FUJIFILM
Value from Innovation

Be visionary.
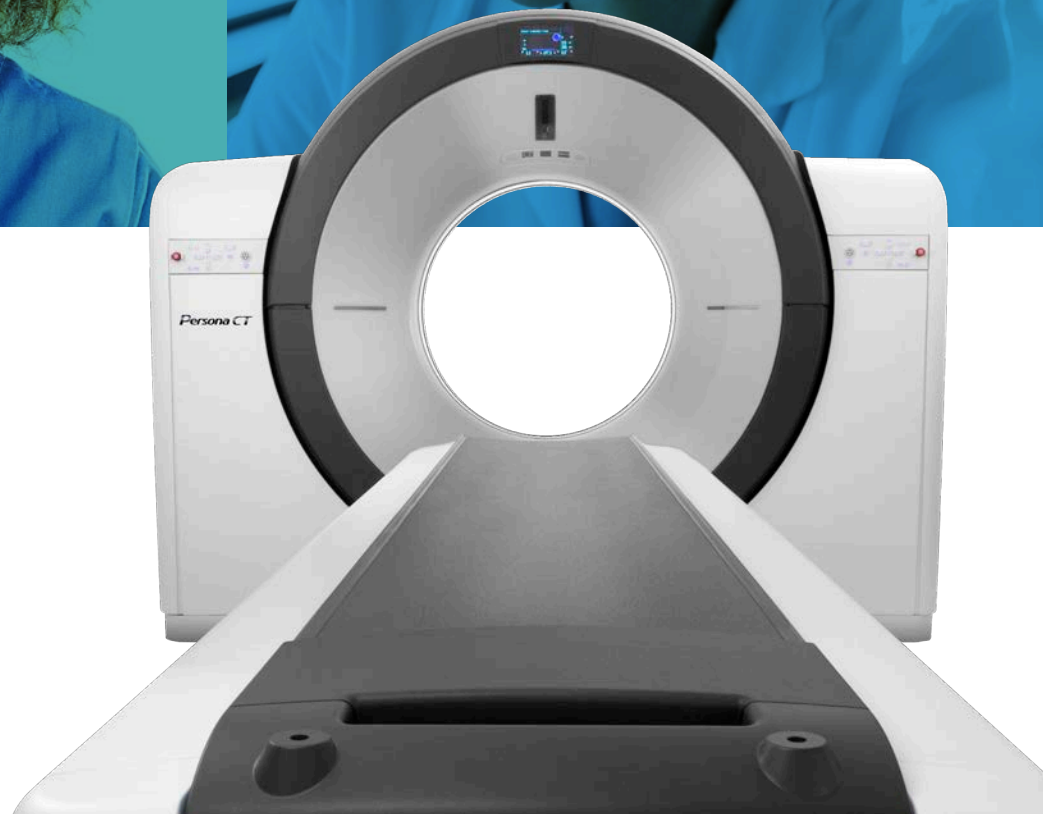
Computed Tomography

World's First 85cm Bore
64 or 128 Slice

Radiology and Oncology

Persona CT

Contents

Persona CT: advanced CT offering high-level solutions without compromise.

Persona CT is the result of an exciting collaboration between two trusted leaders in medical imaging worldwide. Fujifilm and Analogic have come together to deliver a new world-class CT solution. The Persona CT is uniquely engineered to help clinicians achieve consistently better clinical, operational and financial experiences.

Fujifilm has more than 85 years of medical imaging experience, delivering breakthrough innovations in medical imaging with a solid reputation for image quality, dose reduction, diagnostic visualization, and reliability.

Analogic brings more than 50 years of experience as a leading provider of diverse imaging technologies and as an OEM to CT systems and components of most of the leading brands on the market today.

With an unrelenting drive to discover what's next, we are committed to continually delivering value from innovation. Our advanced imaging technologies enable and empower physicians to see more, to help make the most accurate diagnoses to determine the best paths forward.

We are proud to introduce our latest contribution to radiology and oncology treatment planning, delivering innovations in CT system design and performance you have come to expect from Fujifilm.

Introducing Persona CT. A no compromise, well thought out, scalable solution, designed to simplify every step in the care and treatment of your patients.

• Big performance with a streamlined small footprint
• High-sensitivity image acquisition technologies
• Refined intelligent image processing
• Performance and reliability you can trust

Your patients and team depend on you. You can rest assured that we're working with you to streamline workflow and enhance confidence for both patient and provider, every step of the way.

Embrace the best.

For your staff and your patients, clarity is key. The Persona CT is equipped with best-in-class detector and system design, advanced image-processing technologies, higher rotational speed, and greater noise reduction. Everything is designed to provide unparalleled precision and accuracy for sharp, fast decision making.
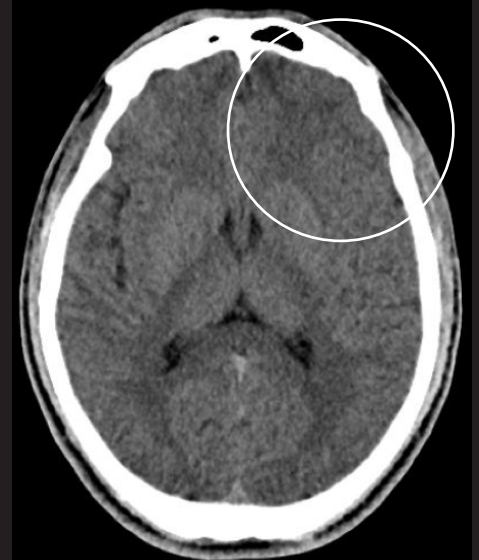
In an always-evolving market, step up to the forefront of what's next.

LISA^5 0   LISA^5 30   LISA^5 60

Higher Noise ————————————————————————————————→ Lower Noise

Smart Dose Management Using the Latest Technology

Built-in Technology

Dual Bowtie filters: Large and small bowtie filters ensure a uniform X-ray distribution across the detector for consistent radiation dose distribution and image quality.

Automatic focal spot selection: This technology intuitively adjusts protocol parameters to improve spatial resolution at lower doses.

Expanded kV ranges: With this feature, we facilitate dose reduction for lung screening and pediatric patients.

Scalable flex tile detectors: Our detectors are designed to reduce electronic noise, for better low dose imaging performance.

Refined image processing delivers exceptional images at low dose.

LISA[5] with PixelShine (advanced iterative technology with deep-learning-based image solutions)
The combination of these advanced data driven algorithms is designed to intelligently adapt to reduce image noise and minimize artifacts, while maintaining or improving spatial resolution for more optimal dose and image quality performance.

• LISA[5] is adjustable from 0% to 100%, with 0% corresponding to no image noise reduction and 100% corresponding to full strength image noise reduction.
• LISA[5] can be pre-set to exam protocols, adjusted during an exam or applied as post processing.

4D mA Modulation
Automatic 4D mA modulation for dose optimization: Tube current is optimized in 3-dimensional directions (X-Y-Z) based on information about the patient size obtained from the localizer. This allows images to be acquired at a constant noise level over the entire scan region, optimizing the balance between image quality and exposure.

Next generation LISA[5] reduces noise without blurring detail.
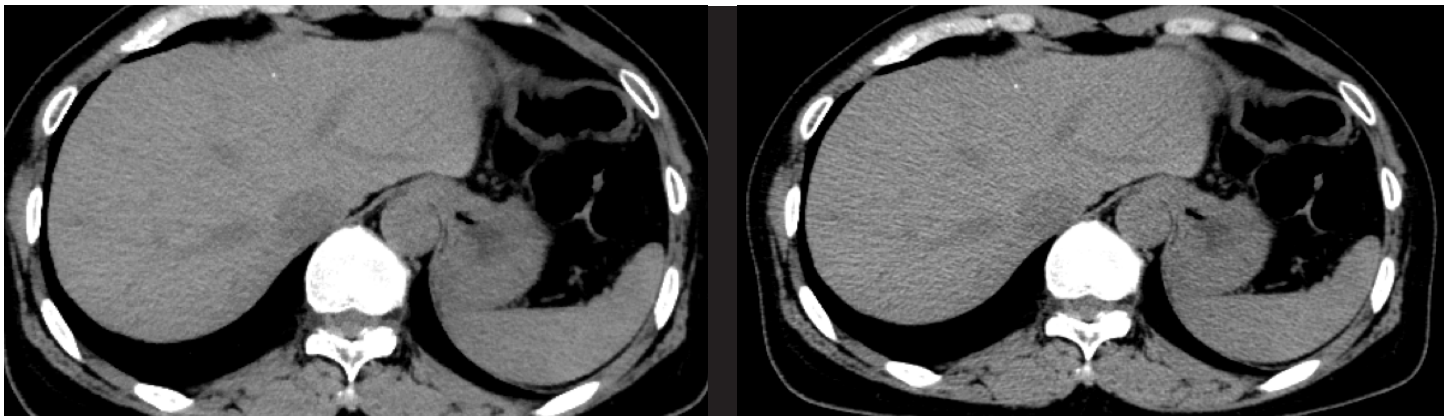
Current LISA[5] low setting, 0   Next Generation LISA[5] low setting, 30

Higher Noise ————————————————▶ Lower Noise

Fully-integrated into each protocol, fifth-generation LISA[5] iterative reconstruction reduces image noise while maintaining or improving spatial resolution.

Available in strengths from 0 to 100, LISA[5] settings can be built into each reconstruction to provide the desired look and feel for each series. As part of Fujifilm's comprehensive approach to radiation dose optimization, LISA[5] plays a critical role in achieving ALARA dose levels.

In clinical practice, LISA[5] may reduce CT patient dose depending on clinical task, patient size, and anatomical location. Consult with a radiologist and/or medical physicist to determine the optimal dose for preferred diagnostic image quality for the specific clinical task.

Dose Information

Display and Distribution: Managing patient dose information is critical; the system simplifies that information transfer. Simple Dose Report saves the data as a secondary capture and sends to PACS, while DICOM Dose SR sends the dose information as a structured report.


Dose SR

Simple Dose Report

PACS
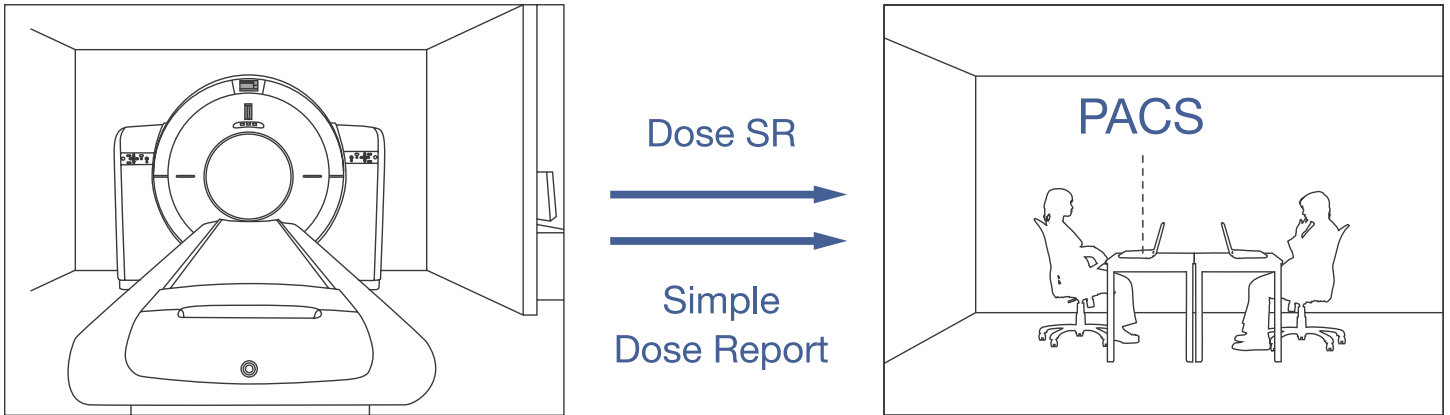
A workflow that works for you.

Your patients and your needs are front and center. Persona CT is engineered to provide a premium experience for your patients, raising the bar for comfort and safety. The system's highly intuitive interface is designed for easy and precise operation, helping your imaging staff perform at their best.

High diagnostic imaging in a single breath hold.
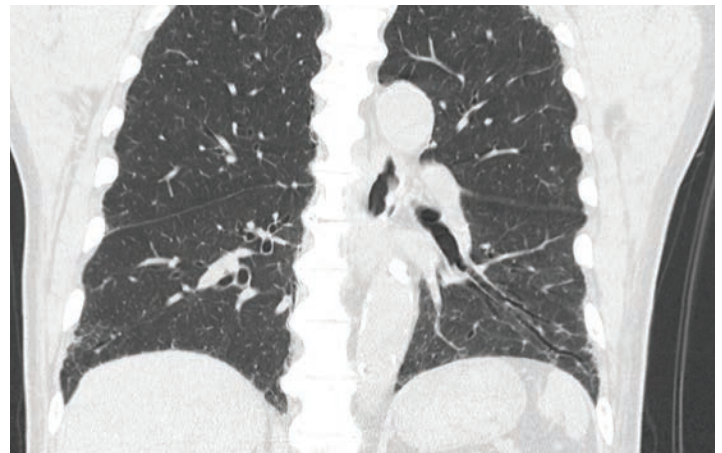
Routine imaging with high speed sub-millimeter scanning:
The system is capable of using sub-millimeter slices for high-speed, whole-body scans—something traditional 64 or 128 slice CT machines have trouble doing. Persona CT generates submillimeter high resolution images in any dimension with a single breath hold.

- Coverage ranges up to 1900mm
- Whole body images in just 16 seconds

High Speed Scanning for better patient care: With a 40mm width detector and unique HQ 3D reconstruction algorithm, the Persona CT achieves high-speed scans even when using a pitch of 1.25. Faster scans mean less burden on patients, especially those that have difficulty holding their breath or position.

- 320mm coverage scans in 2.7 seconds
- 570mm Thoraco-abdominal scans in 5 seconds

Extends the potential of your service, without redundancy.

HQ 3D algorithm satisfies both High-Speed Scans and High Image Quality: The Persona CT uses High Quality 3D reconstruction software. This 3D reconstruction algorithm automatically optimizes the range of acquisition data, creating high quality images with less artifacts—even with a high-pitch scan.

Maximize your imaging opportunities without taking up more space.
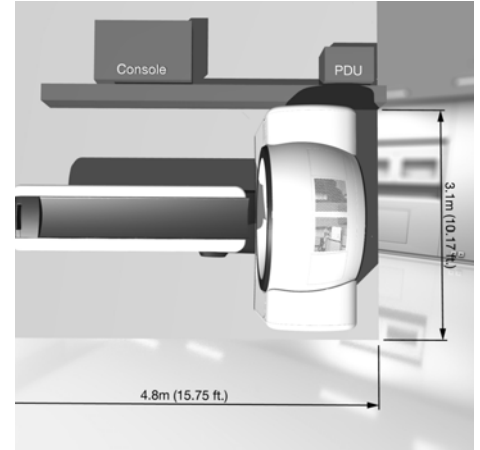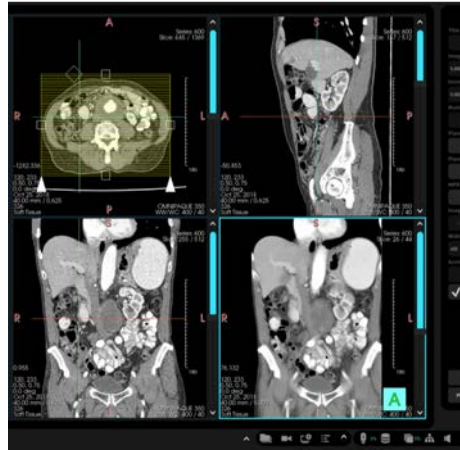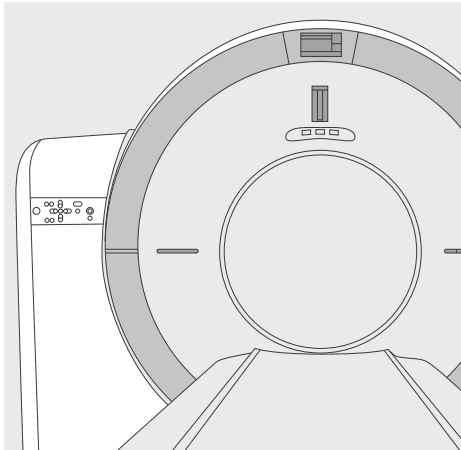
Open, Yet Compact

Class leading bore size calms patients, while an unconventionally compact footprint facilitates installation into existing rooms.

85 cm wide bore

50 cm full FOV

Operator-friendly

Designed with your technologist in mind. The Persona CT comes with sleek customized standalone gantry controls, a large 27-inch touchscreen display with all the controls and information you need in a single view. The controller is directly integrated with the keyboard, further consolidating everything into one streamlined experience.

In your high-stakes environment, efficiency is everything. Our intuitive user interface, with Quick Entry mode, fewer buttons, and larger icons, speeds up your process significantly.

Simple Siting

The Persona CT only has 4 main system modules; gantry, patient table, power distribution module, and operation console. This, combined with our fewer-than-average 100 component count, achieves an impressively compact footprint.

Best-in-class bore size for enhanced patient comfort.

Our bore-and-tabletop pairing, both the widest in the industry at 85 and 49 cm respectively, can comfortably accommodate virtually any patient.
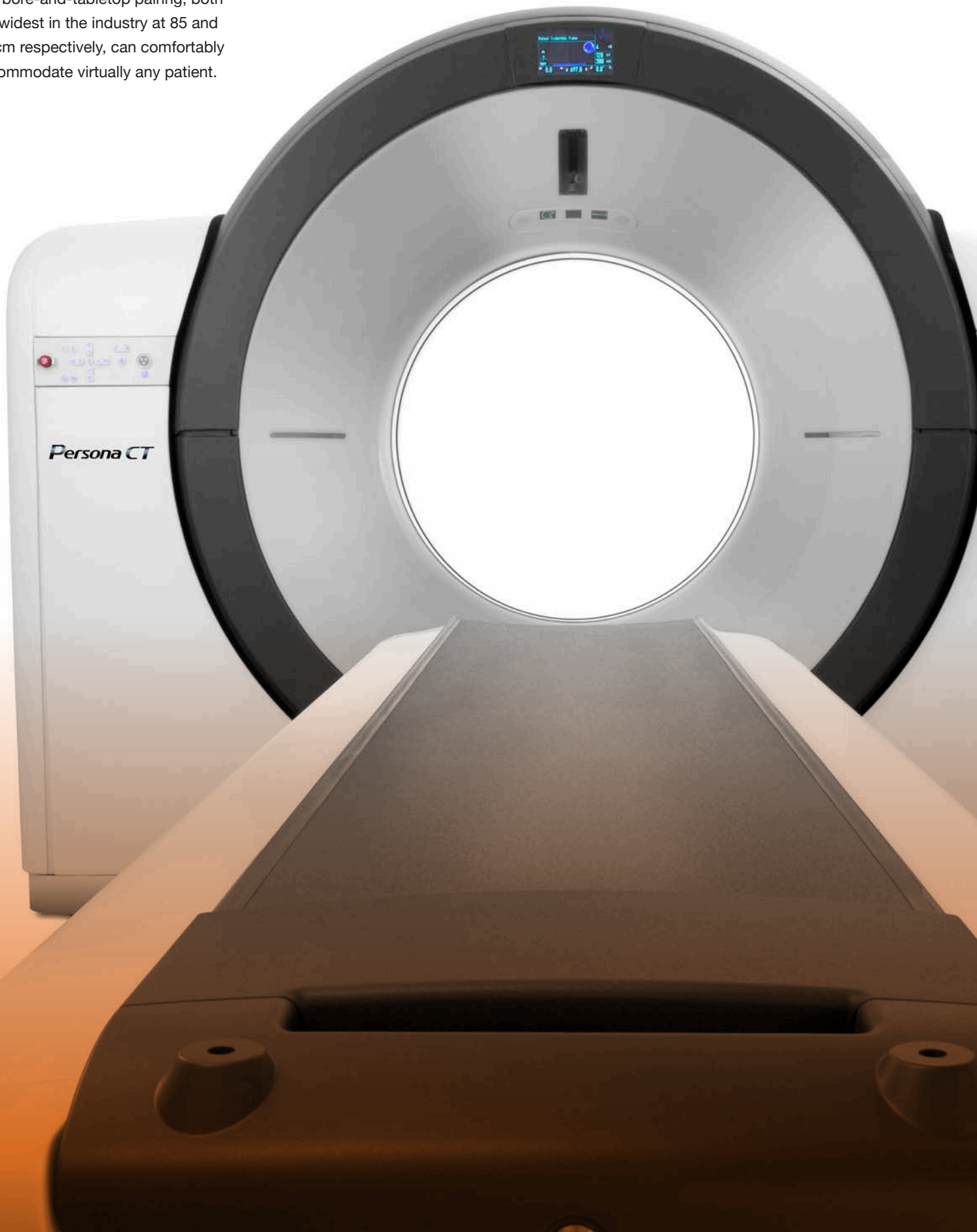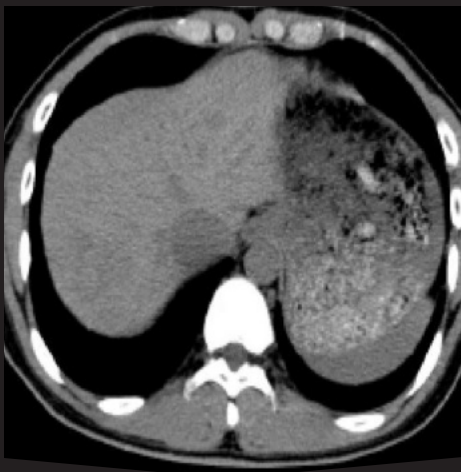
Experience you can rely on.

We're the trusted partner at your side. With over 85 years of imaging expertise and best-in-class designs, Fujifilm has the technical know-how and service to support you. Our technologies create sharp images, simplified workflow, patient comfort, and reliability.

Conventional FBP 5mm   vs.   LISA[5] 5mm   +   PixelShine 5mm

LISA[5] 5mm   +   PixelShine 5mm

## See the Fujifilm difference.

Unprecedented image quality with advanced image processing and engineering design.

Additive Approach: Filtered Back Projection vs. LISA[5] + PixelShine

The LISA[5] + PixelShine deep learning image solution ensures that Persona CT's scans are precise and high resolution with as little noise as possible, compared to the traditional Filter Back Projection method.

Experience the Fujifilm difference.

Unprecedented performance and reliability with advanced engineering design.
Engineered for noise reduction and reliability.
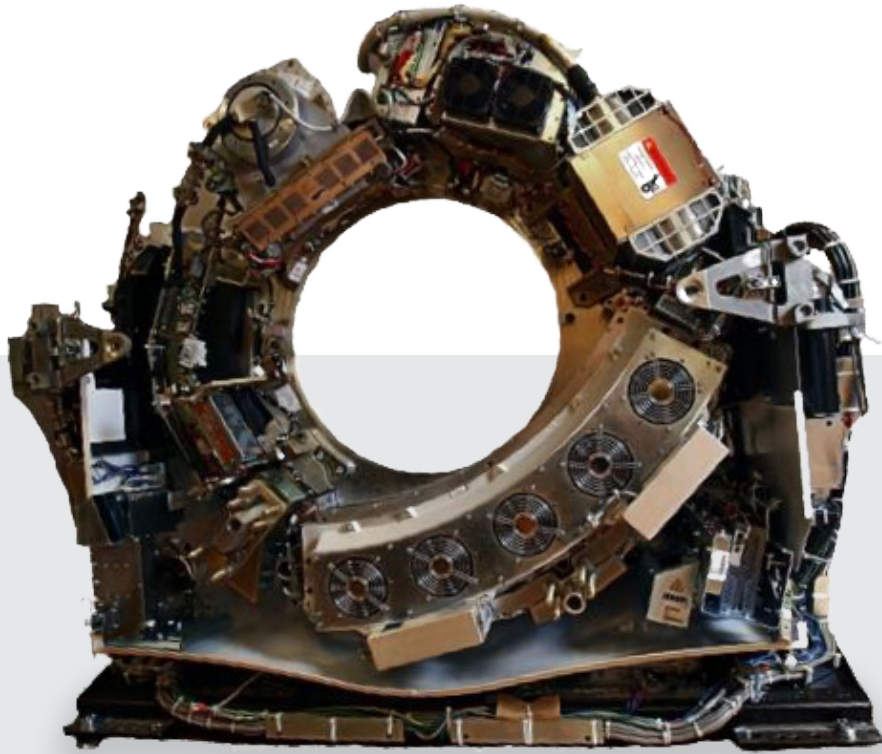
Old Gantry ⟶ ⟶ ⟶ ⟶ ⟶

PowerLink

PowerLink non-contact power and data transfer ensures that
Persona CT is highly reliable, easily serviced, lightweight,
and consolidated to lower maintenance costs.

Non-contact power & data transfer

PowerLink technology completely eliminates reliance on outdated
carbon brushes found in conventional CT designs. Conventional
brushes contribute to electronic failure and require frequent
maintenance. Persona CT eliminates these concerns, instead
employing a non-contact design data transfer.

Modular Design

Fewer field replaceable units (100 in Persona CT vs. 200-500
in competitors) in the machine means higher uptime, shorter
learning curve for service personnel and faster serviceability.
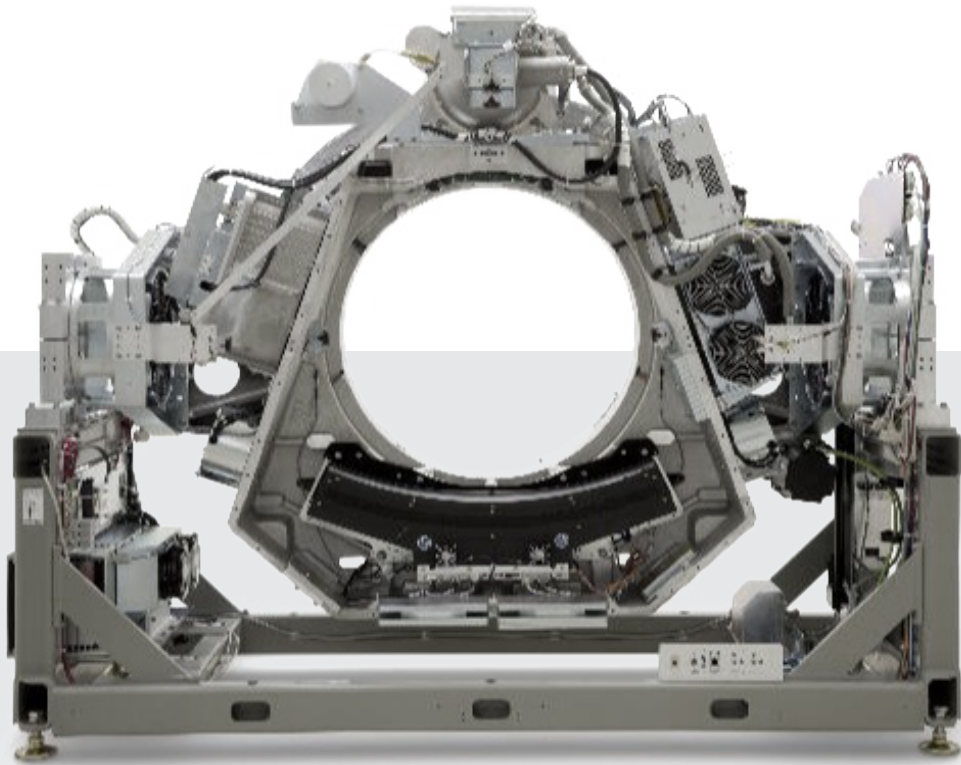
→ → → → → → **New Gantry**

Plan Possibilities

The Persona CT includes various plans for parts coverage and service, keeping your unique needs front and center. We offer both comprehensive plans and à la carte options for component parts, to ensure that you're getting exactly what you need.

Dependable Service

Our plans come with factory trained, highly responsive customer service teams, remote monitoring capability, and a 12-month warranty. You can rest assured that your plan will cover all aspects of the Persona CT's streamlined component design, making maintenance easy and affordable.*

With fewer major parts and only 100 components, installation and maintenance are far more streamlined and hassle-free.

*with the exception of X-ray tubes and patient accessories

Flexible Scalability

Flex however you see fit.

From general radiology to radiation treatment planning, the scalable flexibility of Persona CT has you covered. Persona CT's modular design can flex to fit a wide range of clinical needs from pediatrics, to bariatrics, to oncology, with added comfort, efficient workflow and better performance. We provide maximum adaptability to your ever-changing caseloads and budget.

Two advanced technologies, together.

By combining the capabilities of Persona CT and Synapse 3D, our clinical solution provides functions ranging from pre-scan vessel extraction to retroactive data retrieval. The Persona CT's open and adaptable equipment, paired with Synapse 3D's advanced clinical workstation, make a wider range of scans and treatments possible. These two technologies, working collaboratively, create a truly synergistic care experience.

Persona CT + SYNAPSE® 3D

Experience an advanced clinical workstation.

SYNAPSE®
3D

Persona CT is equipped with Fujifilm's leading Synapse 3D technology, bringing highly refined 3D visualization with intelligent automated feature recognition to simplify extraction of selective organs and vessels. Synapse 3D facilitates intricate 3D analysis even with complex procedures, like chronic respiratory disease and preoperative simulations.

Image/feature recognition: Persona CT applies an image analyzation technique that is used in Fujifilm cameras
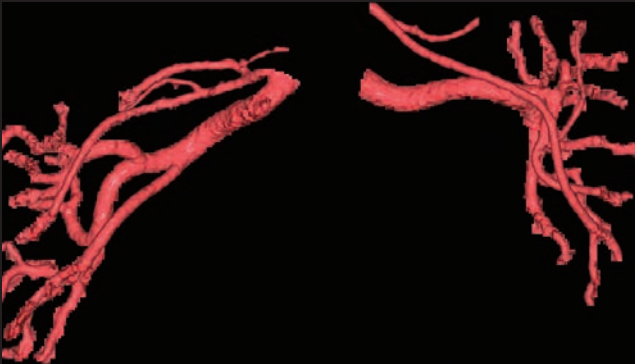
Synapse 3D

Vessels

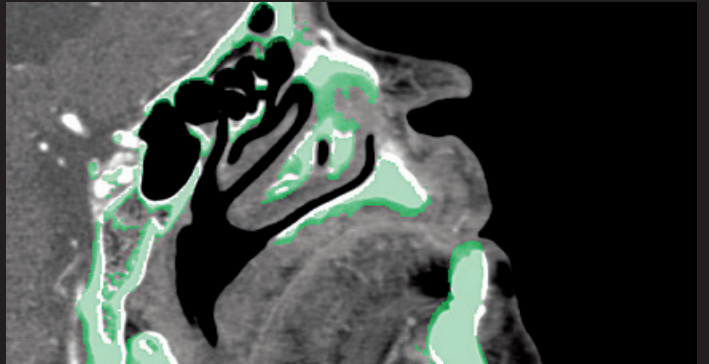Vessels are extracted with one click by using image recognition technology.
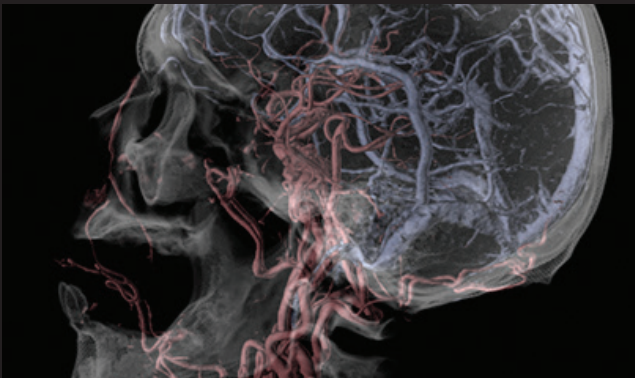
Non-Rigid Registration

With non-rigid registration, Synapse 3D can move and correct organs in images, even if the images were acquired at different phases and time points.
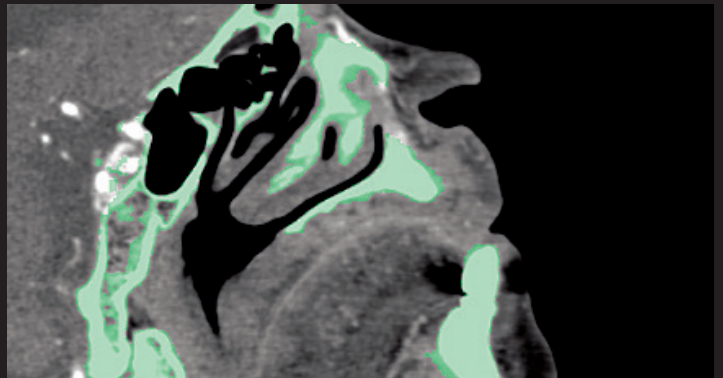

General CPR

Rigid Registration

Cerebral Arteries and Vein Separation

Non-rigid Registration

Smart Tracking

Based on previously stored information, the areas recognized as blood vessels are extracted.

Bone Removal

Bones are extracted or removed with one click based on the CT value and the shape of the region of interest recognized by the Fujifilm Algorithm technology.

Organs

Image Intelligence™ makes it possible to extract organs and simplifies your work.

🧠 Brain

Vessel Extraction & Separation

With just a single click, operators can achieve clear vessel extraction and separation of cerebral artery and vein through the technology in Persona CT and Synapse 3D.

Subtraction

Technology for Precise Subtraction:

- Orbit Synchronization in Helical Scan (The two orbits of helical scans before and after contrast can be synchronized, which improves the accuracy of subtraction image.)
- Non-rigid Registration (Non-rigid registration allows natural adjustment of body parts that otherwise is difficult in linear registration.)
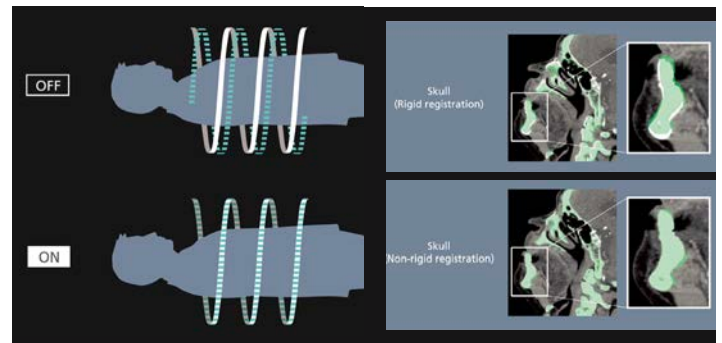
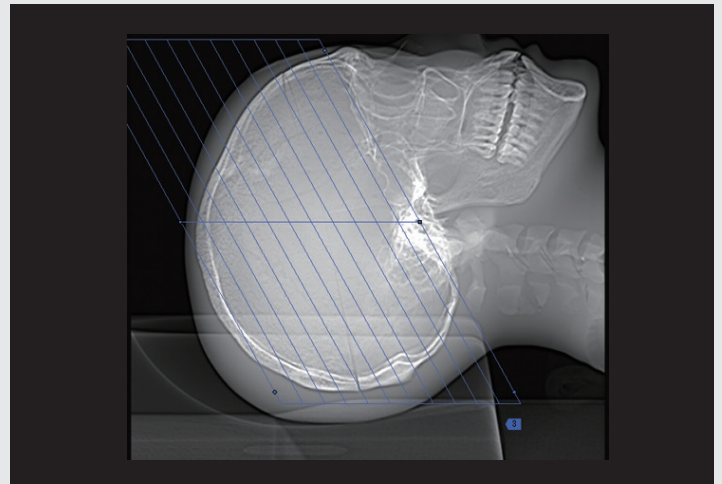## Directional Control of Radiation

Persona CT allows you to control the direction of the radiation more precisely, incorporating a tilting gantry angle up to 30°. In turn, it's easier to avoid artifacts from teeth and potential dose to lenses of the eyes.

High Quality MPR Image

Persona CT creates thin-slice Multi Planar Reconstruction (MPR) images even from a non-helical scan, which is often used in brain examination. This allows doctors to have high contrast images with fewer artifacts.
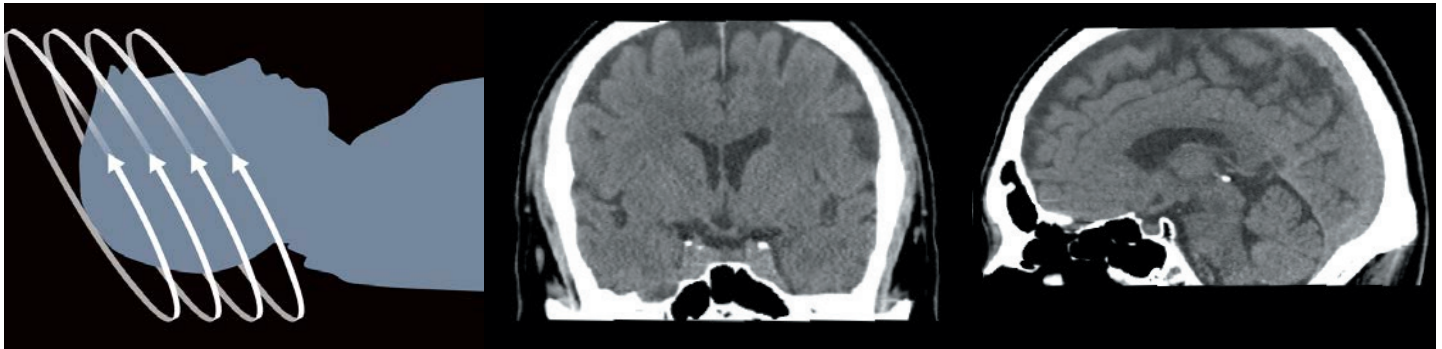
Non-Helical scan

Reduction of Repeat Risk

Re-calculation from Full FOV Data: The Persona CT retains full FOV data (500mm) for every scan. If a patient's body area is outside of the scan's FOV, the lost portion can be easily recovered through a re-calculation rather than a re-scan, reducing the amount of radiation that patients and practitioners are exposed to. This eliminates associated retakes, reducing patient radiation dose in the case of a miscalculation or lost data.

Before

After

Data storage region

Preset FOV

Before Re-calculation

After Re-calculation
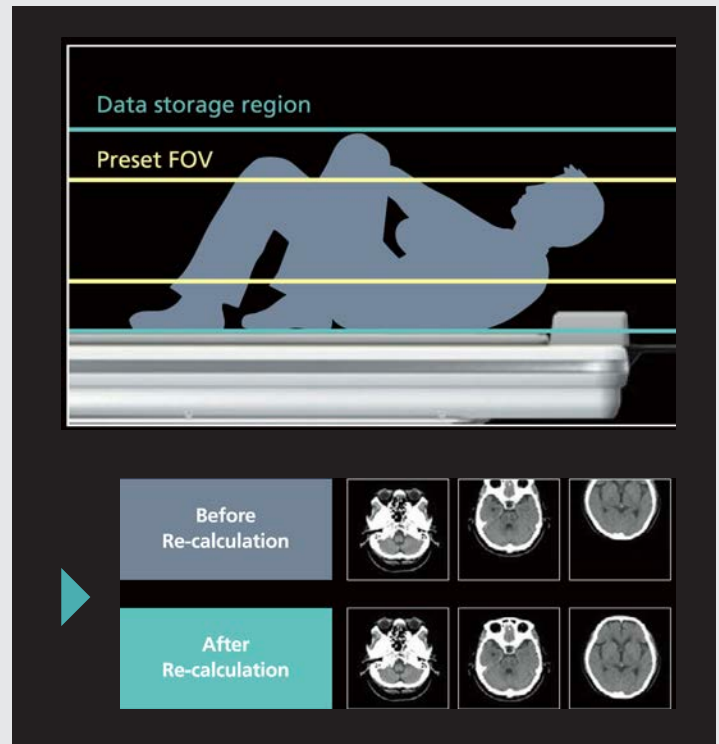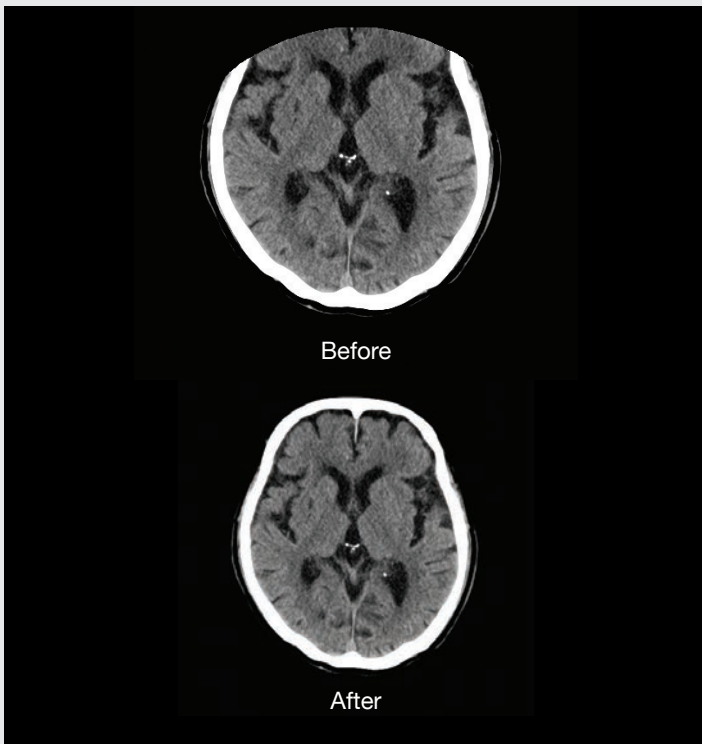
🫁 Respiratory

Advanced Iterative Reconstruction with Noise Reduction
Patented breakthrough deep-learning-based software dramatically reduces noise in CT Scans.

LISA[5] (Low-dose Iterative Solution Approach) with PixelShine:
Applies advanced noise reduction and iterative reconstruction to reduce image noise and artifacts while maintaining high image quality at low doses. The artificial neural network algorithm significantly enhances detail in low dose and under penetrated images. The combination of advanced iterative reconstruction, noise r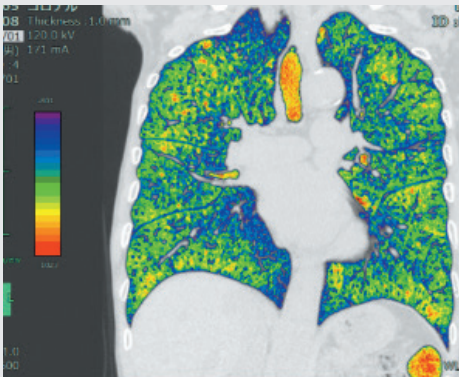eduction and pixel-enhancement algorithms help reduce image noise while maintaining or improving spatial resolution. The LISA[5] Weighting percentage is applied through adjustable increments from 0% to 100% strength image noise reduction. Weighting can be pre-set in protocols, adjusted during an active exam, or even applied as post processing.

Lung Analysis
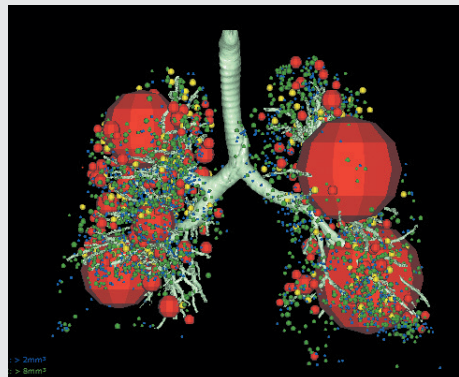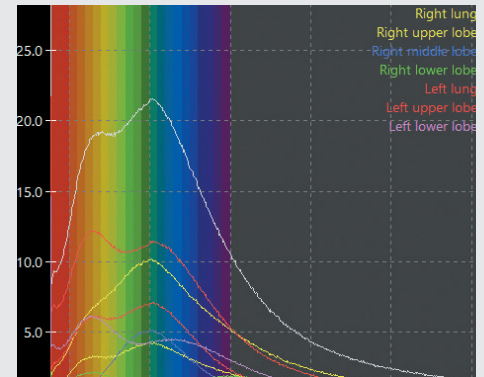

Color-coding of Low Attenuation Areas (LAA): Synapse 3D color-codes the CT value in the image to assist in LAA visualization.

Cluster Analysis: The volume and measure of the cluster analyzed are rendered in 3D, to simplify confirmation of low-attenuation areas.

Goddard Score: Goddard Score can be calculated with a single click and the results automatically export to reports.

Object Recognition

Spherical Enhancement: The filter using Fujifilm's world-renowned image analysis technology automatically highlights spherical figures in the image.

Automatic 5 Lobes Extraction: Lung fields can be extracted automatically. In addition, the 5 lobes are color-coded to better determine which lobe the legion is present.
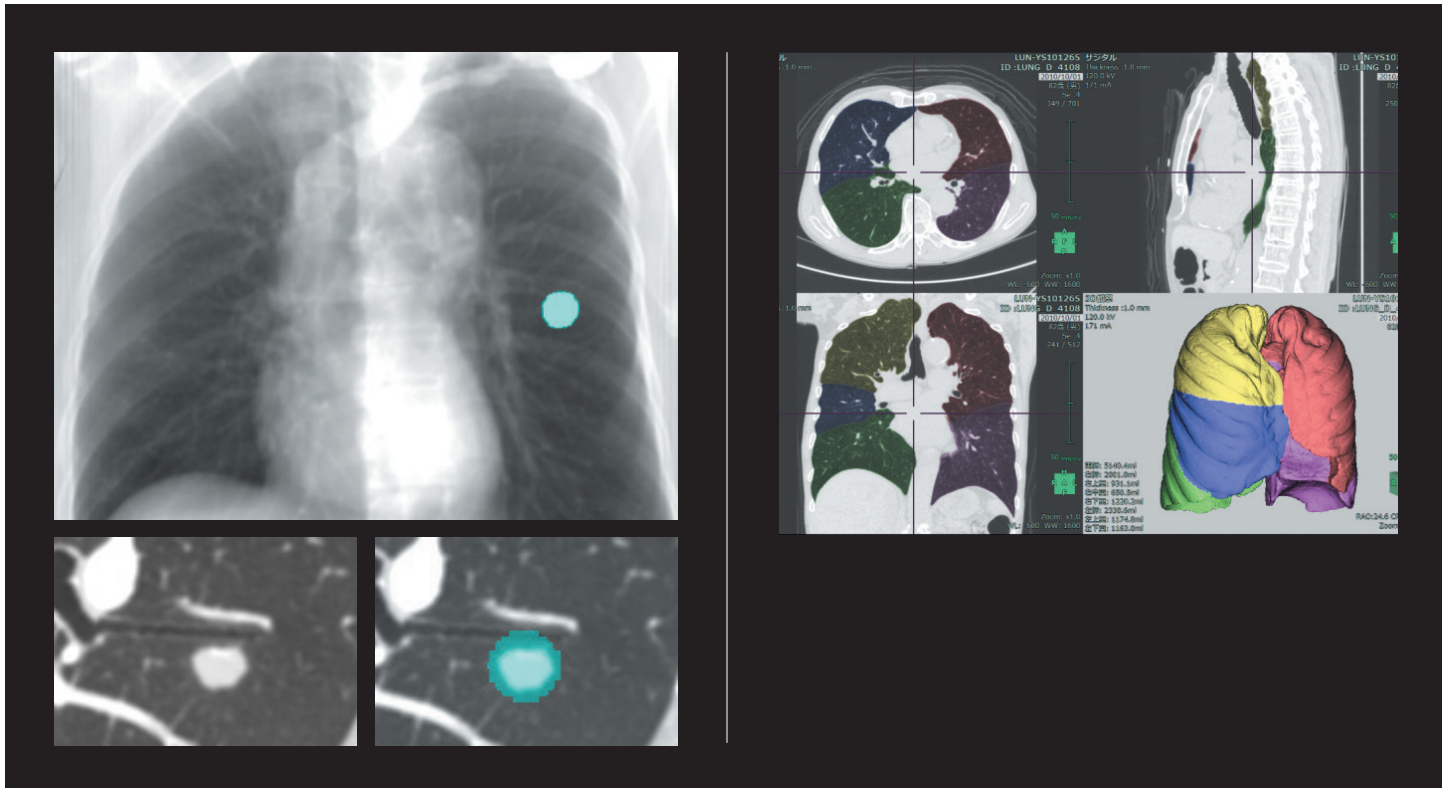
Bronchus Analysis

Selecting a pathway from extracted bronchus provides images of straight CPR (Curved Planar Reconstruction) and short axis. In addition, the Synapse 3D automatically traces the exterior and interior walls so that the long and short axes of outer and inner diameters and the thickness of bronchus wall can be easily observed.
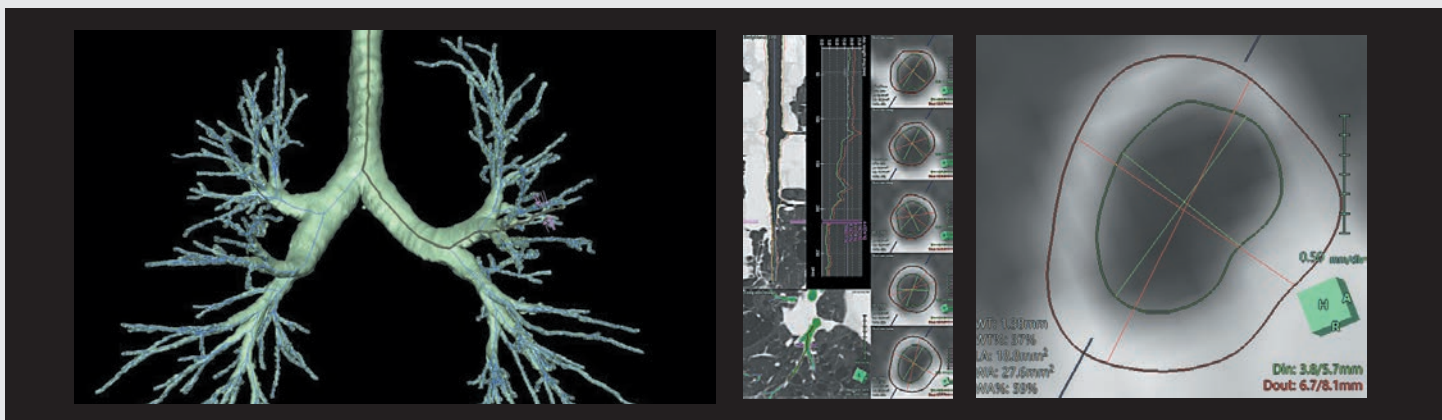
🚶🌿 Whole Body & Vessels

High Quality 3D Reconstruction

High Speed Scanning with HQ 3D Reconstruction Method:
HQ 3D Reconstruction (High Quality 3D Reconstruction) method, which is a unique 3D reconstruction algorithm, optimizes the range of acquisition data to b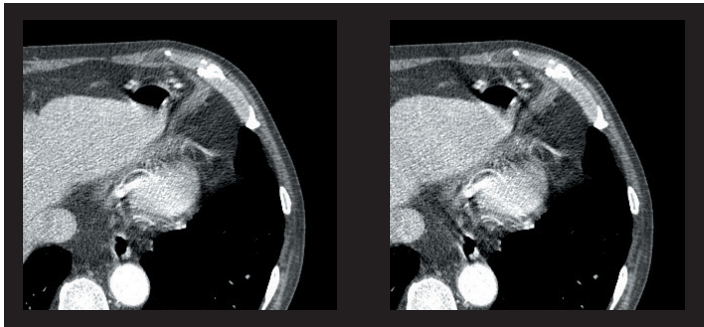e reconstructed. By utilizing the data across the whole detector effectively, a high quality image with fewer artifacts can be obtained even with a high-pitch scan.

Chest
2.7 sec
320mm

Thoraco-abdominal
5 sec
570mm
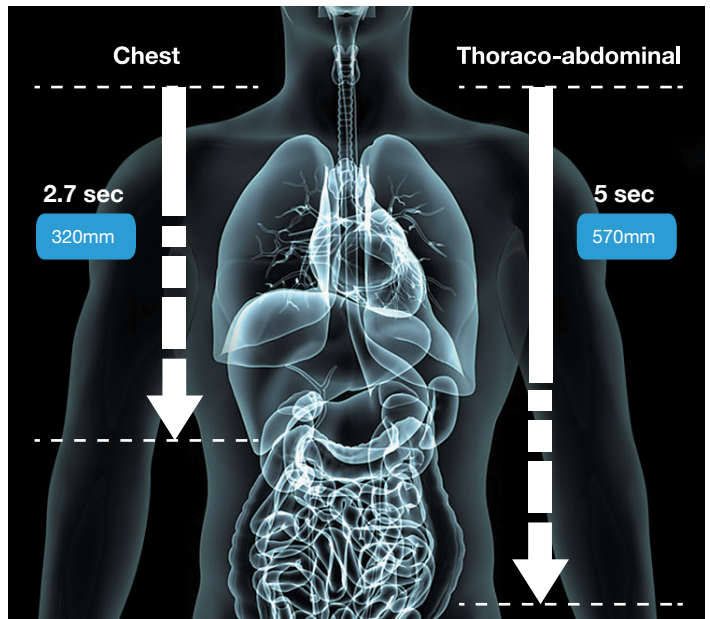
FeldKamp Method
(Conventional 3D image reconstruction)

CORE Method
(New 3D image reconstruction)

Automatic 4D mA Modulation for Dose Optimization

mA
225 mA
50 mA
184 mA
117 mA
231 mA

225 mA
50 mA
184 mA
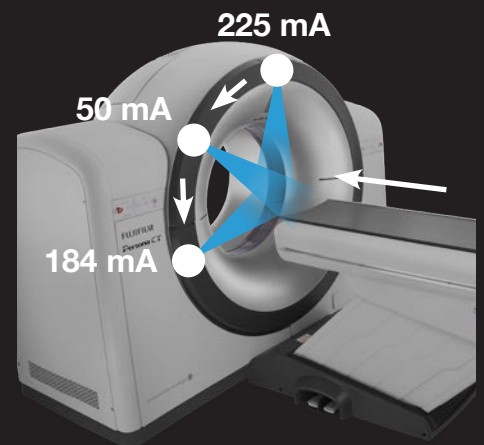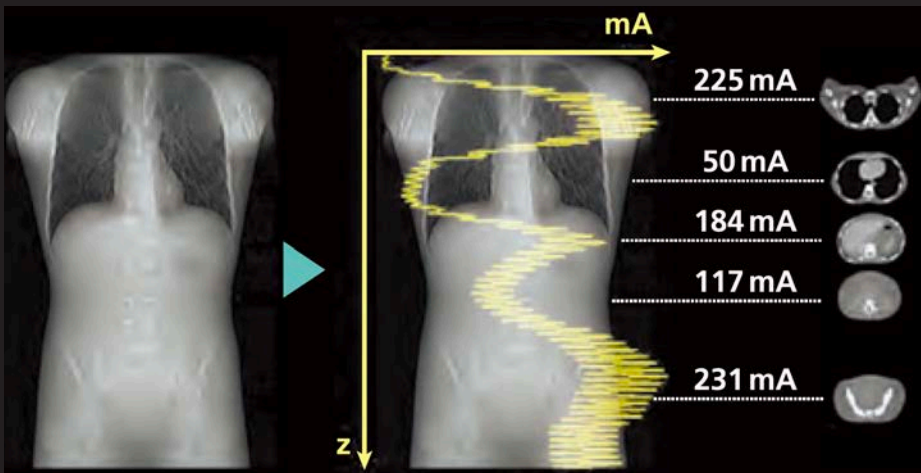
4D dose modulation dynamically adjusts mA in X, Y, and Z directions throughout the duration of the scan with the goal of providing consistent image quality and lowest achievable doses. Tube current dynamically changes based on the size of patient and organs.

Synapse 3D

Vessel Analysis
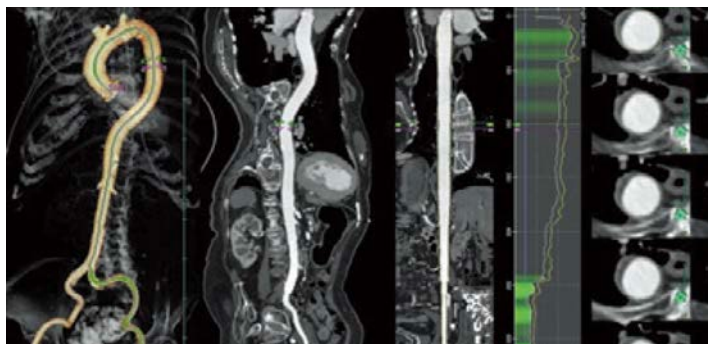
Easy CPR image creation: Selection of vessels to apply Curved Planar Reconstruction (CPR) is available by clicking a starting and end point which creates a Straight reconstruction of the identified vessel. Straight CPR, stretch CPR and cross-section views can easily be generated.

Aneurysm Analysis: Measurement result of aneurysm and vessel diameter such as thoracic aortic aneurysm (TAA) and abdominal aortic aneurysm (AAA) can be provided. Virtual implantation of stent grafts allows clinicians to make informed choices about which device to use through simulation.

Colon

Persona CT Synapse 3D

Persona CT Synapse 3D

Torous Enhancement Filter

The colon area can be observed in a fillet-view format. With the enhancement filter, the protrusions on the colon wall can more easily be identified.
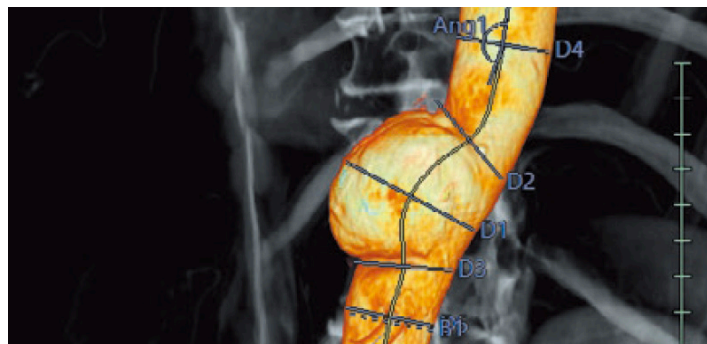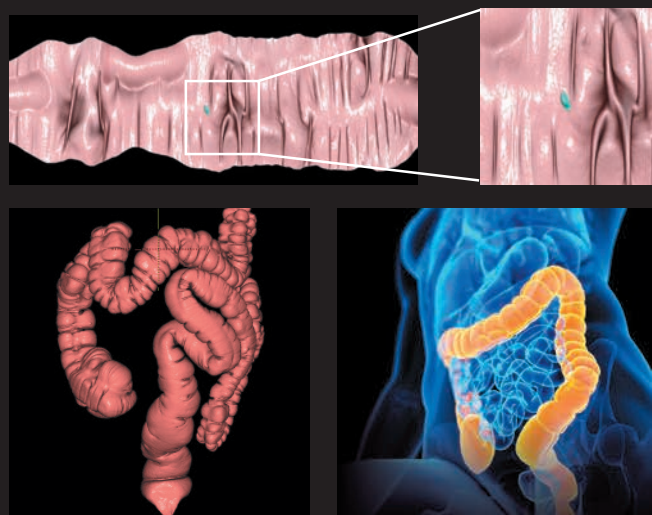
Virtual Endoscopy

Synapse 3D automatically extracts the colon to provide a virtual endoscopy image. This allows inspection of the peripheral region of alimentary canal, the region beyond the bronchus area, and gives an option to have colon diagnosis without the invasive patient procedure.
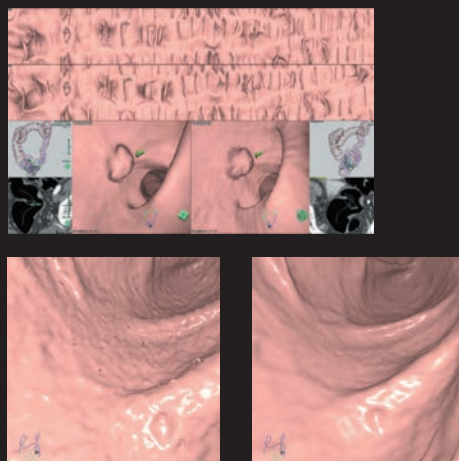
Low dose 1.3mSv   Intelli IP LEVEL7

🦴 Orthopedics

Multi-angle Multiplanar Reformation (MPR) for Vertebral Observation

Reconstruction can be performed at multiple angles along each vertebral disc to easily observe the condition of vertebral bodies and discs. Standard templates for reconstruction position and angles are provided for cervical and lumbar spine but arbitrary selection is also available.
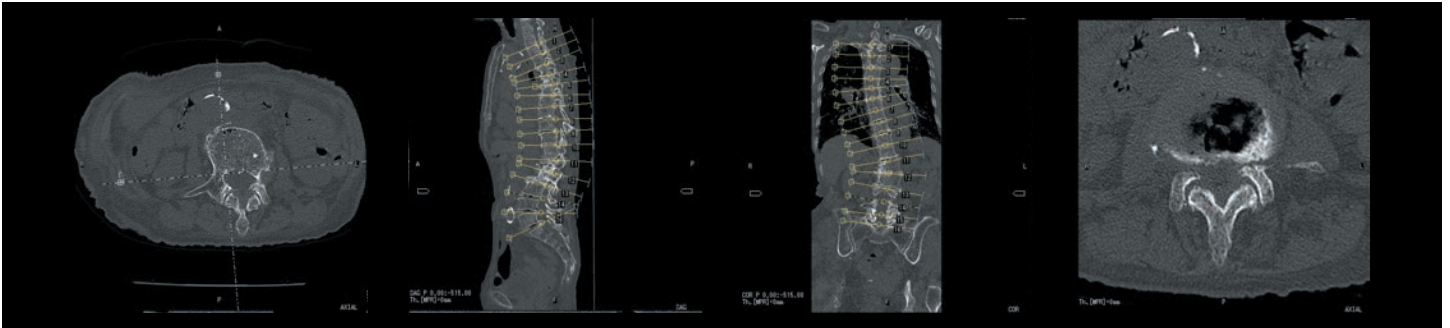
Bone Separation

Advanced object recognition technology combined with color delineation of components assists in visualization of bone separation and joints.
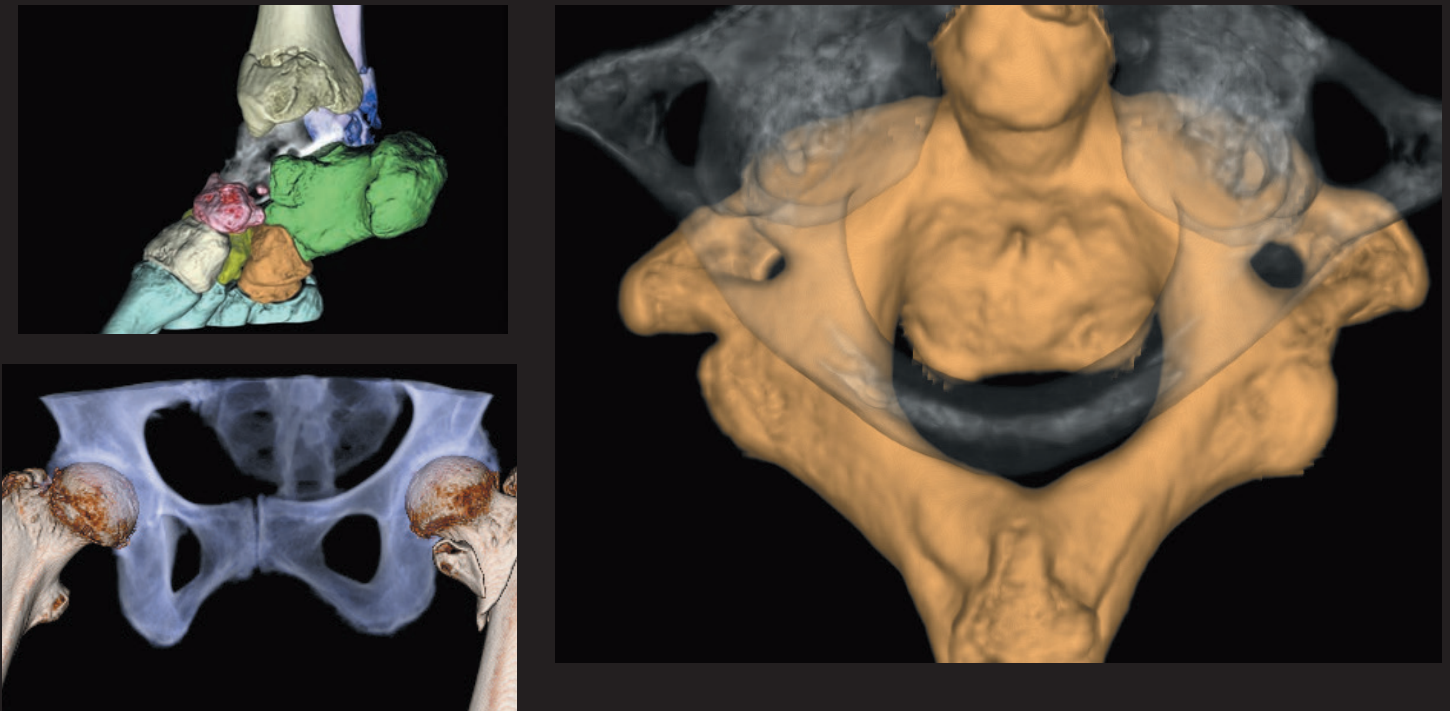
Oncology Care

What if there was a way to streamline and consolidate the high-stakes oncology care process, from first scan to last treatment?

Oncology Care

Persona CT from Fujifilm answers that need.

Our CT solution is equipped with best-in-class software and technology integration, and designed with oncology patients and practitioners in mind. From LAP laser positioning to the world's first 85cm CT bore (64 or 128 slice), Persona CT is optimized to ensure patients can be imaged in the optimal treatment position, while maintaining the positional and accuracy requirements of radiation oncology.

Whole body coverage with 190cm scan length for patients over 6' 2" tall (standard).

Persona CT Oncology Options:

- 85cm CT
- AAPM TG 66 Table for RTP Planning*
- Treatment Planning Software
- Alignment Positioning Lasers
- 4D Respiratory Gating*
- Synapse 3D for Advanced Visualization
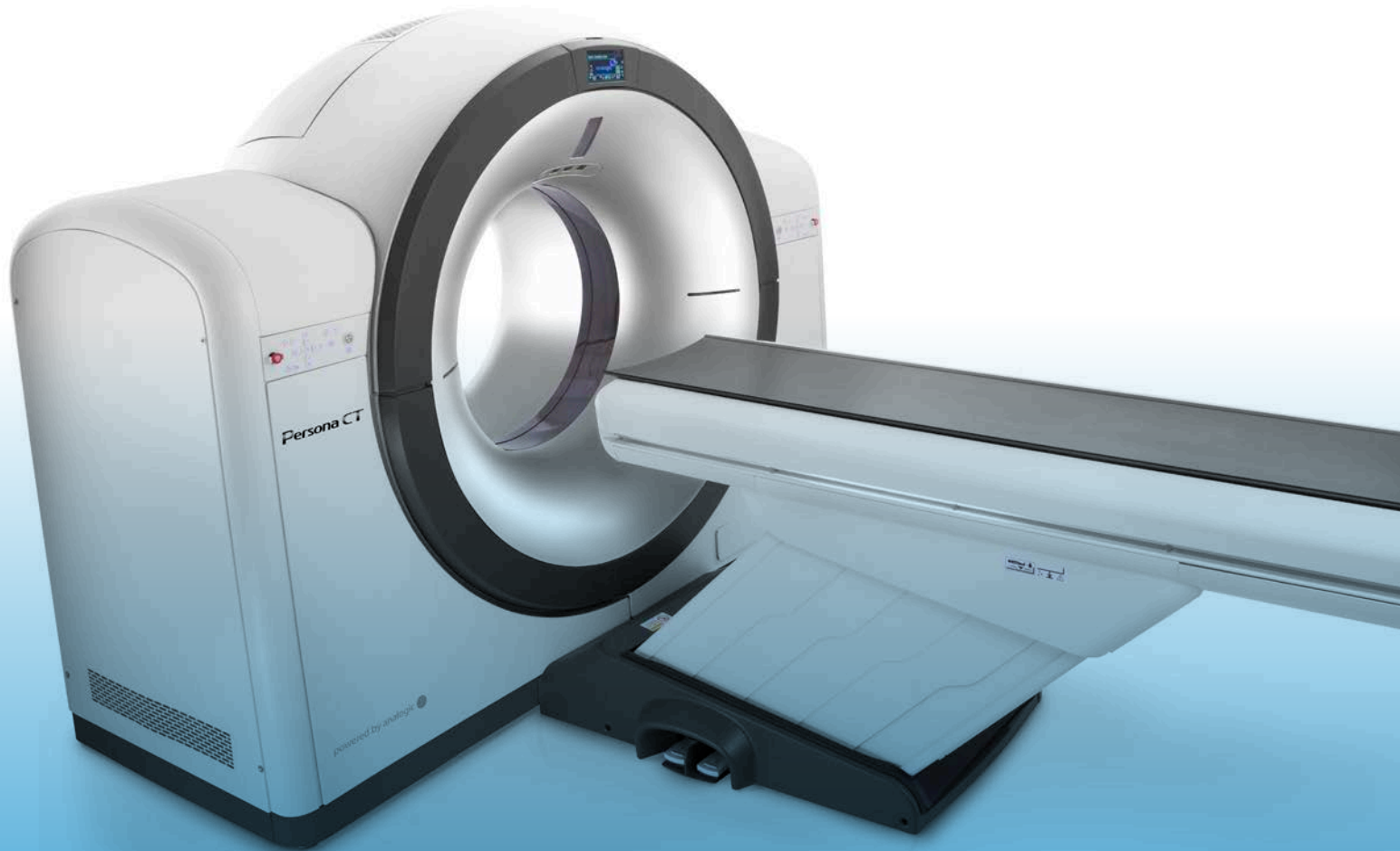
* Oncology options currently unavailable in the US
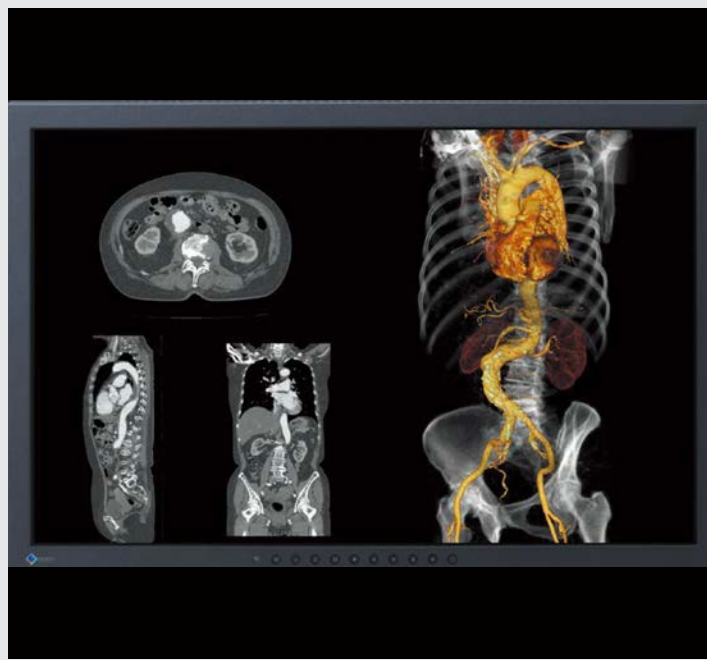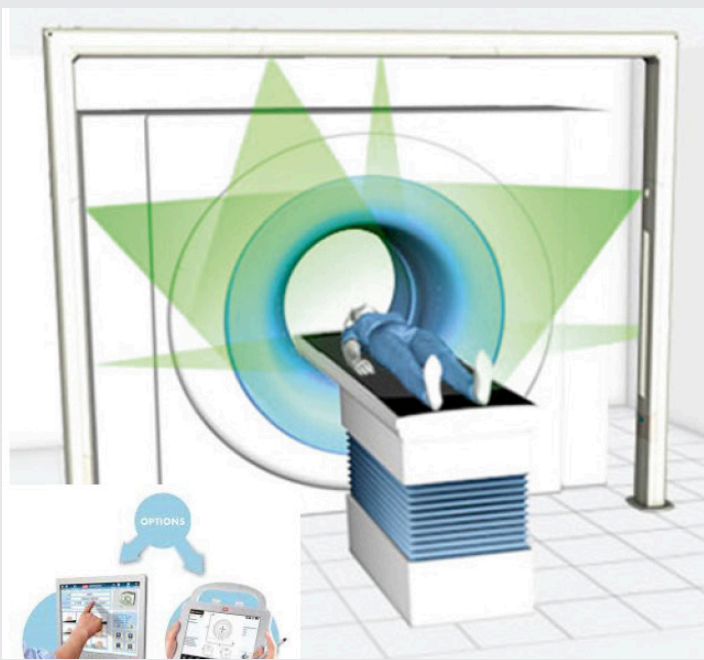
Laser Systems

Precise patient marking, accurate planning and exact positioning are key factors for a successful treatment. Persona CT is available with leading Laser Systems that help with each of these areas:

- marking the appropriate anatomical location
- reference point marking
- final isocenter marking
- field marking

Laser systems are available with multiple configurations and mounting options to meet any room requirement.

4D Gating Capabilities*

- Amplitude Binning & Phase-Based Imaging provide advanced motion management and radiation therapy planning
- Flexible options of gating devices from Varian RPM to Bellows Standard Respiratory Gating Devices
- Prospective Axial
- Prospective Helical
- Retrospective Helical
- Rapid 10 Phase Reconstruction in less than 2 minutes
- Tumor Motion and Phase information for patient marking using 4D MIPS

Synapse 3D Capabilities

- Coronary Analysis
- PET/CT Fusion
- Liver Analysis
- Lung Analysis
- Head Analysis
- 2D and 3D Fat Analysis
- Vessel Analysis

85cm Bore Solutions that Matter

- Equipped with dedicated Radiation Oncology protocols.
- Increased detector coverage and improved rotation speed result in 4x faster scans with same resolution, enhancing patient comfort.
- Improved acquisition speed along with the 4cm detector coverage helps with patients who have difficulty with lying still, Deep Inspiration Breath Holds (DIBH), and respiratory studies.
- Maximize ROI - Persona CT translates directly to the Radiology Department, minimizing learning curves and maximizing flexibility.

Currently unavailable in the US

The Fujifilm Difference

Capabilities	The Fujifilm Difference	Fujifilm 85cm Large Bore CT Simulator	Standard Bore Multislice CT	16/32 Slice 85cm CT Simulator
Radiation Therapy Planning suitable	System is designed with RTP in mind	✔	✔	✔
Fujifilm 85cm Large Bore	Matches Arc of Linear Accelerator for maximum positional accuracy and more precise treatment planning	✔	✘	✔
Large eFOV (60cm+)*	Extend ability to do surface measurements	✔	✘	✔
PowerLink Technology	System reliability and reduced service costs with no brush blocks	✔	✘	✘
49cm Wide Comfort Pallet Tabletop	Widest tabletop in the industry for enhanced patient comfort and safety	✔	✘	✘
0.4 sec Rotation Speed	Faster rotation time to improve temporal resolution especially for 4D acquisitions	✔	✔	✘
200 msec Temporal Resolution	One of the fastest in this segment	✔	✘	✘
4D Respiratory Gating Technology*	Advanced motion management with amplitude binning for more precise dose planning	✔	✘	✔
4cm Detector Coverage	Wider coverage equals faster scan times	✔	✔	✘
Metal Artifact Reduction*	Metal Artifact Reduction (MAR) is a projection-based reconstruction technique that restores anatomical details often obscured by metal in conventional image reconstruction. MAR automatically identifies areas affected by highly-attenuating objects and reconstructs improved images for increased clinical confidence. Next generation metal artifact reduction dramatically removes and/or reduces the streak artifact created by metal.	✔	✔	✔
64 and 128 slice configurations	World's First 64 and 128 slice configuration in Large Bore environment with 85cm Bore	✔	✘	✘
TG-66 Compliant Table*	Meets AAPM TG66 requirements for positional accuracy and table movement	✔	✘	✘
Rapid Image Acquisition up to 42ips	Rapid reconstruction rate with Real-time Image Preview to streamline workflow	✔	✘	✘
Image Quality		High	High	High
System Price		Medium	Medium	High

*These items are works in progress: not commercially available

Specifications

Technology Specs

Gantry	Patient Aperture: 85cm Scan Field of View: 50cm Gantry Tilt: ±30° Scan Times (360°): CT64/128: 0.4, 0.5, 0.67, 1	Gantry Dimensions H x W x D: 79.5 x 98.1 x 42.3in Input Power Requirements: 380-400/480 VAC, 3 phase, 50/60 Hz
X-ray Tube	Anode Heat Capacity: CT64/128: 8 MHU Maximum Heat Dissipation: CT64/128: 931 kHU/minute, Oil to Air	
X-Ray Generator	Power: Effective 105kW with LISA[5] kV Range: 80, 100, 120, 140 kVp Current Range: 10 to 660 mA	

X-Ray Detection	Number of Detector Elements in X-Direction:
	   57,344 elements (64 x 896)
	Number of DAS Rows: 64
	Slice Doubling Technique: Optional 128 slice
		Detector Width (Z dimension): CT64/128:
		   40mm at iso-center
		Maximum Helical Scan Time: 120 seconds
		Maximum Scan Volume: 190cm

Scan Parameters	Acquired Slice Thickness: 64 or 128 slice of 0.625mm Displayed Slice Thickness: 0.625, 1.25, 2.5, 5, 7.5, 10mm Scan Modes: Localizer, Axial, Helical, Cine	
Image Quality	Spatial Resolution: 17.2Lp/cm at 0% MTF	
Image Reconstruction	Max reconstruction rate: Up to 42 images per second Real-time Image Preview Iterative Bone Correction	

Patient Table	Vertical Travel Range: 48cm to 101cm (18.9in to 39.8in)
	Horizontal Scannable Range: 190cm (74.8in)
	   with extensions
	Horizontal Travel Speed: Up to 180mm (7.1in)/s
	Patient Weight Maximum: 225kg (500lbs) or Optional
	   300kg (660lbs)
		Horizontal Accuracy: ±0.5mm
		Table Pallet Width: 49cm (19.3in)
		Table Width: 78cm (30.7in)
		Included Accessories: Tabletop Slicker Pad, Head
		   Holder & Pad, Foot Extension Board & Slicker Pad,
		   Patient Restraints, IV Pole & Holder, Knee Pad

Radiation Dose Management	Pediatric Protocols LISA[5] with PixelShine 4D mA modulation Protocol Driven Dual Bowtie Filters	Automatic Focal Spot Selection Expanded kV Ranges Scalable Flex Tile Detectors NEMA XR-29
System Console	Display Monitor: One (1) 27"Full HD Flat Panel Touchscreen Display Matrix: 1920 x 1080 Display Dimensions H x W x D:26.5" x 16.5" x 2.0" Workstation: Intel i7, Windows	System Memory: 16 GBytes System Hard Disk: 2 TBytes Image Data Storage: DVD>250,000 Images System Archival Storage: DVD

System Specifications

User Interface Features	Clinical Protocol Driven with Overrides Touchscreen Workflow Automated with Task Protocols Automatic MPR Reconstruction	Auto-Archive Advanced Help Second Workstation (optional) with Synapse 3D
HIS/RIS/PACS Integration Services	DICOM 3.0 Modality Work List SCU IHE Profiles for Radiation Dose Structured Reports	
Clinical Application Packages (standard)	MPR MiP/MiniP 3D Shaded Surface Display	3D Volume Rendering Bolus Trigger/Dynamic Evaluation CT Angiography
Clinical Application Packages (optional)	3D Volume Rendering Bolus Trigger/Dynamic Evaluation CT Angiography Virtual Colonography CT Perfusion	Lung Nodule Analysis Cardiac Gating/Triggering Coronary Artery Calcium Scoring Bone Mineral Density Image Fusion

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