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IMAGING 



*uExcel*  
INSIDE

**uMI**  
**Panvivo**

**Empowering  
Tomorrow for All**



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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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# uMI Panvivo

## Empowering Tomorrow for All

uMI Panvivo is a high-performance PET/CT platform that brings the innovative advancements right to your clinical reality and future development.

With exceptional 219 ps TOF resolution, 2.9 mm NEMA spatial resolution and 181 cps/kBq<sup>[1]</sup> effective sensitivity, uMI Panvivo delivers uncompromised clarity and lesion detectability, enhancing your clinical confidence and capability. Meanwhile, its compact and air-cooling system design makes it truly accessible without the need for equipment room. The patient-centric design with extra-big tunnel clearance and ambient lighting offers a comforting scan experience. Supported by uExcel Platform, uMI Panvivo offers a streamlined workflow to enhance operational efficiency.

uMI Panvivo's extendable architecture is ready to meet the evolving demand for molecular imaging, allowing you to scale up your capacity and unlock full potential of clinical practice and research. It is born to accompany you on the journey towards long-term success.



### Precision for All

We put PET/CT imaging performance at top priority as always, so you can make every diagnosis confidently and accurately in all fields.



### Care for All

uMI Panvivo brings care for every patients and all type of users with refined design plus the power of artificial intelligence.



### Success for All

With improved accessibility and scalability, you can start the journey towards long-term and sustainable success.



# Precision for All

Driven by precision medicine and personalized care, uMI Panvivo offers the top-tier performance based on state-of-the-art detector technology and highly integrated system for better diagnostic confidence and capabilities.

# Uncompromised Clarity

Incorporated with the architecture of uExcel Ultra-Digital Platform (UDP), uMI Panvivo delivers uncompromised clarity with industry-leading performance of 2.9 mm NEMA spatial resolution, 219 ps TOF resolution, an effective sensitivity of 181 cps/kBq<sup>[1]</sup>.

It is because we put PET/CT imaging performance at top priority as always, so you can make every diagnosis confidently and accurately in all clinical fields.

## Top-tier Performance of PET

**2.9 mm**

NEMA Spatial Resolution

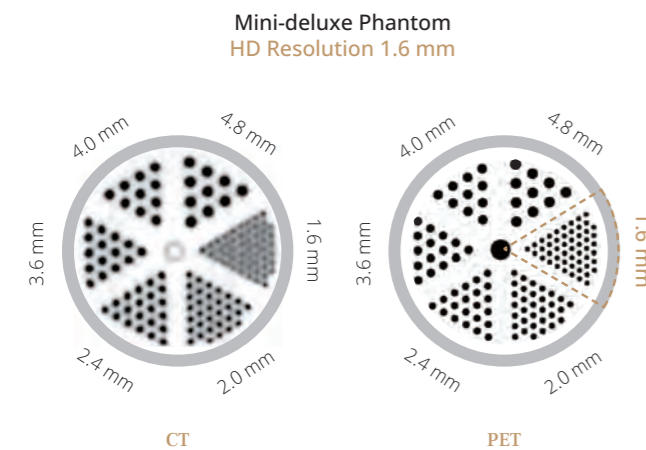
**219 ps**

TOF Resolution

**Up to 181 cps/kBq**

Effective Sensitivity<sup>[1]</sup>

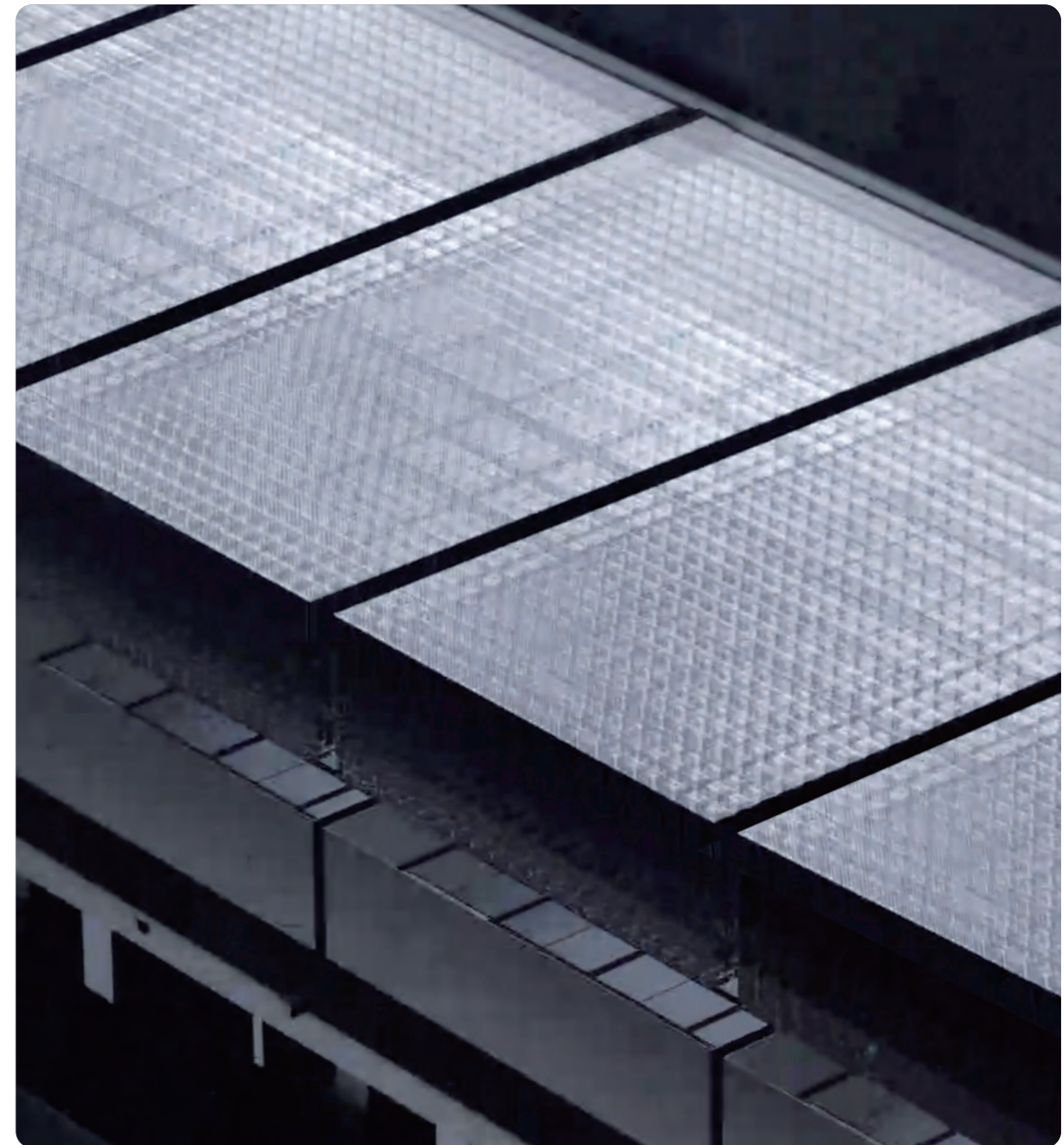
## High NEMA Spatial Resolution



1.17 mCi, 20 min  
TOF-PSF-OSEM, 50i20s,  
0.6×0.6×0.8 mm<sup>3</sup>  
no smoothing



1.36 mCi, 20 min  
TOF-PSF-OSEM, 7i10s  
0.6×0.6×0.8 mm<sup>3</sup>  
Gaussian filter (1.0 mm)



# Uncompromised Clarity

Exceptional TOF resolution enables lesion detectability and quantitative accuracy.



**Lung ca, restaging**

73 kg (159 lb)  
BMI 27

**Imaging protocol**

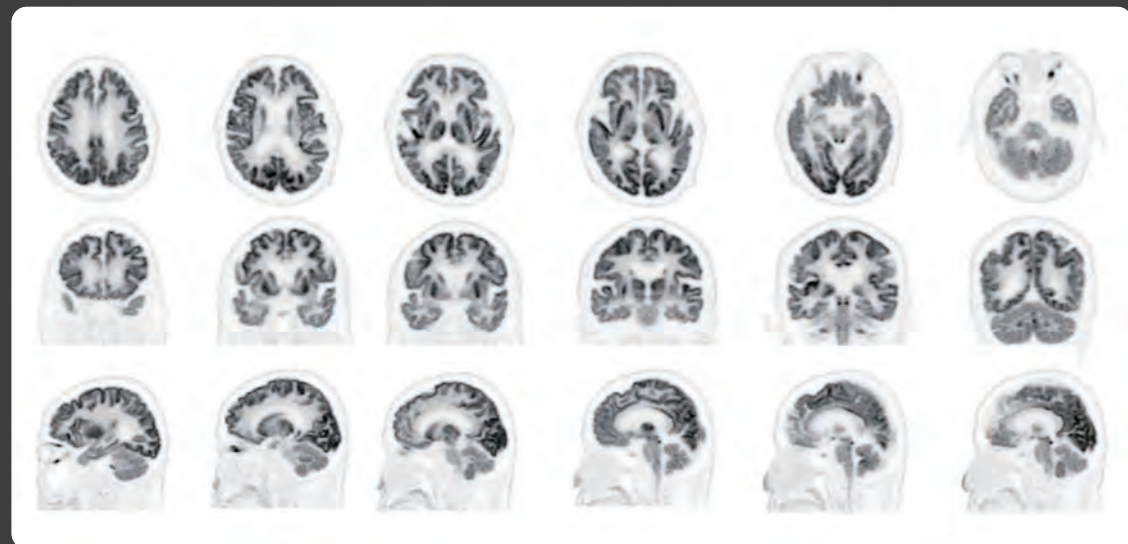
<sup>18</sup>F-FDG 2.9mCi (108 MBq)  
Uptake time: 59 minutes  
8-min total scan time

**Reconstruction**

OSEM 3i10s  
2.7 × 2.7 × 1.5 mm  
Gaussian 4 mm

Images Courtesy of the First People's Hospital of Kunshan, JS, CHN

## High resolution image of <sup>18</sup>F-FDG brain PET/CT scan



**Imaging protocol**

<sup>18</sup>F-FDG 7.03 mCi (260 MBq)  
Uptake time: 83 minutes  
10-min single bed

**Reconstruction**

OSEM 7i10s  
0.6×0.6×0.6 mm  
Gaussian 1 mm

Images Courtesy of the First People's Hospital of Kunshan, JS, CHN



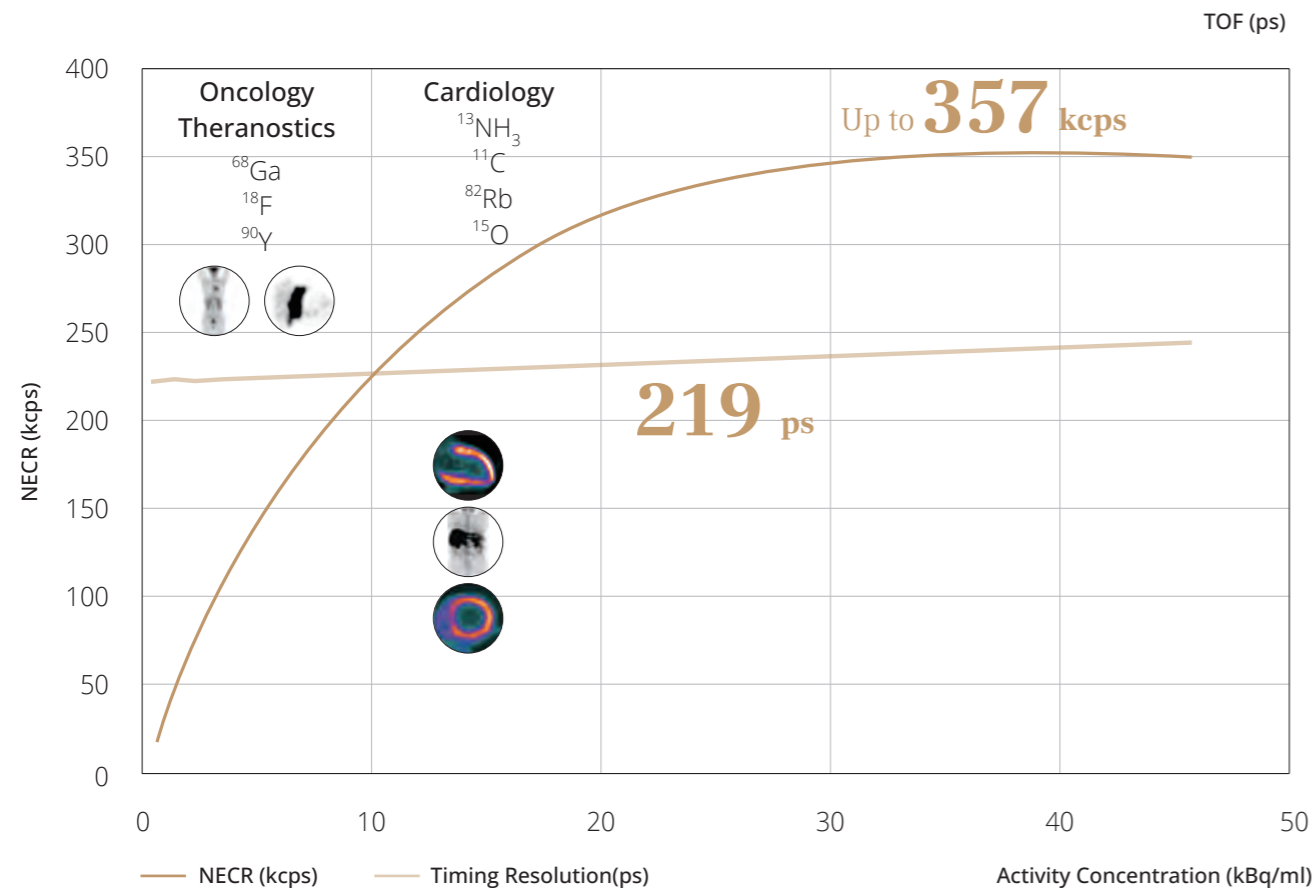
# Expanding Clinical Versatility

Nuclear medicine is making huge progress over the years, where PET/CT plays vital role in visualizing these new PET radiopharmaceuticals for diagnosis and treatment. The high peak noise equivalent count rate (NECR) of 357 kcps and the stable performance of 219 ps TOF resolution ensure the image quality and diagnostic confidence throughout the entire range of radioactivity with reliability and accuracy. The integrated features for radio therapy planning (RTP) make uMI Panvivo a versatile platform to serve diverse clinical purposes.



## High NECR performance

Support precision imaging in oncology, neurology, cardiology and more.



## Aid in Radiation Therapy Planning (RTP)

Integrated imaging and applications for Radiation Therapy Planning (RTP)

### Retrospective 4D-CT

Utilizes respiratory signal to visualize the respiratory motion during scan. Data can be reconstructed with phase-based or amplitude-based binning.

### 4D Review

Provides support for 4D CT playback and the display of respiratory waveforms.

### TG-66 compliant flat table top

Interfaces provided on both sides of the bed board to support the installation of radiotherapy positioning accessories.

### Ultra EFOV

An extended CT field of view up to 70cm diameter using deep-learning algorithm.

### Interface of external respiratory devices

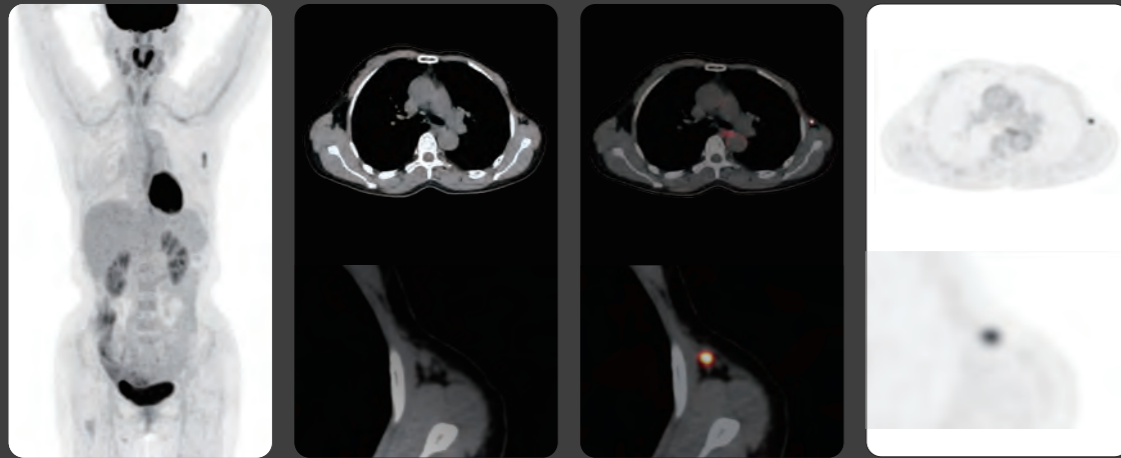
Supports RGSC<sup>[2]</sup> and Vision RT.

### Large tunnel clearance of 59 cm at lowest table height

Increased effective scanning space for large-size patients and accessories.

# Revealing Fine Anatomical and Physiological Details

## Imaging surveillance after primary breast cancer treatment



**Breast ca, restaging**  
 50 kg (119 lb)  
 BMI 18

**Imaging protocol**  
<sup>18</sup>F-FDG  
 3.54 mCi (130 MBq)  
 Uptake time: 77 minutes  
 8-min total scan time  
 120 s/bed × 4 beds

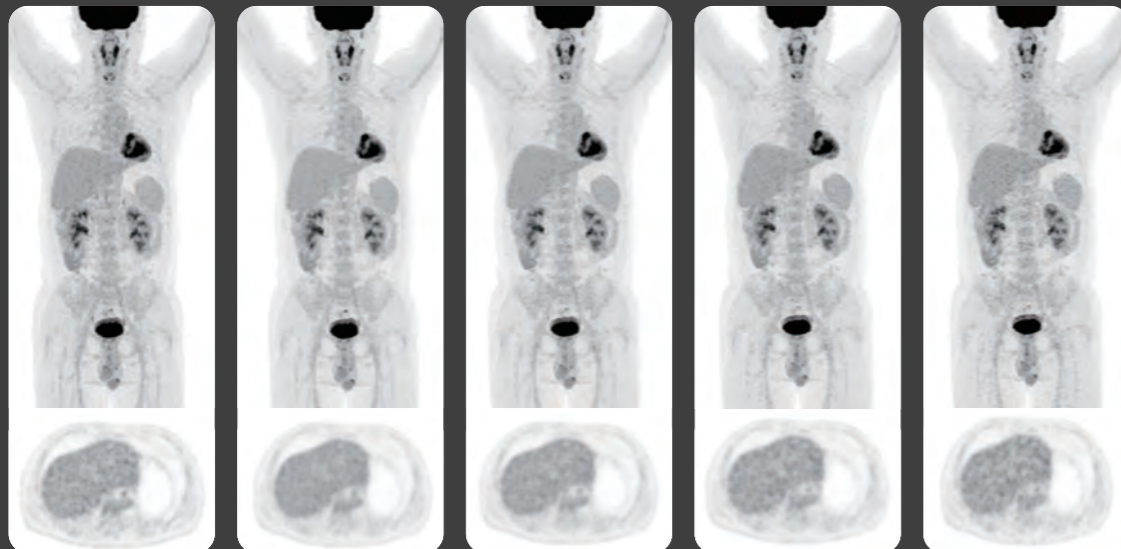
**Reconstruction**  
 OSEM 3i10s, 2.7 × 2.7 × 1.5 mm  
 Gaussian 5 mm

Images Courtesy of the First People's Hospital of Kunshan, JS, CHN

## Improved Image quality compared with conventional OSEM

OSEM

HYPER Iterative (ROSEM)



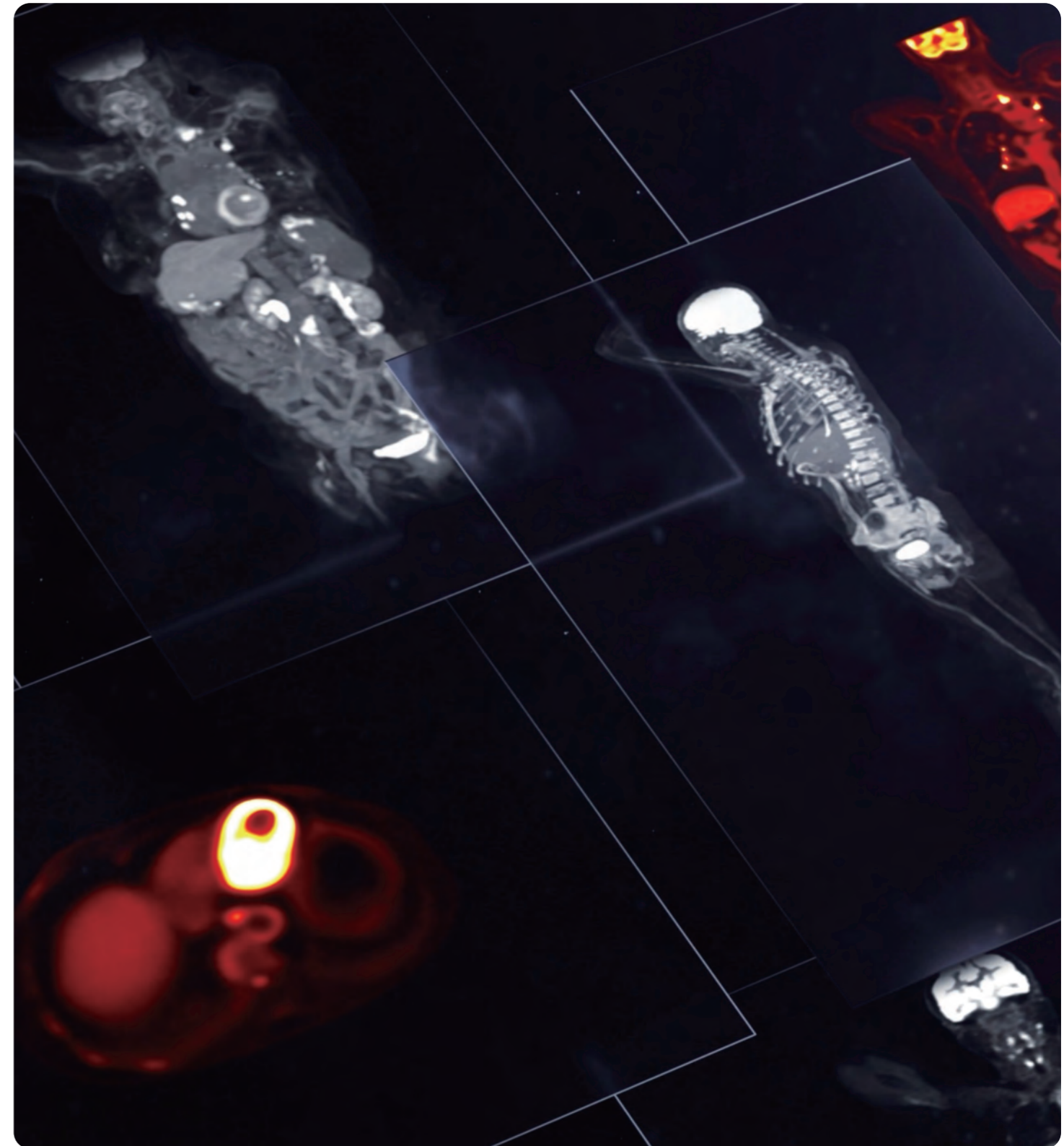
**Healthy Volunteer**  
 79 kg (174 lb)  
 BMI 24

**Imaging protocol**  
<sup>18</sup>F-FDG  
 5.96 mCi zzzz (220 MBq)  
 Uptake time: 55 minutes  
 6-min total scan time

**Reconstruction**  
 OSEM 3i10s G  
 5 mm  
 ROSEM β 0.7  
 2.7 × 2.7 × 1.5 mm

Wholebody 6-min 90 s/bed  
 6-min 90 s/bed  
 4-min 60 s/bed  
 3-min 45 s/bed  
 2-min 30 s/bed

Images Courtesy of the First People's Hospital of Kunshan, JS, CHN





# Care for All

uMI Panvivo represents the very idea of care for all through incorporating patient-centric design and embracing power of Artificial Intelligence to enhance patient and user experience, and overall efficiency.

# AI-Powered Intuitive Workflow

## uVision

A successful PET/CT exam requires a system that offers ease of operation with accuracy. uVision, an AI-powered technology, navigates the system to deliver a streamlined procedure with patient modeling, auto notification and isocenter positioning, improving the usability and workflow efficiency.

### 3D Camera

Depth camera that integrates with deep learning algorithm to map the patient's anatomy.

### 8 Poses

Comparing the actual patient positions that AI identified with selected protocol to correct any misarrangement.

### 22 Landmarks

Identifying the anatomical landmarks that represent the patient's geometry and postures.

### Real-time Detection

Monitoring the patient movement in real time and determining both the starting line and scan range.

### 3D Modeling

Creating 3D model of the patient with accurate body shape with depth information.

### Isocenter Positioning

Sending patient to the isocenter automatically in alignment with the selected region of interest on scout image.

#### 1-click AI-powered workflow

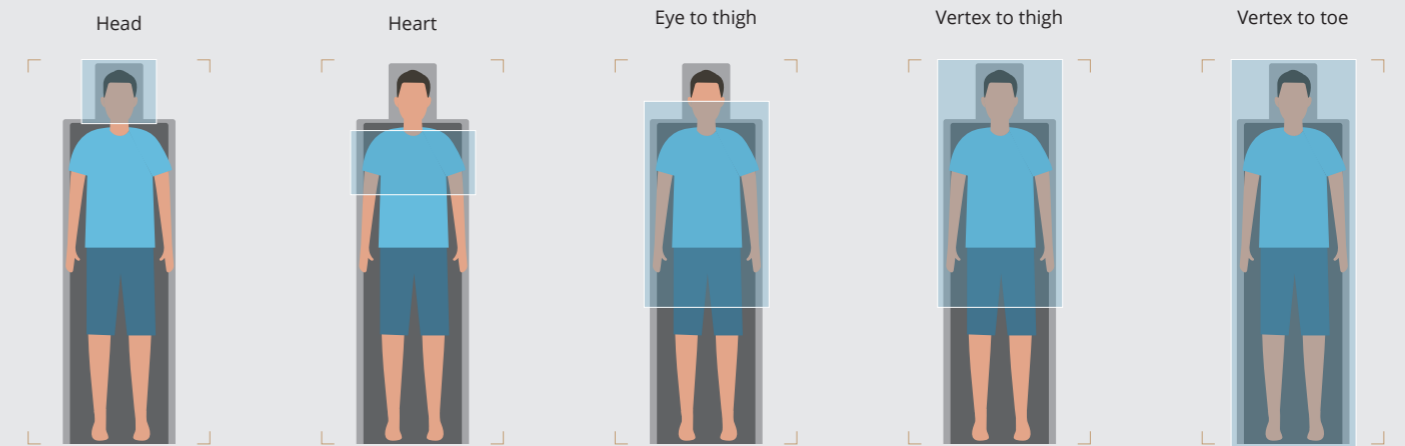


#### Traditional manual operation

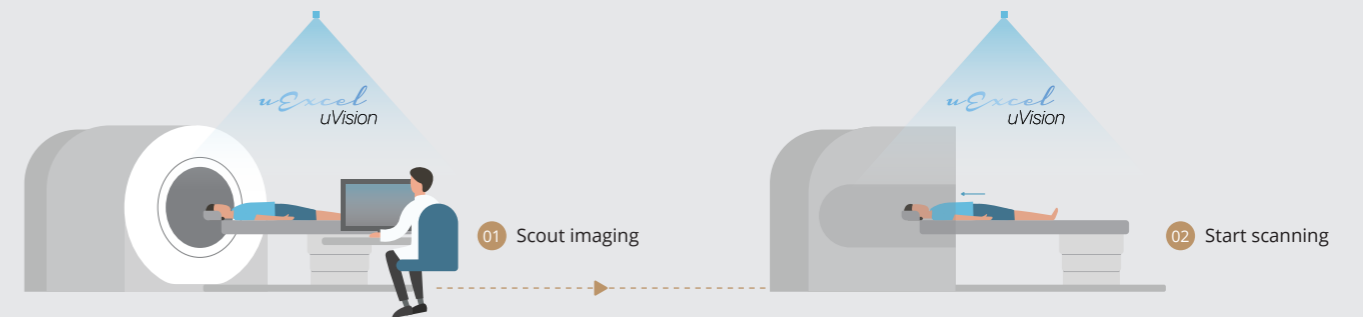


## EasyRange

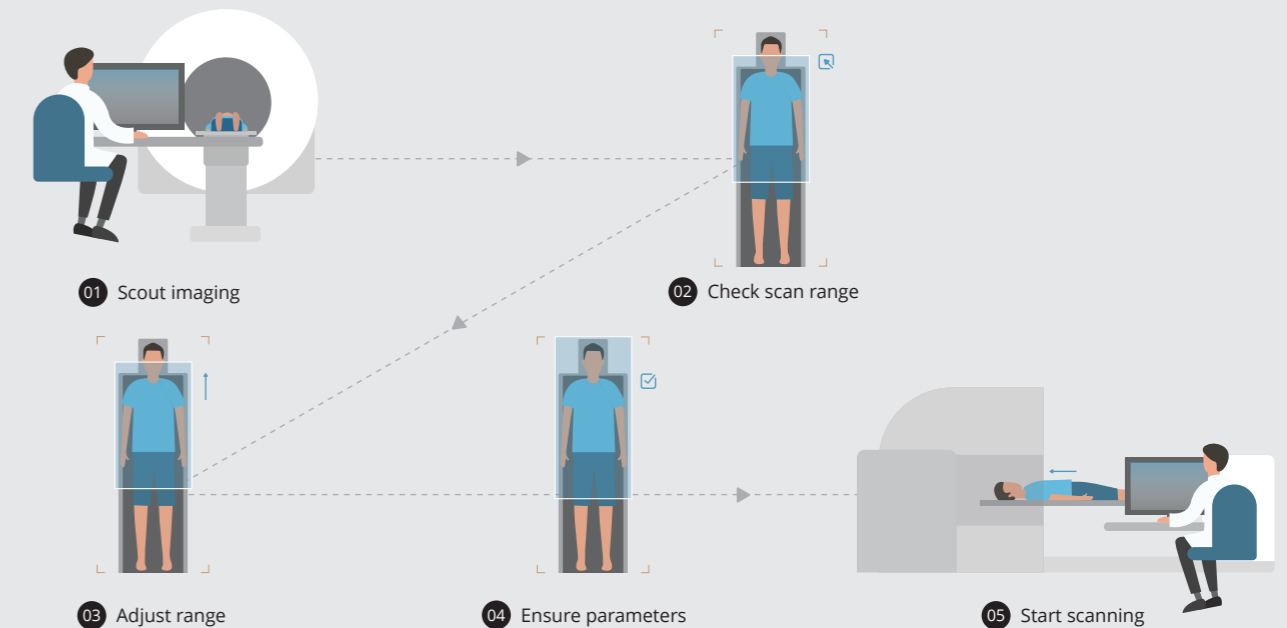
EasyRange (Auto Planbox) automatically sets the scan range for targeted areas like the body, head, and heart, etc. according to the protocol selected, reducing the effort of manual selection and adjustment.



#### 1-click AI-powered workflow



#### Traditional manual operation



# AI-powered Motion Correction

## OncoFocus<sup>[3]</sup>

uMI Panvivo's AI-powered OncoFocus provides a unified solution to reduce respiratory motion artifacts, ensuring accurate quantification and precise lesion measurements for more confident decision-making.

### No external devices required

Use 100% of data acquired with or without external devices

### Regain precision with one click

Activate the motion-correction reconstruction with one-click

### Restore clarity to the motion-blurred

Restore clarity to lesions that are variable, hard to detect, or difficult to quantify due to respiratory artifacts

### Revive ultra-high resolution

Revive initially-high resolution in the areas of breathing artifacts for a leap in quality of reconstructed images

### Resolve the AC artifacts under PET-CT misalignments

Resolve the attenuation correction artifacts caused by misalignment of PET and CT images for accurate lesion quantification

Before Motion Correction	OncoFocus Motion Correction	Before Motion Correction	OncoFocus Motion Correction	CT Images
		SUVmax = 2.71	SUVmax = 4.26	

**Lung ca, restaging**  
68 kg (151 lb)  
BMI 23

**Imaging protocol**  
<sup>18</sup>F-FDG 4.7mCi (171 MBq)  
Uptake time: 77 minutes  
4-min total scan time  
120 s/bed × 2 beds

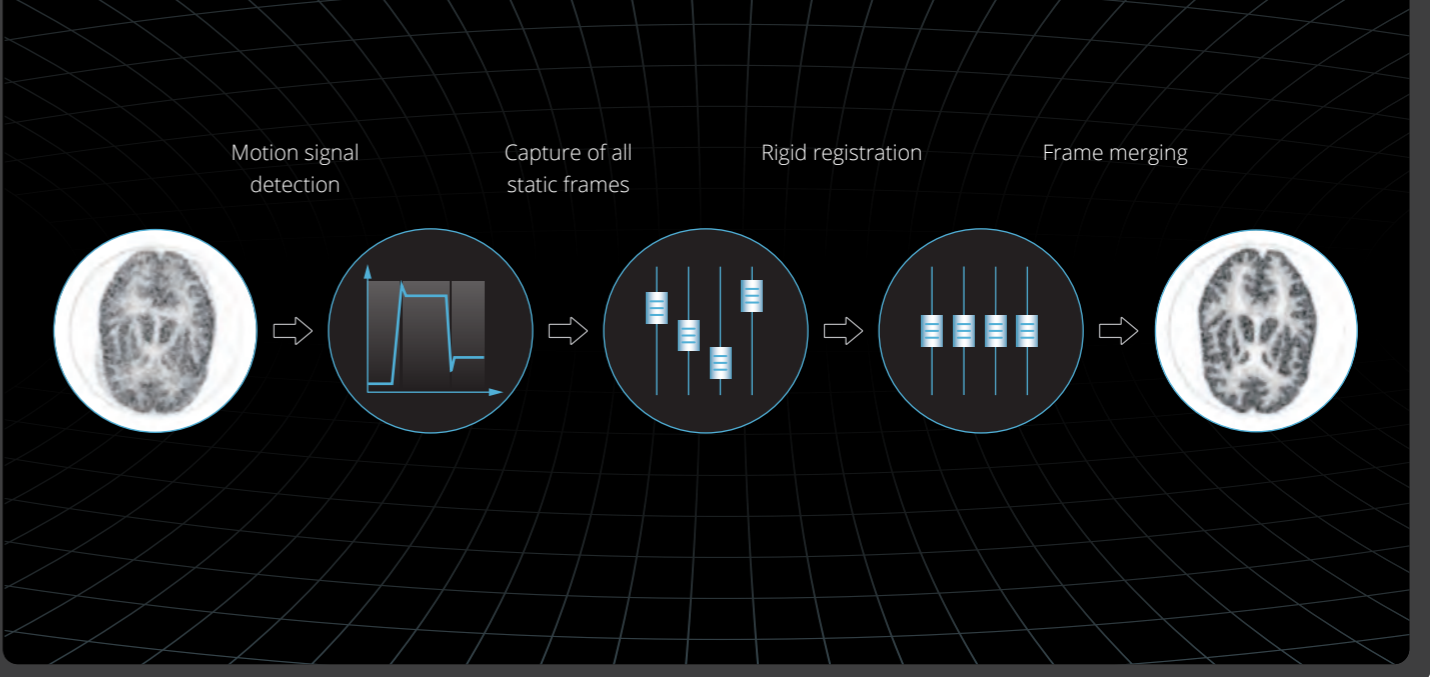
**Reconstruction**  
OSEM 3i10s  
3.1 × 3.1 × 3.1 mm  
Gaussian 3 mm

Images Courtesy of the First People's Hospital of Kunshan, JS, CHN

## NeuroFocus<sup>[3]</sup>

NeuroFocus is a groundbreaking solution that corrects head motion artifacts without additional motion tracking devices to improve your diagnostic confidence and efficiency.

### Experience NeuroFocus in action—no external devices required



Before Motion Correction	NeuroFocus After motion correction	Repeat Scan without motion

**Imaging protocol**  
<sup>18</sup>F-FDG  
5.5 mCi (204 MBq)  
Uptake time: 71 minutes  
5-min single bed

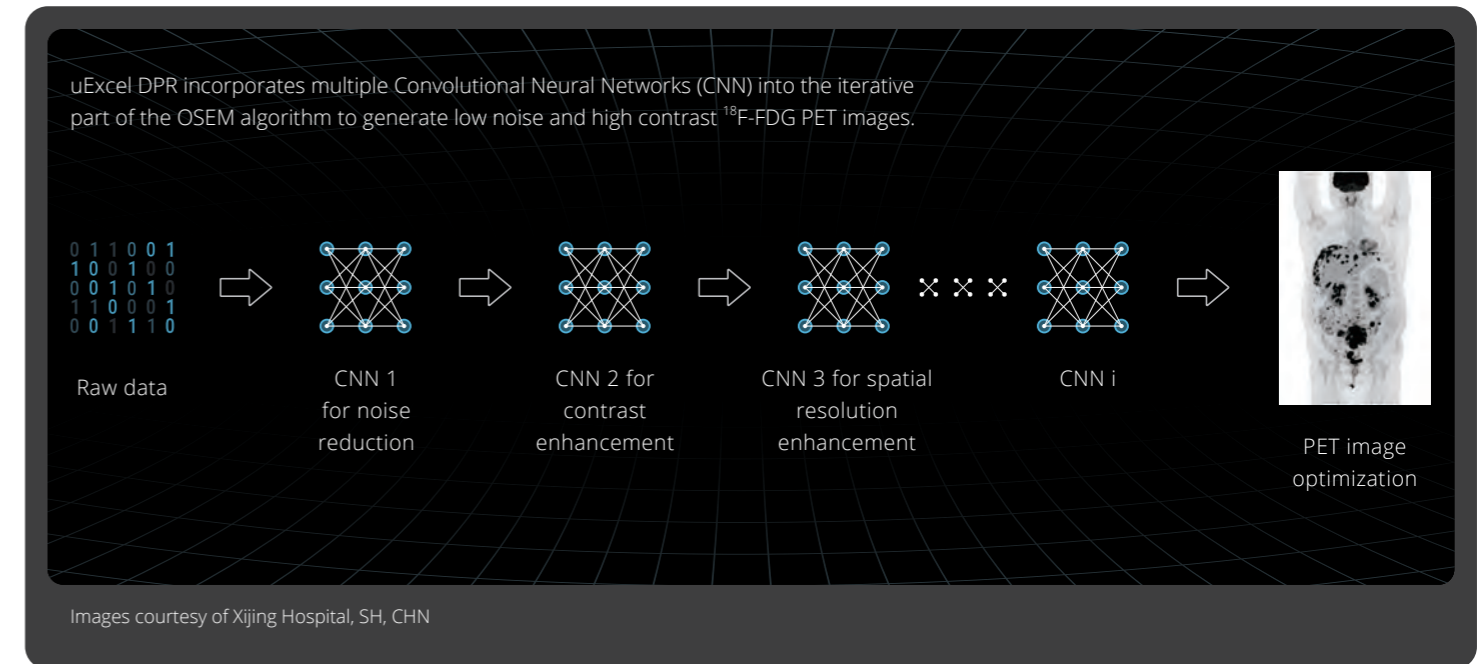
**Reconstruction**  
OSEM 4i10s  
1.2 × 1.2 × 1.2 mm<sup>3</sup>  
Gaussian 2 mm

Images Courtesy of the First People's Hospital of Kunshan, JS, CHN

# AI-powered Reconstruction

uExcel DPR (Deep Progression Reconstruction)<sup>[4]</sup> represents a breakthrough in PET imaging reconstruction method, leveraging advanced AI-driven iterative reconstruction to significantly reduce noise and enhance image contrast. This technology improves the contrast-to-noise ratio (CNR), delivering sharper, clearer images that support accurate diagnoses in low injection dose or ultra-fast scans.

What uExcel DPR offers is a patient-friendly scan experience with total-body scan down to 2 minutes without compromising image quality. It is developed to assist successful PET/CT imaging and diagnosis for every user as well as every patient.



## High quality imaging with faster scan time using uExcel DPR

9 min	4 min	2 min	1 min

**Lung ca, restaging**  
60 kg (132 lb)  
BMI 21

**Imaging protocol**  
<sup>18</sup>F-FDG  
6.54 mCi (242 MBq)  
Uptake time: 54 minutes  
10.5-min total scan time

**Reconstruction**  
uExcel DPR  
Strength 2

Images Courtesy of the First People's Hospital of Kunshan, JS, CHN

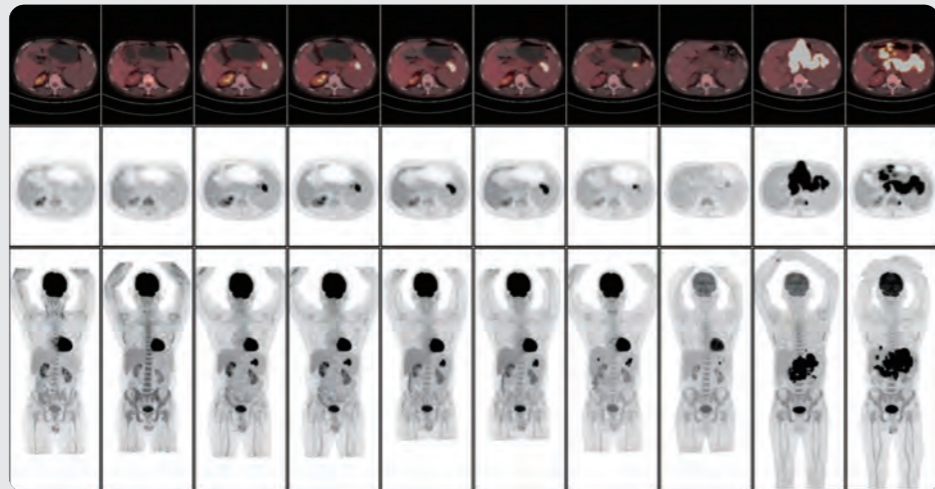
# AI-Powered Post-Processing Solution

Our AI-powered server-based post-processing solution, uOmnispace, is an intelligent platform where you have the access to a variety of intelligent applications, from image registration to quantitative assessment. It also allows multiple users and remote access providing flexibility and scalability to you and your team.

## Smart Registration

Support auto image registration across multiple modals, body parts, and time points while loading data.

**Auto image registration across modalities, timepoints (max. 10), and vendors**

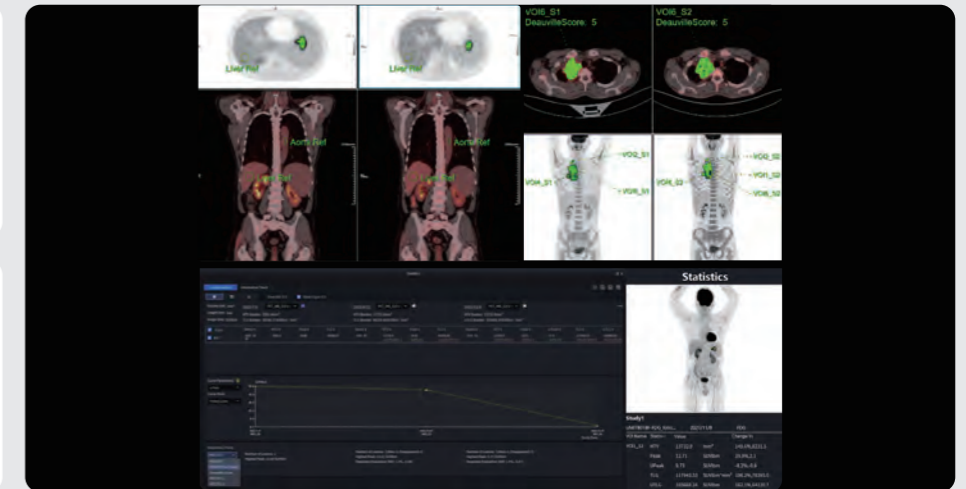


## Smart Reading and Quantification

AI-empowered analysis tools for quantitative evaluation of tumor staging and metastasis.

**Auto extraction of Reference VOI and calculation**

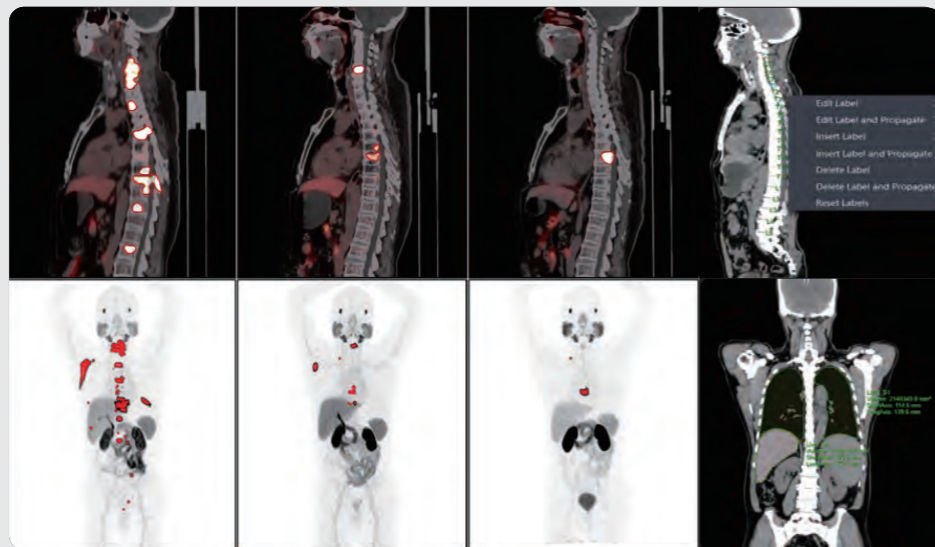
**Auto tumor quantification**



## Smart Segmentation

Auto organ and lesion segmentation and propagation available for multiple tracers.

**AI-based lesion & organ segmentation and bone labeling**



## Easy access, scalable, and multi-vendor

Scalable modality or departmental, enterprise solution that adapts to your clinical and IT needs.

**Max. 50 concurrent clients**

**Compatible with PCs, laptops, and Surface**

**Support mainstream vendors' data loading and analysis**



# Enjoyable Scan Experience with Human-centric Design

uMI Panvivo is crafted with human-centric details, bringing comfort and safe experience to each patient and user.

With a tunnel clearance of up to 59 cm, it accommodates patient of larger size, or with various postures and accessories. Calming ambient lighting of purple, blue and white creates a soothing atmosphere to reduce patient anxiety. The anti-collision mechanism automatically stops column moving once an object being detected near the base.

## Bigger tunnel clearance for better patient experience

uMI Panvivo provides maximum tunnel clearance up to 59cm at the lowest table height, creating spacious room for larger patients and various accessories or postures.



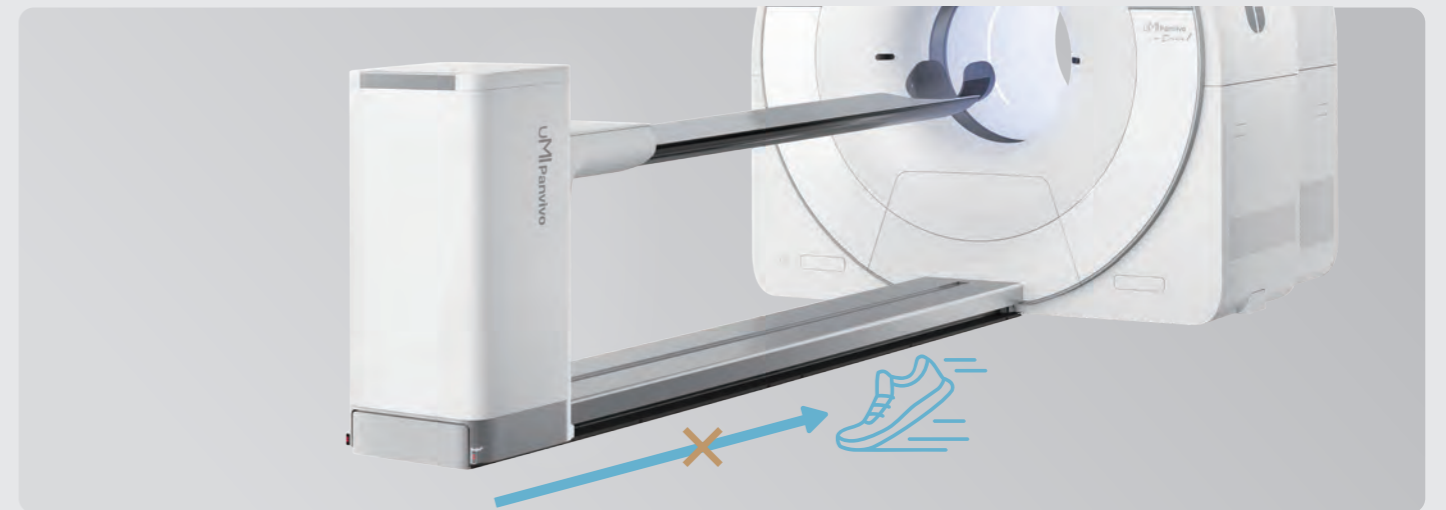
## Soothing Ambient Lighting

Purple, blue and white light with breathing guide offer calming atmosphere to reduce anxiety and claustrophobia.



## Anti-collision Design

The column will stop moving automatically if the feet or other object is detected near or below the base to prevent any trapping or stuck.





# Success for All

uMI Panvivo aims to accompany you on the journey towards long-term and sustainable success.

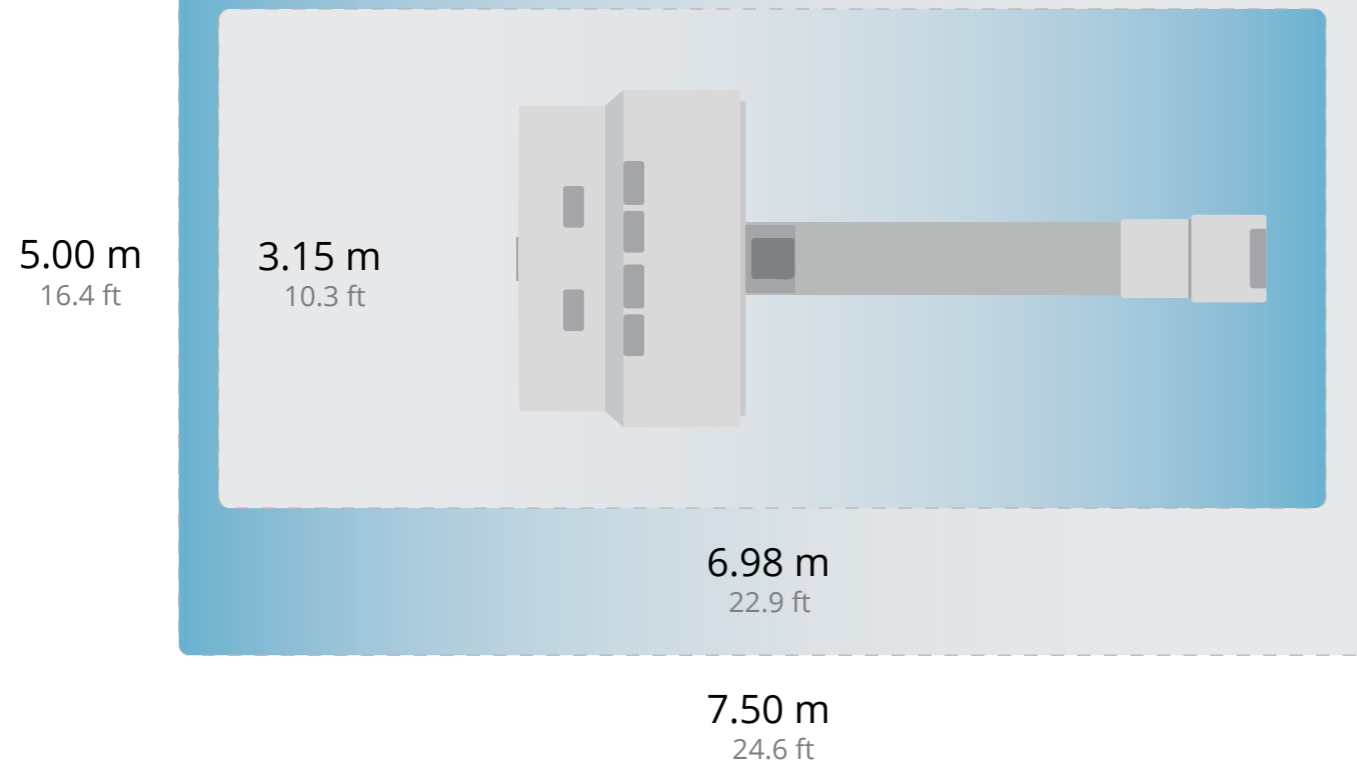
# Improved Accessibility Delivered by A Compact Structure

We understand accessibility matters when it comes to a major project like a PET/CT. To improve return on investment requires systematic approach that can adapt in different clinical settings and circumstances.

Given the compact design and innovative air-cooling system, uMI Panvivo offers small footprint that can not only fit in the majority of sites, making installation or replacement easier than ever, but also improve your operational performance and overall yield on per unit area, i.e., space-effectiveness.

**Recommended Room Size 37.5 m<sup>2</sup> (403.6 ft<sup>2</sup>)**

**Minimum Room Size 22 m<sup>2</sup> (236.8 ft<sup>2</sup>)**



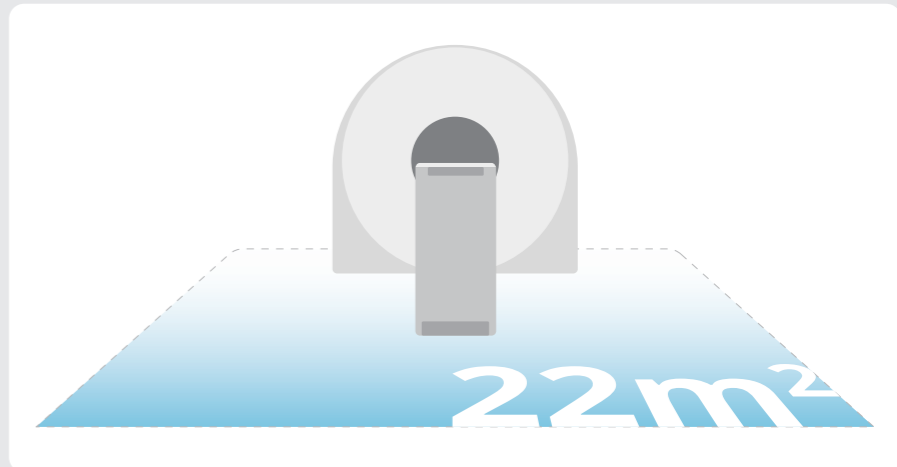
## Air-cooled System

Optimized airflow offers great performance stability without water chiller, saving more energy consumption and operational cost.



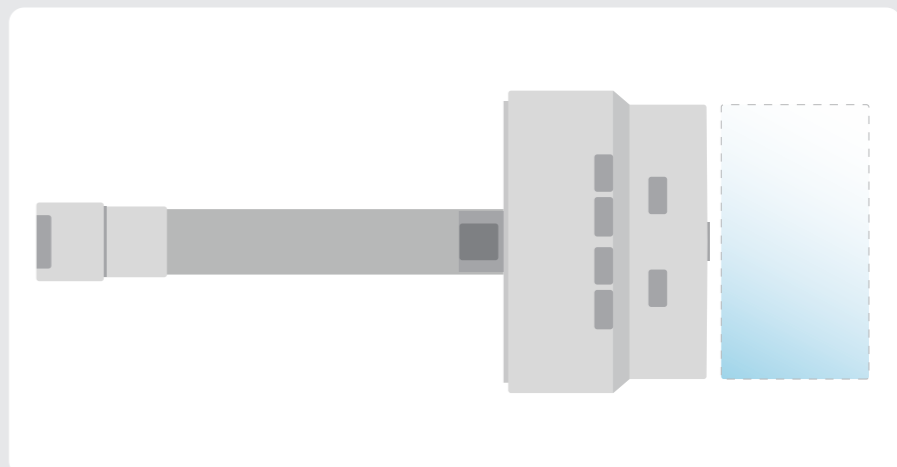
## No Equipment Room Needed

Scan room requirement down to 22 m<sup>2</sup>, making uMI Panvivo easy for your upgrade and installation.



## Extendable in the Same Space

On-site upgrade within existing gantry and site that delivers simplicity and cost-effectiveness in future upgrade.



# Long-term Success with Consistency in Performance

## Automated Quality Management

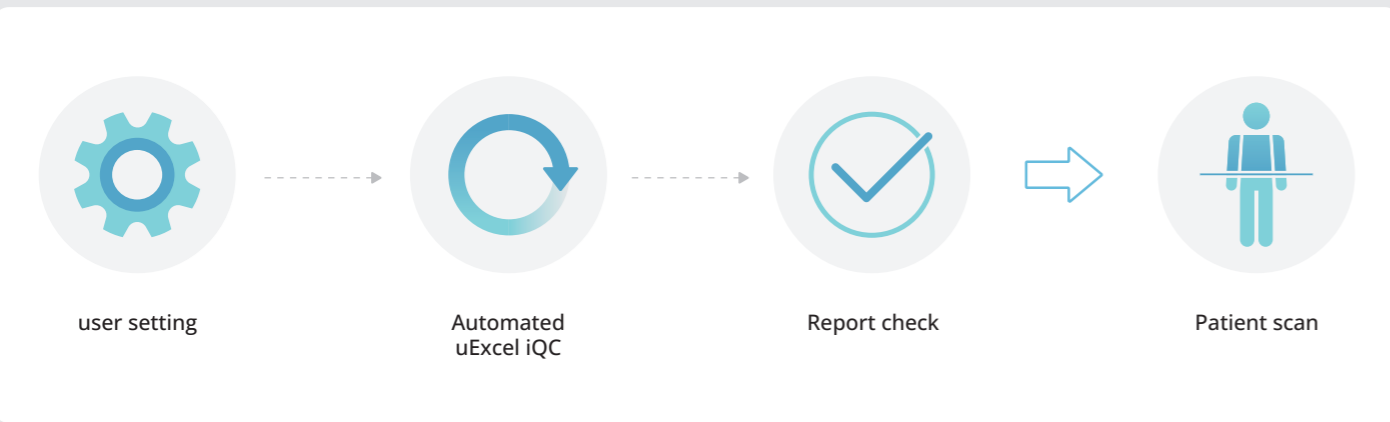
### uExcel iQC

#### One-stop Source-free Quality Control

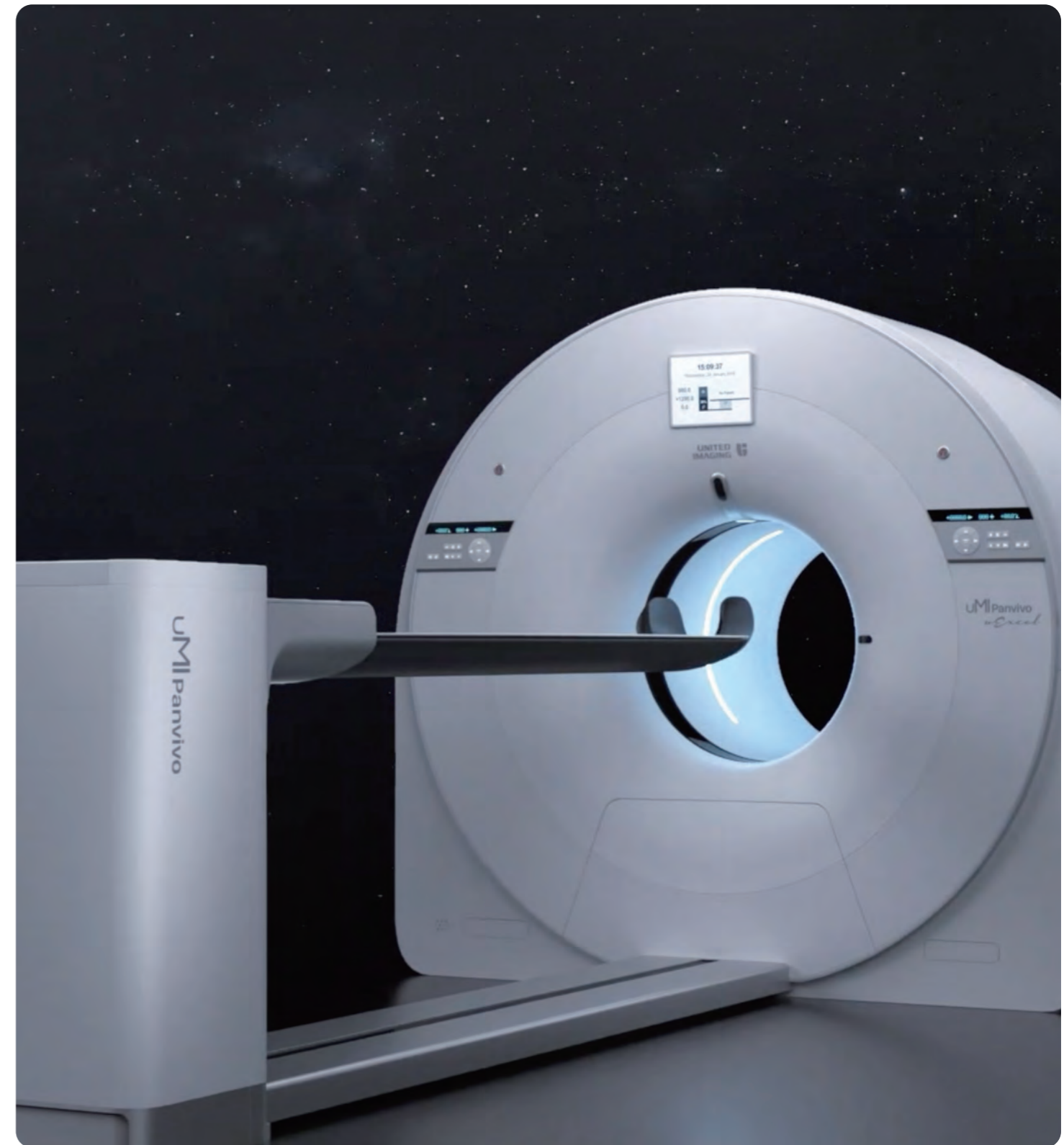
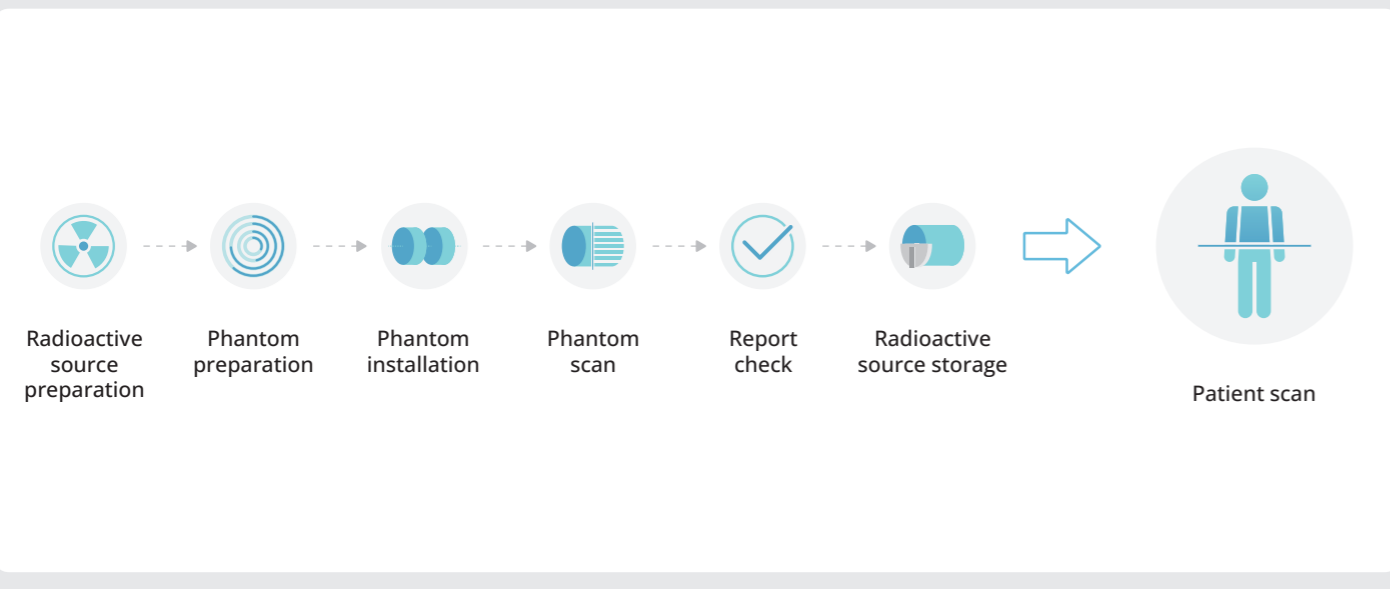
Daily scans for background count rate, voltage power supply, temperature, and humidity

Weekly check of LUT drift, energy drift, TOF check and Cmap

Automatic QC based on the user's settings



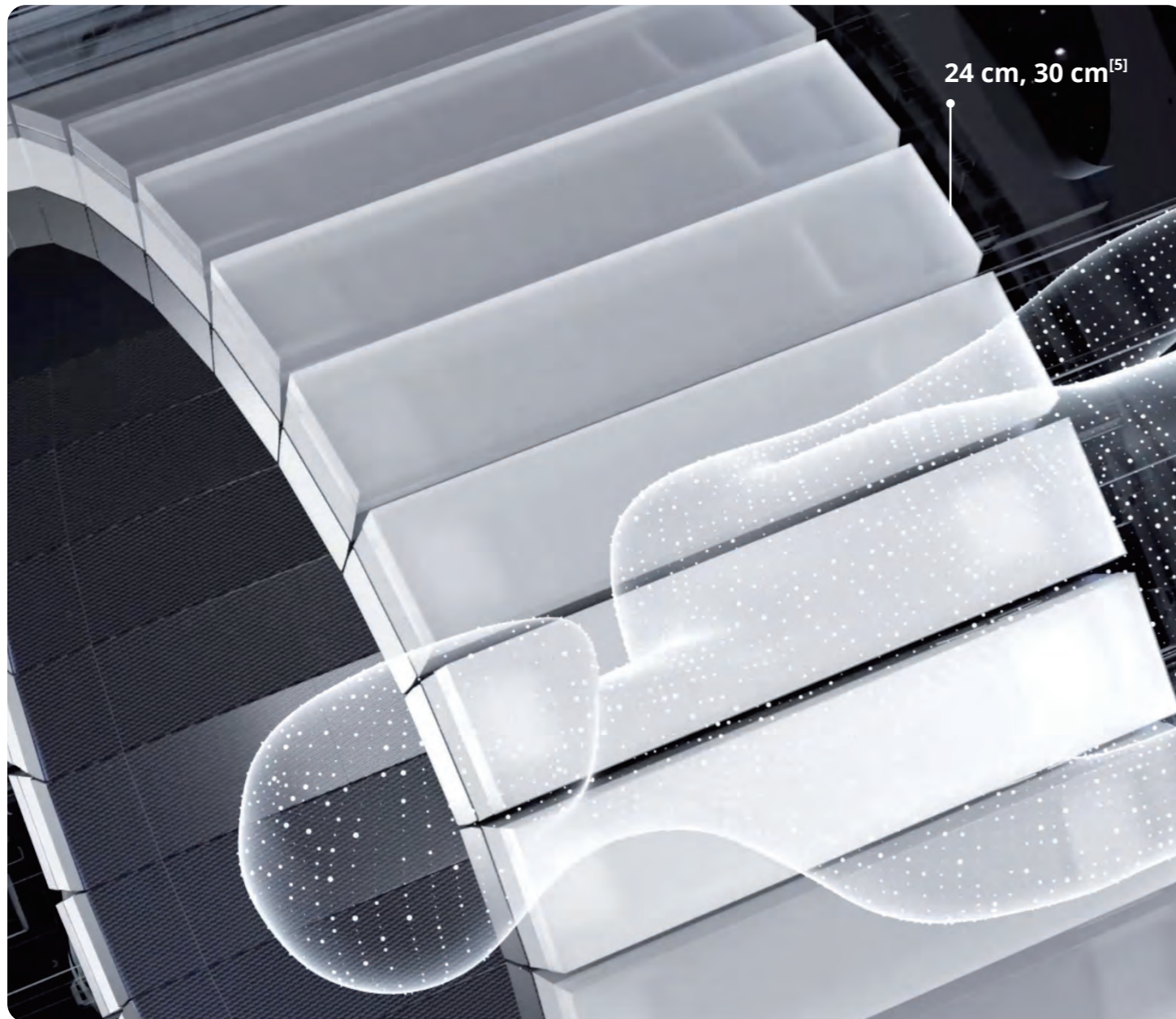
## Conventional Quality Control Procedure



# Scalable Future That Built on A Scalable Platform

uMI Panvivo is a platform that supports your evolving demands for nuclear medicine and molecular imaging, and helps to unlock the potential of future clinical research.

With an extendable architecture, we are letting you to choose the system that suits your clinical reality the best, so you can start up and plan for the future with a blueprint in mind.

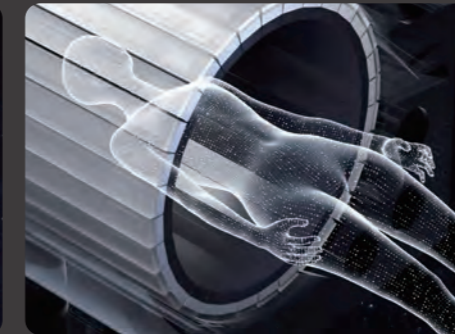


## Extendable Axial FOV

Based on modular detector, uMI Panvivo provides wider scan range and broader high-sensitivity area for higher clinical and research capacity.



Advanced Modular  
Detector Design



Extendable Axial  
Field of View



Boosted Clinical Capacity  
and Research Potential

## Expandable User Accessibility

Integration of uOmnispace, UIH server-based workstation, enables remote and multiple access to the clinical data and a variety of intelligent post-processing apps.



# uMI Panvivo

**59 cm (23.2 in)**

Maximum Tunnel Clearance with 70cm Bore Size

**2 m (78.7 in)**

Maximum Co-Scan Range

**250 kg (551 lbs)**

Patient Table Load Capacity

*uExcel*  
uVision  
**3D Camera**

**2.9 mm**      **219 ps**

NEMA Spatial Resolution      Leading TOF resolution

**Up to 181 cps/kBq**

Effective Sensitivity<sup>[1]</sup>

**Air-cooling**

No Equipment Room Needed

**30 cm, 24 cm and more**

Extendable PET Axial FOV

**0.3 s**

Rotation Speed

**100 kW**

Generator

**4 cm**

CT Detector Coverage with 160 Slices/Rotation

uMI Panvivo offers outstanding system performance and integrated design that deliver Precision for All, Care for All, and Success for All — bringing diagnostic accuracy, patient and user-friendly design, and clinical efficiency together to support optimal outcomes in every scan.

## Precision for All

### Uncompromised Clarity

2.9 mm NEMA spatial resolution

219 TOF resolution

181 cps/kBq effective sensitivity

### Expanding Clinical Versatility

357 kcps peak-NECR

Aid in RTP

## Care for All

### An AI-powered Intuitive Workflow

uExcel Scan – uVision

uExcel Scan – EasyRange

### Human-centric Design

Best-in-class tunnel clearance

Calming Ambient Light

### Automated Quality Management

uExcel QC - iQC

## Success for All

### Optimal Accessibility with a Compact Design

Air-cooling system

Small room requirement

No equipment room needed

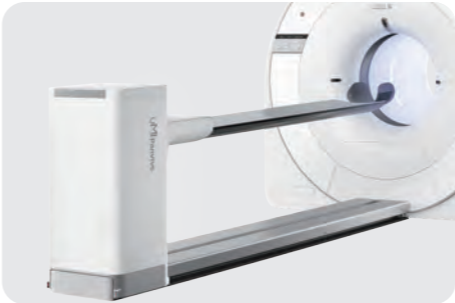
### A Scalable Platform

Extendable Axial FOV

Server-based workstation – uOmnispace

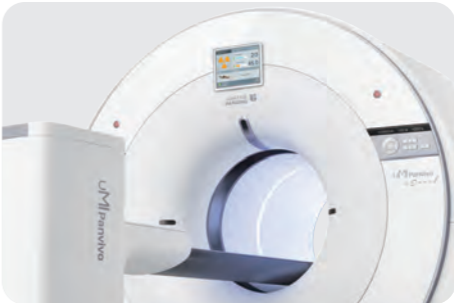
# User in Mind Design

Based on pleasing aesthetics, ergonomic innovation and sophisticated craftsmanship, uMI Panvivo combines great usability and efficiency with remarkable and unique industrial design to deliver care for both users and patients throughout the entire lifecycle.



## Pleasing Aesthetics

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



## Ergonomic Innovation

The product design delivers comfort, safety, efficiency and ease-of-use. By applying ergonomic principles, uMI Panvivo combines innovative design with optimal functionality in order to provide a better possible user experience, optimizing patient comfort during the examination.



## Sophisticated Craftsmanship

Driven by the tenets of precision design, we fine tune every technological detail to embody the spirit of craftsmanship in every product.

# References

[1] Measured with TOF gain calculated for a 35-cm cylindrical phantom.

[2] RGSC: Respiratory Gating for Scanners.

[3] Work in progress. OncoFocus and NeuroFocus on uMI Panvivo are not submitted to CE or FDA for clinical use.

[4] Work in progress. uExcel DPR on uMI Panvivo is not submitted to CE or FDA for clinical use.

[5] uMI Panvivo 30 cm and 24 cm are FDA 510(k) cleared. uMI Panvivo 30 cm is CE MDR pending.

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United Imaging does not make any claims regarding the safety and effectiveness of tracers that have not been approved by the FDA or CE.

The statements provided by United Imaging customers in this document are based on the unique outcomes achieved within their specific settings. Due to the absence of a "typical" hospital or laboratory and the presence of numerous variables (such as hospital size, sample composition, case mix, level of IT infrastructure, and/or adoption of automation), it cannot be guaranteed that other customers will attain the same results.

The commercial availability of uMI Panvivo may vary across countries and its future accessibility cannot be guaranteed. For further details, please contact your local United Imaging organization.