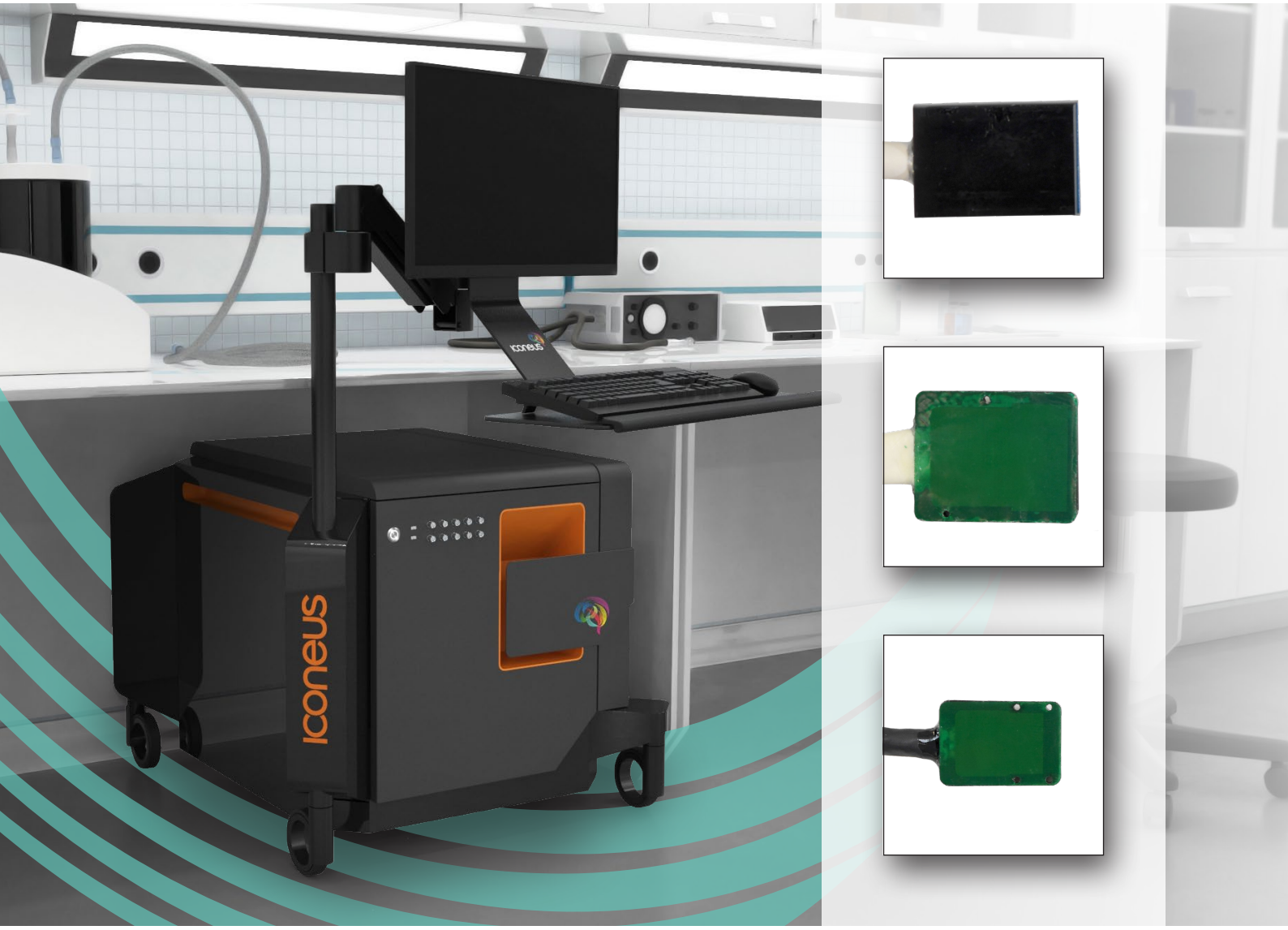
REVEALING THE BRAIN

Iconeus One Probe Guide

High-sensitivity probes for the Iconeus One functional ultrasound platform



Functional ultrasound probes for Iconeus One

Our ultrasound imaging probes are specifically designed for animal research, and are optimized for a variety of the most popular applications – from whole-brain neuroimaging in fixed-head configurations to mobile setups ideal for small animals.

fUS probes optimized for your application

What you get from functional ultrasound (fUS) depends crucially on the specifications of the probe, and our low-noise probes will give you the best possible results for every application.

Our probes:

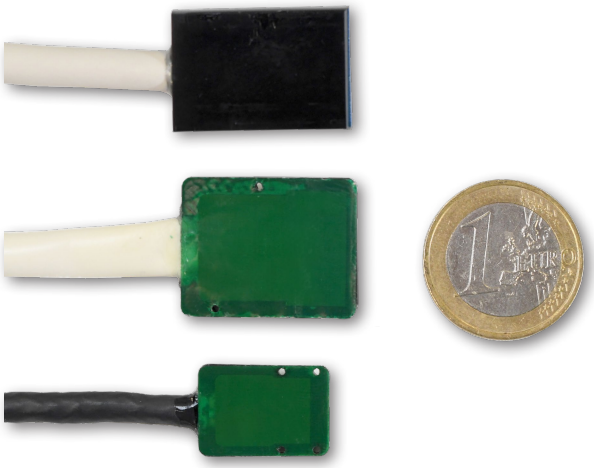
- Use our patented **multi-plane-wave technology**, yielding unparalleled sensitivity, especially in deep brain structures.
- Come in a **range of sizes**, helping you to achieve the ideal balance of sensitivity and weight for your application.
- Are available for both **head-fixed and mobile** configurations.
- **Integrate seamlessly** with the Iconeus One software.
- Come with **optimized electronics** that ensures maximum contrast and eliminates electrical interference from other lab equipment.



Using Iconeus One in conjunction with the optimum probe for your application, you'll be able to see what's happening in the brain at the finest scales, on awake and moving animals.



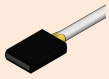
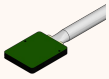
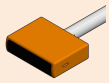
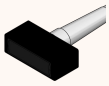
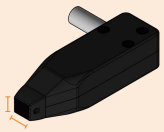
Our probe connector is provided with every Iconeus One system, and along with other optimized electronic components helps to ensure clearer fUS imaging.



Our IcoPrime, IcoPrime-Lite and IcoPrime-Mini probes are small and light enough for use in mobile configurations – whatever the size of your animal.

Selecting the right probe for your application

What's the best probe for you? Find out using our handy table below.

Probe	Summary	Engineered for...	Central frequency (MHz)	Probe size: L × W × H (mm)	Spatial resolution (µm)	Scanning depth (cm)	Field of view (mm)	No. of elements
3D PROBES: Allowing scans in two spatial dimensions (+ time), or three spatial dimensions (+ time, with asynchronous multislicing)								
IcoPrime 	The most versatile sensor: high spatial resolution, good scanning depth, and excellent sensitivity	The majority of fUS applications	15	25 × 17.5 × 6	100	~1.5	14.1	128
IcoPrime-Lite 	Lighter version of IcoPrime, with a more flexible cable	Mobile rats	15	25 × 20 × 3.2	100	~1.5	14.1	128
IcoPrime-Mini 	Smaller and lighter version of IcoPrime, with a more flexible cable	Mobile mice	15	19 × 13 × 3.2	100	~1.5	7.0	64
IcoPrime-XL 	Larger version of IcoPrime, with a wider field of view	Marmosets	15	32 × 25.6 × 6	100	~1.5	21.1	192[a]
IcoRange 	Offering improved scanning depth for larger animals	Non-human primates	8.5	25 × 33 × 9	170	~3	25.6	128
IcoDeep 	Offering maximum scanning depth and field of view	Large animals such as pigs	6	16.5 × 35 × 11	250	~4	25.6	128
4D PROBES: Allowing scans in three spatial dimensions + time (simultaneous multislicing or volumetric)								
IcoPrime-4D MultiArray 	Offering whole-brain, high-sensitivity volumetric scanning	Head-fixed mice	15	84 × 11 × 9.5[b]	100	~1.5	0.7 (W) × 0.8 (L)	256[a]

[a] Requires an upgrade to Iconeus One to handle 256 channels. [b] W and H measurements refer to the terminal multiarray (indicated).

What the specifications mean

- **Central frequency** is the intrinsic frequency of the ultrasound emitted by the probe. Lower values result in a greater scanning depth but lower spatial resolution.
- **Spatial resolution** is the width and height of each pixel in a 2D image (or the voxel in a 3D image).
- **Scanning depth** is the maximum depth at which an image can be acquired.
- **Field of view** is the width of the image resulting from a single scan.
- The **number of elements** is the number of ultrasound transducers in the probe – more elements allow a larger field of view.

Let's talk!

Do let us know if you have any questions – we'd be delighted to hear from you. Drop us an email to:

- Order probe(s) for your system
- Discuss the best probe for your application
- Discuss creating a tailored setup
- ...or anything else.

SEND EMAIL

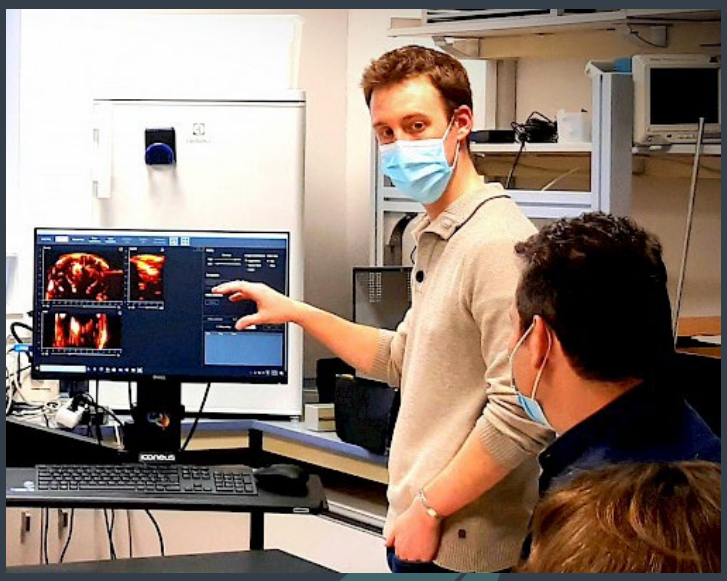
About Iconeus

Welcome to the future of brain imaging

We're Iconeus – a Paris-based company helping researchers to gain new insights into neuroscience using our groundbreaking functional ultrasound technology.

Our team of over 30 neuroscientists, software engineers and ultrasound physicists is dedicated to ensuring functional ultrasound achieves its full potential, by helping you integrate it into your research.

We look forward to hearing from you!



Iconeus

REVEALING THE BRAIN

Visit our website:

www.iconeus.com

contact@iconeus.com

25 boulevard Romain Rolland, 75014 Paris

Images are non-contractual.
Not for clinical use. Not for veterinary diagnostics.

0001_4_ENG_090125