Shanghai United Imaging Healthcare Co., Ltd.

Shanghai, China
2258 Chengbei Rd., Jiading District, Shanghai, 201807.

Email | info.global@united-imaging.com
Business Consultation | +86（21）- 67076666
After-sales Service | 4006 - 866 - 088

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ABOUT UIH

At United Imaging, we develop and produce advanced medical products, digital healthcare solutions, and intelligent solutions that cover the entire process of imaging diagnosis and treatment. Founded in 2011 with global headquarters in Shanghai, our company has subsidiaries and R&D centers across China, the United States, and other parts of the world. With a cutting-edge digital portfolio and a mission of broader access to healthcare for all, we help drive industry progress and bold change.

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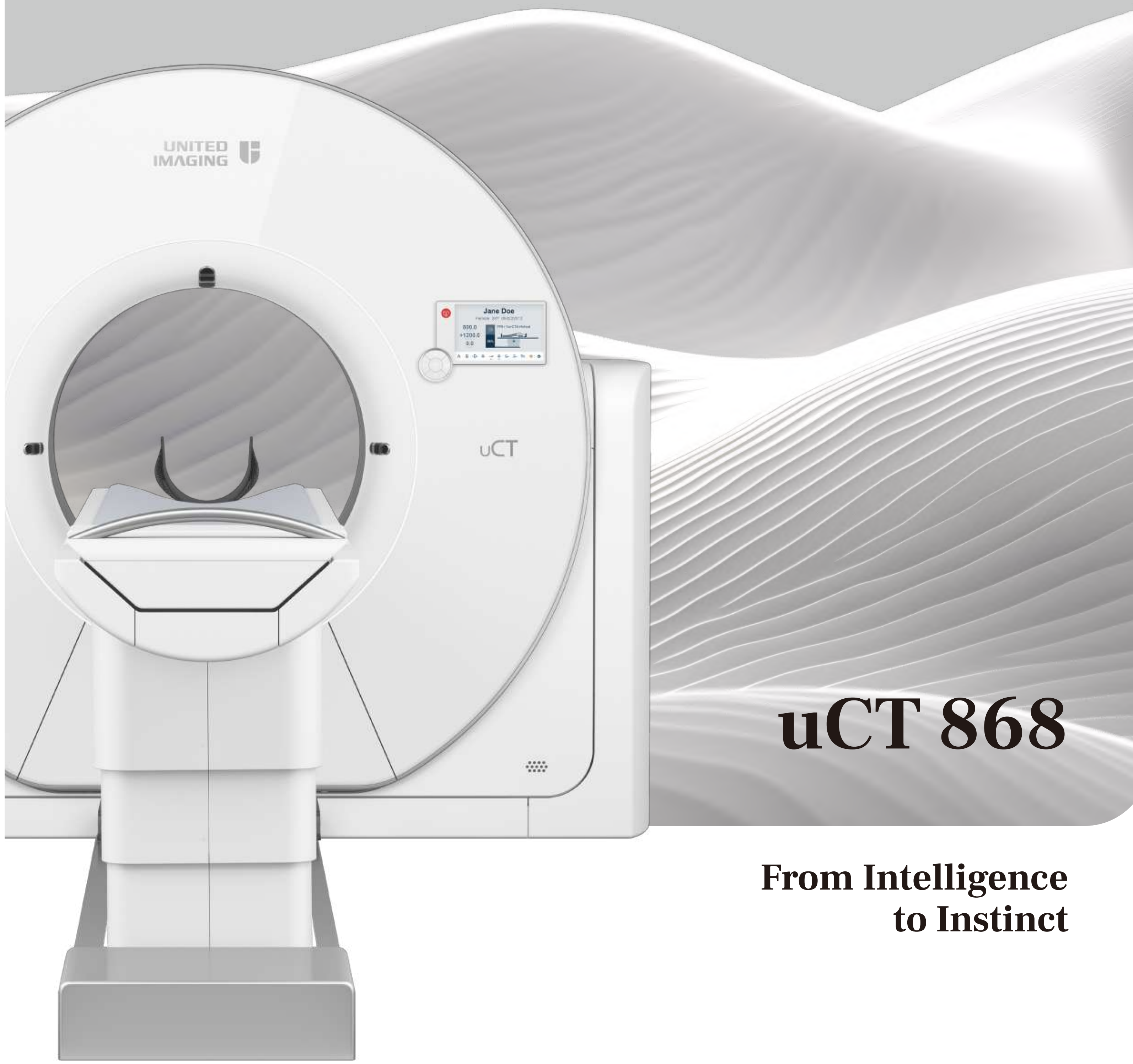

uCT 868

From Intelligence to Instinct

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uCT 868

From Intelligence to Instinct

The uCT 868 ushers in a new era of high-end CT imaging, seamlessly integrating industry-leading AI with hardware excellence. By uniting advancements in image perception, motion detection, and workflow optimization, this cutting-edge platform empowers healthcare professionals to see more, achieve more, and operate less—instinctively unlocking a new level of diagnostic confidence and patient care.

Invisible Details,
Instinctively Revealed by Intelligence

Motion Artifacts,
Instinctively Suppressed by Intelligence

Innate Efficiency,
Instinctively Driven by Intelligence

Invisible Details,Instinctively Revealed by Intelligence

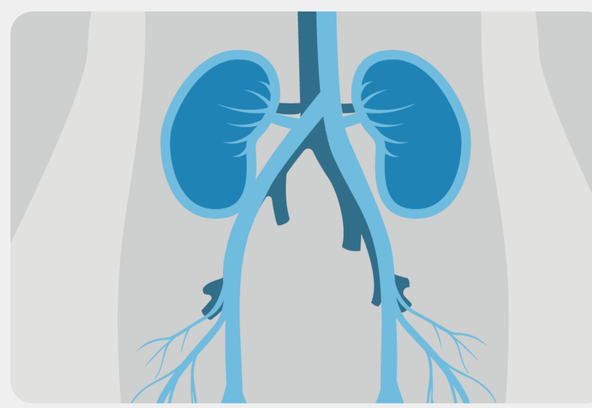
CT imaging has significantly enhanced diagnostic accuracy, yet challenges remain in achieving optimal image quality for complex cases and specialized patient populations. As the AI field evolves, deep learning is driving advancements in CT imaging by improving spatial resolution and contrast while suppressing artifacts. These innovations refine CT capabilities, making the invisible visible and ultimately improving patient outcomes.

Uncovering Hidden Details in CT Imaging: A Continual Challenge and Path Forward

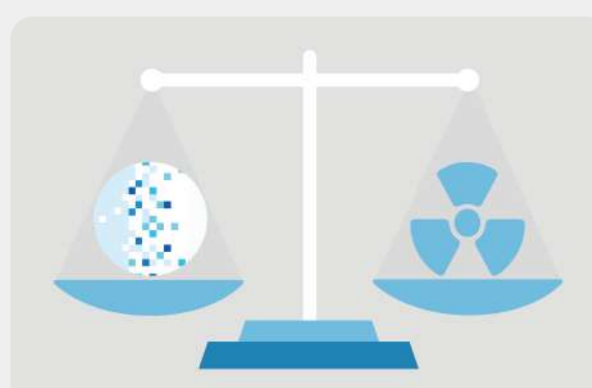
Challenges in detecting fine structures in the body amid noise and dose limitations

Small lesions, such as early-stage tumors, are subtle and often indistinct compared to surrounding tissues, making them challenging to detect. The imaging process is further hindered by noise at low radiation dose especially when reconstructed with conventional algorithms, which reduces contrast and obscures lesion details[1][2].

Clear visualization of vessel structure in computed tomography (CT) images is essential in diagnosis and surgical planning. In low-dose CT scenarios, the detectability of distal and submillimeter blood vessels is challenging due to the existence of statistical noise and streak artifacts[3].

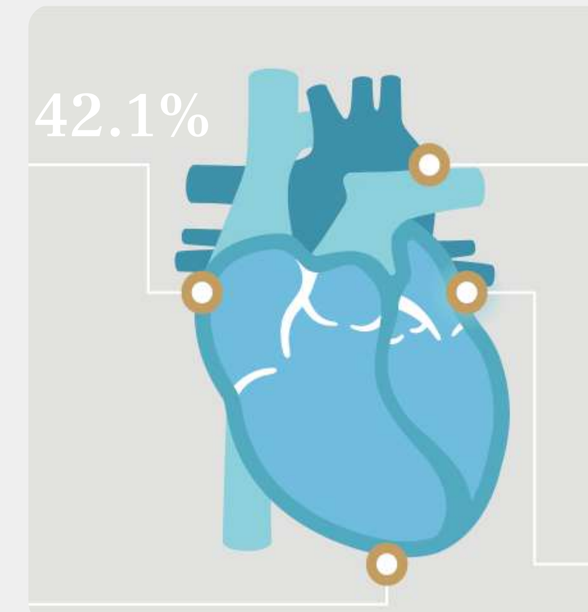


The ALARA principle ("as low as reasonably achievable") guides radiation safety by minimizing unnecessary exposure. This focus on reducing radiation has driven the demand for advanced reconstruction technologies.



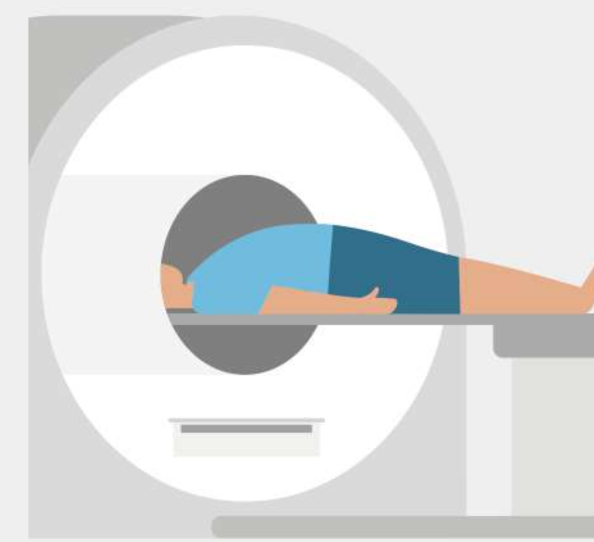
Challenges in imaging cardiac complex lesion cases

A multicenter clinical survey revealed that 42.1% of the general population had atherosclerosis detected via coronary CT angiography (CCTA), with 5.2% exhibiting significant stenosis (≥50%)[4]. However, CT imaging of atherosclerotic plaques remains challenging due to their complex composition, particularly for lipid-rich plaques. Limited contrast resolution and artifacts like calcium blooming further complicate lumen size and stenosis assessment, while noise in low-dose imaging obscures fine details[5][6].



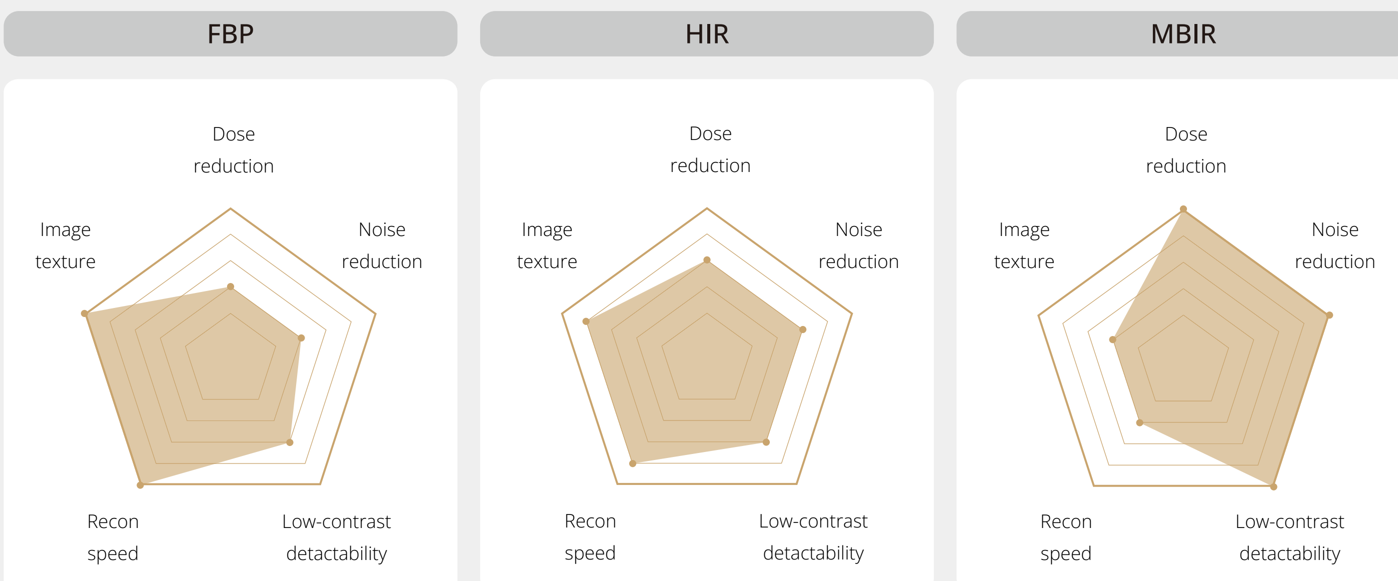
Insufficient detail visibility for special patient groups

A 50 cm field of view (FOV) may be insufficient for larger body sizes or patients requiring special positioning, often resulting in poor image quality for areas extending beyond the FOV [7] . This can hinder the clear visualization of necessary structures, leading to suboptimal diagnostic imaging.



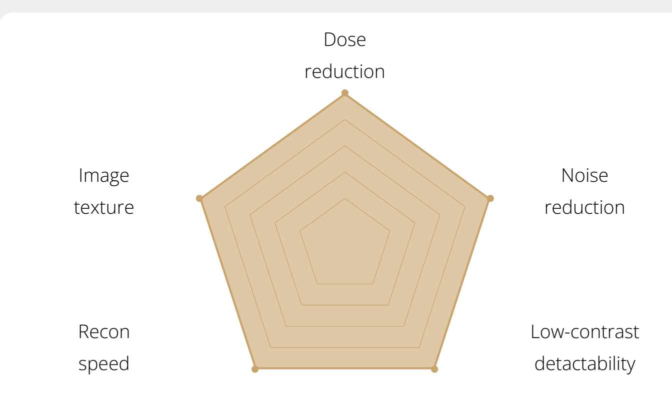
Evolution of CT Imaging: Advancements and Challenges of Each Reconstruction Algorithm

CT image reconstruction has significantly advanced, improving image quality, reducing radiation doses, and enhancing diagnostic precision. Filtered Back Projection (FBP), the first widely used algorithm, offered speed but struggled with noise and artifacts in low-dose scans. Hybrid Iterative Reconstruction (HIR) improved noise reduction and artifact mitigation at lower dose but still relying on FBP principles and not fully adapting to real-world hardware details. Model-Based Iterative Reconstruction (MBIR) further enhanced image quality and reduced radiation doses, but it required substantial computational resources, time, and sometimes resulted in unnatural image textures [8] .



Emerging new technology: deep learning-based CT image reconstruction algorithm

The latest breakthrough, deep learning-based reconstruction leverages artificial intelligence (AI) techniques, specifically deep learning algorithms, to learn and predict the optimal image from noisy or incomplete data. These networks are trained on large datasets of high-quality images and can improve image quality by removing noise and artifacts while preserving fine details [9] .

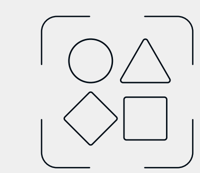


Potential Concerns with Deep Learning Reconstruction

Throughout the evolution of CT imaging, each new breakthrough has required balancing computational efficiency, image quality, and radiation dose. Deep learning, an evolving approach in this field, promises to push these boundaries even further. Yet, as it gains wider adoption, relying solely on deep learning networks may present certain limitations.

Highly dependent on training data

Deep learning algorithms excel on data that closely resembles their training sets, but may struggle to maintain the same level of accuracy when confronted with out-of-range or unconventional inputs. These inputs often fall outside the patterns the model has learned, leading to uncertain or reduced performance[10].

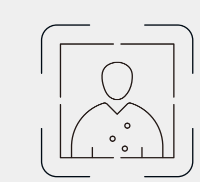


Black box nature

The "black box" nature of deep learning models means that they are less interpretable than conventional algorithms, which can limit clinicians' understanding of how a particular image was reconstructed[10].

Struggles with complex artifacts

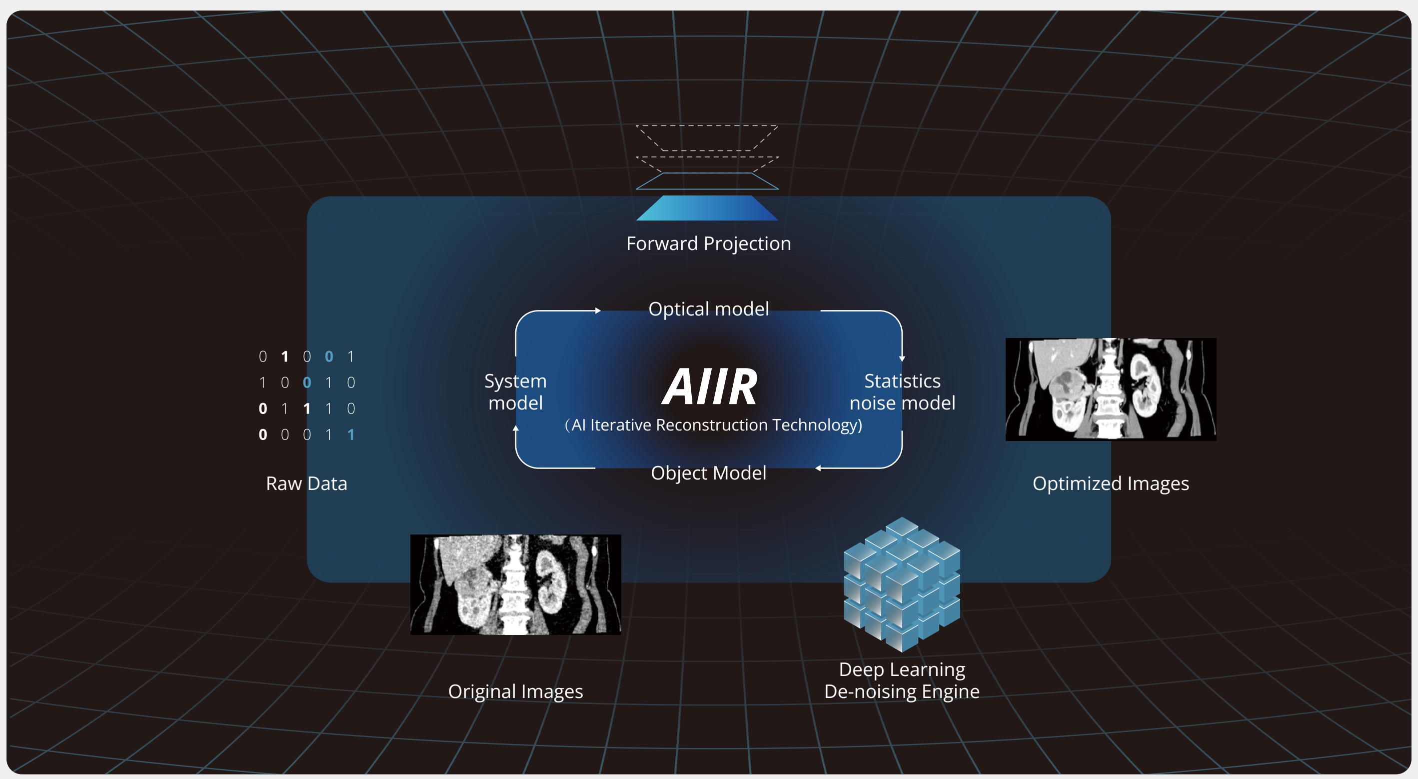
While deep learning algorithms excel at reducing image noise and typical motion artifacts, they may fall short when addressing more complex pathological structures and challenging artifacts[11].



AIIR※: Combined AI and Model-Based Iterative Reconstruction

Innovatively integrating the advantages of both algorithms

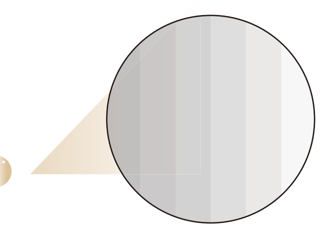
Combining MBIR with deep learning leverages each method's strengths while mitigating their limitations. In AIIR※, the data-fidelity term integrates system optics, detector response, and quantum noise models for each scan, preserving detailed anatomical and pathological information from raw projections. While MBIR's high regularization strength can lead to unnatural appearances—especially at low doses—AIIR※replaces it with a CNN(Convolutional neural network)-based model capturing complex clinical features through millions of parameters. Together, the two technologies complement each other, allowing more precise noise differentiation and delivers improved image quality.



AIIR※elevates image quality across all dimensions

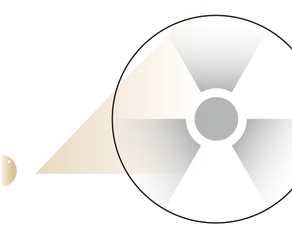
AIIR※stands out as today's most advanced CT image reconstruction architecture, setting a new standard in CT imaging with its unique design. By optimizing noise reduction, enhancing low-contrast detectability, increasing spatial resolution, and reducing artifacts, AIIR※ultimately delivers exceptional image quality and superior diagnostic capabilities.

267%※※※



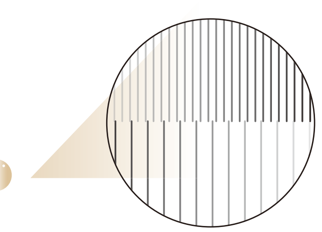
Up to 267% low contrast detectability improvement

90%※※※



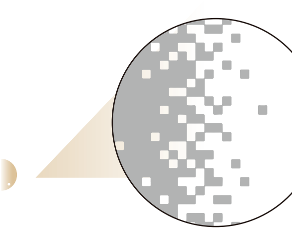
Up to 90% dose reduction

150%※※※



Up to 150% spatial resolution improvement

98%※※※



Up to 98% noise resolution improvement

※Optional

※※※ Results from phantom test, compared with FBP reconstrcution.

Robust Infrastructure: The Backbone of AIIR※

High-resolution Z-Detector

0.5 Mm Detector Element

0.5 mm acquisition in all FOVs and collimations, revealing finer details.

Fully Integrated Design

Through-Silicon-Via (TSV) technology revolutionizes detector design by shortening the signal conduction path from centimeters to micrometers, dramatically reducing electronic noise and enabling ultra-low noise signal output.

3d Anti-Scatter Grid

Each grid, focused on the X-ray source, effectively shields scattered photons, achieving a scatter-to-primary ratio of <8.5%.

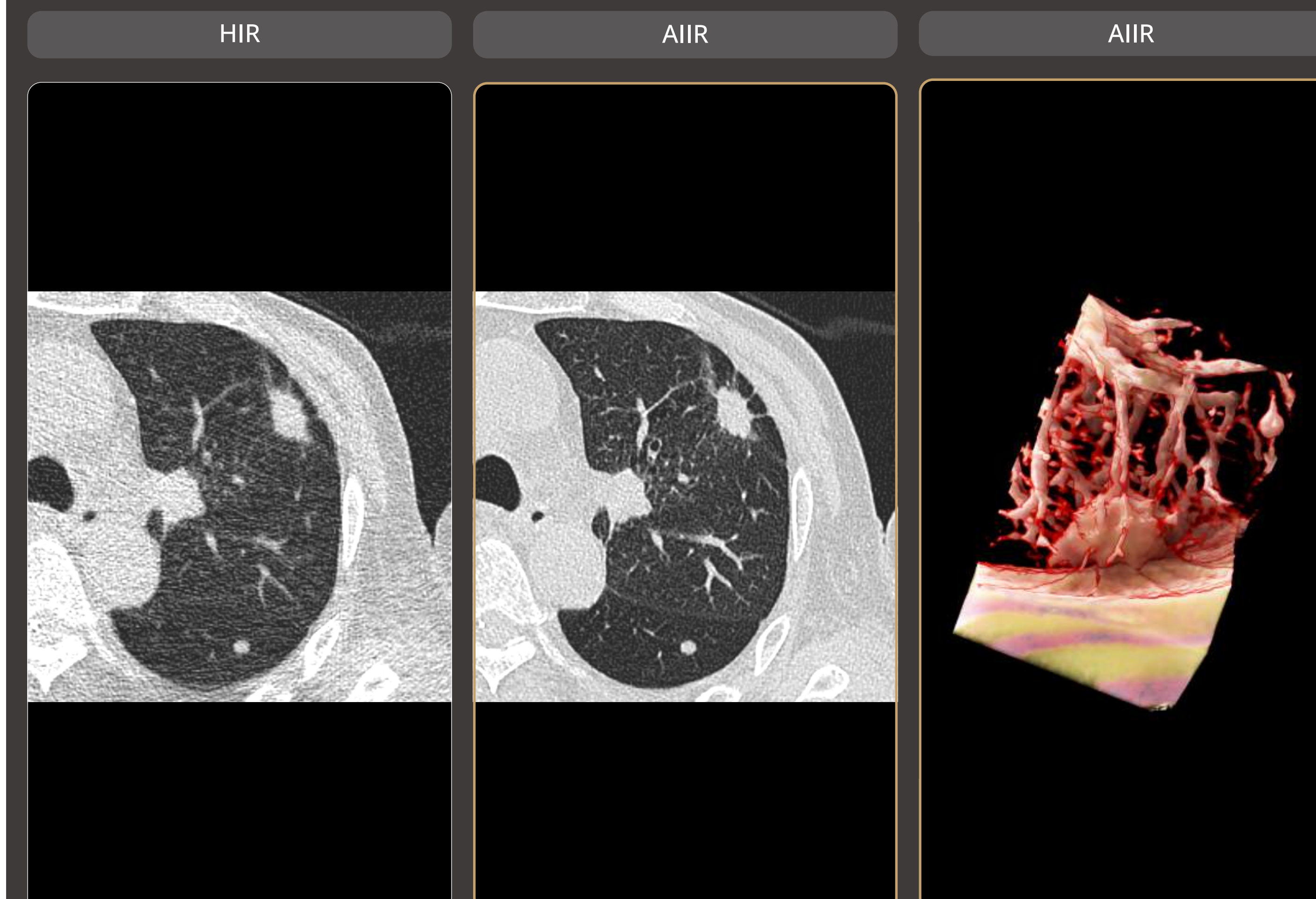
Dedicated Supercomputing Host※

Equipped with high-performance GPUs, the AIIR※ reconstruction host meets the complex computational demands of combined deep neural networks and MBIR. Its robust infrastructure accommodates a growing volume of CT scans and large-scale data transmissions, delivering efficient imaging workflows.

※Optional

AIIR※ Enhances Lesion Visualization in Ultra-Low Dose Imaging

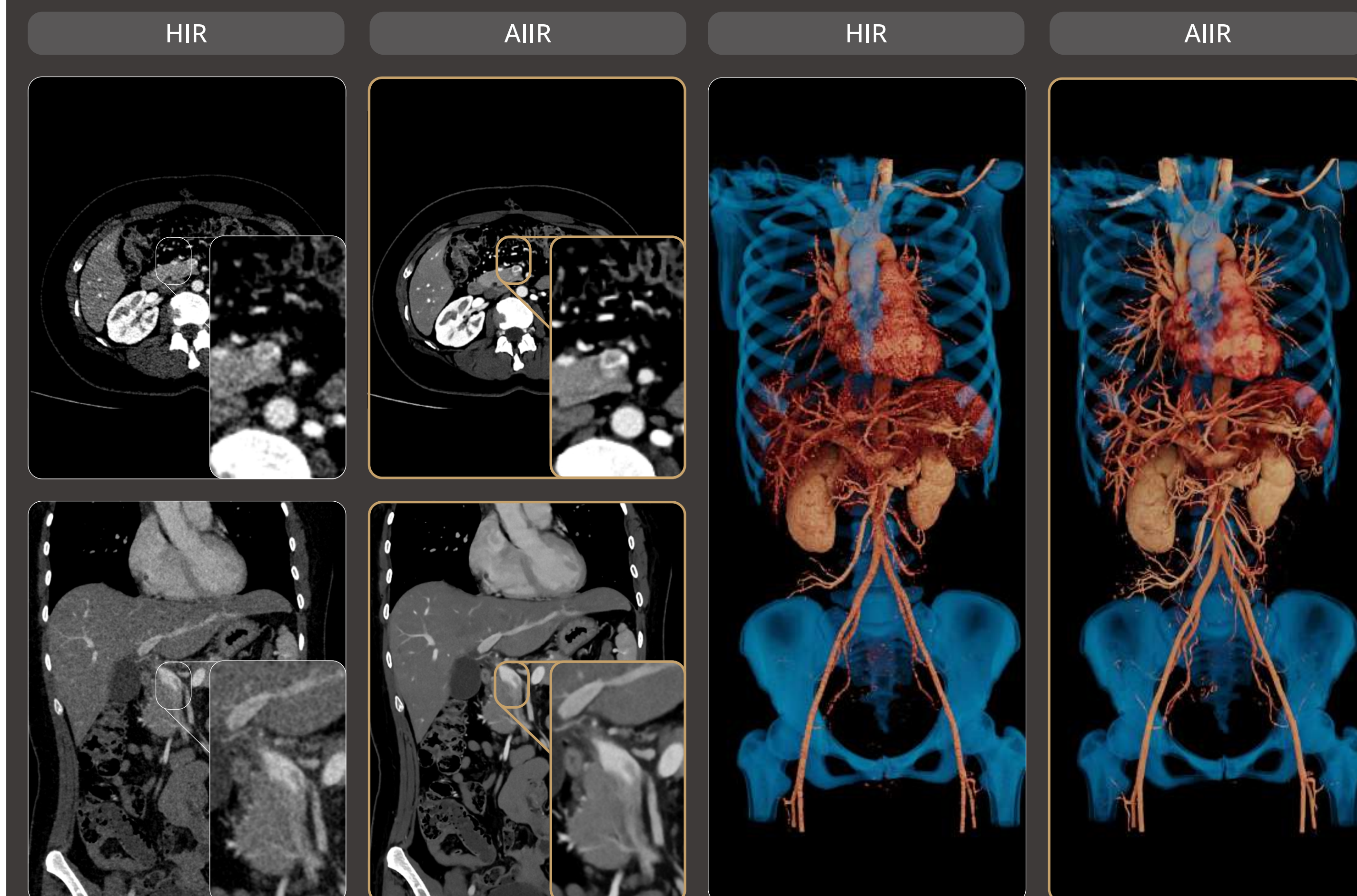
Compared to conventional 60 kV low-dose HIR images, AIIR※-reconstructed images exhibit lower noise and higher resolution, allowing for clearer visualization of the pleural involvement in the left upper lobe lung cancer lesion.



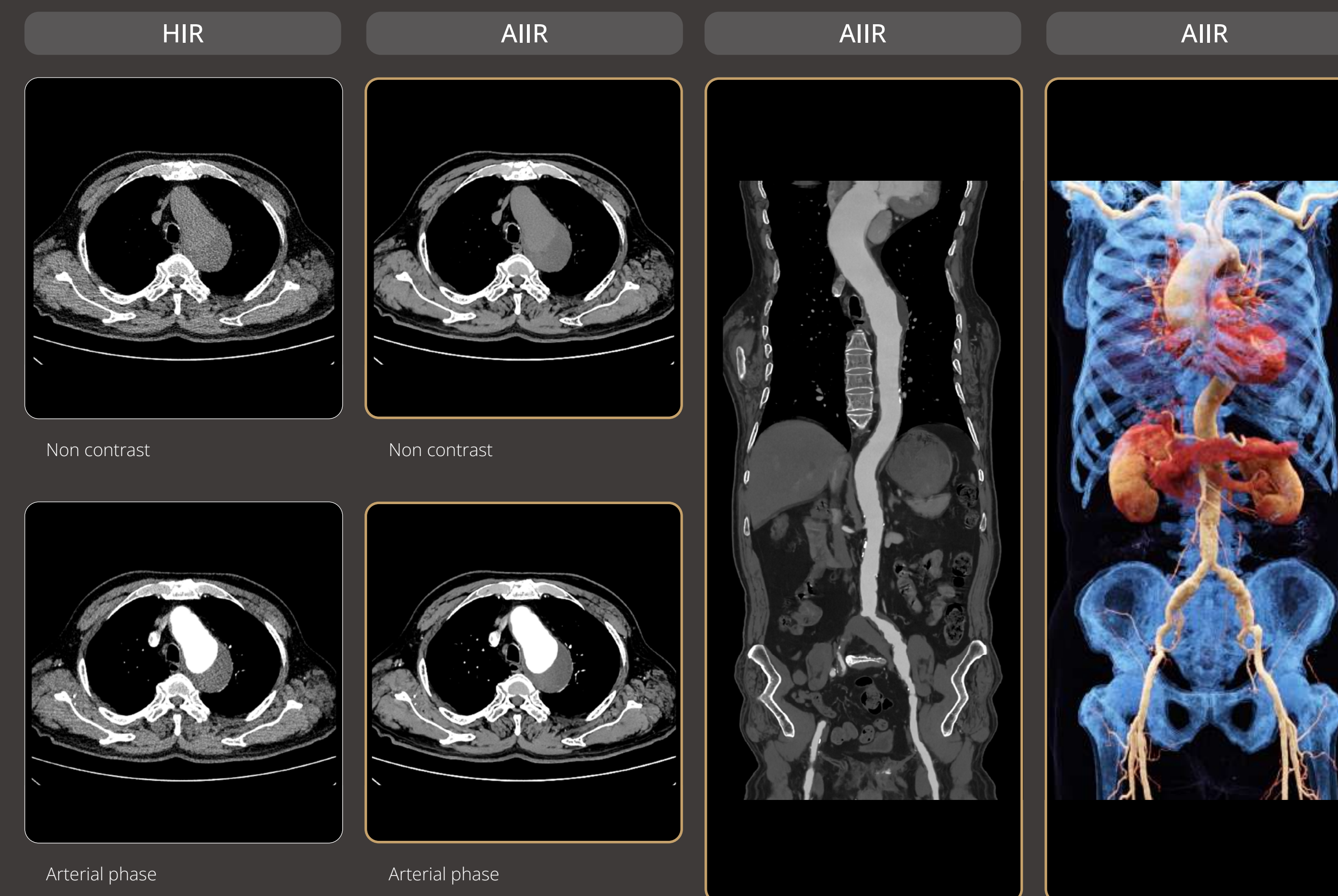
Chest Helical	Reconstruction	Contrast
0.5 sec/rotation kV: 60 mAs: 101 CTDIvol: 0.6 mGy Eff.Dose: 0.3 mSv	Matrix: 512 x 512 Slice: 1.0 x 0.5 mm HIR: B_SHARP_C AIIR: LungSharp/AIIR 5	—

AIIR※ Enhances Positive Detectability and Optimizes Treatment Planning

The AIIR※ algorithm enables clearer identification of portal vein thrombosis features, such as thrombus size, shape, location, and its relationship with surrounding tissues.



AIIR※ clearly visualizes aortic arch hematomas in non-contrast scanning.



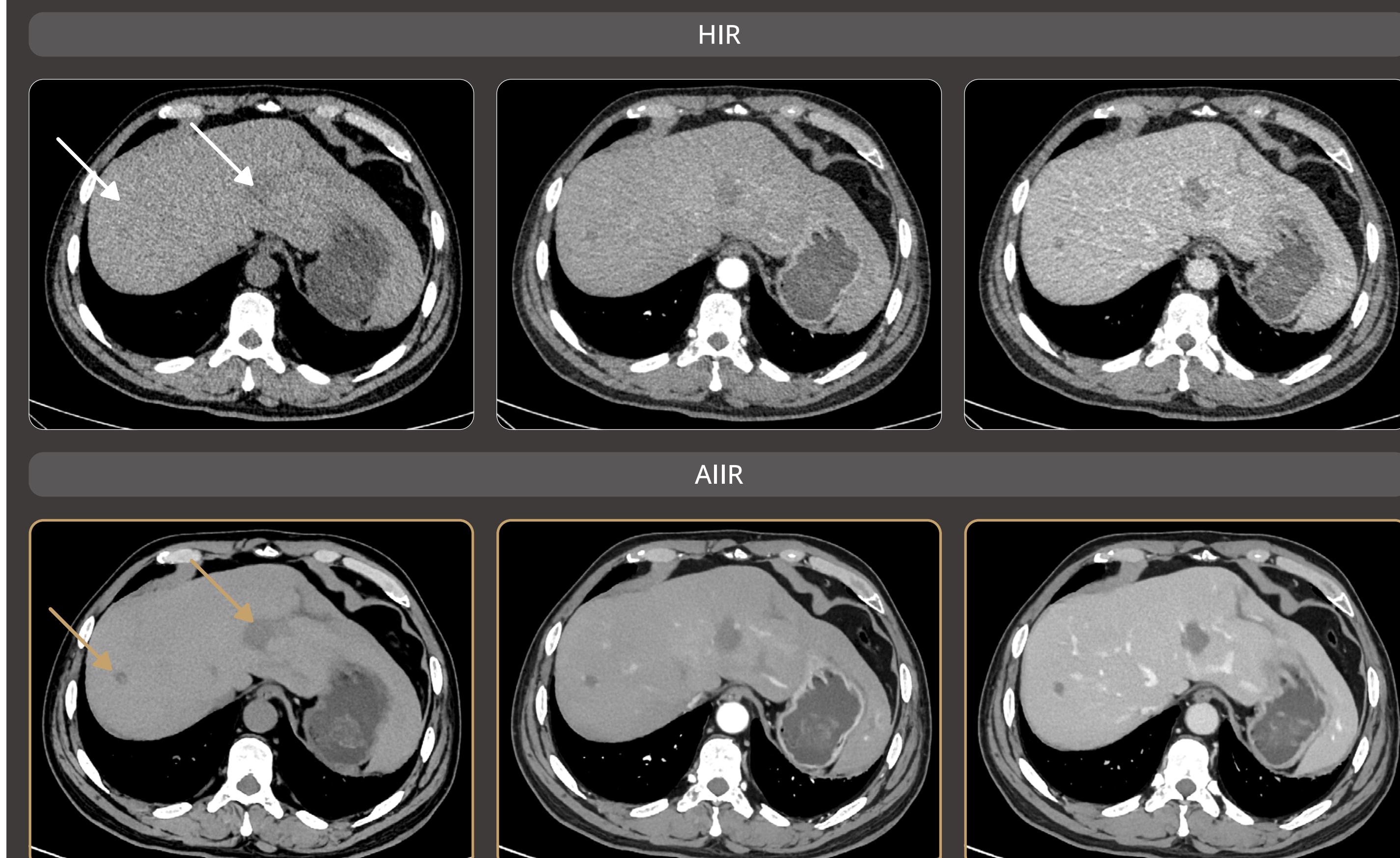
Abdomen Contrast	Reconstruction	Contrast
0.5 sec/rotation kV: 80 mAs: 117 CTDIvol: 2.3 mGy Eff.Dose: 2.4 mSv	Matrix: 512 x 512 Slice: 1.0 x 0.5 mm HIR: B_SOFT_B/KARL 5 AIIR: BodyStandard/AIIR 3	350 mgI/ml 75 ml 3.5 ml/s

Abdomen Contrast	Reconstruction	Contrast
0.5 sec/rotation kV: 100 mAs: 104 CTDIvol: 4.3 mGy Eff.Dose: 4.9 mSv	Matrix: 512 x 512 Slice: 1.0 x 0.5 mm HIR: B_SOFT_B/KARL 5 AIIR: BodyStandard/AIIR 3	350 mgI/ml 75 ml 4.0 ml/s

※ Optional

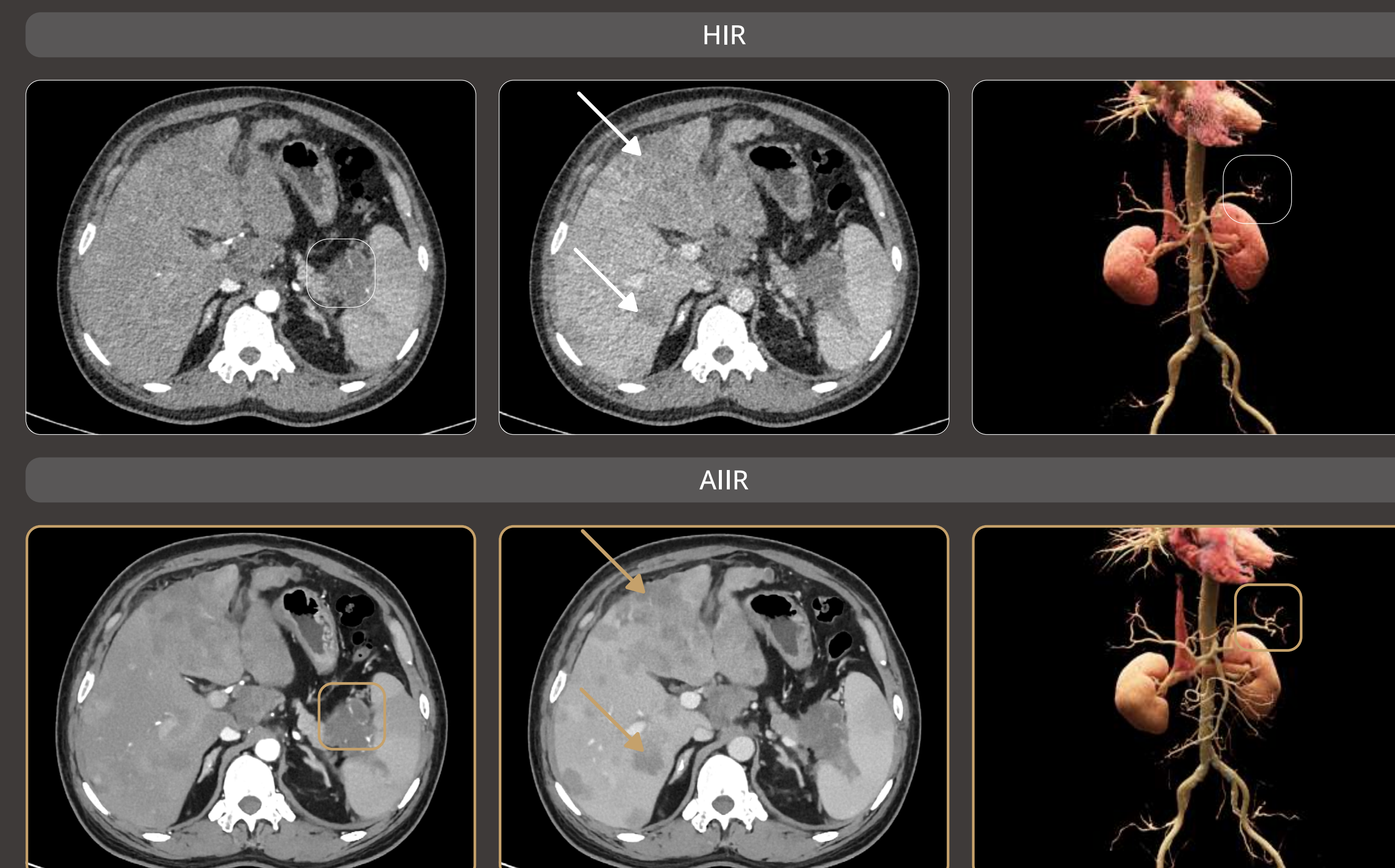
AIIR※ Boosts Tumor Detection in Low Dose Imaging

AIIR※ reduces noise and enhances low-contrast detectability in abdominal liver metastases, clearly visualizing small lesions and improving vessel and lesion contrast.



Non-contrast Arterial phase Venous phase

AIIR※ differentiates the pancreatic tail tumor from surrounding tissues, defines liver metastasis boundaries, and enhances visualization of small vessels in the tumor's blood supply region.



Arterial phase Venous phase

Abdomen Contrast	Reconstruction	Contrast
0.5 sec/rotation kV: 80 mAs: 238 CTDIvol: 5.1 mGy Eff.Dose: 3.7 mSv	Matrix: 512 x 512 Slice: 1.0 x 0.5 mm HIR: B_SOFT_B/KARL 5 AIIR: BodyStandard/AIIR 3	350 mgI/ml 70 ml 2.5 ml/s

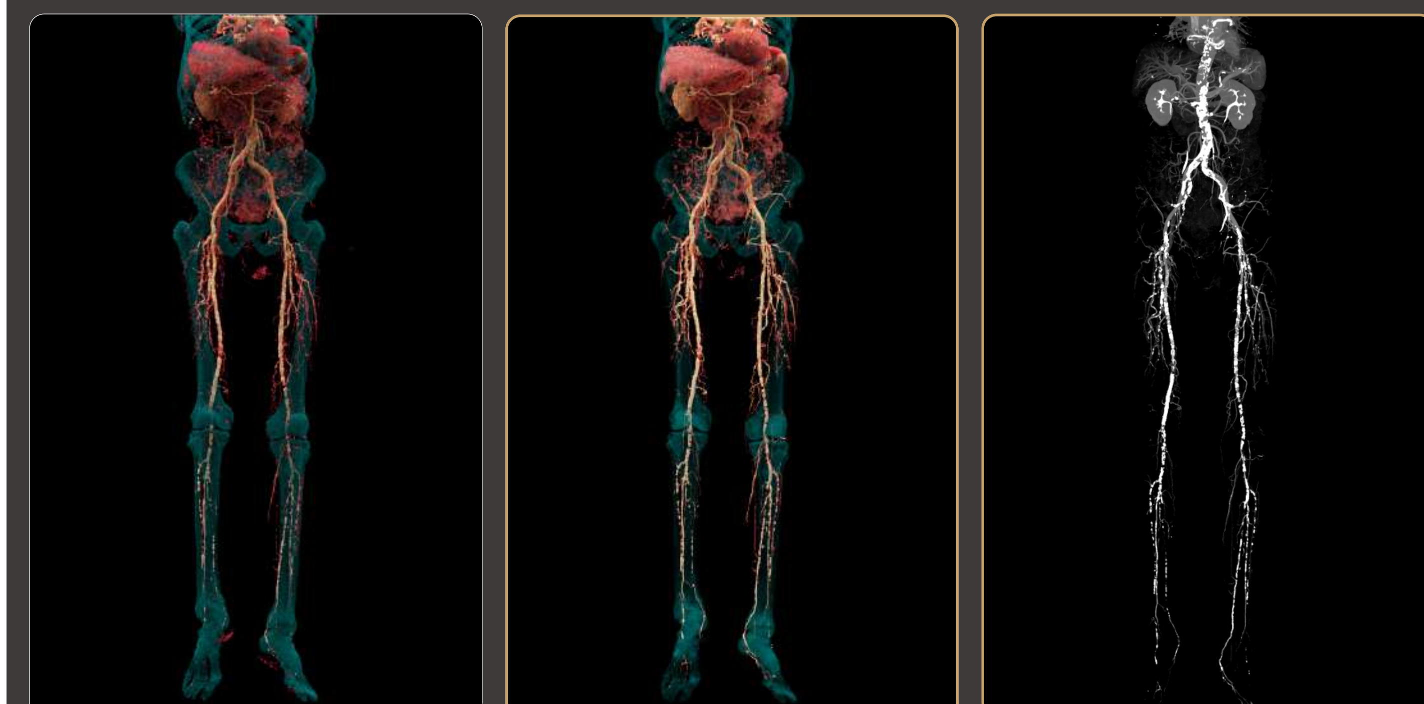
Abdomen Contrast	Reconstruction	Contrast
0.5 sec/rotation kV: 80 mAs: 236 CTDIvol: 5.0 mGy Eff.Dose: 3.0 mSv	Matrix: 512 x 512 Slice: 1.0 x 0.5 mm HIR: B_SOFT_B/KARL 5 AIIR: BodyStandard/AIIR 3	350 mgI/ml 70 ml 2.5 ml/s

※ Optional

AIIR※ Reduces Image Noise, Enhancing the Visibility of Distal Vessels

AIIR※ reveals more details of distal and small vessels in lower limb arterial occlusive disease.

HIR	AIIR	AIIR



AIIR※ enhances vascular details in patients with lower limb atherosclerosis, providing valuable information for disease assessment.

HIR	AIIR	AIIR

Lower Extremity CTA	Reconstruction	Contrast
0.5 sec/rotation kV: 100 mAs: 69 CTDIvol: 2.9 mGy Eff.Dose: 6.4 mSv	Matrix: 512 x 512 Slice: 0.5 x 0.5 mm HIR: B_SOFT_B/KARL 5 AIIR: BodyStandard/AIIR 3	350 mgI/ml 65 ml 4.0 ml/s

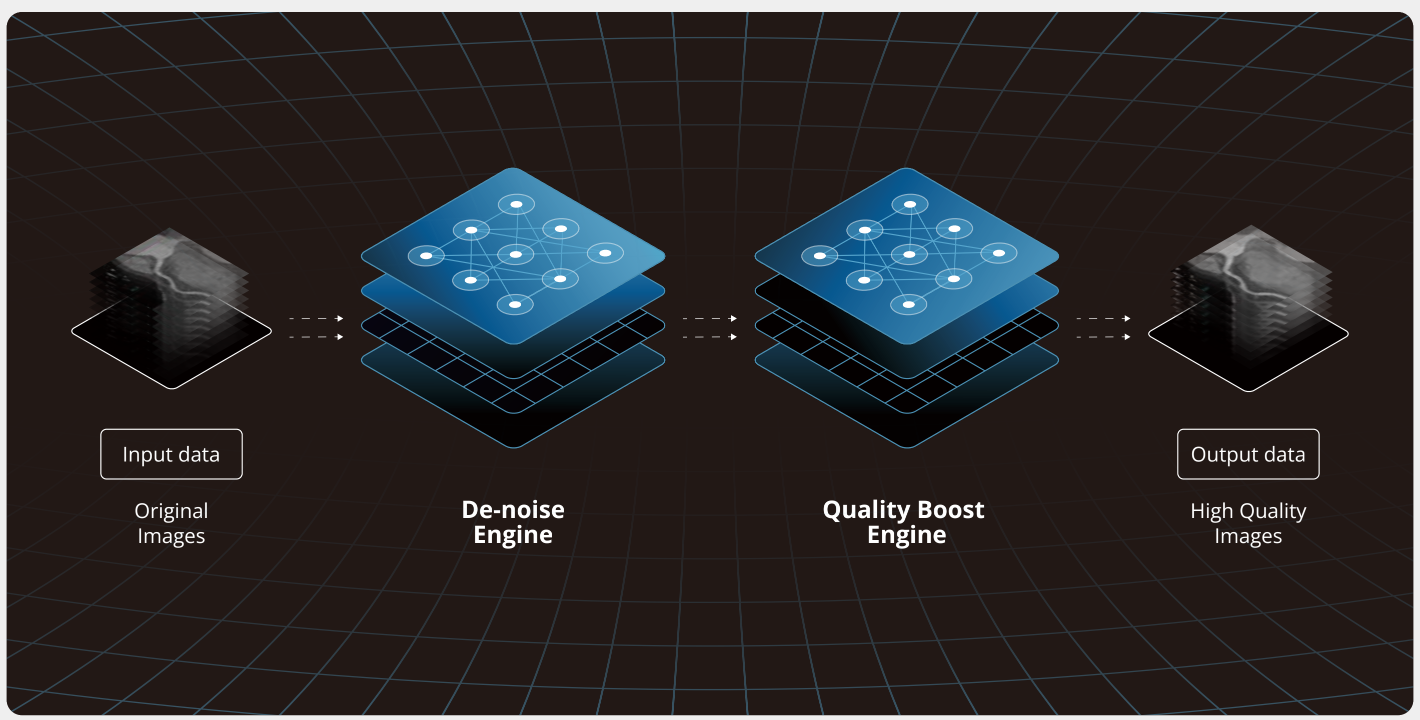
Lower Extremity CTA	Reconstruction	Contrast
0.5 sec/rotation kV: 100 mAs: 150 CTDIvol: 6.0 mGy Eff.Dose: 10.4 mSv	Matrix: 512 x 512 Slice: 1.0 x 0.5 mm HIR: B_SOFT_B/KARL 5 AIIR: BodyStandard/AIIR 3	350 mgI/ml 65 ml 4.5 ml/s

※ Optional

CardioBoost: Enhance the Diagnostic Confidence For Complicated Cardiac Imaging Through Deep Learning

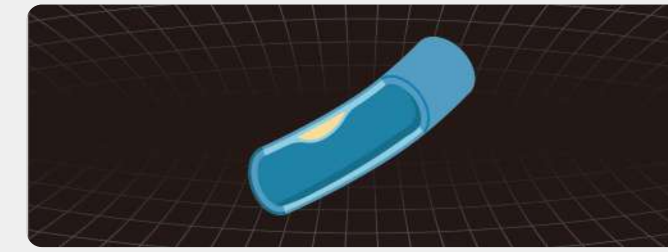
Improve cardiac imaging with a unique network design

Despite improvements in cardiac CT, resolving fine structures such as tiny plaques in coronary vessel remains difficult, while stents and calcifications can cause blooming artifacts, and metallic implants introduce streak artifacts. CardioBoost addresses these limitations by employing a 3D Convolutional Neural Networks (CNNs) trained on millions of high-quality scans to deliver low-dose imaging with enhanced anatomical details. Its de-noising engine preserves low-contrast detectability, and the Spatial Attention Module sharpens resolution while minimizing streaking and blooming from dense materials like stents and calcium plaques, resulting in clearer images and improved assessment of coronary stenosis and vessel lumens.



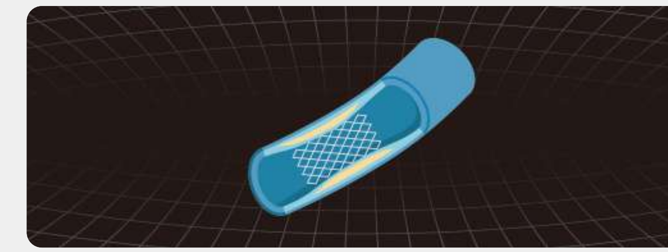
Contrast boost

Leveraging advanced 3D CNNs trained on well-organized data for various anatomical structures, CardioBoost delivers enhanced contrast, providing clearer visualization of soft or mixed plaques.



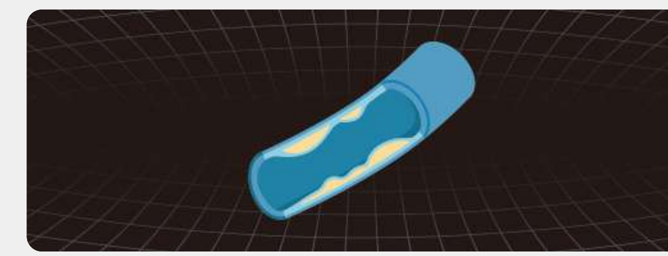
Resolution boost

CardioBoost incorporates a specialized module for cardiac data. The Spatial Attention Module precisely targets areas in reconstructed images, enhances spatial resolution, and enables more accurate evaluation of coronary stents.

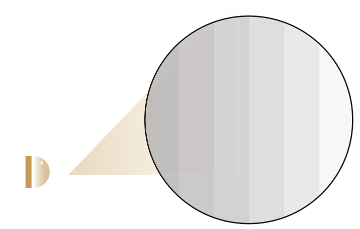


Artifact suppression

The Spatial Attention Module reduces streaking and blooming artifacts caused by high-density structures like multiple calcium plaques at the same radiation dose, delivering sharper images.

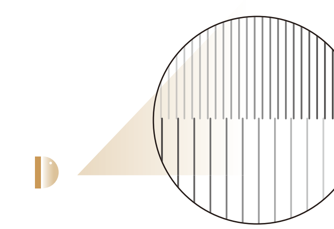


99%※※※



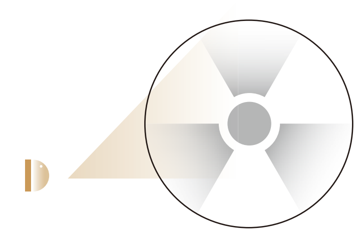
Up to 99% low contrast detectability improvement

72%※※※



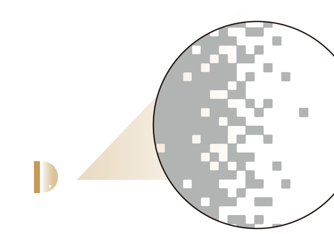
Up to 72% spatial resolution improvement

70%※※※



Up to 70% dose reduction

97%※※※



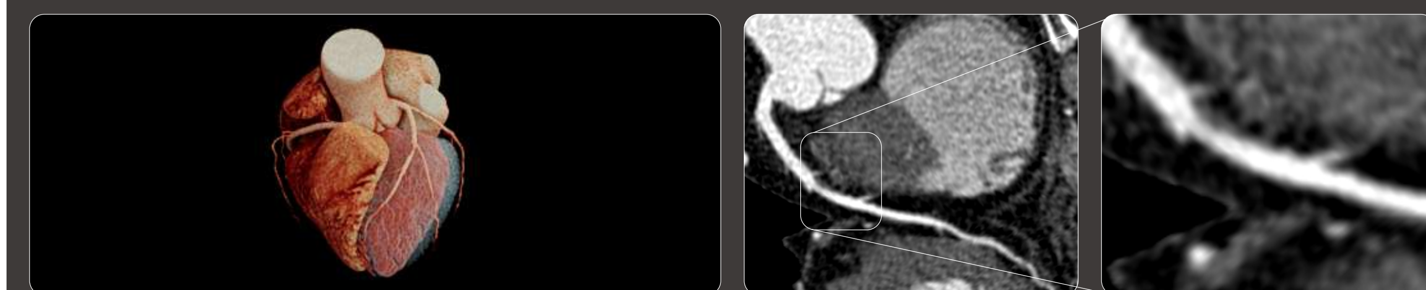
Up to 97% noise reduction

※※※ Results from phantom test, compared with FBP reconstrcution.

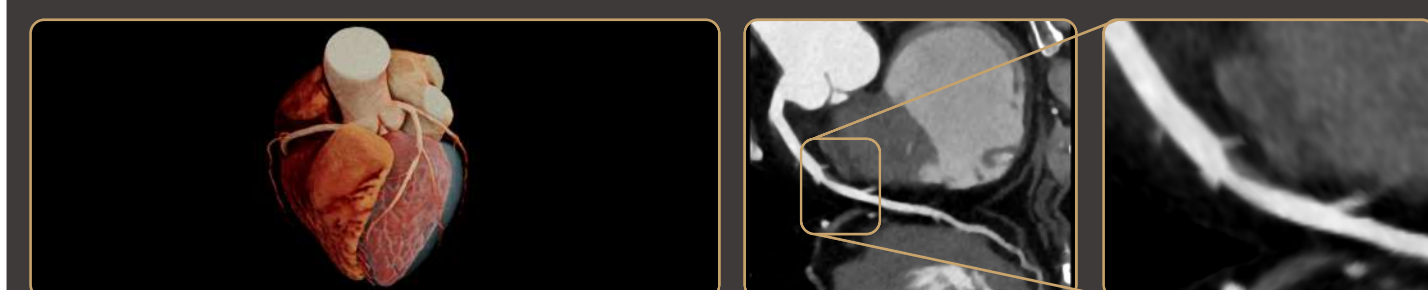
CardioBoost Delivers Enhanced Clarity for Challenging Vascular imaging

With CardioBoost, the vessel boundary is sharply defined, contrast is enhanced, and the non-calcified plaque in the mid LAD is distinctly visible.

Without CardioBoost

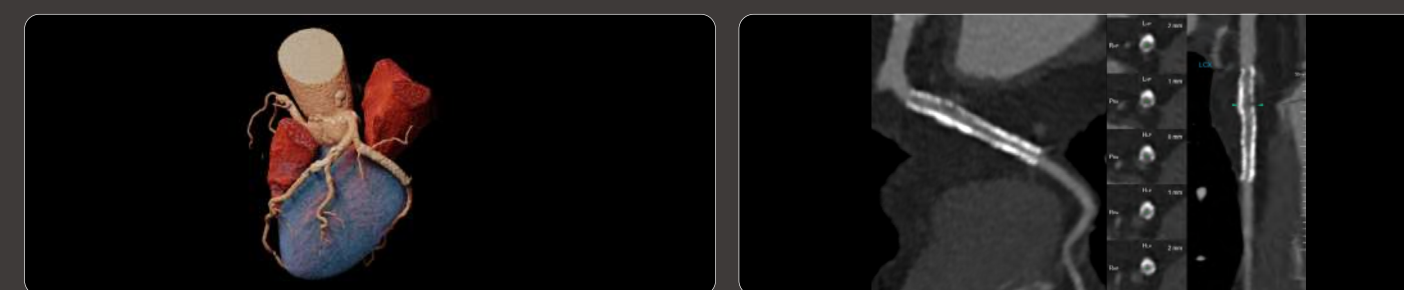


With CardioBoost



CardioBoost enhances image clarity by reducing noise, improving the signal-to-noise ratio and contrast within the lumen, enabling precise visualization of stent intimal hyperplasia.

Without CardioBoost



With CardioBoost

Coronary CTA		Reconstruction	Contrast
kV: 100	Avg HR: 55 bpm	Matrix: 512 x 512	350 mgI/ml
mAs: 673	Min HR: 55 bpm	Slice: 0.5 x 0.5 mm	60 ml
CTDIvol: 12.0 mGy	Max HR: 58 bpm	HIR: C_SOFT_AA/KARL 8	4.5 ml/s
Eff.Dose: 3.5 mSv		CardioBoost: 1	

Coronary CTA		Reconstruction	Contrast
kV: 100	Avg HR: 64 bpm	Matrix: 512 x 512	350 mgI/ml
mAs: 635	Min HR: 62 bpm	Slice: 0.5 x 0.5 mm	60 ml
CTDIvol: 13.1 mGy	Max HR: 71 bpm	HIR: C_SOFT_AA/KARL 8	4.5 ml/s
Eff.Dose: 4.0 mSv		CardioBoost: 1	

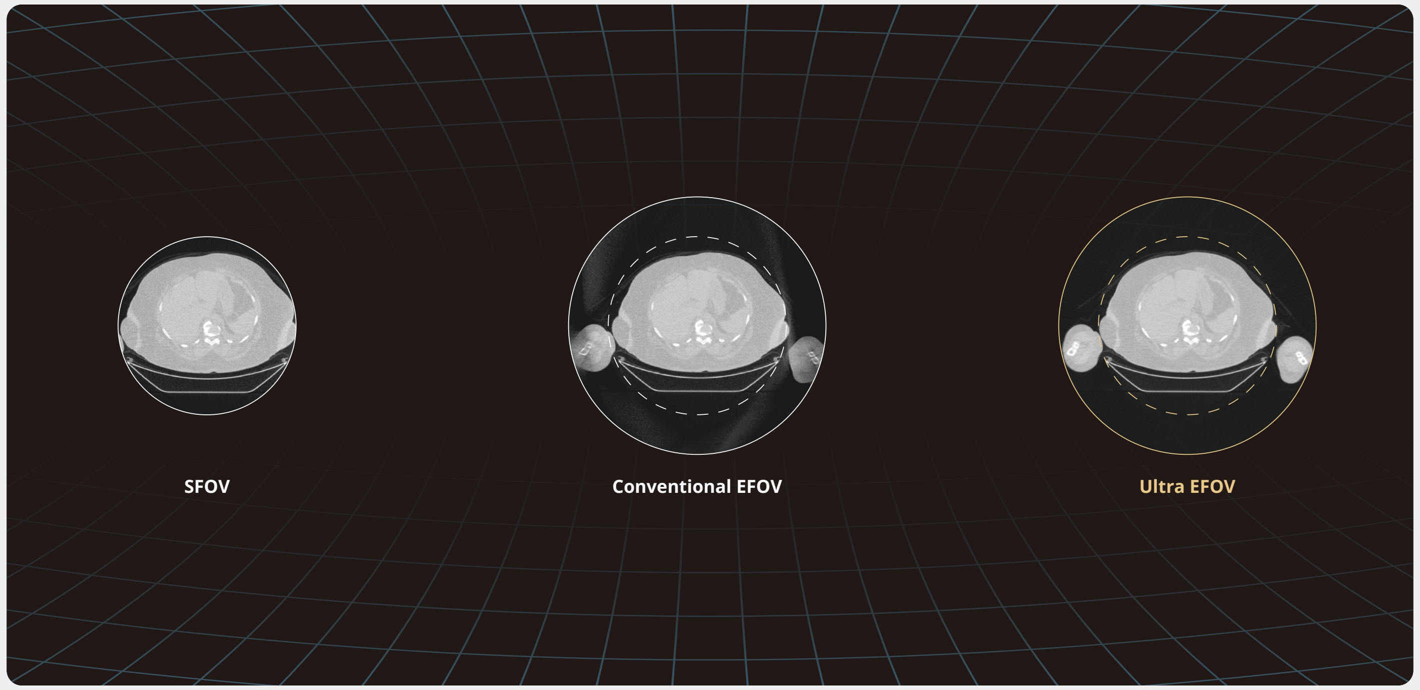
Ultra EFOV: See More Details in Extended Field of View with Deep Learning

82 cm full bore-size imaging

Ultra EFOV is an innovative deep learning-based algorithm that enables full bore-size imaging, revealing additional anatomical structures and enhancing skin contours. Compared to the conventional EFOV algorithm, Ultra EFOV offers superior continuity at the edge of the Scan FOV, extends the imaging range from 50 to 82 cm, providing enhanced coverage and more detailed visualization across a broader field.

±20 HU※ quantitative accuracy

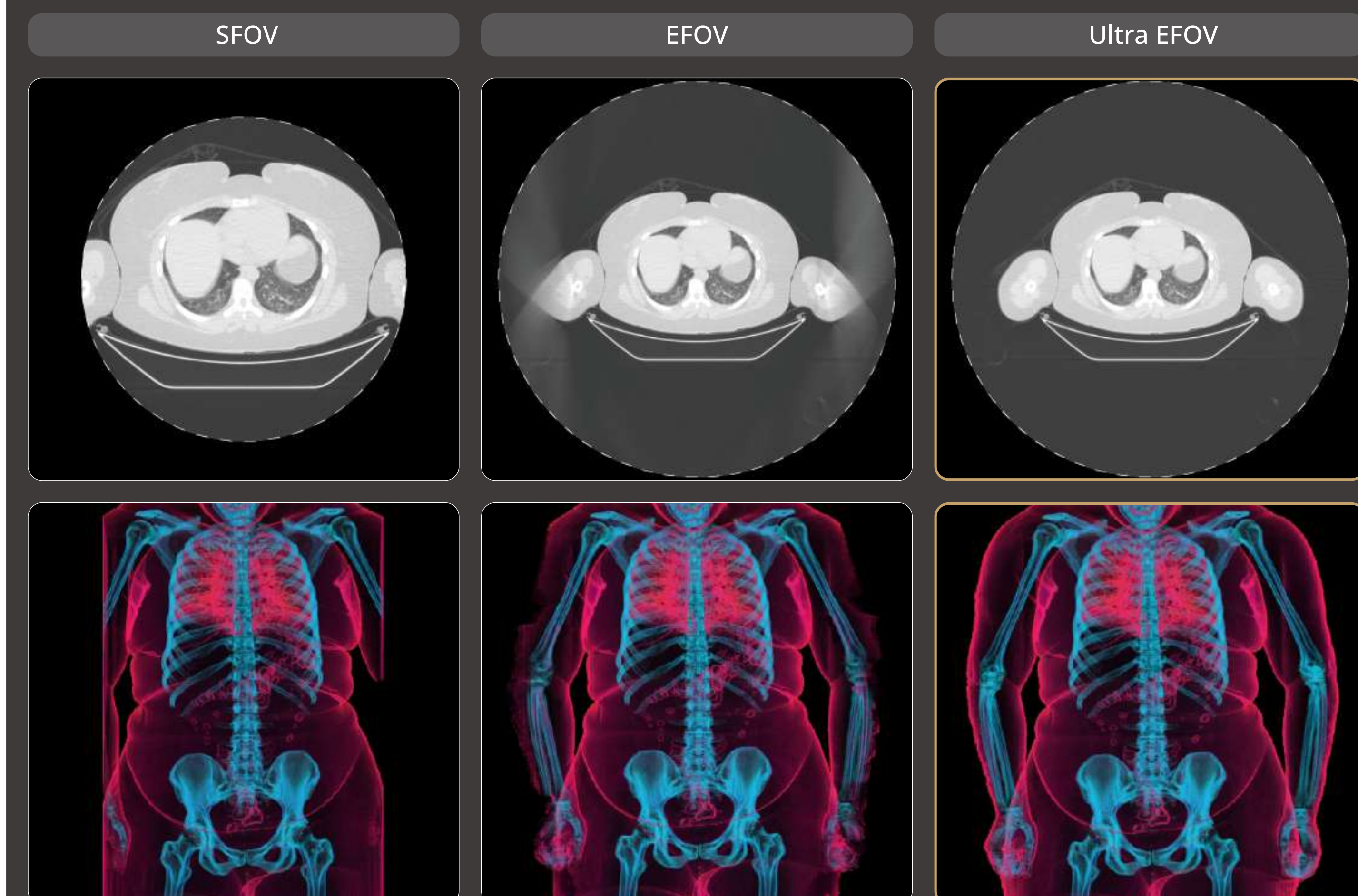
The Ultra EFOV's neural network model is designed to learn and correct different truncation artifacts within the extended field of view, resulting in better quantitative accuracy and improved image quality. This advanced algorithm provides high precision in CT density determination, with an accuracy of ±20 HU.



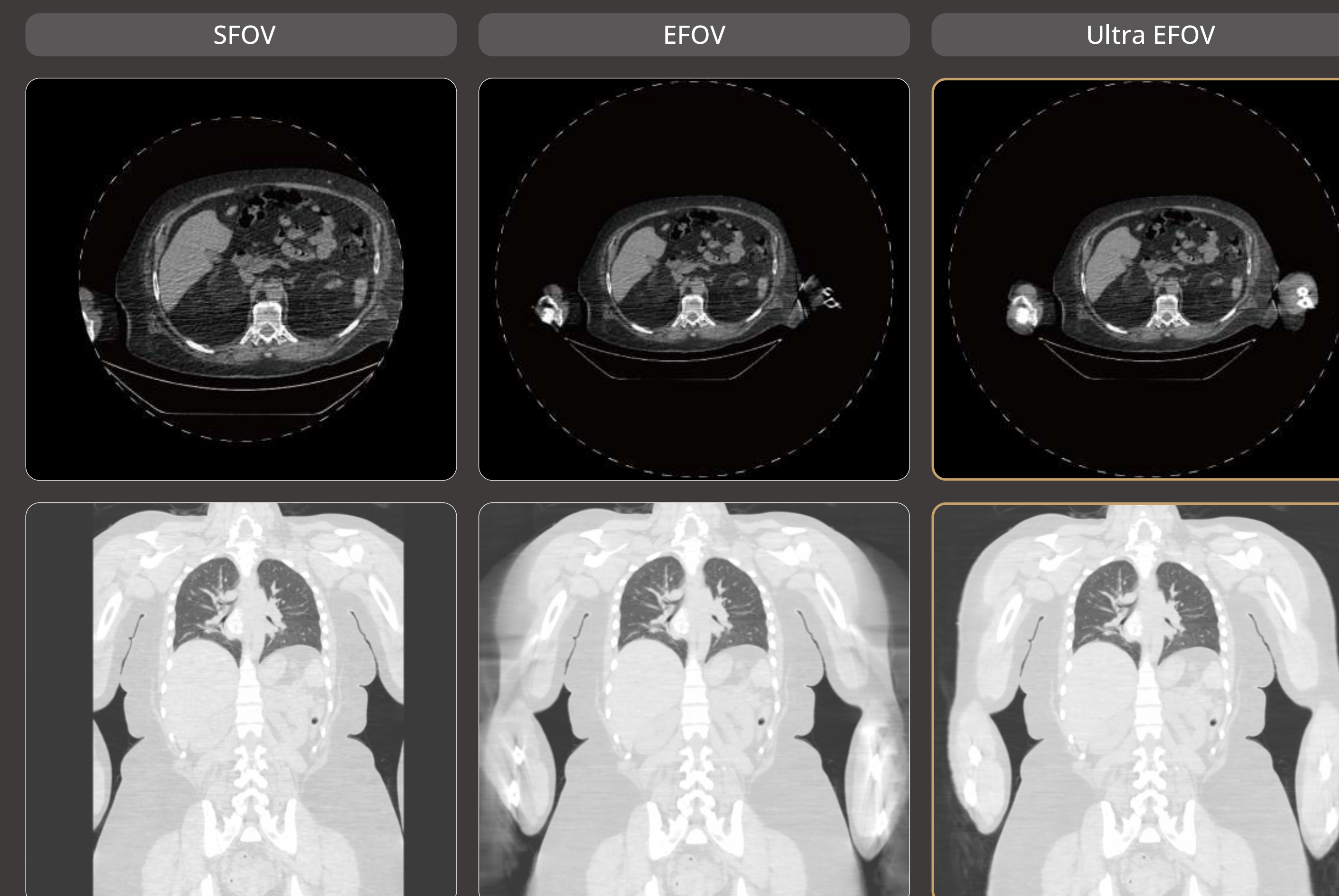
※ Results from phantom

Ultra EFOV Brings Greater Structural Clarity to Imaging Large Patients

Ultra EFOV eliminates truncation artifacts, expanding the reconstruction field of view to 820 mm for a more comprehensive and detailed visualization of anatomical structures.



Ultra EFOV enhances imaging accuracy for challenging anatomical contours under difficult positioning conditions.



Chest and Abdomen Helical		Reconstruction	Contrast
BMI: 38.58	CTDIvol: 5.9 mGy	Matrix: 512 x 512	—
0.6 sec/rotation	Eff.Dose: 7.8 mSv	Slice: 1.0 x 0.5 mm	
kV: 140 mAs: 52		HIR: B_SOFT_A	
		KARL: 5	

Chest and Abdomen Helical		Reconstruction	Contrast
BMI: 39.18	CTDIvol: 5.8 mGy	Matrix: 512 x 512	—
0.60 sec/rotation	Eff.Dose: 6.6 mSv	Slice: 1.0 x 0.5 mm	
kV: 120 mAs: 77		HIR: B_SOFT_A	
		KARL: 5	

Motion Artifacts, Instinctively Suppressed by Intelligence

Motion has long been a challenge in CT imaging, often causing artifacts and reducing image clarity. This is particularly critical in dynamic areas like cardiac imaging and when patients struggle to keep their heads still during scans. Advances in technology, including improved temporal resolution and deep learning algorithms, are helping to address these issues, significantly enhancing image quality and diagnostic accuracy.

Motion Artifacts Pose a Constant Challenge in Medical Imaging

Motion artifacts are patient-based artifacts caused by voluntary or involuntary movement during image acquisition. These artifacts, such as blurring, streaking, or shading, lead to misregistration that can compromise diagnostic accuracy[12]. Voluntary motion can often be mitigated through immobilization or sedation, while involuntary motion, such as cardiac or pathological head movement, presents greater challenges as it may mimic pathology in nearby structures.

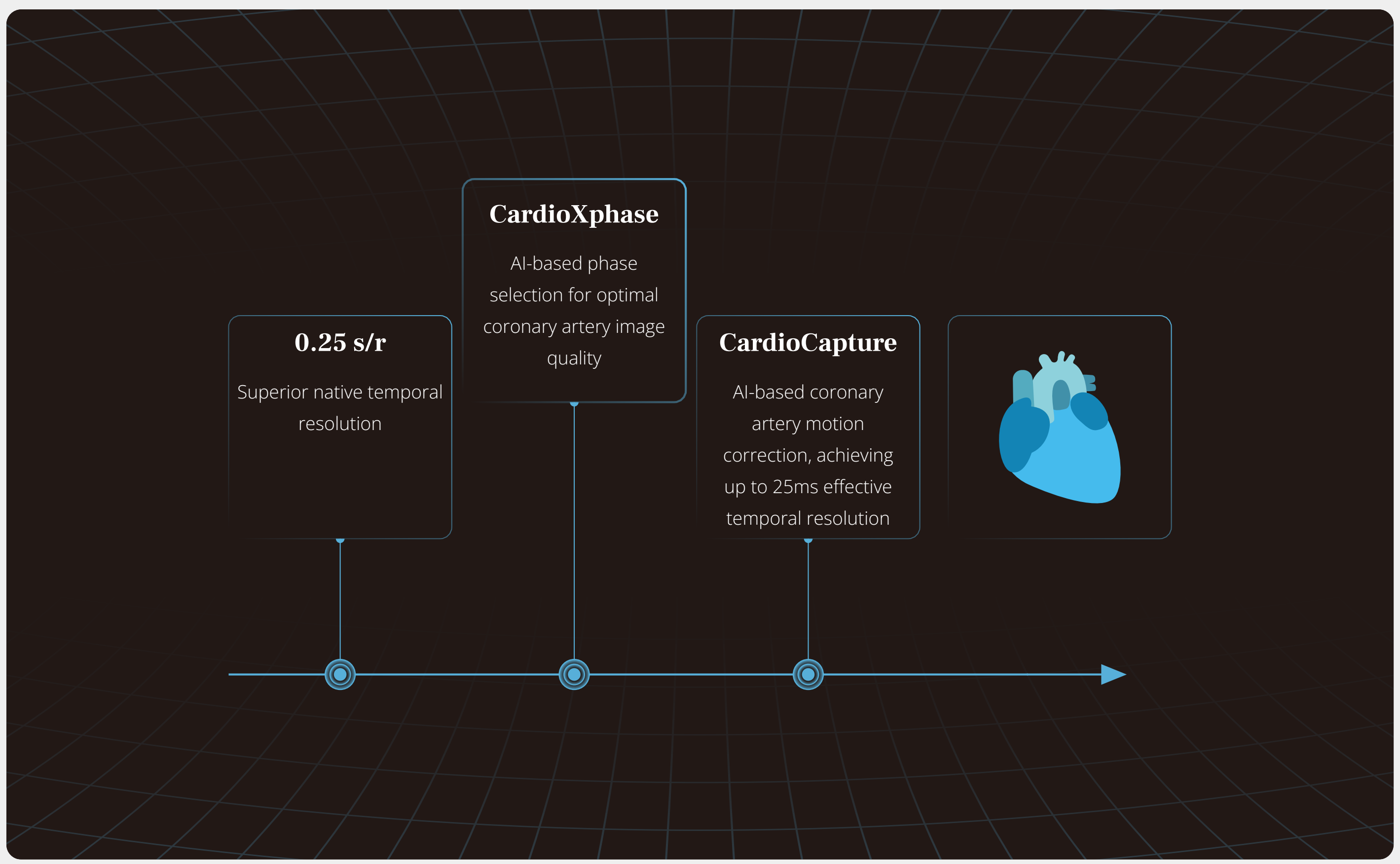
Primary sources of motion artifacts

Cardiac motion artifacts in CT imaging blur and misalign images, obscuring key structures and causing diagnostic errors. They hinder the accurate assessment of arterial disease and cardiac function, impede treatment planning, and may require repeat scans, increasing radiation exposure and delaying diagnoses[13].

Nearly 21% of patients experience head movements that cause perceptible motion artifacts, leading to data discontinuities and significantly degrading image quality[14][15].

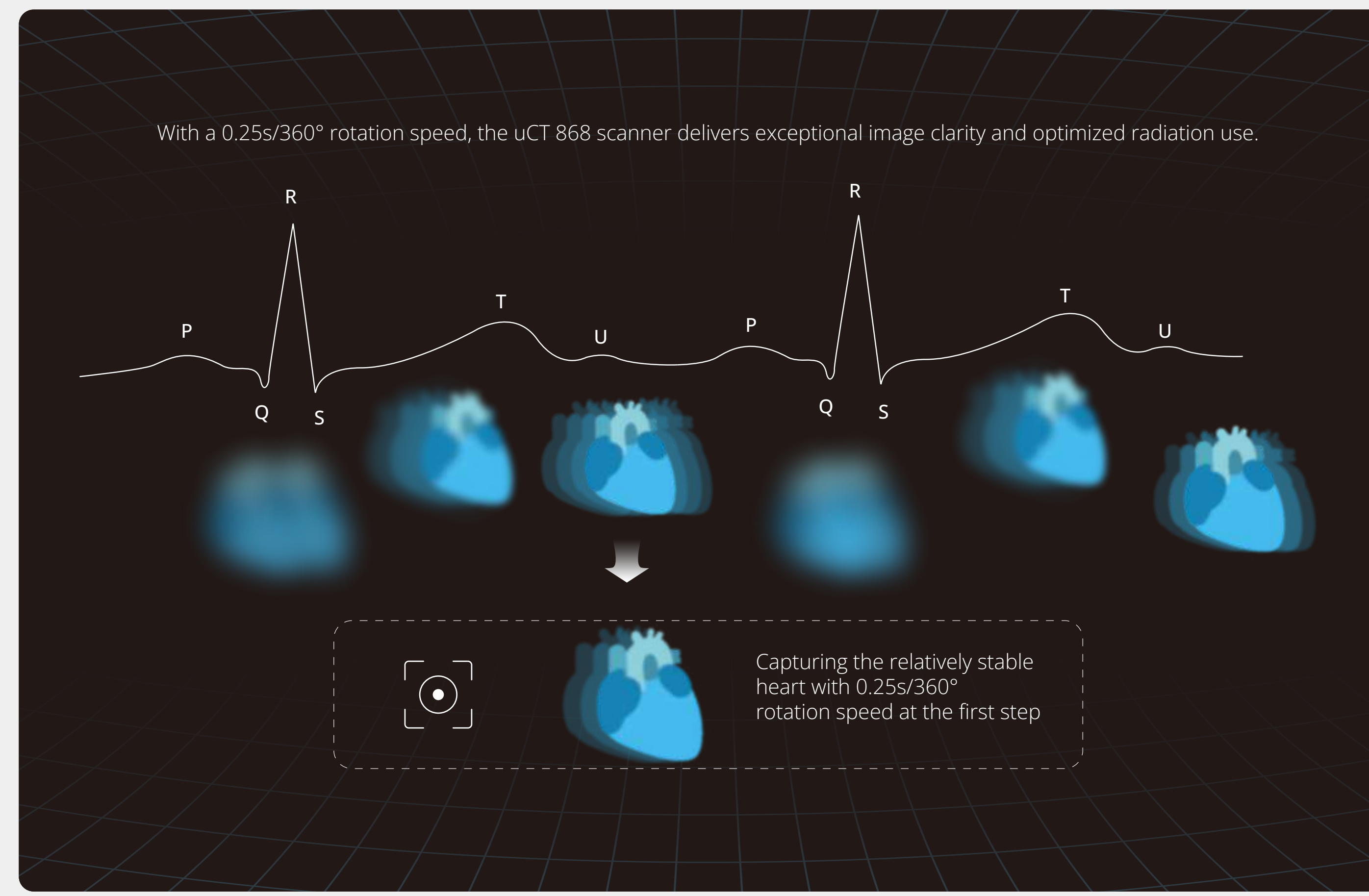
Synergy of Superior Rotation Speed and Deep Learning: Greatly Diminish Motion-induced Artifacts

Addressing motion artifacts requires advanced solutions that combine improved temporal resolution with deep learning–based algorithms to enhance coronary clarity. While improved temporal resolution lays the foundation for reducing these artifacts, hardware constraints limit its ability to fully eliminate them. This is where deep learning algorithms play a pivotal role. By first selecting the phase that best represents optimal coronary artery quality, then analyzing motion patterns, these algorithms can identify and correct the severe motion artifacts that traditional hardware-based methods cannot address. As a result, uCT 868 can effectively "freeze" motion and reveal a undistorted image.



0.25 sec/r rotation speed

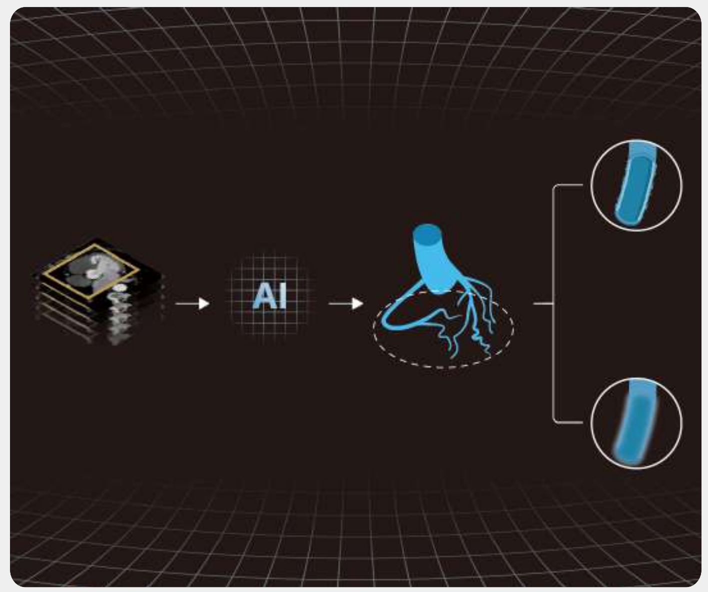
In CT imaging, high acquisition speed minimizes motion artifacts and reduces radiation exposure. The native temporal resolution, which is determined by the rotation speed, directly impacts the quality of the raw data acquired[16]. Currently, it is considered the most relevant indicator for eliminating motion artifacts in coronary artery imaging.



CardioXphase: Finding the Optimal Phase for Coronary Arteries, Rather Than the Heart

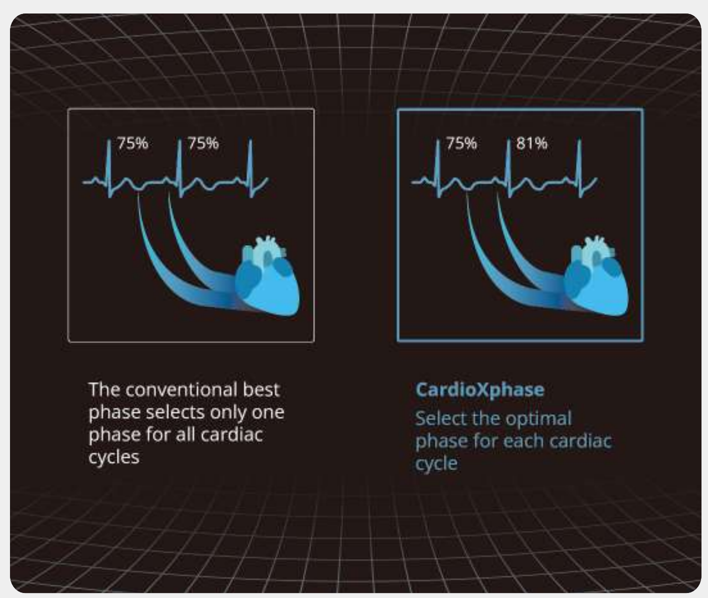
Intelligent and thorough evaluation

Conventional methods prioritize minimal heart motion but may not correspond to the phase that provides the best image quality for coronary arteries. Instead of using just CT value, CardioXphase leverages AI to accurately extract arteries, focusing on shape regularity and edge sharpness to select the best phase for imaging, enhancing further analysis.



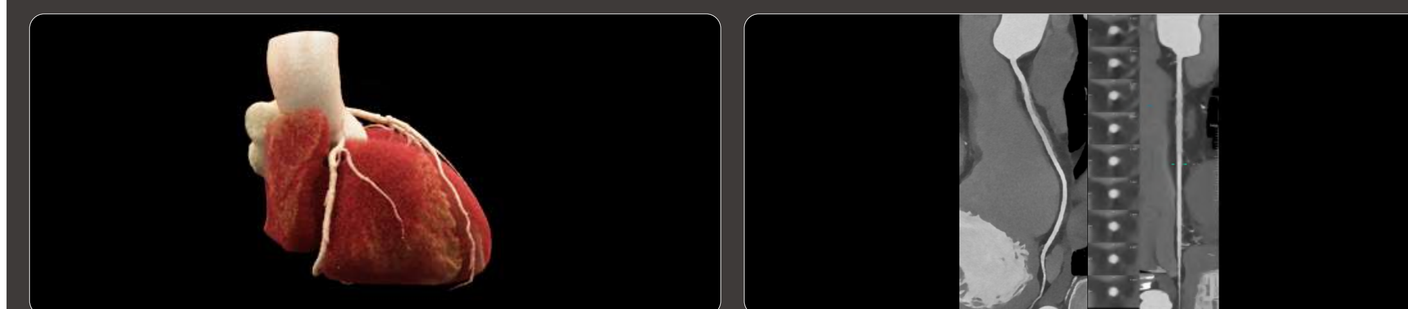
Dynamically adapt to each cycle

Different cardiac cycles have different optimal phases For CT systems with the detector coverage less than 16cm, data acquisition of the whole heart requires multiple cardiac cycles. This implies that each cardiac cycle will have a corresponding optimal phase, especially in the case of irregular heart rhythms. CardioXphase chooses the optimal phase independently from each cardiac cycle, improving the overall coronary artery image quality.

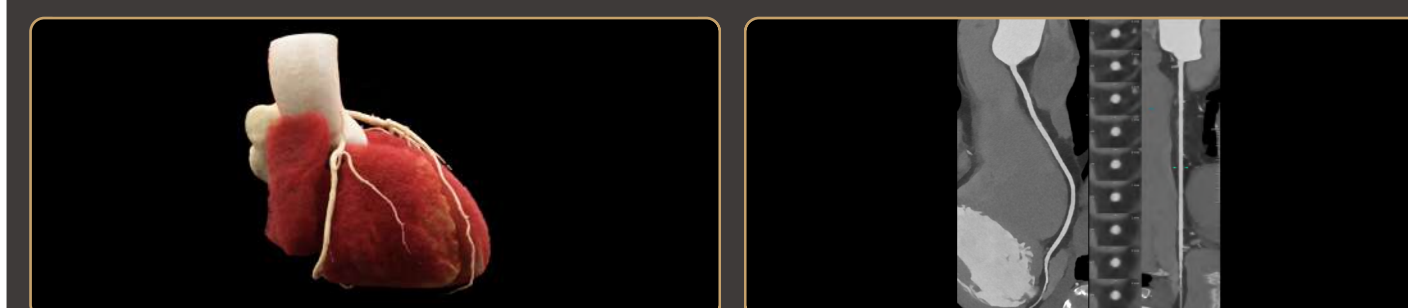


CardioXphase effectively eliminates motion artifacts in the mid-RCA, producing smoother and sharper vessel contours.

Without CardioXphase_75%



With CardioXphase_81%

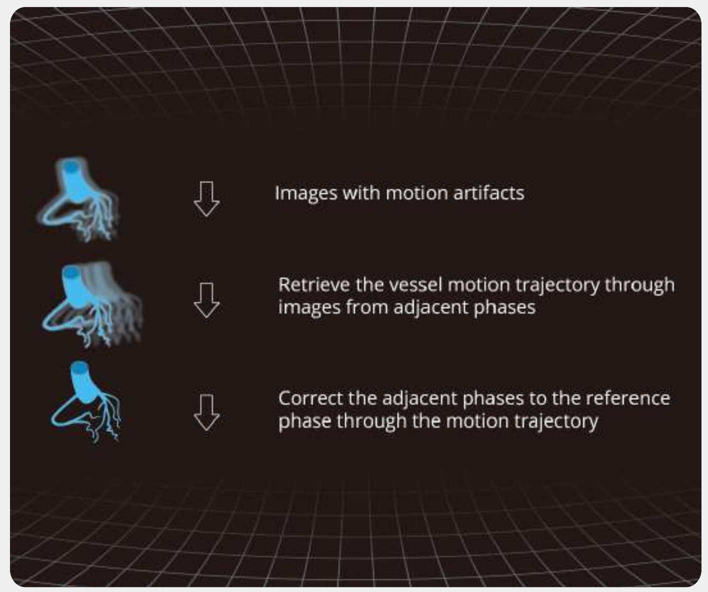


Coronary CTA		Reconstruction	Contrast
kV: 100	Avg HR: 59 bpm	Matrix: 512 x 512	350 mgI/ml
mAs: 666	Min HR: 56 bpm	Slice: 0.5 x 0.5mm	60 ml
CTDIvol: 13.9 mGy	Max HR: 63 bpm	HIR: C_SOFT_AA/KARL 9	4.5 ml/s
Eff.Dose: 4.4 mSv			

CardioCapture: Deep Learning Motion Artifact Correction Overcoming Heart Rate Limitations

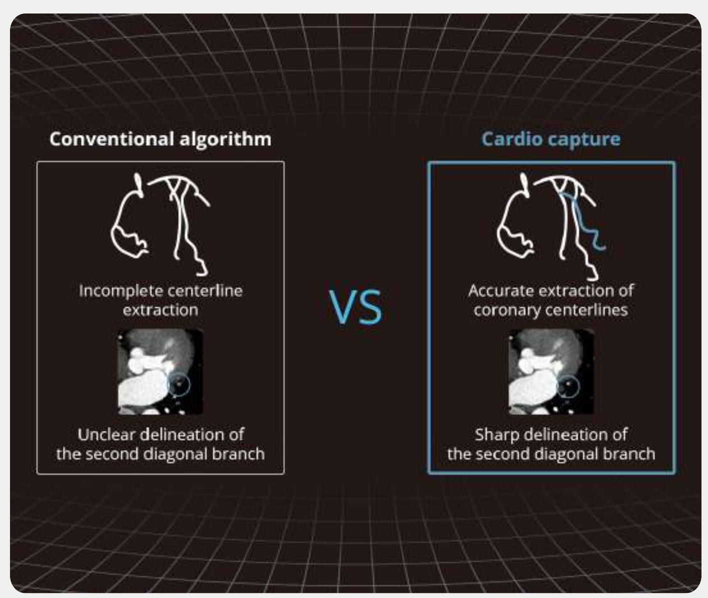
Improve the effective temporal resolution to 25ms

With the AI-based coronary artery motion correction technology, our CT scanner is able to break the limit of system native temporal resolution and achieve an effective temporal resolution of 25ms, which greatly enhances the success rate and image clarity of coronary CTA imaging.



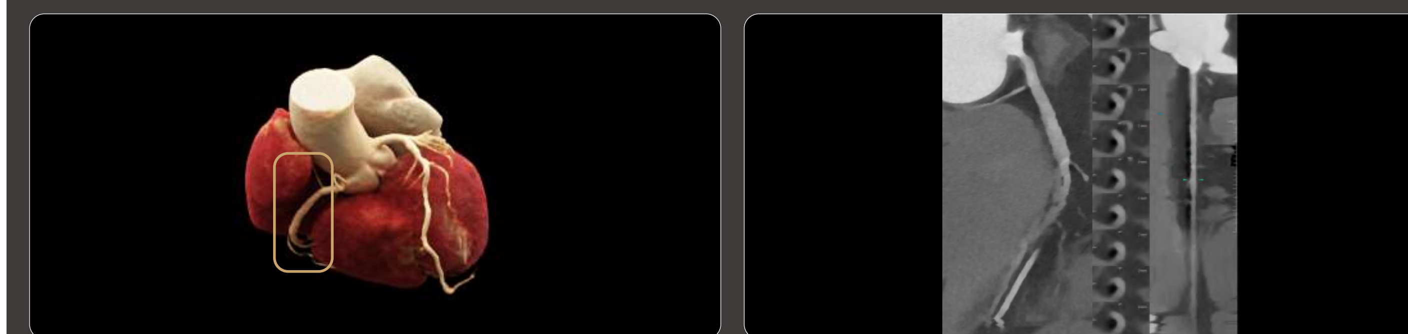
Capture more details with precise AI extraction

Conventional vessel extraction methods typically rely on CT value thresholds and fixed coronary models, which often fail, particularly when dealing with vessels affected by motion artifacts. In contrast, CardioCapture excels at accurately extracting the centerlines of various types of coronary arteries, even in challenging cases involving poor vessel quality or distal vessels.

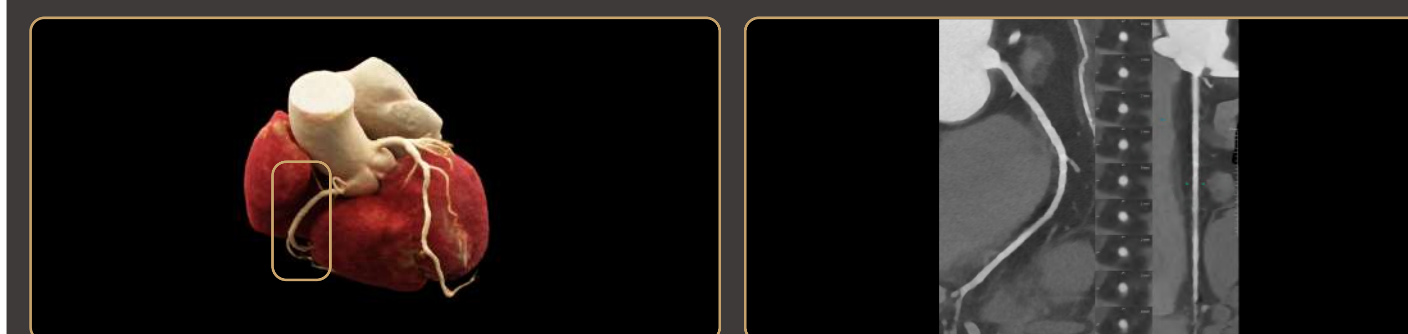


CardioCapture corrects motion artifacts in the mid-RCA, enhancing vessel smoothness and clarity.

Without CardioCapture



With CardioCapture

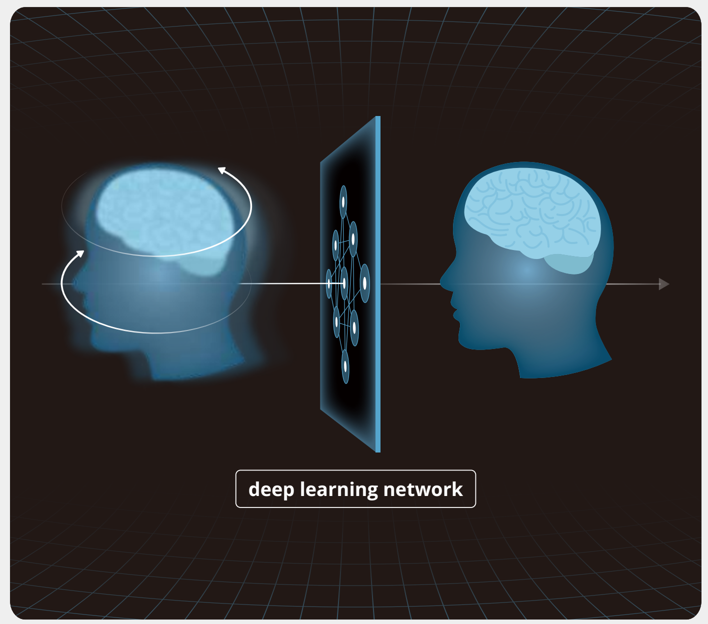


Coronary CTA		Reconstruction	Contrast
kV: 100	Avg HR: 77 bpm	Matrix: 512 x 512	350 mgI/ml
mAs: 494	Min HR: 58 bpm	Slice: 80 x 0.5 mm	60 ml
CTDIvol: 14.7 mGy	Max HR: 83 bpm	HIR: HIR: C_SOFT_AA/KARL 9	4.5 ml/s
Eff.Dose: 4.5 mSv			

Motion Freeze: AI–Powered Head Motion Artifact Elimination for Clearer Brain Structures

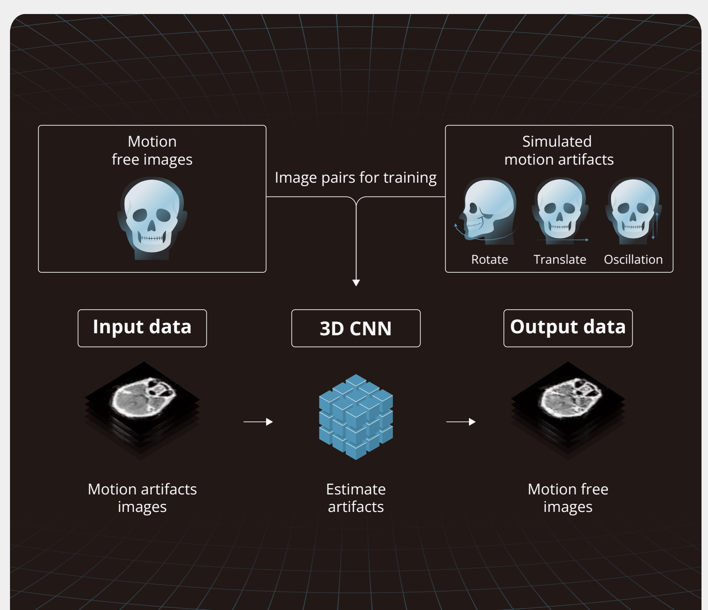
Head motion artifacts suppression

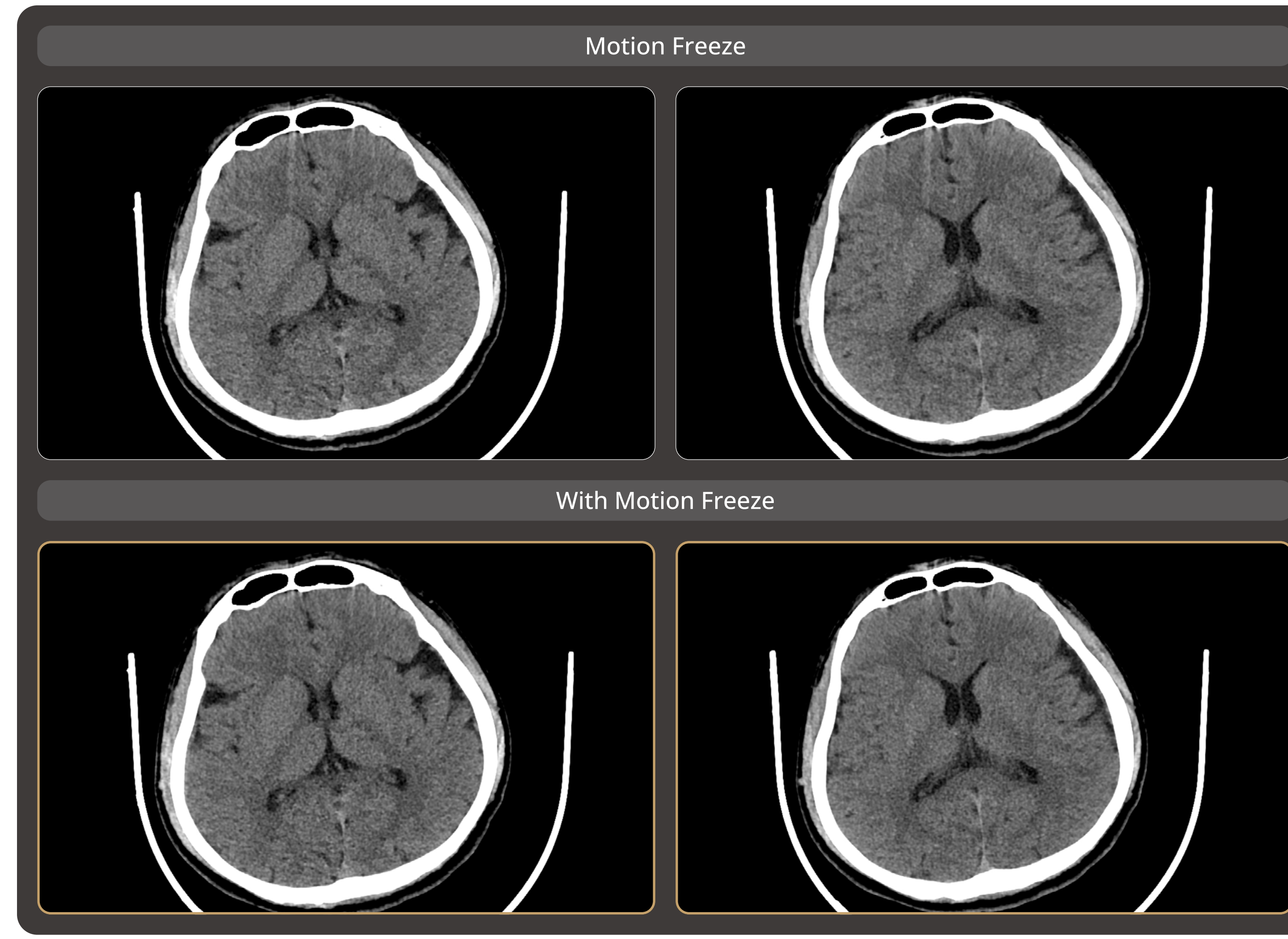
Motion Freeze effectively suppresses head motion artifacts, providing a clear view of brain structures without obscuring lesions. By minimizing the need for repeated scans, it saves time, conserves resources, and avoids unnecessary radiation exposure for patients.



3D modeling of the motion pattern to restore the real clinical situation

Patient head movement typically involves multiple motion patterns, and no current algorithm can effectively eliminate the resulting artifacts. To establish a gold-standard dataset, the Motion Freeze algorithm simulates artifacts in the X, Y, and Z directions, including rotation, translation, oscillation, and mixed scenarios. By introducing diverse motion artifacts, this approach enables the trained network model to handle a broad spectrum of motion conditions.





Head Axial	Reconstruction	Contrast
0.5 sec/rotation kV: 120 mAs: 247 CTDIvol: 38.7 mGy Eff.Dose: 1.3 mSv	Matrix: 512 x 512 Slice: 5.5 x 5.5 mm HIR: H_SOFT_B/KARL: 3	—

Innate Efficiency, Instinctively Driven by Intelligence

Efficiency is crucial in daily scanning operations. In high-end CT systems, demands for both speed and image quality extend beyond routine applications to more challenging scenarios. By harnessing advanced hardware—such as an instant-response X-ray tube for minimal preparation time and a high-speed table for fast scanning modes—paired with intelligent technologies, uCT 868 significantly enhances workflow efficiency. This integrated approach maximizes both productivity and patient benefits, even in complex clinical settings.

Speed and Quality are Paramount When Addressing Complex Situations

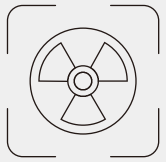
In areas like emergency departments, intensive care units (ICUs), and trauma centers, advanced CT technology enables the effective management of complex, time-sensitive cases. However, performing CT scans in these high-pressure situations presents unique challenges that may impact efficiency, accuracy, and overall patient care.

Time constraints

In acute care settings, time constraints significantly impact the effectiveness of CT scanning. Rapid decision-making is essential, as swift diagnostic actions are necessary to facilitate immediate treatment decisions, and any delays in obtaining or interpreting CT scans can adversely affect patient outcomes[17].

Radiation exposure concerns

Radiation exposure is a major concern in acute care settings, especially for patients with multiple injuries that requires multiple protocols, leading to higher doses. Careful protocol optimization and the use of alternative imaging methods are essential to reduce exposure while maintaining diagnostic accuracy.



Patient compliance and motion artifacts

In emergency settings, patients may struggle to stay still during scans, leading to motion artifacts that degrade image quality.

Maximize Rapid, Consistent Scanning with Advanced Technologies

34 MHU tube: Instant response with minimal preparation time

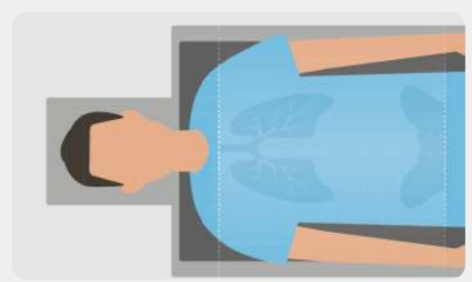
The tube's liquid-bearing, low-friction design enable continuous anode rotation at high speed throughout the day without stopping, accelerating workflow and boosting productivity. With little preparation time required between scans, this setup is especially beneficial in time-critical scenarios.

AI-powered iso-center positioning and scan range planning

The uAI Vision automates ISO-center positioning, enhancing efficiency, image consistency, and reducing radiation. Additionally, Easy Range optimizes workflow by recommending personalized scan ranges based on protocols.

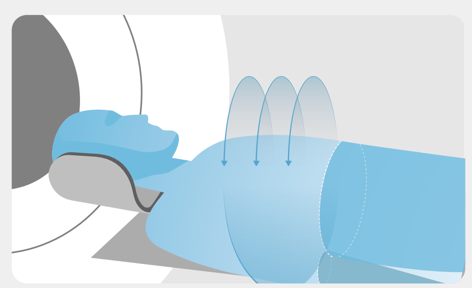
AI-powered dose modulation

The Organ-based Auto ALARA mA automatically recognizes the coordinate regions of the chest and abdomen to optimize dose modulation parameters for different organs.

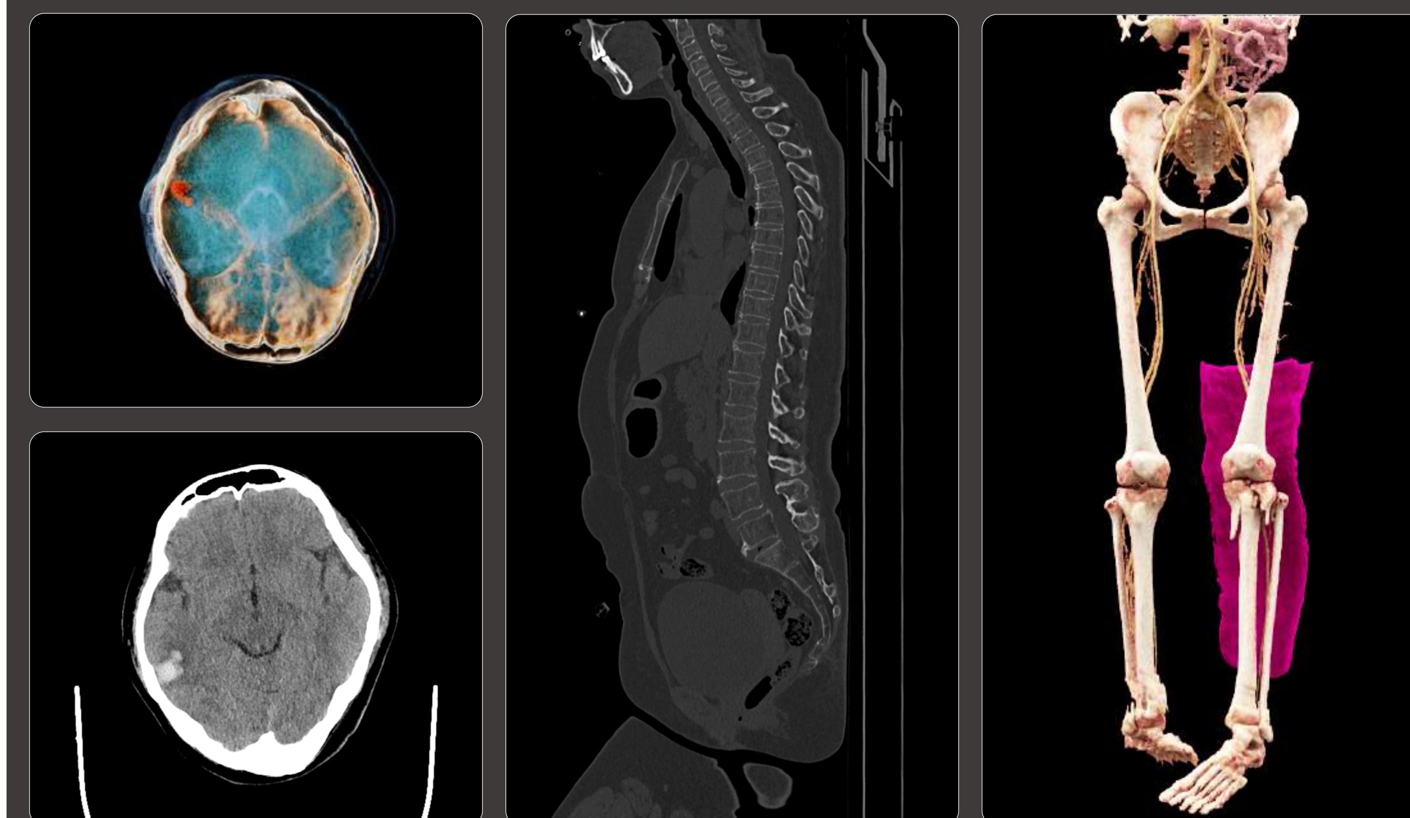


High speed scanning capability

With an 8 cm detector width and a high table speed of up to 440 mm/s, the system enables rapid scanning, completing whole-body imaging in just a few seconds.



The large heat capacity liquid metal bearing tube efficiently handles multi-site trauma scans in emergency setting.



Whole Body Trauma Scan			Reconstruction	Contrast
Head Helical: 0.50 sec/rotation kV: 100 mAs: 319 CTDIvol: 47.5 mGy Eff.Dose: 2.1 mSv	RunOff CTA: 0.80 sec/rotation kV: 100 mAs: 101 CTDIvol: 4.6 mGy Eff.Dose: 8.8 mSv	kV: 100 mAs: 635 CTDIvol: 13.1 mGy Eff.Dose: 4.0 mSv	Matrix: 512 x 512 Slice: 1.0 x 1.0 mm HIR: B_SOFT_B/KARL 5	350 mgI/ml 60 ml 4.5 ml/s

uOmnispace※: Transforming Productivity with Intelligent Analysis and Workflow Solutions

Automated workflow for rapid decision making

uOmnispace enhances the imaging workflow with comprehensive automation, performing pre-processing tasks as soon as the data arrives at the server. It also supports automatic data pre-fetching in follow-up scenarios, enabling immediate operation without wait time.

Intelligent algorithms, such as segmentation, extraction, and labeling, streamline the analysis process by minimizing manual effort. Furthermore, a customizable layout allows users to tailor workflows to specific disease imaging needs. These innovations collectively reduce processing time while delivering precise and consistent results.

uOmnispace.Xpress Workflow V.S. Traditional Routine

pre-fetching

Auto: One-click pre-fetch for follow-up cases

Manual: Patient search and data acquisition

pre-processing

Auto: Smart pre-processing (segmentation / extraction / registration)

Manual: Image loading and processing

advanced visualization

Auto: Smart visualization for cardiac, stroke and oncology cases

Manual: Advanced visualization

archiving

Auto:RapidSave of image and results, for cardiac and stroke cases

Manual: Parameter selection, layout adjustment, and archive

filming

Auto: Smart filming with agile customization

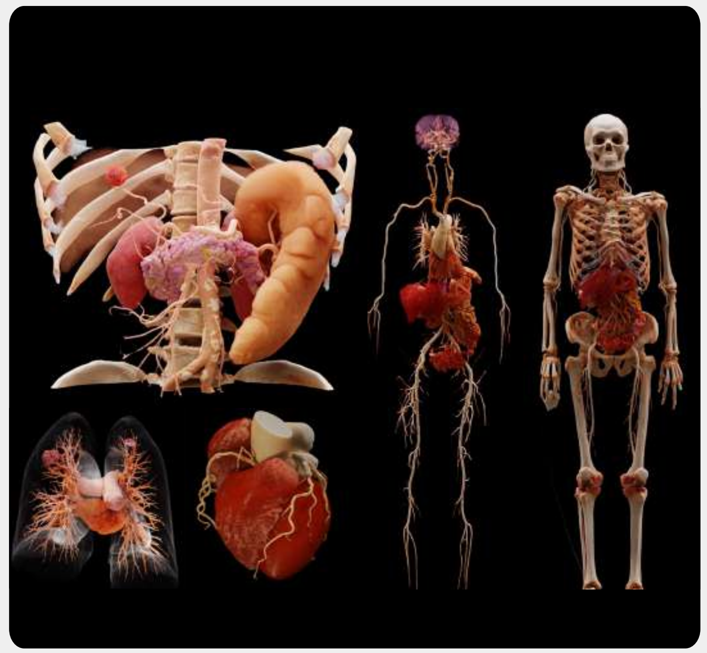
Manual: Fixed and limited filming options

Streamlining medical diagnostics with comprehensive clinical solutions

uOmnispace provides a comprehensive suite of 3D imaging and advanced visualization tools, supporting diverse clinical needs across specialties like general radiology, oncology, cardiology, and neurology. It empowers clinicians with greater confidence in decision-making.

Elevating medical imaging with advanced 3D visualization

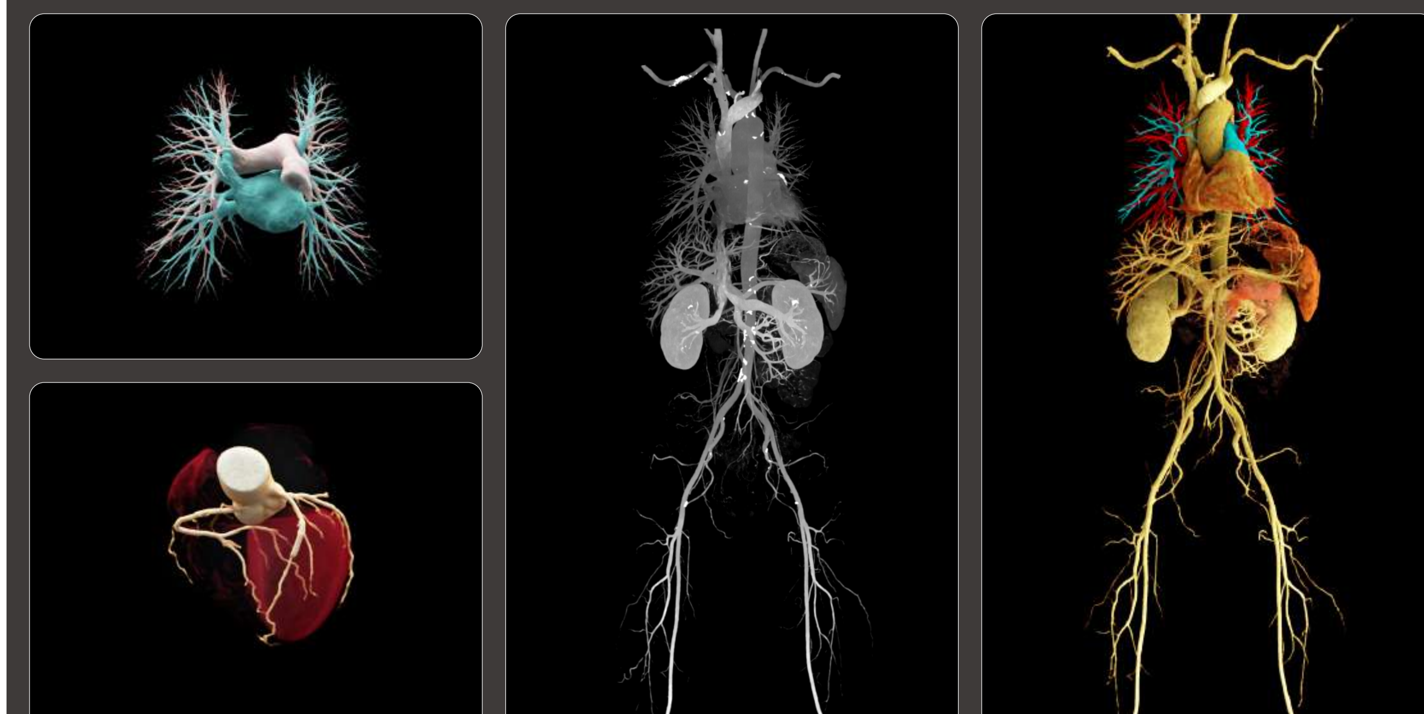
Hyper Realistic Rendering (HRR) transforms medical imaging data into highly detailed and lifelike 3D digital visuals. Compared to conventional VR rendering, HRR provides a more accurate and realistic depiction of medical image details and features.



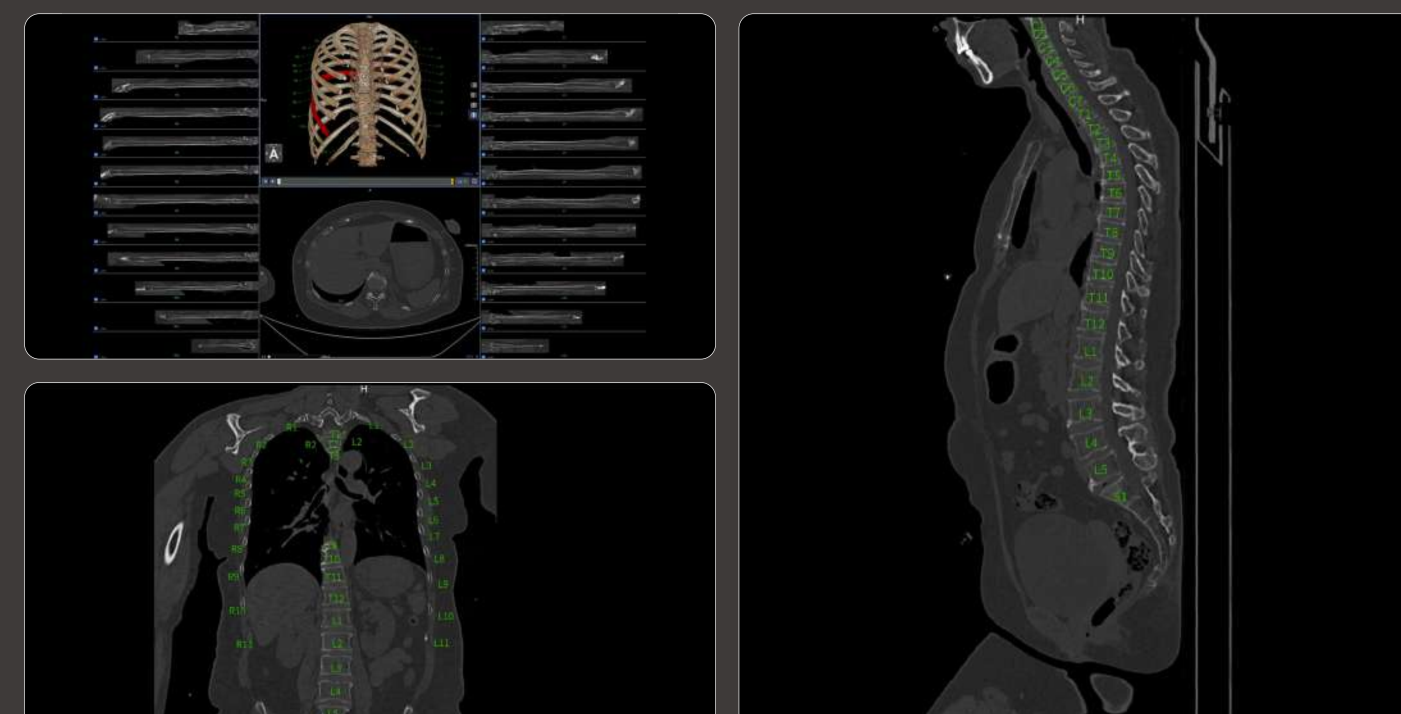
※ Independent of CT, separate CE certification.

Get Results Ahead of Time to Save Time and Minimize Manual Operations

One-Stop Cardiovascular Combined Analysis efficiently evaluates both vascular and cardiac structures, providing comprehensive qualitative and quantitative results.



Bone Structure Analysis automatically visualizes and labels the ribs and spine, facilitating the interpretation of trauma and deformity cases.



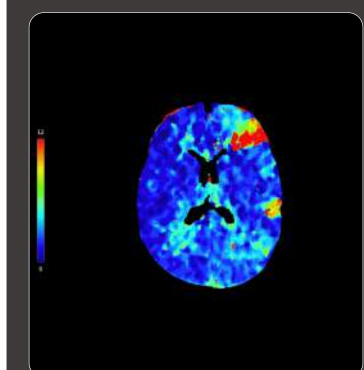
Triple-rule-out	Reconstruction	Contrast
0.25 sec/rotation kV: 80 mAs: 157 CTDIvol: 8.25 mGy Eff.Dose: 3.14 mSv	Matrix: 512 x 512 Slice: 0.75 x 0.5 mm HIR: C_SOFT_AA/KARL 8 CardioBoost: 1 AIIR: BodyStandard/AIIR 3	350 mgI/ml 80 ml 4.0 ml/s

Chest and Abdomen Helical	Reconstruction	Contrast
kV: 120 mAs: 130 CTDIvol: 8.7 mGy Eff.Dose: 10.2 mSv	Matrix: 512 x 512 Slice: 1.0 x 1.0 mm HIR: B_VSHARP_C KARL: 5	—

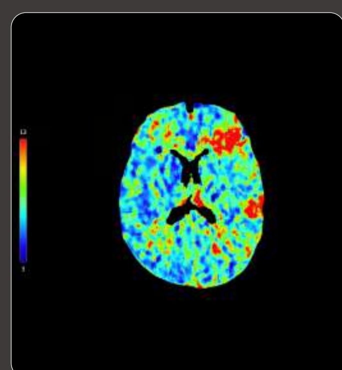
Effortless, All-In-One Solution for Versatile Clinical Scenarios

One-stop calculation of Tmax, MTT, TTP, CBV, and CBF with pseudocolor map generation. Custom data splitting at different time points in the cycle is supported. HRR provides a clear 3D view of cerebral artery structure and anatomical location.

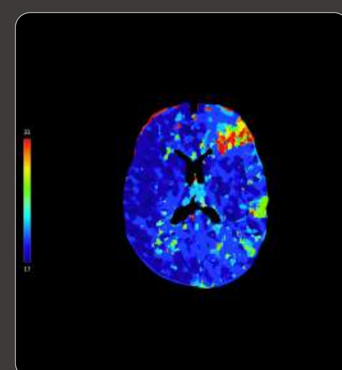
Tmax



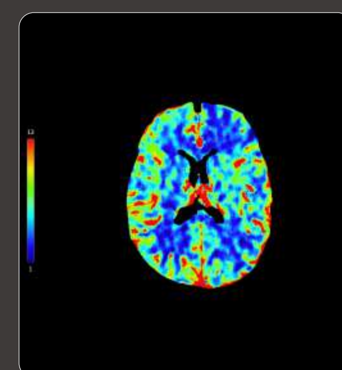
MTT



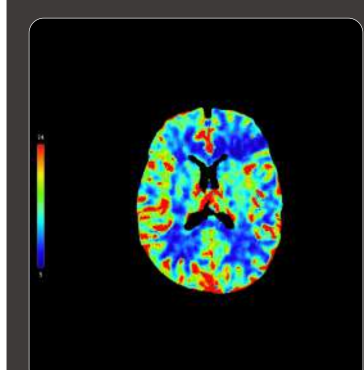
TTP



CBV

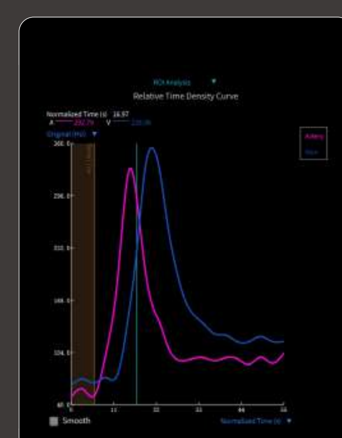


CBF



Arterial phase split

Arterial phase split-MIP



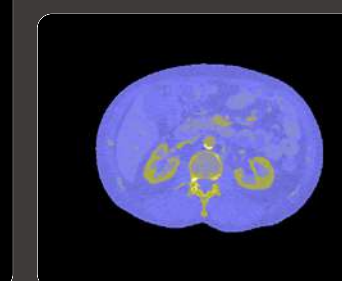
The Dual Energy application provides information on chemical composition by generating images at multiple energies within the available spectrum. In this case, it suggests bilateral adrenal metastasis following gastric cancer surgery.

70keV-Right adrenal gland

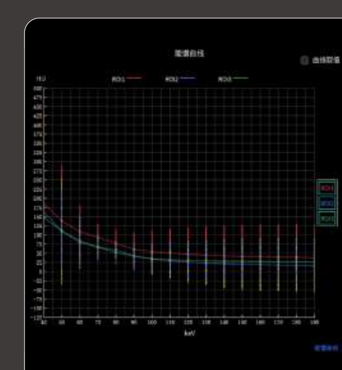
70keV- Residual stomach

70keV-Left adrenal gland

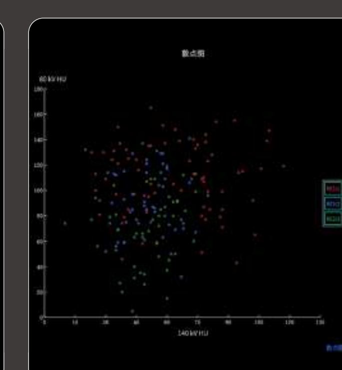
Water-based iodine substance negative iodine images



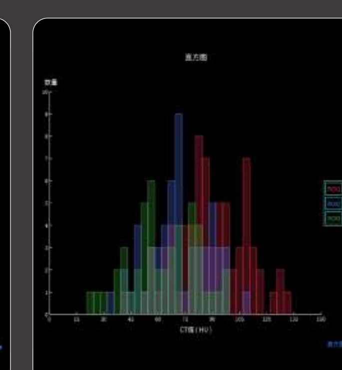
Spectral curve



Scatter plot



Histogram



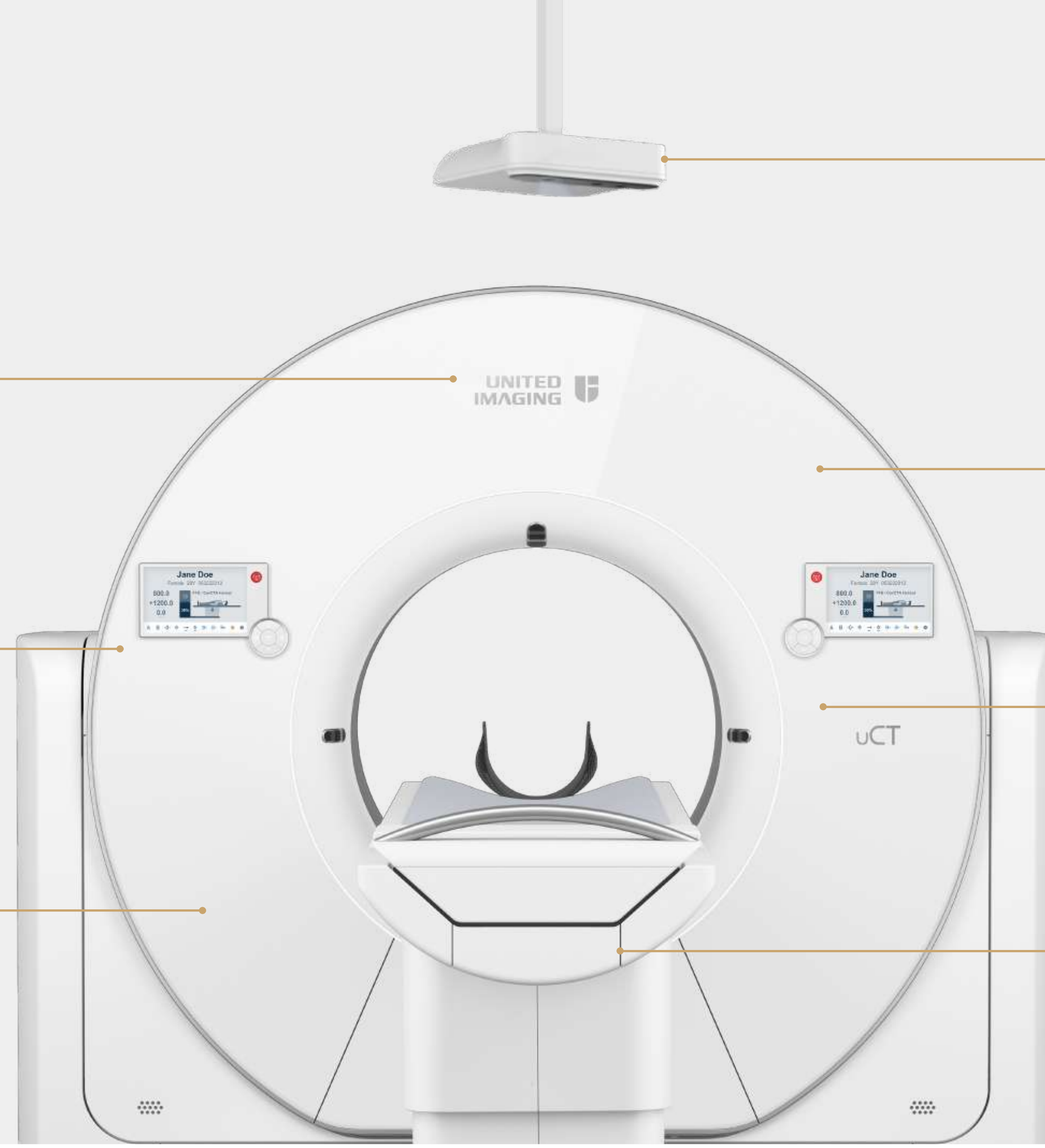
Iodine concentration: 35.5 100 μg/cm³

Head Perfusion	Reconstruction	Contrast
kV: 100 mAs: 129 CTDIvol: 223.3 mGy Eff.Dose: 6.17 mSv	Matrix: 512 x 512 Slice: 40 x 1.0 mm	350 mgI/ml 80 ml 4.5 ml/s

Abdomen Dual Energy	Reconstruction	Contrast
kV: 80 mAs: 201 CTDIvol: 10.6 mGy Eff.Dose: 8.27 mSv	Matrix: 512 x 512 Slice: 1.0 x 1.0 mm HIR: B_SOFT_B/KARL 5 BodyStandard AIIR: 3	350 mgI/ml 70 ml 2.5 ml/s

uCT 868

Built Upon a Powerful Foundation



uAI Vision with 3D Camera

Precise patient positioning

320-Slice System

100 kW

(Generator with 60, 70, 80, 100, 120, 140kVp)

0.25 sec. Rotation

82 cm Bore

34 MHU Tube

318 kg Table Load

Present with Intelligent Imaging

AIIR※

(AI Iterative Reconstruction Technology)

Combined AI and Model-Based Iterative Reconstruction, elevates image quality across all dimensions.

CardioBoost

Enhance the Diagnostic Confidence For Complicated Cardiac Imaging Through Deep Learning.

Ultra EFOV

See More Details in Extended Field of View with Deep Learning.

CardioXphase

Finding the Optimal Phase for Coronary Arteries, Rather Than the Heart.

CardioCapture

Deep Learning Motion Artifact Correction Overcoming Heart Rate Limitations, achieving up to 25ms.

uAI Vision

AI-powered iso-center positioning and scan range planning, improving workflow efficiency and image consistency.

※ Optional

User in Mind Design

Focusing on user experience, our system combines precision with a lightweight and artistic design, providing patients with a sense of ease and comfort during their medical procedures. With uCT 868, we're committed to delivering trusted medical care that respects the patient's needs and preferences.

User-friendly Design

The product design delivers comfort, safety, efficiency and ease-of-use. By applying ergonomic principles, uCT 868 combines innovative design with optimal functionality in order to provide the best possible user experience and optimize patient comfort during the examination.

Sophisticated Craftsmanship

Driven by the principles of precision design, we meticulously refine every aspect of our technology.

Pleasing Aesthetics

Our design scheme integrates modern aesthetics with minimalism, presenting a seamless fusion of traditional and modern styling.

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