nanoScan® PET/MRI 3T and 7T

Full-scale, quantitative PET combined with a robust, cryogen-free MRI

Mediso

Founded
1990

Offices
7

Employees
300+

Publications
3200+

Countries
100+

Preclinical systems
300+

Clinical systems
1350+

About us

Mediso works in the field of **medical imaging for 30+ years** with a profile of development, manufacturing, selling and servicing standalone and multi-modality imaging devices. The company offers complete solutions from hardware design to evaluation and quantification software for clinical patient care and preclinical research.

Mediso has a leader position in the preclinical imaging market with **over 300 commissioned systems** around the world. Beyond the market leading **nanoScan®** **PET/CT** and **SPECT/CT**, Mediso also offers standalone **MRI** and integrated **PET/MR**I systems based on a cryogen-free magnet with 3T or 7T field strength and a PET insert for simultaneous PET/MRI imaging. Products are sold directly or through a distribution network in 100+ countries worldwide

1990
Mediso founded

1994
Introduction of the first Mediso gamma camera

2000
Nucline™ X-ring/4R, 4-head dedicated brain SPECT

2006
Launching the first Mediso preclinical system the NanoSPECT/CT

2010
Launch of nanoScan® PET/CT, world's first ever sub-mm resolution preclinical PET/CT

2013
Mediso USA founded

2014
MultiScan® LFER 150, world's first sub-mm resolution mobile PET/CT

2015
AnyScan® TRIO SPECT, introduction of triple SPECT detector family

2016
Introducing the nanoScan® PET/MRI 3T world's first superconducting preclinical PET/MRI

2018
Installation of the 100th nanoScan® PET system

2022
Installation of the 300th preclinical imaging system

2023
Launch of the nanoScan® MRI 7T and the PET Insert

Key features

PET systems

FULL-SCALE IN-LINE PET

Highest resolution:
<0.7 mm

Largest transaxial field of view
12 cm

Highest count rate performance
850 kcps @ 60 MBq / 1.62 mCi
- **Multiple animal** imaging
- Imaging of **short half-life isotopes**

Optimized sensitivity and best Minimal Detectable Activity
>8%

Largest installation base
>150 systems

SIPM-BASED PET INSERT

Highest resolution:
<0.7 mm

Optimized Sensitivity
>10%

Removable RF coils:
- **Mouse** WB
- **Rat** brain

Fast setup time
<2 min

Dual layer **DOI** crystal blocks for **homogeneous resolution**

DESIGNED FOR DYNAMIC STUDIES

Freely accessible animal during the scan

Minimized dead space for dynamic imaging

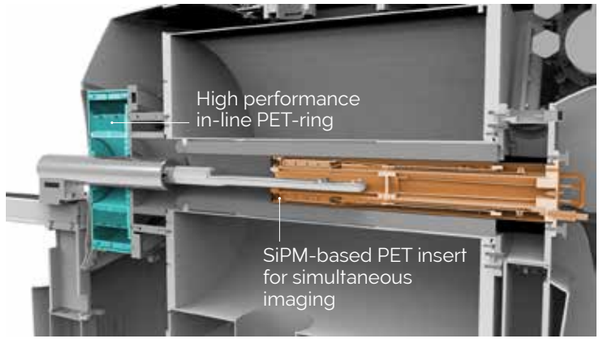
Start dynamic acquisitions from touch screen (e.g dynamic PET or DCE MRI),

Animal monitoring up to 3 animals

DUAL PET CONFIGURATION

Full-scale PET-ring with large field of view on the front

SiPM-based PET insert for simultaneous PET/MRI studies



MRI systems

3T AND 7T FIELD STRENGTH

100% Cryogen-free magnet
- No liquid helium or nitrogen
- Closed loop – no need to top-up helium

Wide-range of
- RF Coils
- Sequences

Compact design:
- **Small** footprint
- **Marginal** fringe field
- 480 / 970 kg (3T / 7T)

Powerful gradient
for DWI applications (up to 1050 mT/m)

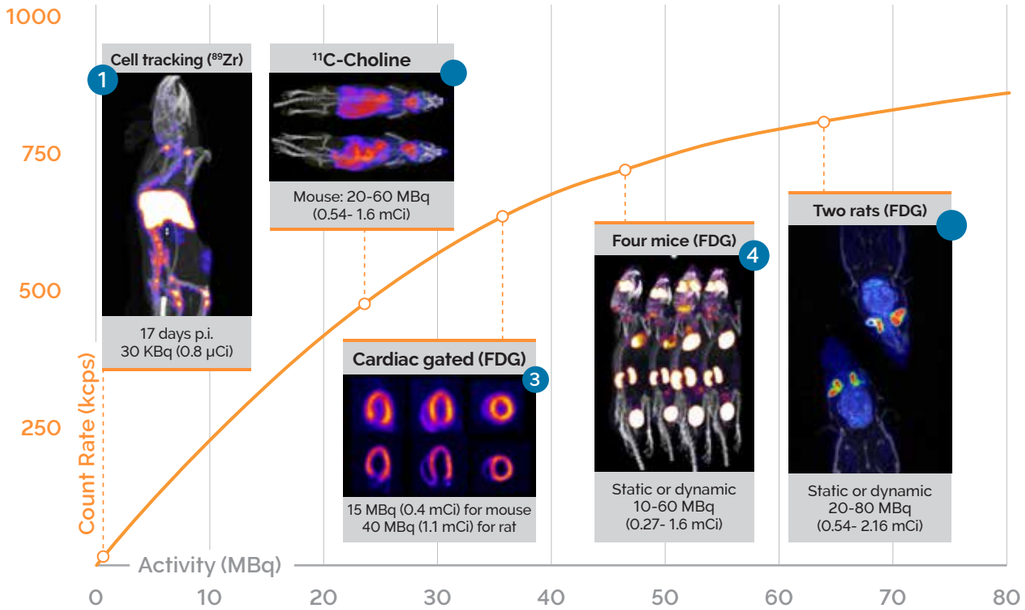
Low-vibration, **rear mounted PulseTube Cryocooler** for artefact free DWI-EPI

SmartMagnet™
- **Eco-friendly Idle Mode**
- **Active Quench Protection**

Best PET image quality and widest dynamic range

The in-line PET subsystem features **real dynamic scanning** with the **best count rate performance** and **highest resolution** on the market, designed for **quantitative imaging** of mice, rats and even larger animals. When complemented with the PET insert the system covers **every possible application** in molecular imaging.

Dynamic range



UNCOMPROMISED APPLICATIONS WITH VERY LOW LEVEL OF RADIOACTIVITY

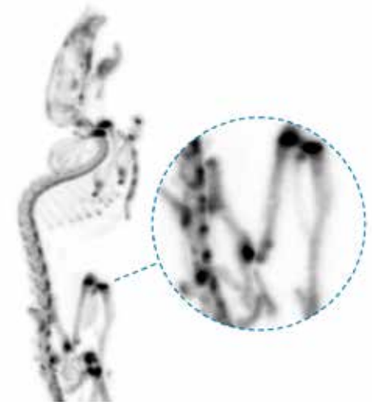
- Thick LSO crystals for **excellent sensitivity**
- **Small (3 ns) coincidence time window** neccesary for advanced corrections
- Advanced corrections (random, scatter, LSO background etc.) ensuring **quantification at low activity levels**
- **Best minimal detectable activity** on the market: 60 Bq (1.6 nCi)
- Inherently optimized for longitudinal e.g. long-term cell tracking 1 and cardiac studies

COPING WITH COUNT RATE: MASTERING STUDIES WITH HIGH DOSE

- Multichannel read-out electronics, ultra-fast data processing and advanced dead-time correction
- **Exceptional count rate performance** – peak noise equivalent count rate (NECR) for mouse is 850 kcps @ 60 MBq (1.6 mCi)
- **Fully quantitative** up to 60 MBq (1.6 mCi) and beyond
- Suitable for dynamic imaging up to 3 mice 4 or 2 rats 5 simultaneously
- Optimal for imaging of isotopes with **short half-life** (^{11}C, ^{13}N, ^{15}O etc.) 2

Resolving precise details with 700 µm spatial resolution

- (1.12 mm×1.12 mm) lutetium oxyorthosilicate (LSO) crystal needles provide precise signal localization preserving spatial information in raw data
- Tera-Tomo™ 3D PET iterative reconstruction with unveiling the tiniest details on the image
- Large ring diameter and statistical depth of interaction compensation offer over the



Largest transaxial field of view

- Bore size and transaxial field of view enabling scanning of **larger rats or multiple mice** in both modalities
- Excellent homogeneity and image quality over the **entire field of view**
- **Simultaneous multiple animal imaging** (up to 3 mice or 2 rats) with individual physiological monitoring

PET insert offering simultaneous multiparametric imaging

Due to the high level of integration the nanoScan® PET insert offers uncompromised image quality while giving access to a unique way of hybrid imaging by obtaining information from functional, metabolic and physiological processes in a simultaneous manner.

- Simultaneous PET/MRI imaging of total body mouse or rat brain
- Providing **high resolution** and **homogeneous image quality over the entire field of view** as a result of using dual layer Depth-Of-Interaction crystal blocks of the **finest LSO crystal needles**
- Removable, allowing access to the full-bore of the MRI and also making benchtop measurements possible
- Available as an upgrade for existing PET/MRI 3T, 7T and MRI 3T, 7T installations or as a standalone system

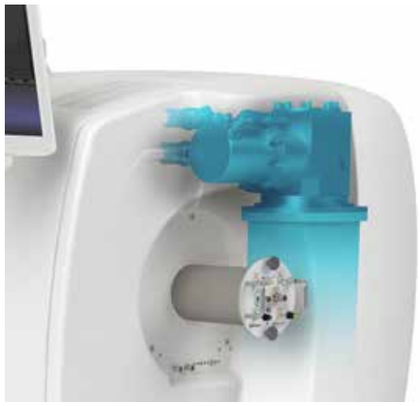
PET insert with the removable RF Coil

Easy to use, high-performance MRI platform

100% Cryogen-free magnet

The core of the nanoScan® MRI systems is the most robust **100% cryogen-free** superconducting magnet ever built for preclinical applications. It utilizes **conduction cooling** and **does not contain liquid helium or any other liquid cryogens** in any amount.

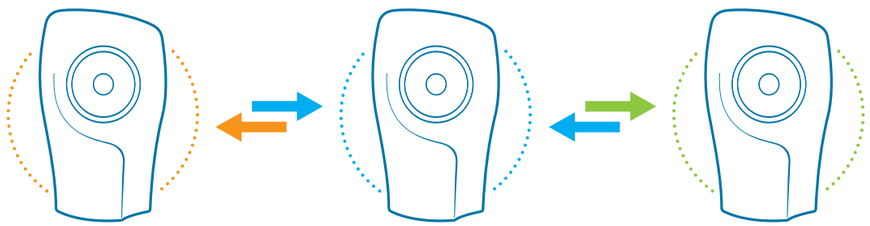
- It's base is a NbTi solenoid with multiple corresponding coils to maximize homogeneity and shielding thus reaching state-of-the-art homogeneity of **±0.1 ppm** @ 50 mm DSV and negligible fringe field outside the cryostat.
- Uniquely it features a **back mounted cryocooler to significantly reduce conducted vibrations** and to make maintenance easier.
- All electrically conductive cylindrical parts of the magnet were designed to minimize the residual eddy current after strong gradient pulses, this way achieving high-quality DWI images.



Unique back mounted cryocooler significantly reducing vibrations

SmartMagnet™ – Self-monitoring and management system

The patented* SmartMagnet™ technology enables one-click selection between different magnet modes.



WARM MAGNET	COLD MAGNET	IDLE MODE
Long breaks	**Fully operational** daily usage	Ideal for planned short breaks
Installation, relocation mode	**Active quench protection** during usage through **self-supervision**	**Reducing operating costs**
		Low electricity consumption
		Fast recovery time
		Prolonging coldhead lifetime

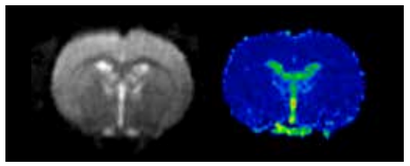
*Discharge Controlled Superconducting Magnet and Superconducting Magnet Operating In Occasional Idling Mode

High-end MRI applications made easy

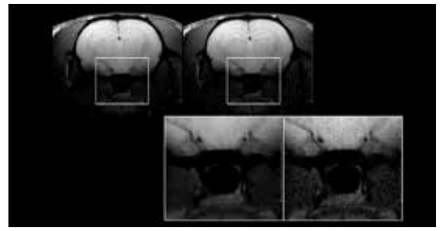
Comprehensive pulse sequence library in application packages

Readily optimized protocols are available for mice and rats including the most common MRI techniques as well as state-of-the art pulse sequences and methods.

- **Basic anatomy:** Quick Localiser, Gradient Echo 2D&3D, Spin Echo, Fast Spin Echo 2D&3D, Inversion Recovery option for SE and FSE, One Pulse, Field Map Based Shimming, Iterative shimming, FLAIR, MPRAGE, MP2RAGE, FISP, bSSFP, SS-FSE, GRASE, etc.
- **Cardiology:** Flow Compensated Gradient Echo, Phase Contrast MRA, CINE cardiac Black / Bright blood, Gating option, etc.
- **Angiography:** TOF-MRA 2D/3D, Phase Contrast MRA, SWI, etc.
- **Spectroscopy:** Localised single voxel PRESS, EPSI, STEAM, LASER, semi-LASER, ISIS, CSI, etc.
- **Diffusion:** Spin Echo DTI, EPI DTI, single- and multi-shot options, SPIRAL DTI, EPI DWI, ADC Mapping, etc.
- **Relaxation and Fat Water Imaging:** Multi-Echo GRE/SE, Multi Inversion Recovery SE and FSE, Multi FlipAngle GRE 3D, T1 EPI, Quantitative T1/T2/B1 mapping, Relaxation curve fitting, 2/3-point DIXON, Fat chemical shift corrected images, etc.
- **Parallel Imaging:** GRAPPA reconstruction option for selected sequences
- **Short Echo Time:** UTE, ZTE with SPIRAL/RADIAL/PROPELLER readout
- **CEST:** GRE 2D with SSFP readout
- **Dynamic imaging (fMRI and DCE):** Dynamic Gradient Echo EPI, DCE Gradient Echo with keyhole option, Compress sensing, CBF, etc.
- **ASL:** FAIR Fast Spin Echo, FAIR EPI, FAIR bSSFP
- **AI-based Denoising Reconstruction Package:** denoising MRI reconstruction for rodent brain images.



7T Rat brain, Single-shot SE EPI, 3 diffusion directions, b0 and corresponding ADC map

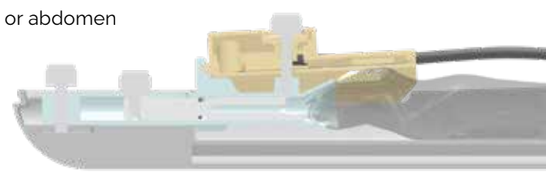


Rat brain, Black-Blood FSE 2D, with AI Denoising reconstruction and original acquisition

Achieving perfect SNR in every region with wide range of RF coils

Mediso offers a wide range of highly shielded, low noise RF coils designed to deliver the **best possible SNR**. The coils are **fully integrated** with the MultiCell™ system enabling precise animal positioning in relation to the coils, ensuring reproducible, quantitative results.

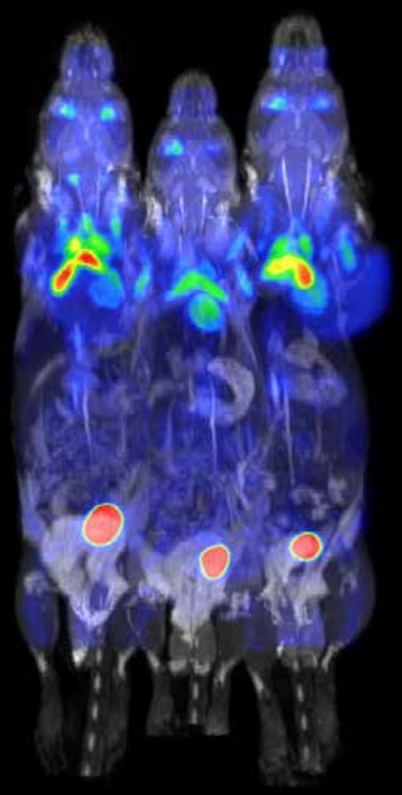
- **Transmit/receive volume coils** for **total body** imaging of up to obese rats or marmosets
- **Dedicated mouse and rat brain volume coils** with special imaging chambers
- **Flexible surface coils** of various diameters delivering excellent image quality and SNR
- **Phased array coils** with **multiple receiver channels** enabling parallel imaging for brain, heart or abdomen



PET/MRI Applications

Multiple animal imaging with PET/MRI 3T

High-throughput studies with the large diameter in-line PET ring. Simultaneous measurement of three tumor bearing mice. The integrated multi-animal workflow allows for automatic image segmentation resulting in separate DICOM images with quantitative SUV values.



ANIMAL MODEL: BALB/c mice

MRI ACQUISITION: GRE 3D Multi-FOV MRI, acq. time: 18 min, NEX: 4, TR: 10ms, TE: 3.1ms, TH: 0.8mm

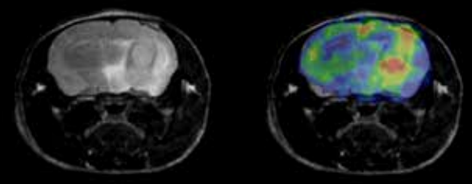
PET ACQUISITION: 20min static

RF COIL: 72mm Quadrature Tx/Rx volume coil

RADIOTRACER: ^{18}F-FDG, 4.87 MBq (131.6 µCi), 4.75 MBq (128.3 µCi) and 5.91 MBq (159.7 µCi)

^{18}F-FDG Glioma imaging in mouse brain

Combining the great soft-tissue contrast of MRI with the molecular specificity of PET, the nanoScan® PET/MRI systems are the perfect tool for the development of novel therapeutic and diagnostic strategies for glioma.



ANIMAL MODEL: C56BL/6 mouse (28 g)

MRI ACQUISITION: T2W FSE 2D, FOV: 32mm x 32mm, TH: 1mm, acq. time: 5 min

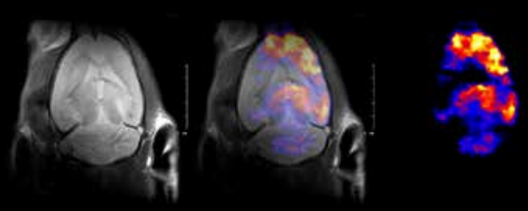
COILS: Quadrature Tx/Rx volume coil for mouse brain

PET ACQUISITION: dynamic

RADIOTRACER: 3.2 MBq (86 µCi)18F-FDG

^{18}F-FDG Stroke imaging in rat brain

The nanoScan® PET/MRI systems combine the excellent soft-tissue contrast of MRI with the molecular specificity of PET, making them the ideal tools for advancing novel therapeutics and diagnostics.



ANIMAL MODEL: : Wistar rat

MRI ACQUISITION: T2W FSE 2D, FOV: 32mm x 32mm, TH: 1mm, acq time: 10 min

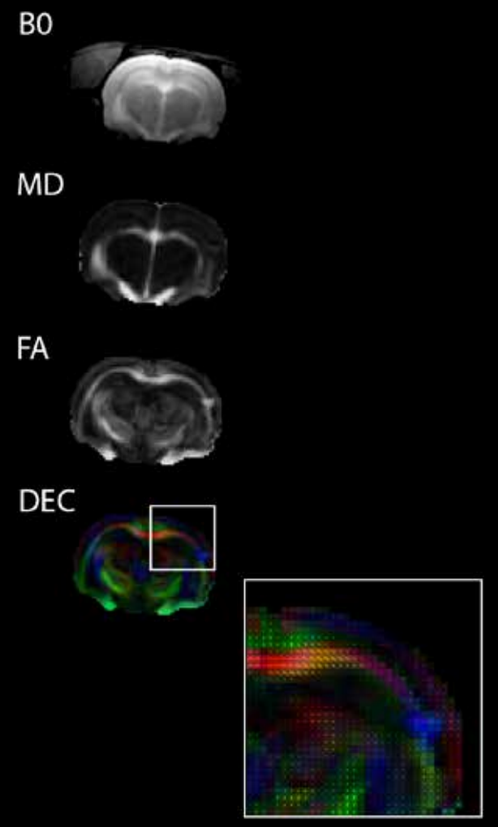
COILS: Quadrature Tx/Rx volume coil for transmission and 2ch phased array coil for signal reception

PET ACQUISITION: dynamic

RADIOTRACER: ^{18}F-FDG, 8 MBQ (216 CI)

Diffusion Tensor Imaging at 3T

Single Shot DTI EPI in rat brain at 3T.



ANIMAL MODEL: : Wistar rat

SEQUENCE: Single Shot DTI EPI, Matrix size: 96x96, Diffusion directions: 120, b-value: 500, TH: 1 mm

COILS: 72 mm Tx/Rx volume coil for transmission and, 30 mm flexible surface coil for signal reception

High-resolution ToF MRA at 3T

With the nanoScan® MRI 3T and 7T exceptional quality ToF MRA images can be acquired without the need of any contrast agents. Even at 3T the ACA (Anterior Cerebral Artery), MCA (Middle Cerebral Artery) and CoW (Circle of Willis) is clearly visible.

ANIMAL MODEL: : Wistar rat

SEQUENCE: 2D ToF MRA, In-plane resolution: 107um, Slice Thickness: 100um, FOV: 32 mm × 30 mm × 28 mm, TR: 70 msec, TE: 5.7 msec

COILS: 42mm Quadrature Rat brain coil and dedicated brain imaging chamber

Complete MRI workflow

Perform routine scans with the clinical validated **Nucline**™ acquisition software

Nucline acquisition software has been developed for **multimodal** medical imaging devices and is used in **clinical and preclinical** systems as well. It provides the same easy-to-use, integrated framework and main features for all the different modalities **(PET, SPECT, CT and MRI)**. It integrates wide range of functionalities of acquisition, calibration, data management, reconstruction and visualization. Nucline has been developed with focus on **clean and user-friendly interface,** while complying to **industry standards** (CFR11, DICOM) and high level **cybersecurity** expectations.

1 PERSONALIZED ACCESS LEVELS

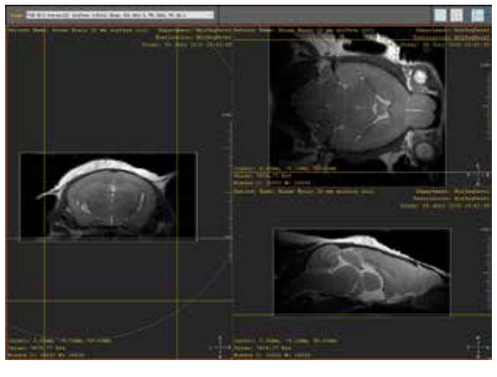
- **Routine:** A **couple of clicks** and the system is ready to run a study-specific, **optimized protocol.** Only geometry is to set: **error-free scanning guaranteed.**
- **Advanced:** Several acquisition and reconstruction parameters are editable providing the possibility of **further optimizing the protocols** for the study.
- **Research: Access to all system parameters** for researchers with significant experience

2 FOCUS ON QUALITY

- **Automatic,** quick **daily QC** protocols
- **Real-time diagnostic** feedback
- Logged diagnostic data

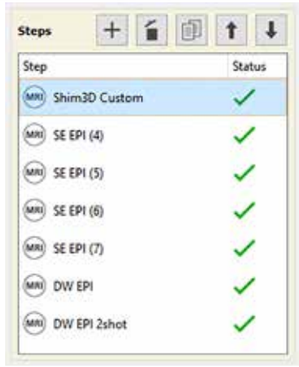
3 INTUITIVE GEOMETRIC PLANNER

- **Designing scans graphically** based on scout image or even any previous scan
- Setting up **advanced features** like shim box, saturation bands etc.
- **Real-time MRI signal** (selectable Real, Imaginary, Magnitude) during scan
- **Multi-Sequence monitor** to on-the-fly track progress of dynamic/gated/multi-series sequences
- **Easy-to-use image viewer** to quickly check the result image before next step



4 PREDEFINED, CONFIGURABLE PROTOCOLS

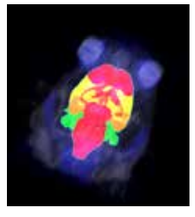
- Multimodality multi-step pre-saved **factory protocols** optimized for various applications
- Factory protocols can be copied, **edited, fine-tuned** by the User
- Study-optimized **User protocols** can be saved and loaded easily assuring **quick, reliable scanning**
- Protocols include **automated calibrations** (e.g. shim, RF, frequency etc.)
- Protocol steps can **run automatically** one by one
- Parameters are **validated** automatically



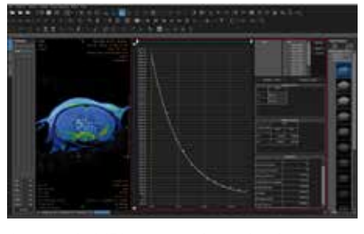
Analyze your quantitative data with the FDA approved **InterView**™ **FUSION** visualization and evaluation software

The FDA approved and clinically validated InterView™ FUSION multi-modal post-processing software is an essential part of system. It provides a wide range of functionalities to evaluate PET/SPECT/CT/MRI preclinical data for example:

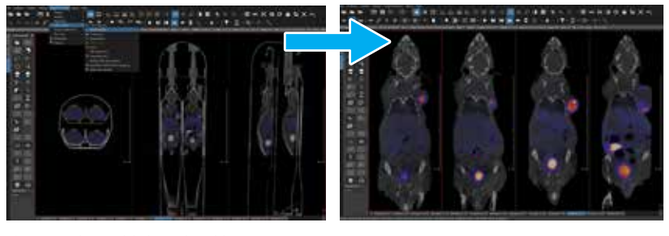
- **Automatic MRI parametric evaluation,** e.g. T1, T2 and ADC map creation
- **AI-based MRI Denoising** reconstruction
- **Automatic multiple animal image separator**
- **Brain atlas**
- Wide range of 2D and 3D image viewers and rendering for visualization including 3D MIP and 3D Volume Rendering
- 3D and 4D data fusion via all image viewers and visualization of them over time frames
- Large variety of ROI/VOI tools
- **Time activity Curves (TAC)** of multiple ROIs/VOIs **over 4D dynamic data** with multiple statistics (min, max, mean, stdev, sum, etc.)
- Automatic co-registration procedures (rigid, affine and non-linear)
- Advanced segmentation methods
- Wide range of data input/output/export capabilities including video formats



Brain atlas



Automatic MRI parametric evaluation



Automatic multiple animal image separator

Complete MRI workflow

Have absolute control over your experiments with the **Sequence Development Platform**

The Sequence Development Platform enables you to **create your own sequences** or **modify the existing** ones.

With the intuitive GUI, programming and testing a new sequence is very easy and straightforward. A built-in tool helps you to test out various, freely customizable reconstruction and post-processing algorithms and adding new ones. Sequences can be directly run from this SW or exported to Nucline™ for routine scanning.

- Fully **interactive** Pulse-Sequence-Diagram
- RF and gradient pulse visualization with **unlimited custom shapes**
- Access to **factory sequence source codes,** GIT versioning

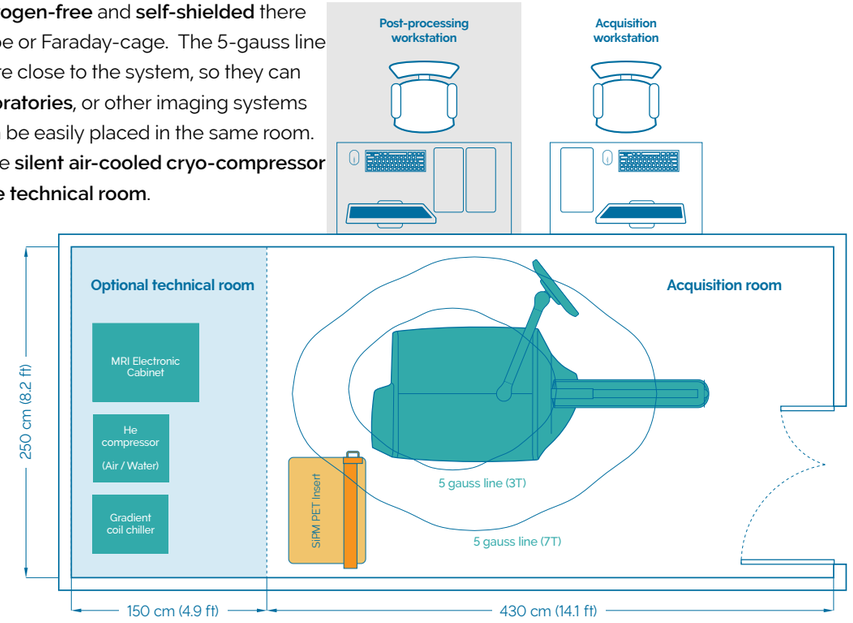
- Full access to raw data, K-space visualization
- Customizable **JAVA based code** for calculations and timing
- User defined **Python and MATLAB scripts** are executable as a reconstruction steps

- **Spectroscopy** module with advanced corrections
- Peak-picking and automatic curve fitting
- A variety of spectra visalization modes

Minimal installation requirements

The **compact** and **light-weighted** nanoScan® MRI systems can be **installed** and run practically in **any laboratory** due to their low installation and maintenance requirements.

As the systems are **100% cryogen-free** and **self-shielded** there is no need of any quench pipe or Faraday-cage. The 5-gauss line for both 3T and 7T models are close to the system, so they can be placed in really **small laboratories**, or other imaging systems like PET/CT or SPECT/CT can be easily placed in the same room. Moreover, in case of using the **silent air-cooled cryo-compressor** there is **no need for separate technical room**.

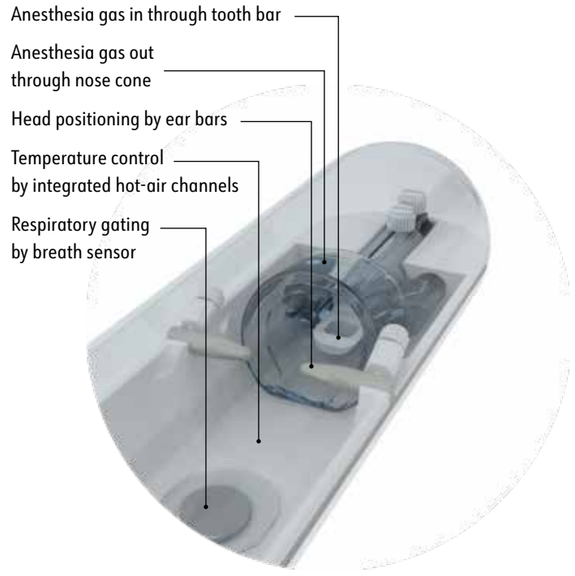


- **Light-weighted systems with small footprint**
  480 kg / 970 kg (3T / 7T)
  1050 / 2140 lbs (3T / 7T)
  250 cm x 80 / 100 cm
- **Optional technical room** – In case of air-cooled cryo-compressor no separate technical room is needed
- Post-processing workstation – can be next to the acquisition workstation or at the researcher's room.
- SiPM PET insert – Optional upgrade for both 3T and 7T MRI systems.

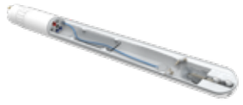
nanoScan® MRI 7T reference installation with every system component (magnet, workstation, electronic cabinet, He-compressor, chiller) located in the same imaging room.

Animal handling

MultiCell™ imaging chambers

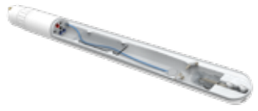


Mouse M



Inner space: 134×26 mm
Outer dimension: 463×32 mm
Up to 40 g

Mouse L (Standard)



Inner space: 141×31 mm
Outer dimension: 466×40 mm
Up to 80 g
Also available in BSL3 version

Rat L (Standard)

Inner space: 249×60 mm
Outer dimension: 580×70 mm
Up to 600 g

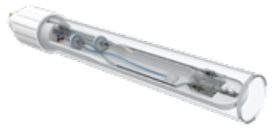
Rat Dual

Inner space: 240×60 mm
Outer dimension: 590×70 mm
Up to 2×200 g

Mouse Triple

Inner space: 144×26 mm
Outer dimension: 488×70 mm
Up to 3×30 g

Mouse BSL-3



Inner space: 141×31 mm
Outer dimension: 578×60 mm
Up to 80 g

Monitoring and gating

- » ECG monitoring and triggering
- » Respiration monitoring and triggering
- » Temperature monitoring and control module
- » Accesibble from touchscreen and workstation

Respiration and body temperature monitoring even up to four animals

PrepaCell™

Supporting complete animal preparation before the scan, setting of:

- » Anaesthesia
- » Heating
- » Vital function monitoring

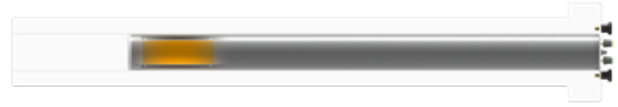
Eases workflow and increases throughput

The imaging chambers are fully compatible with all Mediso manufactured imaging systems providing one-click connection for easy and fast workflow.

nanoScan® MRI RF coils

Volume coil 34mm

Compatible with PET insert only
Available for 3T and 7T MRI systems
Inner diameter: 34mm

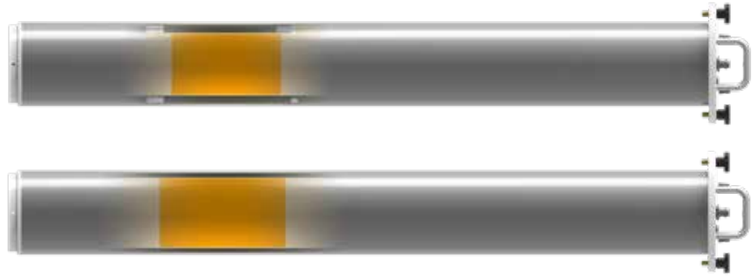


Volume coil 42mm

For mouse chambers
Available for 3T and 7T MRI systems
Inner diameter: 42 mm
X-nuclei versions also available

Volume coil 72 and 82 mm

For chambers available with MRI systems
Available for 3T and 7T MRI systems
Inner diameter: 42 mm
X-nuclei versions also available



Integrated brain and cardiac array coils

Compatible with 3T and 7T MRI systems
Compatible with mouse and rat MultiCell™ chambers
Available in 2 and 4 channel versions

Multifunctional flexible surface coils

Compatible with 3T and 7T MRI systems
Compatible with any MultiCell™ chambers
Available diameters: 10, 20, 30 mm

nanoScan® MRI 3T/7T

High-end MRI with the most robust cryogen-free magnet on the market

MRI

100% CRYOGEN-FREE • ROBUST MAGNET

- **3T** and **7T** field strength
- **100% Cryogen-free** magnet
  - » No liquid helium or nitrogen
  - » Closed loop – no need to top-up helium
- Wide-range of **RF Coils and Sequences**
- Compact design:
  - » Small footprint
  - » Marginal fringe field
  - » **480 / 970 kg** (3T / 7T)
  - » **1050 / 2140 lbs** (3T / 7T)
- Powerful Gradient: **(up to 1050 mT/m)** for DWI application
- Low-vibration, rear mounted PulseTube cryocooler for artefact free DWI-EPI
- SmartMagnet™
  - » **Eco-friendly idle mode**
  - » **Active quench protection**
- Upgrade possibility with 2-types of completely integrated PET systems

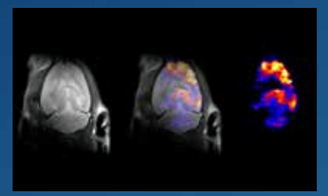
nanoScan® PET/MRI 3T and 7T

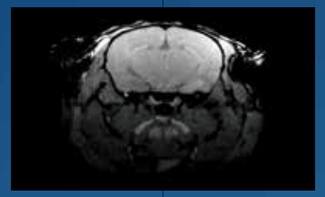
Full-scale, quantitative PET combined with a robust, cryogen-free MRI

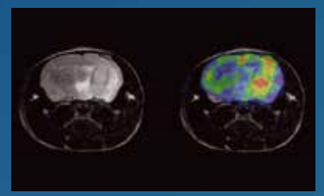
SPECT

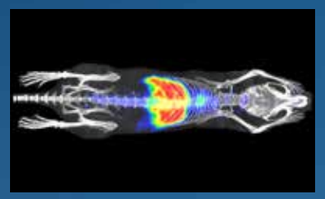
HIGH SENSITIVITY • HIGH RESOLUTION • OUTSTANDING THROUGHPUT AT THE SAME TIME

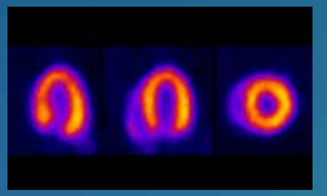
- High resolution **(0.3 mm *in vivo*)** and high sensitivity **13 000 cps/MBq**
- Largest field of view for large and multiple-animal imaging
- High-throughput
- Largest installation base **150+**
- Highest **flexibility:**
  - » Wide isotope energy range, single or multiple: **20 keV – 1 MeV**
  - » Various applications – **optimized multi-pinhole collimators** (e.g. MDP bonescan, dynamic, cardiac gated etc.)
  - » Animal models from **tiny mouse up to large rabbit** (6.5 kg)
  - » Different imaging schemes: helical, circular, full-stationary, 2D
  - » **Parallel-hole collimators** for imaging large animals
  - » List-mode acquisition

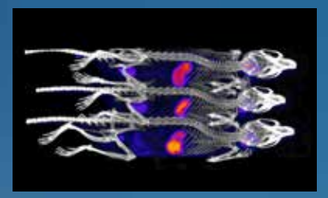


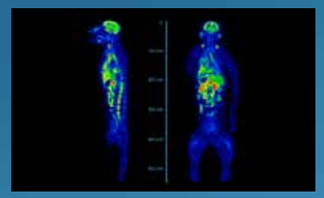


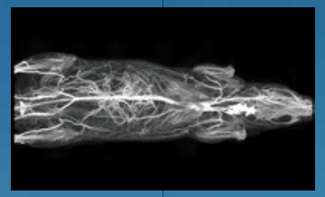


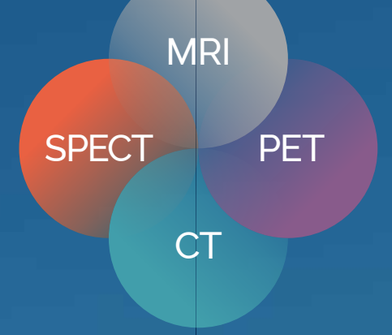












PET

BEST COUNT RATE PERFORMANCE • HIGHEST RESOLUTION WITH FREE ACCESS TO THE ANIMALS

- Highest resolution **(< 0.7 mm)**
- Largest transaxial field of view **(12 cm)**
- Largest axial field of view (up to **15 cm**)
- Highest count rate performance **(**up to **1300 kcps @ 80 MBq)** supporting quantitative imaging in
  - » **Radiotracer development**
  - » Imaging of **short half-life isotopes** (e. g. ^{11}C, ^{13}N, ^{15}O)
  - » **Multiple-animal** imaging
- **Free access** to the animal supporting dynamic imaging
- **Best NEMA sensitivity** up to **10.5%** (250-750 keV) and best Minimal Detectable Activity (MDA)
- Excellent quantification
- Largest installation base: **150+**

nanoScan® SPECT/CT

Versatile SPECT/CT with absolute quantification and full-stationary dynamic imaging

nanoScan® PET/CT

Real dynamic PET-system designed for quantitative studies

nanoScan® SPECT/CT/PET

Versatile SPECT with Real dynamic PET with absolute quantification

CT

HIGH POWER • HIGH RESOLUTION • LARGE FIELD OF VIEW

- High-resolution **(30 µm)**
  - – Small voxel size **(10 µm)**
- Up to **x7.6 zoom**
- Variable transaxial field of view: **2–12 cm**
- Highest power: **80 W** X-ray tube for
  - » Large animals
  - » Better image quality
  - » Fast scanning
  - » *Ex vivo* samples
- Ultra-low dose protocol (**<1 mGy** for whole-body mouse)
- Real-time FBP and iterative reconstruction
- Respiration and cardiac gated reconstruction

MultiScan™ LFER 150 PET/CT

The ultimate tool for PET imaging in primates and medium sized animals

Specifications | nanoScan® PET MRI 3T and 7T

IN-LINE PET

Bore size
16 cm

Multiple animal imaging
up to 3 mice or 2 rats

Spatial resolution with Tera-Tomo™ (3D OSEM)
0.7 mm

Spatial Resolution with FBP (NEMA)
1.25 mm

Transaxial FOV
12 cm

Animal models
mouse, rat, marmoset, guinea pig

Noise Equivalent Count Rate for mouse (NEMA)
850 kcps @ 60 MBq / 1.65 mCi

Axial FOV
10 cm

Sensitivity
8 %

LSO crystal size
LSO (1.12×1.12×13 mm)

Noise Equivalent Count Rate for rat (NEMA)
250 kcps @ 60 MBq / 1.65 mCi

PET INSERT

Bore size
5.4 cm

Axial FOV
10 cm

Animal models
Mouse whole-body, rat brain

Transaxial FOV
4.5 cm

Spatial resolution with Tera-Tomo™ (3D OSEM)
0.7 mm

Sensitivity
10 %

LSO crystal size
Dual-layer (1.12×1.12×10 mm)

3T / 7T MRI

Magnet
Cryogen-free superconducting

Field strength
3T / 7T

Homogeneity
±0.1 ppm @ 50 mm DSV

Bore size
17 cm

Gradient coil inner diameter
101 mm

Gradient strength
Up to 1000 mT/m

Cryocooler
Back-mounted PulseTube

Quench protection
Yes, with SmartMagnet™

Faraday cage needed?
No, the system is self-shielded

Quench pipe needed?
No, the system is 100% cryogen-free

Rampable
Yes

350+ preclinical systems in 34 countries

nanoScan® **PET/CT** | nanoScan® **SPECT/CT** | nanoScan® **MRI 3T/7T** | nanoScan® **PET/MRI 3T and 7T** | nanoScan® **SPECT/CT/PET** | MultiScan™ **LFER150 PET/CT**

Mediso

Mediso Medical Imaging Systems
sales@mediso.com **www.mediso.com**

Headquarters
Budapest, Hungary

Global offices

USA and Canada
Arlington, VA
sales@medisousa.com

Belgium
Auderghem
info.belgium@mediso.com

United Kingdom and Ireland
Farnborough
info@mediso.uk

France
Strasbourg
info.fr@mediso.com

Germany and Austria
Münster
info@mediso.de

Poland
Łódź
biuro@mediso.pl

CE
NS-PM3T7T_0823_EN