



**Lung Oncology**

**Oncology**

Oncology solutions  
made possible.



# Innovative Tools for the Best Patient Care

Lung cancer is the most common cancer worldwide<sup>1</sup> and the leading cause of cancer death in the United States.<sup>2</sup> In addition, the lungs are a common site of metastases.

When it comes to lung cancer, early detection has the potential to dramatically increase survival rates: The five-year survival rate for lung cancer is 55 percent for cases detected when the disease is still localized within the lungs. However, only 16 percent of lung cancer cases are diagnosed at an early stage. For tumors that have spread to other organs, the five-year survival rate is only 4 percent.<sup>3</sup>

The prevalence and complexity of primary and secondary lung cancers, as well as the importance of early detection, requires a sophisticated array of tools that enable the most informed decision-making and confident procedures. That's where Canon Medical Systems comes in. We put a suite of innovative technologies in the hands of clinicians to help them improve visualization, streamline workflow, prioritize patient safety, and inform treatment plans throughout the entire cycle of care.

# Imaging

Whether dealing with early- or late-stage disease, accurate imaging is essential for developing a treatment plan for lung cancer. Canon Medical Systems' advanced imaging systems are designed to help clinicians optimize precision for increased confidence.

## Computed Tomography: Precision in Every Detail

CT technology provides essential visualization, staging, and follow-up for lung cancer patients. Canon Medical Systems' pioneering technology helps clinicians to visualize tumors.

### Ultra-High Resolution

Canon Medical Systems offers the world's first Ultra-High Resolution CT<sup>1</sup> (UHR), providing more than twice the resolution of today's standard CT systems – resolution previously only seen in flat-panel vascular labs. Such powerful imaging assists in the visualization of fine anatomical features with reliability.

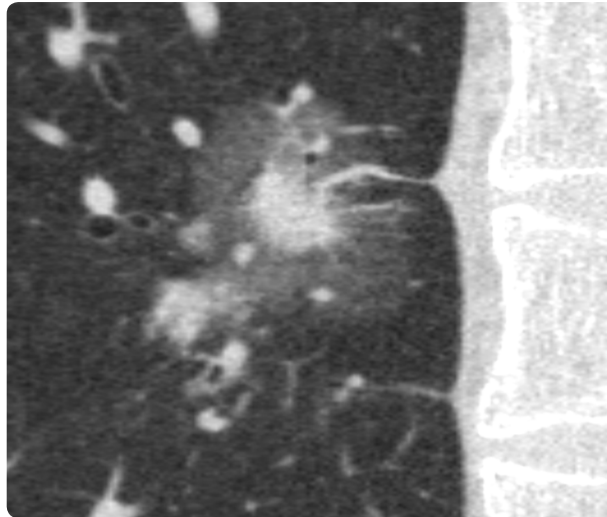
### Low Dose CT

Comprehensive dose management tools achieve precise visualization throughout the lung cancer care continuum – without compromising patient safety and diagnostic confidence.

- **AIDR 3D Enhanced**

AIDR 3D (Adaptive Iterative Dose Reduction 3D) Enhanced, a standard feature, achieves fast reconstruction with a reduced exposure dose while still maintaining high-quality images for more confidence.

- **FIRST** fully integrates a Forward projected model-based Iterative Reconstruction SoluTION to reduce dose and sharpen image quality while maintaining a smooth clinical workflow.



**UHR CT 1024 x 1024 matrix image**

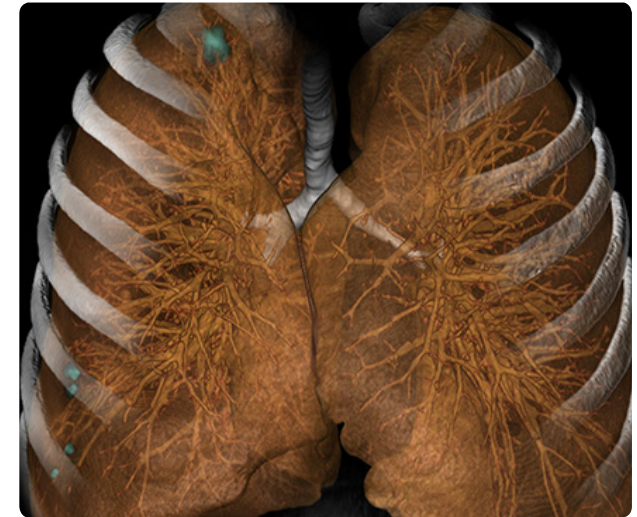
## Advanced Visualization

Canon Medical Systems' sophisticated post-processing tools assist in the visualization, staging, and tracking of tumors while streamlining workflows and reporting.

- **CT Lung Screening** by Vital Images is a comprehensive package of advanced visualization tools for lung-nodule assessment and comprehensive characterization over time, which can aid in determining growth patterns and composing comparative reviews. Vital Images offers a solution that will enable healthcare providers to manage a lung screening initiative.

Vital Images tools include:

- Vitrea® Advanced Visualization's flagship CT Lung Analysis application with Image Denoising for tumor visualization, tracking, and reporting
- Visia CT Lung CAD by MeVis Medical Solutions is a separately purchasable option fully integrated into Vitrea Advanced Visualization that offers automated detection of lesions to enhance clinical decisions and confidence



**CT lung screening image**

- PenLung Lung Screening Management System, powered by PenRad, a comprehensive unified software solution to track and manage patients participating in lung cancer programs

### X-Ray

X-ray is often the first imaging test used for patients with suspected lung cancer and for surveillance of possible metastatic cancer to the lungs. Canon Medical Systems' RadPRO OMNERA 400 Radiographic Systems are designed with the patient in mind by providing easy patient access, flexible table positioning, and accommodations for up to 660 pounds. With foot control, intuitive touchscreens, and extended range of motion, clinicians can X-ray with speed and flexibility.

The CXDI Digital Radiography LANMIT®<sup>II</sup> detector technology with a 125-micron pixel pitch yields superb high-resolution and high-contrast images.

<sup>1</sup>Available on the Aquilion™ Precision

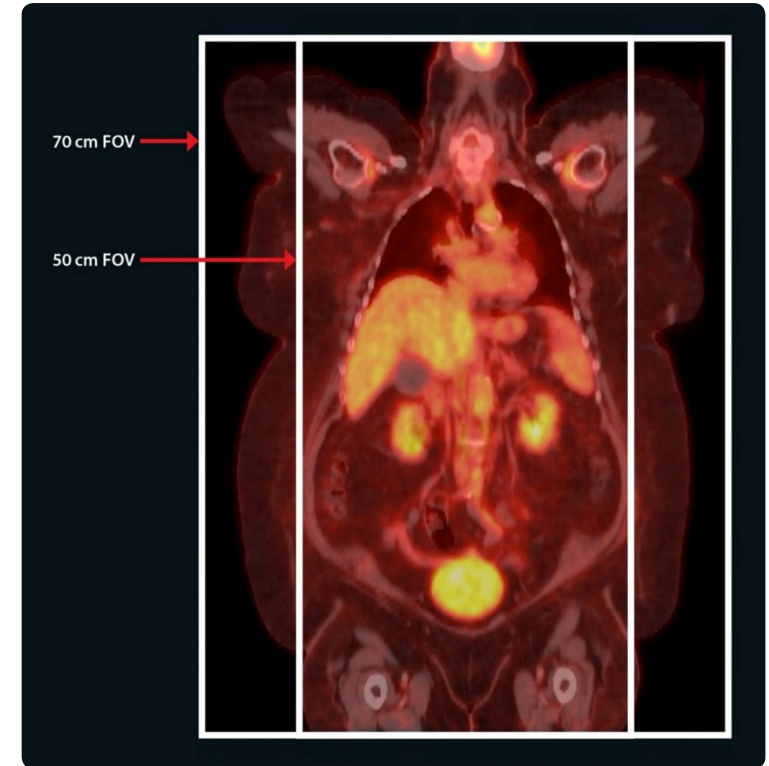
<sup>II</sup>Available on RadPRO® OMNERA® 400

# Imaging

## PET/CT: Experience the Industry's Largest PET/CT Bore and True FOV for Accuracy and Comfort

Canon Medical Systems offers an extraordinary PET/CT<sup>III</sup> system that redefines comfort, safety and precision for lung cancer staging and follow-up after treatment.

- **The largest bore and FOV in the industry** provides comfort and accuracy. With a 90 cm CT bore and 88 cm PET bore, clinicians and staff can position patients more easily, easing the process for the very ill, the elderly, and the 40 percent<sup>4</sup> of the adult U.S. population that is obese. Canon Medical Systems' leading true 70 cm True Field of View (FOV) allows access, taking the guesswork out of imaging.
- **Mirada Oncology Fusion<sup>IV</sup>** is integrated into Vitrea Advanced Visualization, a combination that provides powerful image review capabilities, region quantification and tracking, and a customizable reporting tool.



Celesteion<sup>PURE</sup>VISION Edition PET/CT image of a large patient

## MR: Intuitive, Fast, and Accurate

MRI, with its superior low-contrast detectability, can assist clinicians in the visualization, characterization, staging, monitoring, and therapy planning of lung tumors that have infiltrated the chest wall and metastasized to other organs. Canon Medical Systems provides dedicated pulse sequences for lung imaging.

Ultrashort TE (UTE) pulse sequences extend the range of imaging to tissues that are traditionally very difficult for MRI because of very short relaxation times and high susceptibility. Canon Medical Systems' dedicated UTE sequence for lung imaging (UTE Lung) enables MR imaging of the lungs.

<sup>III</sup>Available on Celesteion<sup>TM</sup> PUREVISION Edition PET/CT

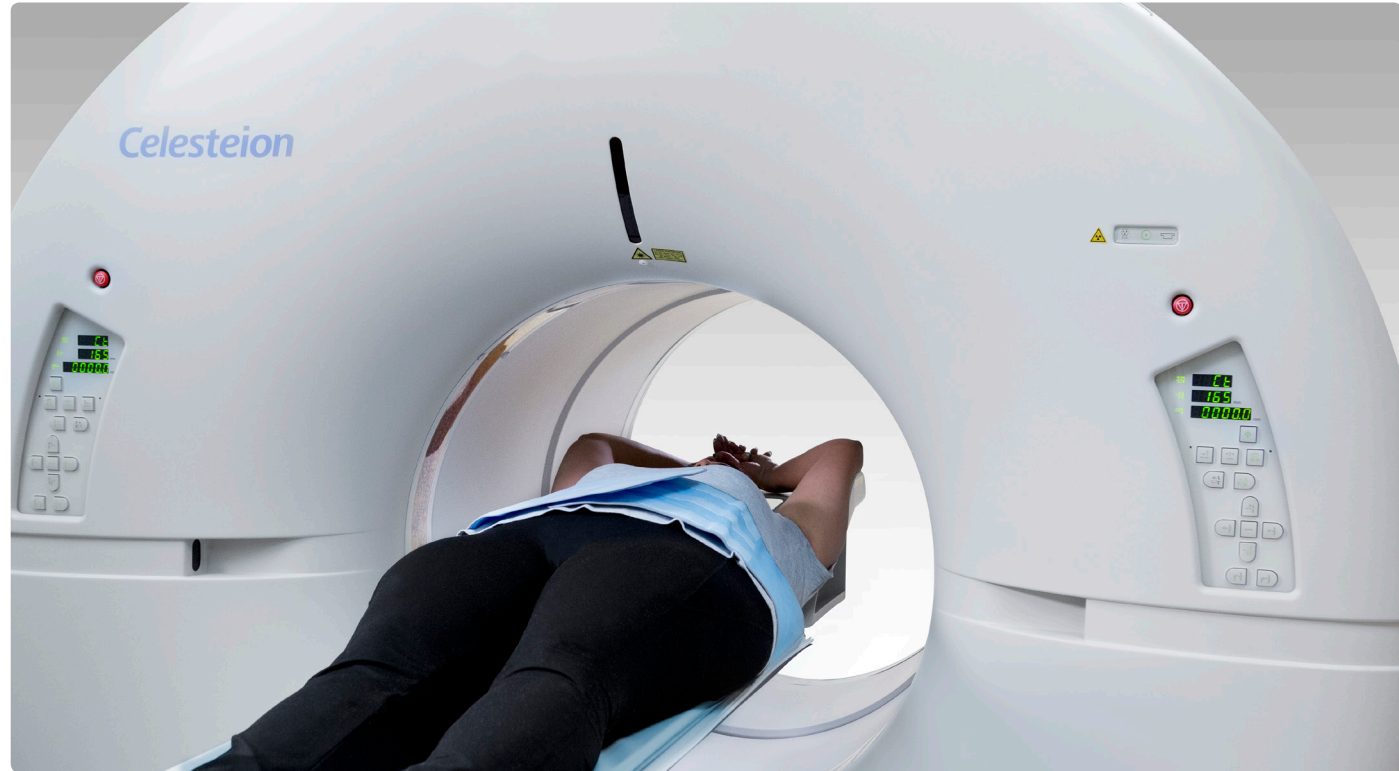
<sup>IV</sup>Optional; designed and manufactured by Mirada Medical

# Radiation Therapy Planning

Prioritizing safe, effective, and efficient planning is crucial for lung cancer patients because radiation therapy can cause radiation-induced lung and cardiac toxicity. This makes it imperative to accurately define the planning target volume (PTV) and minimize unnecessary radiation exposure to neighboring organs at risk.

## **CT/Large Bore<sup>V</sup>: See the Bigger Picture**

With the industry's only system that combines the largest bore and True FOV, clinicians can see the bigger picture for radiation therapy planning. The Aquilion LB system supports state-of-the-art oncology applications, including 4D respiratory-gated CT simulation for advanced motion management and radiation therapy planning.



## **PET/CT<sup>VI</sup>: More Room to Move**

Ensure comfortable and accurate procedures with the largest bore and FOV in the industry. A 90 cm CT and 88 cm PET bore offer clinicians more access and lung cancer patients more comfort, including those who are overweight. A 70 cm True CT and PET FOV overcome the disadvantages of a 50 cm FOV and can help clinicians cover more anatomy. Combined with 4D respiratory gating to assist with motion management, Canon Medical Systems' PET/CT supports accuracy in imaging, simulations, and treatment planning.

## **Advanced Visualization**

Mirada RTx by Mirada Medical<sup>VII</sup> is integrated into Vitrea Advanced Visualization and provides software tools for radiation therapy treatment planning that brings new levels of functionality, speed, and accuracy to the planning process.

<sup>V</sup>Available on Aquilion LB

<sup>VI</sup>Available on Celesteion PUREVISION Edition PET/CT

<sup>VII</sup>Optional; designed and manufactured by Mirada Medical

# Image-Guided Interventional Procedures

Image-guided procedures play a vital role for lung oncology patients. Canon Medical Systems' offers a wide range of expert tools to help clinicians prioritize clinical precision and maximum efficiency.

## Interventional Oncology: The Right Tools at the Right Time

Whether complex or straightforward, prioritize safety and efficiency with advanced imaging for targeted procedures.

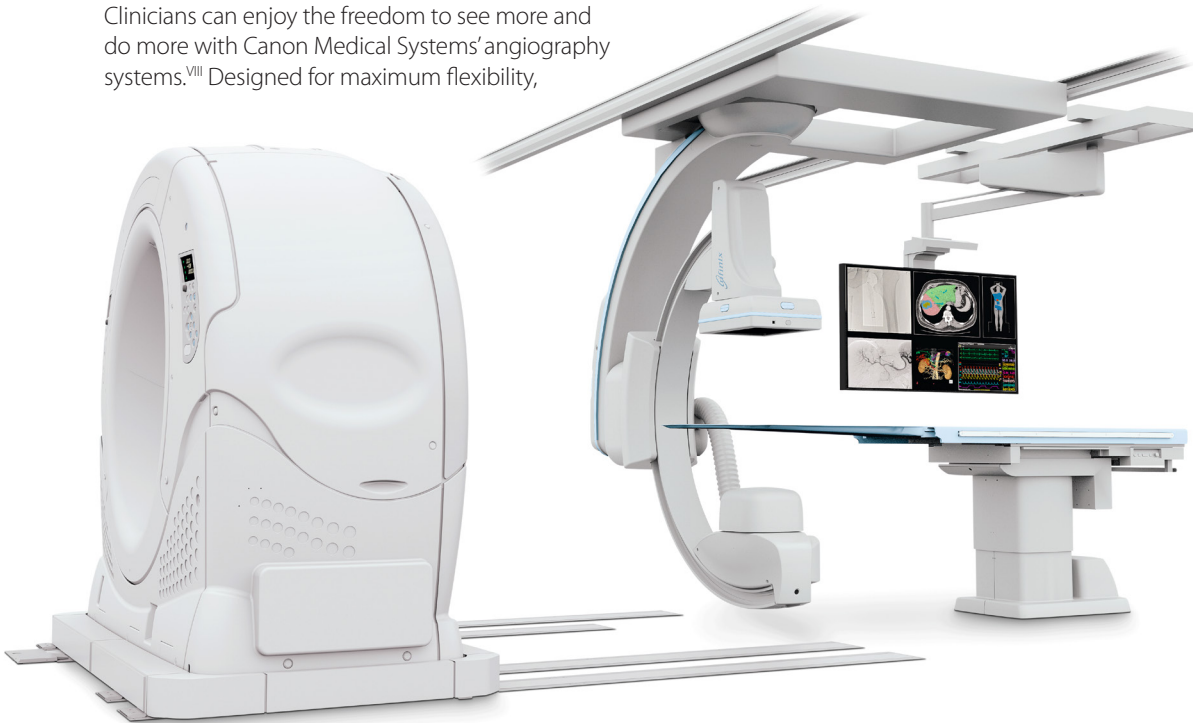
### Angiography

Clinicians can enjoy the freedom to see more and do more with Canon Medical Systems' angiography systems.<sup>viii</sup> Designed for maximum flexibility,

and high-quality imaging, our advanced systems offer uncompromised access to patients during needle guidance for biopsies.

### Combined Angio CT

Get the whole picture with our innovative Infinix-i 4D CT system<sup>ix</sup> that seamlessly integrates the interventional lab and the CT scanner in the same room. CT imaging available on demand may help you to improve visualization and device manipulation, and confirm procedural goals.

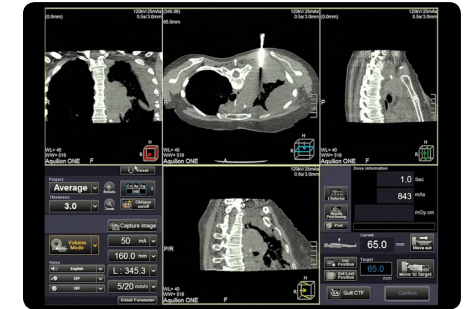


Infinix-i 4D CT

## CT Fluoroscopy: Guided by Safety and Accuracy

### 3D Volumetric CT Fluoro

3D Volumetric Fluoroscopy<sup>x</sup> enables the performance of efficient CT guided interventional procedures. With Canon Medical Systems' advanced CT Fluoroscopy systems, clinicians can perform procedures with confidence and ease, having access to axial, coronal, sagittal and oblique references for optimal interventional guidance plan.

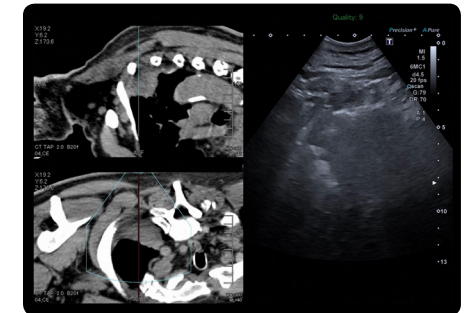


3D Volumetric CT Fluoro

## Ultrasound: Enhance Confidence with Multi-Modality Fusion

### Smart Navigation and Smart Fusion

Our suite of tools enables biopsies of tumors invading the chest wall and pleural effusion evaluation. The ability to perform these procedures at bedside is especially useful for ICU patients who can't be transported to CT or MR.



CT/Ultrasound Fusion of lung tumor

Smart Navigation<sup>xi</sup> technology is designed to help with needle visualization and tracking during ultrasound-guided procedures. It can be used in tandem with Smart Fusion<sup>xii</sup>, which fuses multi-modality images with ultrasound, to help locate lesions and enhance confidence.

<sup>viii</sup>Available on Infinix-i Sky + (the Infinix-i Sky is the INFx-8000C with an 830 C-arm.)

<sup>ix</sup>Available on the Infinix-i 4D CT

<sup>x</sup>Available on Aquilion ONE / VISION Edition and Aquilion PRIME SP

<sup>xi</sup>Used in conjunction with CIVCO's virtuTRAX for Aplio 500 Platinum and omniTRAX on i-series

<sup>xii</sup>Available on Aplio 500 Platinum and i-series

# Lung Oncology: Sophisticated Systems to Meet Your Clinical Needs – Now and in the Future

Canon Medical Systems offers clinicians a wide range of options for imaging and image-guided procedures to help them address the complexity of lung cancer management:

## **Computed Tomography**

Aquilion ONE / Genesis Edition  
Aquilion Precision  
Aquilion Prime SP  
Aquilion Lightning  
Aquilion LB

## **PET/CT**

Celesteion <sup>PURE</sup>VISION

## **Ultrasound**

Aplio i-series

## **MR**

Vantage Galan 3T  
Vantage Titan 1.5T

## **Interventional Oncology**

Infinix-i Sky +  
Infinix-i 4D CT

## **Advanced Visualization**

Vital Images  
Olea Medical



1. <http://www.lung.org/lung-health-and-diseases/lung-disease-lookup/lung-cancer/resource-library/lung-cancer-fact-sheet.html>
2. <https://www.cdc.gov/cancer/lung/statistics/index.htm>
3. <http://www.lung.org/lung-health-and-diseases/lung-disease-lookup/lung-cancer/resource-library/lung-cancer-fact-sheet.html>
4. <https://www.cdc.gov/obesity/data/adult.html>

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