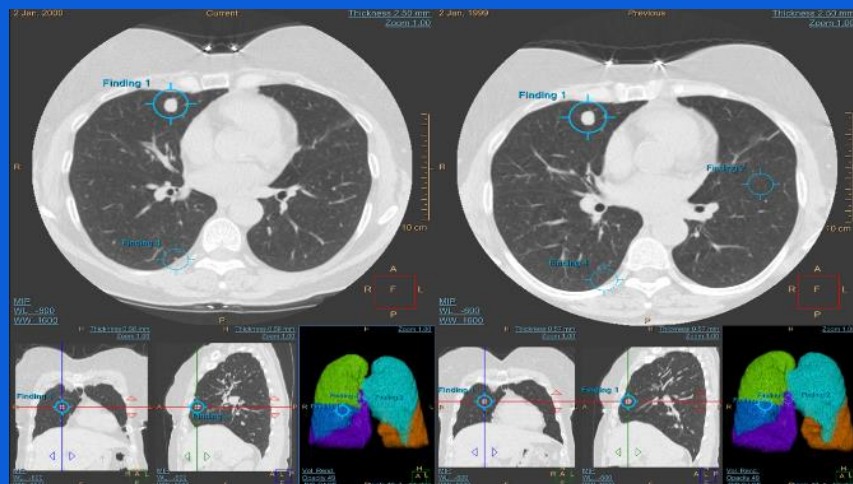




## Confident and faster nodules search

### CT Lung Nodules Assessment and CAD



Lung cancer is one of the leading causes of cancer death worldwide, with approximately 2.5 million people diagnosed, and more than 1.8 million deaths a year<sup>1</sup>. A proactive approach to early lung cancer detection is essential to turning the tide in the fight against this devastating disease<sup>2</sup>. Low dose CT is the preferred method for annual lung cancer screening for at risk patients, and early detection is crucial, along monitoring small nodules since their size is highly related to the potential stage of cancer and survival rate<sup>3</sup>.

### Highlights

- Reduce reading times with AI-based CAD to perform nodule search faster<sup>8,9</sup> and standardize results with common guidelines (such as Lung-RADS) based workflows
- Increase clinical confidence detecting previously missed nodules<sup>8,9</sup> and supporting oncology assessment with a unique prediction risk calculator<sup>5,6</sup> that estimates the probability that lung nodules detected on baseline screening low-dose CT scans are malignant
- Option to enable the lung analysis directly on PACS with automatic CAD results (available on Riverain's Clear Read option)<sup>8,9</sup>

### Features

- Automatic lung and lobes segmentation and one click 2D and 3D nodule segmentation and auto-matching the nodules across timepoints
- Supports option to enable Lung-RADS<sup>5</sup> categorization and Fleischner Society guidelines for incidental findings<sup>5,6</sup>
- Option of Risk Calculator<sup>5,6</sup> tool based on patient and nodule characteristics for estimation of the probability that lung nodules detected on baseline screening low-dose CT scans are malignant
- Deep-learning-based pre-filled<sup>6,8,9</sup> assessment including characteristics for each nodule in configurable presets, lobe location, nodule shape, nodule spiculation, endobronchial and Perifissural/Subpleural are provided automatically by the application
- Option of Discreate results sharing<sup>10</sup> enables automatic transfer of structural results between the Workspace and reporting solutions, reducing reporting time and optimizing AV reporting workflow
- Optimized for low dose CT and designed to work on scans with or without intravenous contrast, independent of scanner vendor and acquisition protocol<sup>8,9</sup>
- Perform nodule search 26% faster, detect 29% of previously missed nodules<sup>8,9,11</sup>
- Optional pre-processed CAD detection results are also automatically available on PACS<sup>6,7</sup>

### Overview

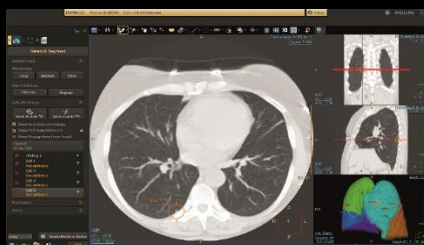
CT Lung Nodule Analysis application provides segmentation, quantification and characterization of physician-indicated lung nodules in a single CT thoracic study, or over the course of several studies. This application can be used in both diagnostic and screening evaluations, supporting Low Dose CT Lung Cancer Screening<sup>2</sup>.

It features automatic lung and lobes segmentation as well as one-click nodule segmentation. The application supports Lung RADS<sup>3</sup> categorization, Fleischner Society guidelines for incidental findings and a unique Risk Calculator<sup>3,4</sup> tool to support oncology assessment<sup>5</sup>.

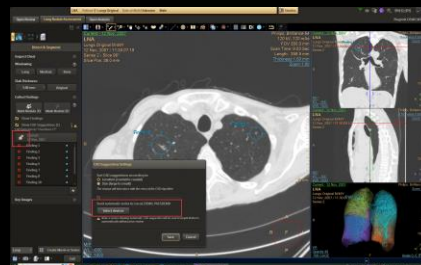
The CT Lung nodule CAD option<sup>6</sup> is embedded on the CT LNA application and comprises detection for all nodule types and optionally the results can be sent automatically to PACS (available on Riverain's ClearRead option)<sup>6,7</sup>.

### System Level Features

- Worklist: The Worklist function allows designation of the patient studies to be listed in the Directory.
- Patient list/ directory: Automatic display of studies from selected devices (from local or remote lists) in the Patient List within the Patient Directory.
- Reporting: Customized reports using preformatted templates.
- Smart Preprocessing: Automatic pre-processing based on prior usage of the server.
- Storing data
- Producing a CD
- Dicom printing ("filming")



CT Lung Nodule Analysis CAD (ClearRead)<sup>6,7</sup>



Automatic results to PACS configuration<sup>6,7</sup>

# Your Hospital Environment

## PACS and 3rd Party Integration

Desktop integration with 3rd Party PACS vendors to enable the launch of AV client (and load data to selected application) directly via 3 types of integration:

- URL Integration (loose integration)
- AV API (tight integration)
- 3rd Party PACS API

## Advantages

- Launching advanced clinical applications directly from PACS based on currently opened patient study including load/save bookmarks
- Allow PACS users working with AVI to use Film application to send images to printers and organize key images sent from applications
- Default Storage Device for result saving
- Automatic storage DICOM images and series as an output of Preprocessing to PACS if configured

## Report Application

Generating, editing, and printing reports, the application is accessed through the Report Workflow button. The report draft can be edited after images and information application have been stored in the Reporting database. The Report application includes information from the patient's scan into the report as well as additional content such as: analysis results, sample images, recommendations and comments.

## Additional enhancements

- Usability improvements within report editor – within TEDIT tool bars, editor space.
- User-friendly Template Editor
- Support CT, MR and NM report templates
- Changing between JPEG and TIFF formats for summary images optional

## Presentation States

Saving & loading Presentation States from/to clinical & viewing applications.

Film & Report applications support loading and applying presentation state on the images sent by applications to Film & Report.

## Pre-Processing and Background Processing

Pre-Processing functionality by enabling pre-processing of data and automatic creation of results/processed data for applications.

## Processing Mechanisms

1. Pre-Processing: Enabling processing data (run algorithms according to pre-defined conditions/parameters)
2. Background Processing: Enabling applications to initiate processing tasks in the background.
3. Supporting Preprocessing on multiple series.
4. Pre-processing will be triggered/enabled to onsite configuration
5. Pre-processing and background processing will be able to run on both master and slave servers in the EX-configuration

## System Requirements

### Configuration Options:

1. The product can be operated in the following configurations: Standalone workstation
2. Client-Server scenario (HX/EX) : Multiple concurrent users connected to the server using hospital LAN or home network connection via VPN.
3. Client – multi-server scenario (Concerto) for enterprise-sized hospitals: deployed as a multi-server system that is spread across the main hospital and satellite sites, connecting to a Global Worklist (GWL) and view each study across the system.

For system requirements please consult the Advanced Visualization Workspace Technical Datasheet available in Advanced Visualization Workspace webpage: [www.philips.com/avw15](http://www.philips.com/avw15).

### Footnotes

1. World Health Organization. (2024). Global cancer burden growing, amidst mounting need for services. Retrieved from WHO News. (Global cancer burden growing, amidst mounting need for services). International Agency for Research on Cancer. (2025). Lung cancer. Retrieved from IARC (Lung cancer – IARC)
2. Henschke CJ, Yip R, Shaham D, et al. A 20-year Follow-up of the International Early Lung Cancer Action Program (I-ELCAP). *Radiology*. 2023;309(2):e231988. doi:10.1148/radiol.231988
3. Yankelevitz DF, Yip R, Henschke CJ. Impact of Duration of Diagnostic Workup on Prognosis for Early Lung Cancer. *J Thorac Oncol*. 2023;18(5):678-685. doi:10.1016/j.jtho.2023.01.012
4. The screening must be performed within the established inclusion criteria of programs/protocols that have been approved and published by either a governmental body or professional medical society. Please refer to clinical literature, including the results of the National Lung Screening Trial (N Engl J Med 2011; 365:395-409) and subsequent literature, for further information.
5. Offered as separate commercial add-on.
6. These functionalities may not be available in all markets. Please contact your Philips representative for more details.
7. Based on Vancouver and Brock model this capability can be used to accurately estimate the probability that lung nodules detected on baseline screening low-dose CT scans are malignant. <https://www.iacc.org/doi/abs/10.1016/j.jimg.2022.07.002>
8. CAD is offered as a separate commercial add-on. Please note that there are two CAD options available for LNA application, depending on different territories.
9. Discover the Diagnostic Value & Efficiency of ClearRead™ CT for Pulmonary Nodules - Riverain. ClearRead CT is a trademark of Riverain Technologies Inc.
10. The integration of the solution is via IBE services or via customer home-grown solutions. Please contact Philips representative for more details.

