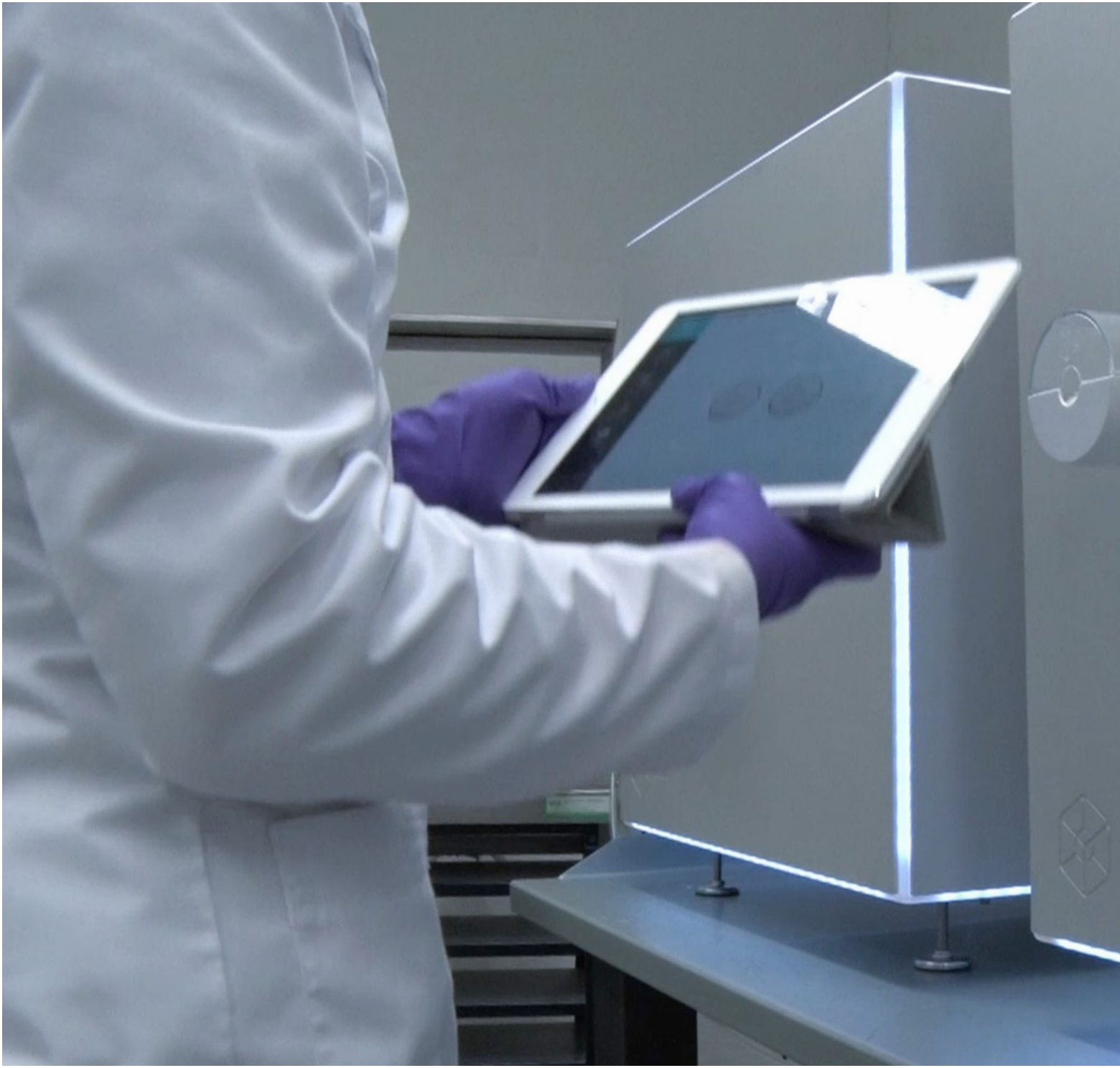
Modular Benchtop Imaging

PET/SPECT/CT

MOLECUBES

www.molecubes.com



"We believe that acquiring qualitative images in a reproducible way starts with keeping the small animal parameters stable and have both intuitive user interfaces and scanning protocols. Hence, we provide in-house developed small-animal beds that monitor the animal's vital parameters and are compatible with standard preclinical MRI-systems also. In-house coregistration assures different datasets to be aligned automatically and smoothly. Once acquired, reconstructed and fused, image data are compatible with most common image analysis packages available on the market. Finally, our Best Uptime Servicing or "BUS"-service model is unique in the field."

MODULAR SET-UP POSSIBILITIES

PET, SPECT, CT standalone

Single modality with 1 CUBE

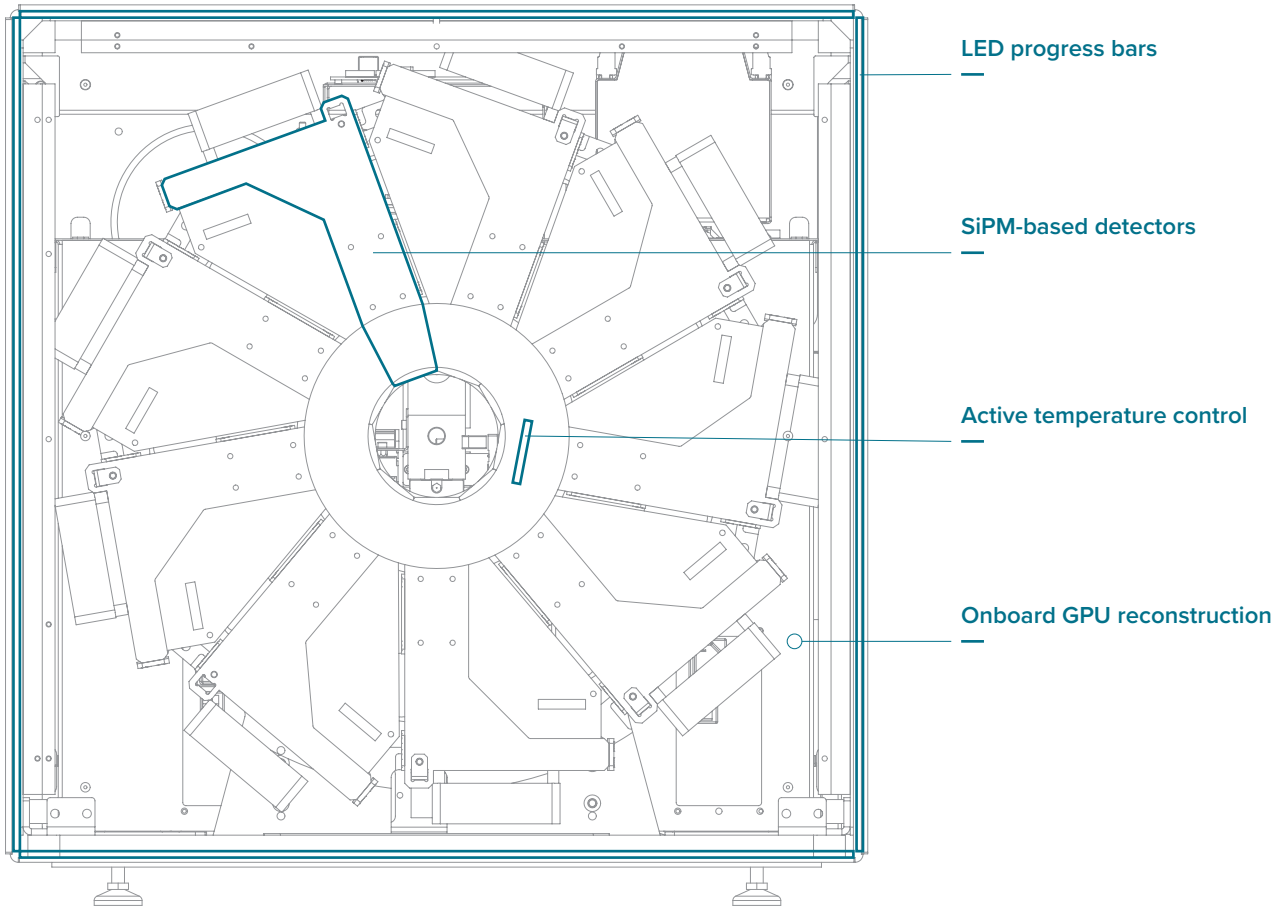
PET/CT
SPECT/CT

Dual modality with 2 CUBES

PET/SPECT/CT
PET/PET/CT
PET/CT/CT
SPECT/CT/CT

Tri-modality with 3 CUBES

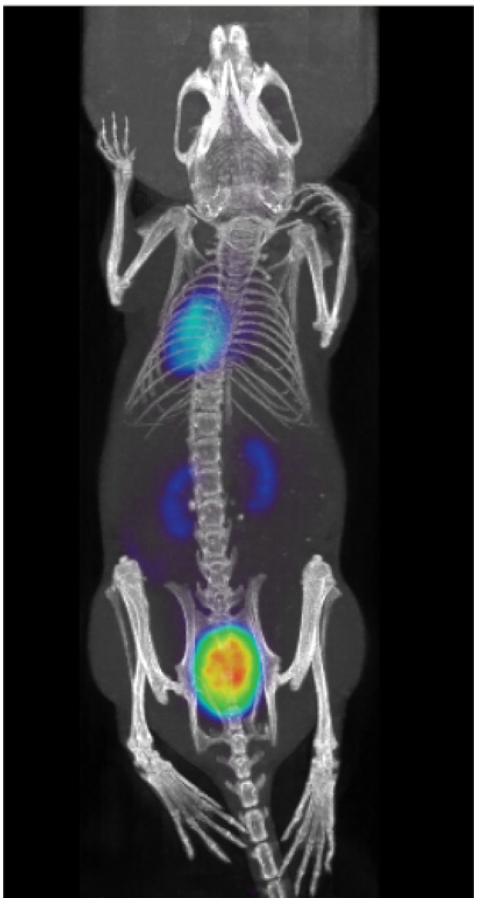
	γ-CUBE SPECT	X-CUBE CT	β-CUBE PET
Field Of View axial x transaxial	12mm x 30mm	35mm x 63mm	**130mm x 72mm**
Resolution *general purpose mouse collimator **3D OSEM	< 0,6mm*	0,05mm	**0,85mm****
Sensitivity over the Field Of View	0,12%	-	**12,6%**
Reconstruction Code on board GPU-based	MLEM	FDK, ISRA	**FBP, 3D MLEM, 3D OSEM**
Weight over footprint of 54cm x 54cm	75kg	106kg	**78kg**



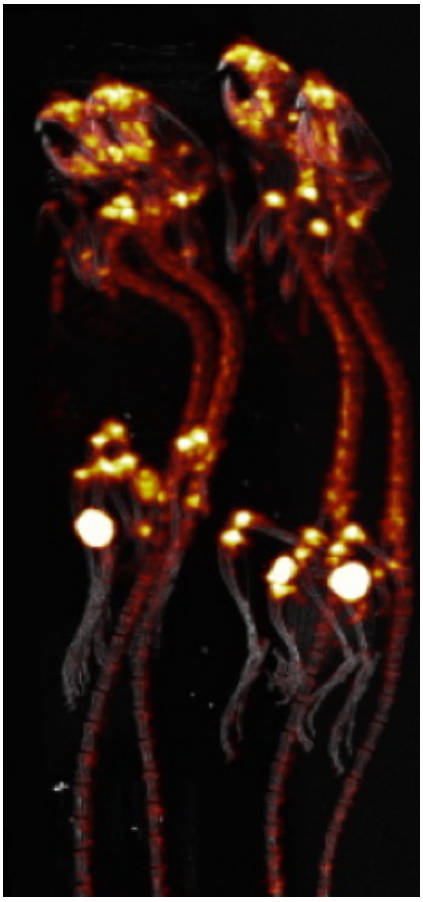
The β-CUBE is our high-performance preclinical PET imager.

Sub-millimeter image resolution is achieved through the combination of monolithic scintillators, the latest photon counting technology and GPU-based event positioning and iterative image reconstruction. The 5-ring configuration ensures best-in-class sensitivity over a field-of-view adequate for whole-body mouse and rat imaging at high count rate. In-house hardware allows for dynamic and gated studies. Intuitive and wireless acquisition software combined with our multimodal small animal bed allow for easy and modular multimodal imaging along with the γ-CUBE (SPECT) and X-CUBE (CT).

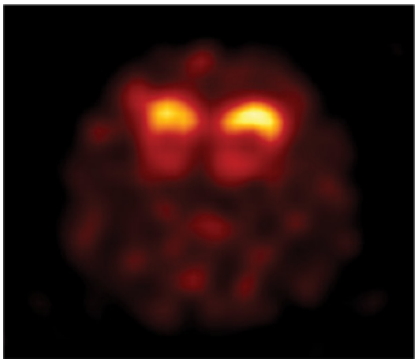
IN-VIVO SCANS



^{18}F-FDG PET/CT



^{18}F-NaF mouse hotel

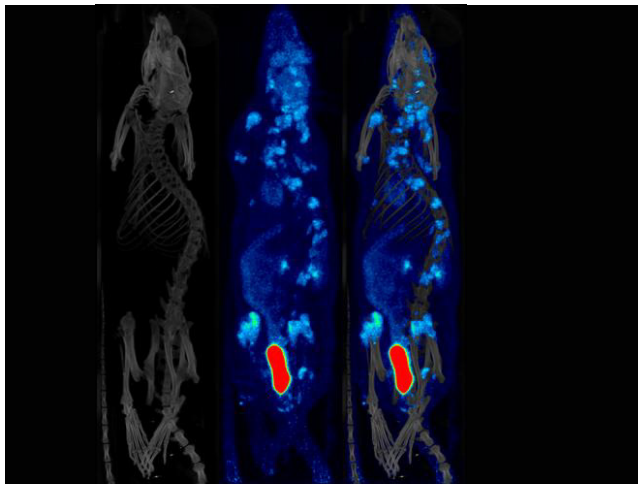


^{11}C-Raclopride

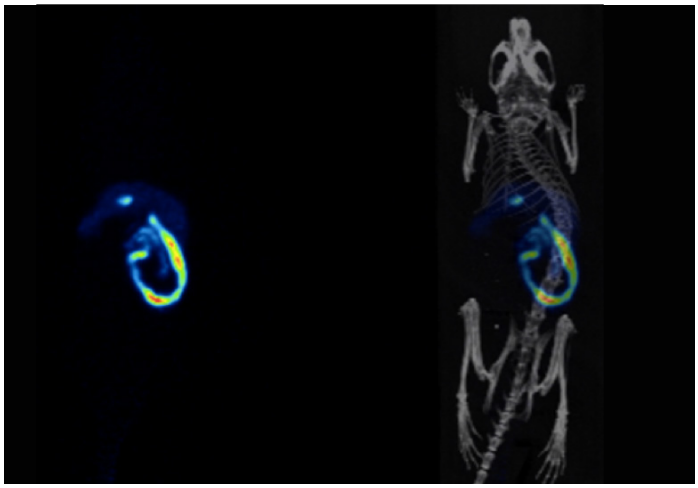
High-End

Modular

Benchtop

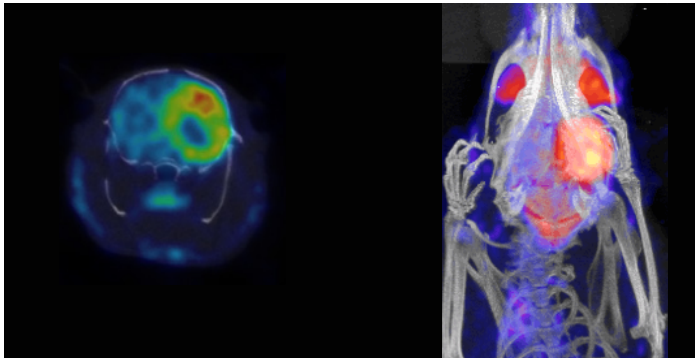


^{18}F-FDG RAT (breast cancer metastasis)
Courtesy of De Meulenaere V et al., dpt. of Radiology, Ghent University



^{18}F-FCA (fluorocholic acid) mouse
Courtesy of De Lombaerde S et al., dpt of Radiopharmacy, Ghent University

^{18}F-NAF - MIP rat



^{18}F-FDG Rat with glioblastoma

Intuitive Software

Animal monitoring

Best Uptime Service

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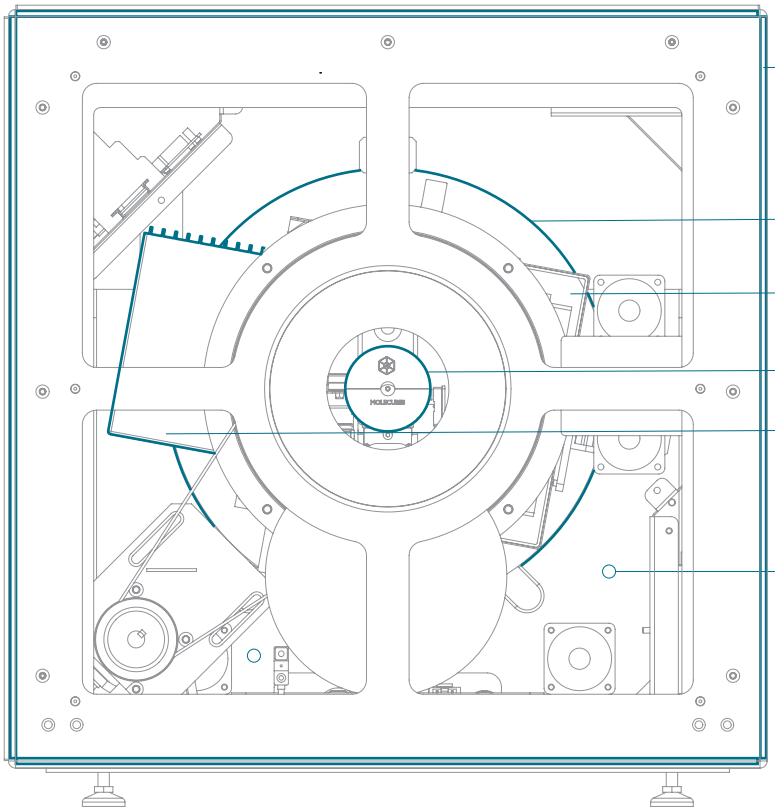
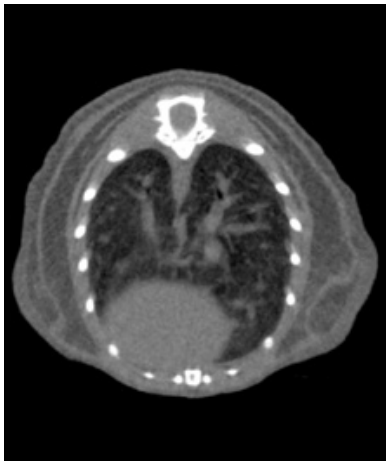
X-CUBE

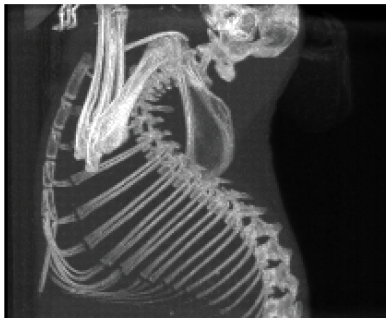


The X-CUBE is our high throughput CT “work horse”.

It allows for fast whole body mouse and rat CT imaging at extremely low dose and excellent soft tissue contrast. Light weighted thanks to a self-shielded imaging unit it is a truly mobile in vivo scanner. Advanced workflows such as gated and dynamic contrast enhanced imaging can be achieved in a functional and integrated set up. Our iterative reconstruction techniques are available in standard as well as expert user mode. Intuitive and wireless acquisition software combined with our multimodal small animal bed allow for easy and modular multimodal imaging along with the γ-CUBE (SPECT) and β-CUBE (PET).

IN-VIVO SCANS



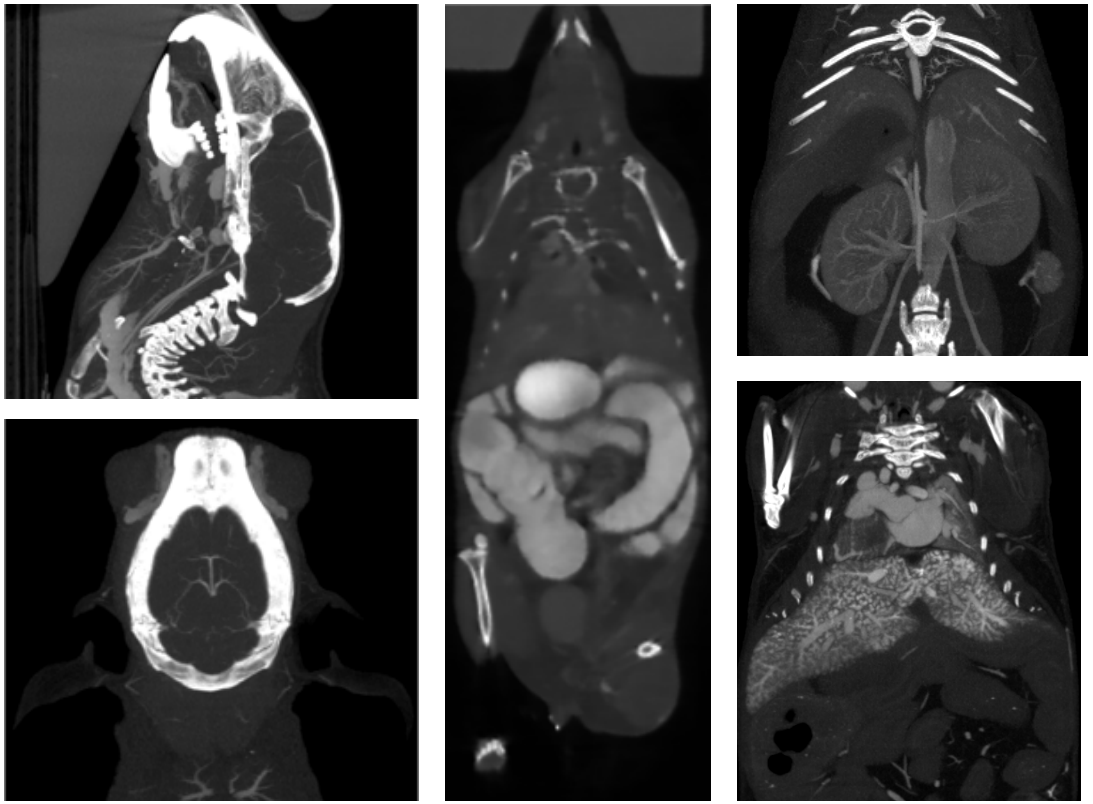


Helical general purpose low dose CT

High-End

Modular

Benchtop



Contrast Enhanced CT Exitron 12000 + Telebrix (middle only)

Intuitive Software

Animal monitoring

Best Uptime Service

γ-CUBE

SPECT

X-CUBE

CT

β-CUBE

PET

	γ-CUBE	X-CUBE	β-CUBE
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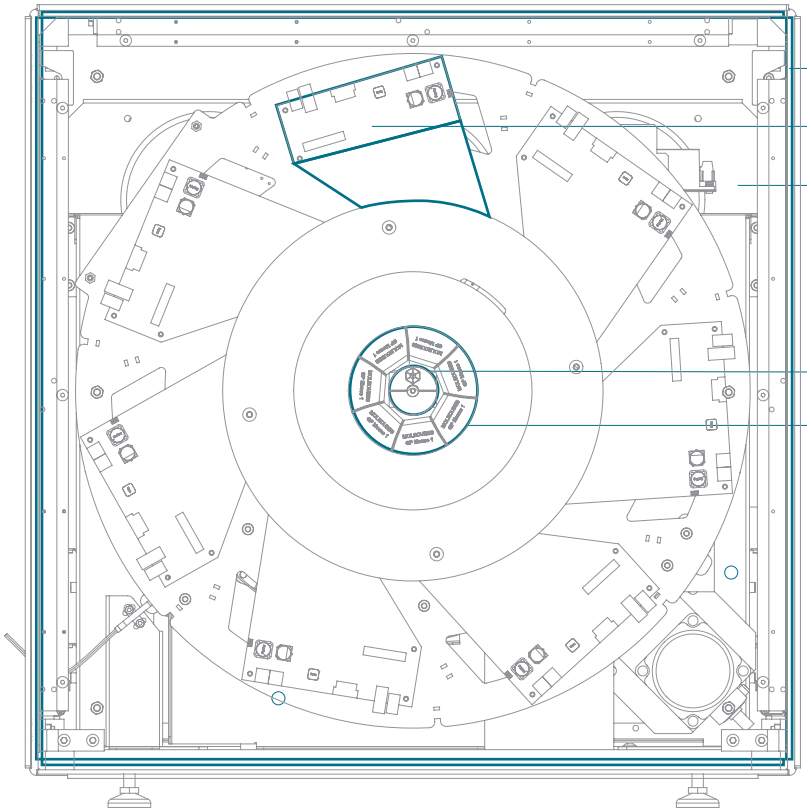
γ-CUBE



LED progress bars

High-resolution scintillation detectors

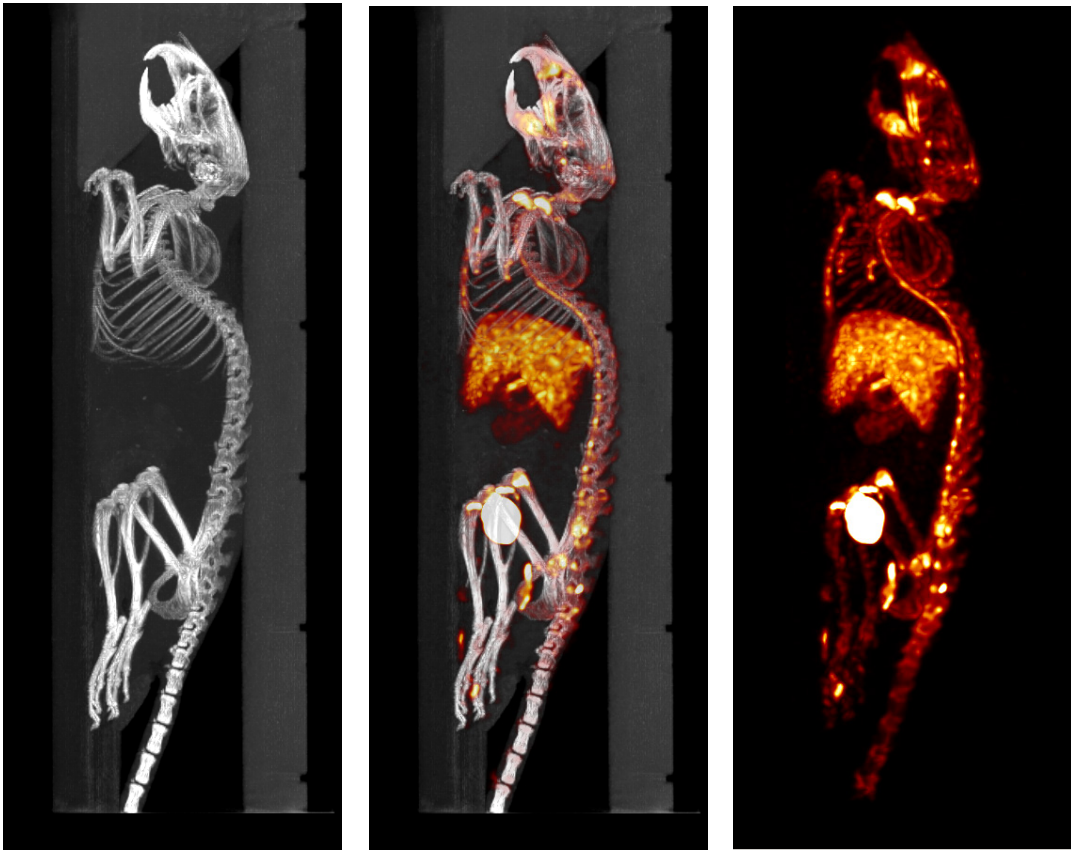
Onboard image reconstruction

Onboard physiologic monitoring

High-precision sintered lofthole collimators

The γ-CUBE is our high-sensitivity, high-resolution SPECT imager allowing whole-body mouse and rat imaging. Patented lofthole technology and laser sintered collimators combined with high-resolution detectors result in a high-end true benchtop imager. In-house developed image reconstruction software guarantees fast imaging and excellent image quality. All common SPECT-labelled therapeutic and diagnostic imaging tracers can be imaged. Intuitive and wireless acquisition software combined with our multimodal small animal bed allow for easy and modular multimodal imaging along with the X-CUBE (CT) and β-CUBE (PET)

IN-VIVO SCANS

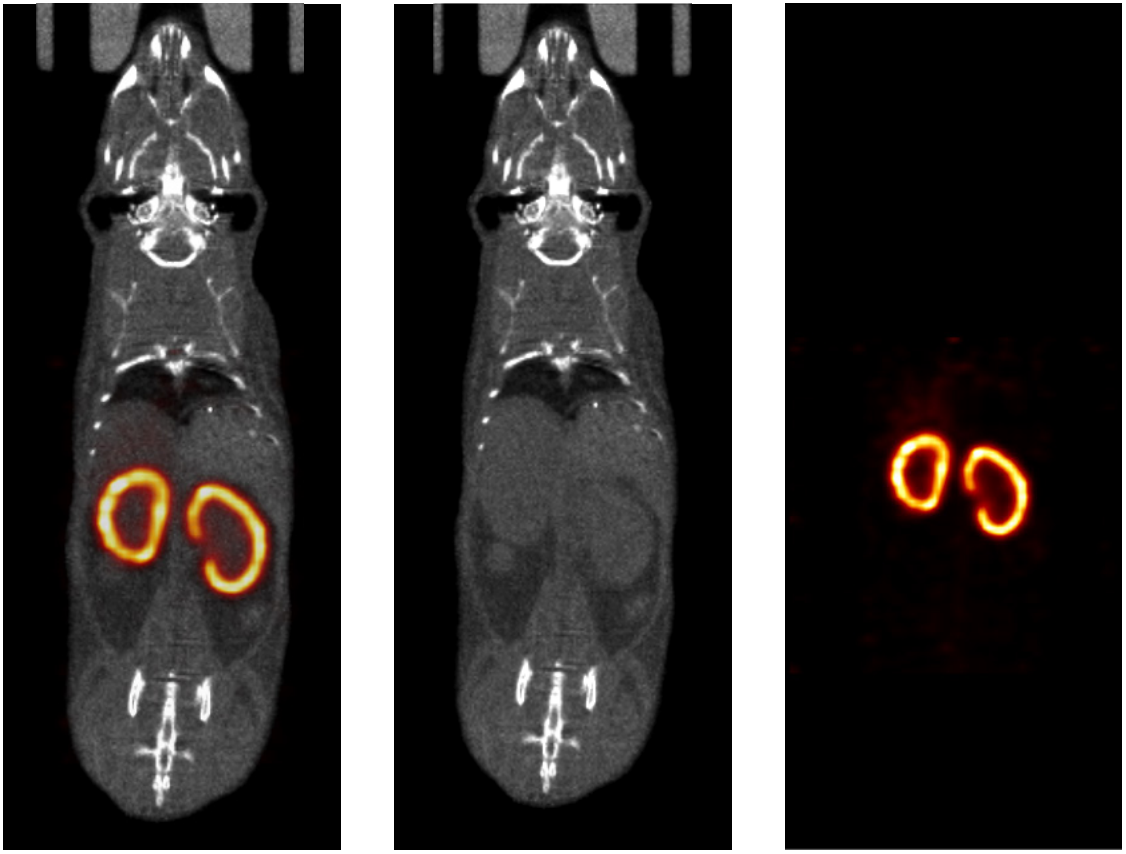


^{99m}Tc-HDP/ bone CT

High-End

Modular

Benchtop

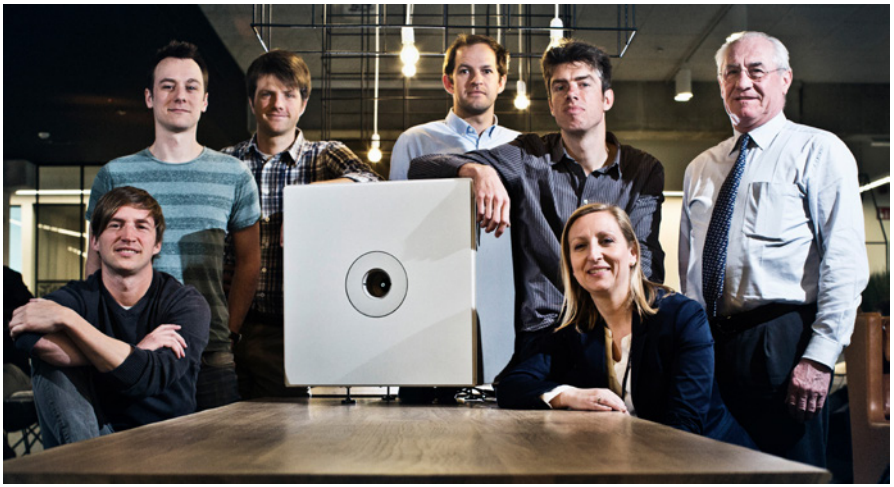


^{99m}Tc-DMSA/ bone CT - 306 µCi

Intuitive Software

Animal monitoring

Best Uptime Service



MEET THE TEAM

MOLECUBES is a spin-off of Ghent University and it's preclinical INFINITY lab. Combining more than 15 years of experience in hardware and software development, all systems are designed and built by a young team who have been end-users themselves. The engineering team is completed by a sales and management team with a long track record in the preclinical arena. We are one call away from helping you out.

GET IN TOUCH

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MOLECUBES

Flanders
State of the Art