score (Malignancy Similarity Index), quantifies 19 different lung tissue disease patterns, and highlights potential pulmonary embolisms (blood clots) before the doctor even opens the file.

Objectives

The trial aimed to evaluate whether the AI software can process high volumes of hospital chest scans accurately and smoothly within daily radiology workflows. UZ Leuven wanted to verify that the software integrates securely into their hospital computer system without compromising patient privacy or delaying report delivery.

Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Innovation Council and SMEs Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

Constrains

Integrating new AI software into a hospital database required passing strict legal, ethical, and General Data Protection Regulation (European privacy law) audits. The technical team had to configure custom viewing protocols on radiologist workstations and fine-tune the AI to minimize false alerts that could distract doctors.

Performance

The software was successfully installed on a secure hospital server, operating at Technology Readiness Level 9 (full operational readiness). It processed 30 to 40 live chest CT scans daily, analyzing historical trial groups of 100 nodule cases and 74 lung disease cases. The system performed automated background processing with 100% pre-fetching efficiency, ensuring AI findings were immediately visible when radiologists opened patient files.

Partner Operational Improvements

Standardized lung disease measurement, automated background scan analysis, and zero-breach patient data privacy compliance.

> *"InnoMatch helped guide the EIC awardee and the buyer in the pre-pilot preparations, certainly helped with regular update requirements that helped push the solution forward... and provided a quick and positive interaction and communication method."*
>
> **— Universitair Ziekenhuis Leuven**

SUCCESSFUL PILOT VALIDATION

The hospital extended the evaluation period to gather additional clinical user feedback and refine feature options before launching a formal public procurement tender.

Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Innovation Council and SMEs Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.