



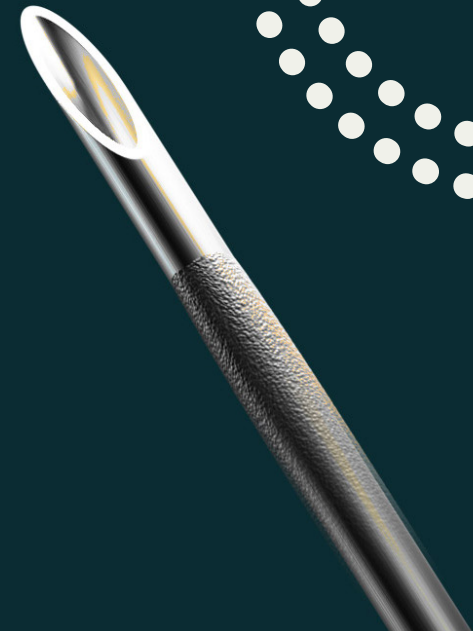
• TECHNOLOGY BROCHURE

SonoCoat®

Next-generation echogenic
coating technology for precision
medical instruments.

A platform technology
by Lipocoat

Ultrasound visibility coating



● OUR TECHNOLOGY

SonoCoat® makes accurate instrument localization possible.

SonoCoat® brings angle-independent visibility to medical instruments. Our medical coating produces a uniform acoustic reflection layer, delivering improved clarity for ultrasound-guided procedures.



Lifting precision towards a higher level with ultrasound visibility



Improved precision from every angle

Standard echogenic instruments reflect sound waves within narrow angular windows. SonoCoat® maintains crisp acoustic definition regardless of needle insertion angle.



Made for precision-critical procedures

SonoCoat® is designed to improve needle visibility and tip tracking during ultrasound guidance. It significantly improves ultrasound visibility compared to uncoated instruments.

Reduced reliance on fluoroscopy



Clear ultrasound visualization decreases the need for x-ray guidance, protecting healthcare staff from prolonged radiation exposure and heavy lead apparel.



Tailored to your exact specifications

We adapt coating formulations without altering device dimensions or underlying mechanical performance. Whether you require a thin profile, smoother insertion, or enhanced lubricity, each formulation meets your exact parameters.



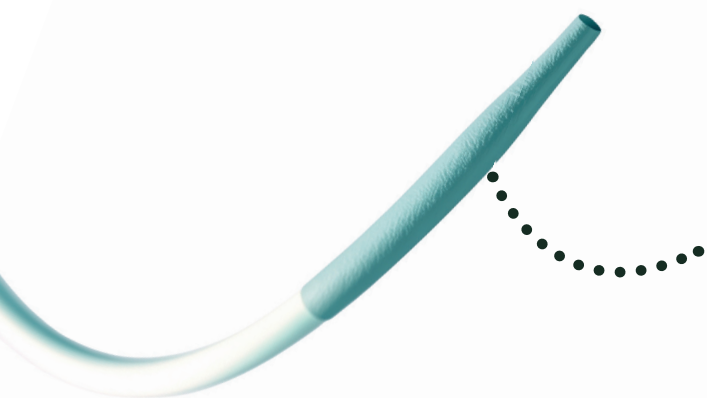
Preservation of mechanical integrity

Designed as an additive surface treatment, SonoCoat® enhances echogenicity while preserving the structural behavior, flexibility, and feel of your existing product.



Effortless integration

SonoCoat® requires no specialized handling, non-standard processing, or complex disposal protocols, facilitating seamless adoption into standard manufacturing workflows.



Patented coating technology featuring an innovative microsphere structure to enhance echogenicity.

Instead of surface-roughening the base material, we embed acoustically reflective microspheres within a biocompatible polymer matrix.

● RESULTS

Improved precision from every angle

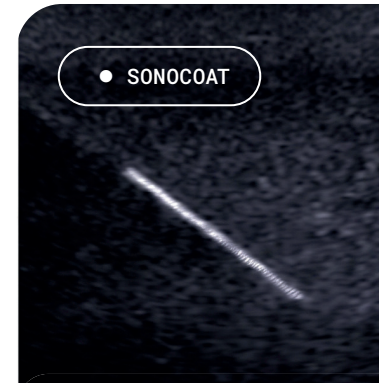
For decades, device manufacturers relied on mechanical surface modifications to make needles visible under ultrasound. In clinical practice, however, these modified needles still suffer from severe signal loss at steep angles.

SonoCoat® patented coating reflects ultrasound waves uniformly in all directions. The result is crystal-clear beacon, even under extreme insertion angles.

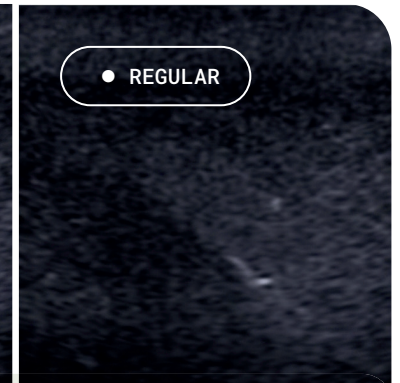
With SonoCoat®, you elevate your needles beyond the leading EUS-FNA devices on the market.



● SONOCOAT

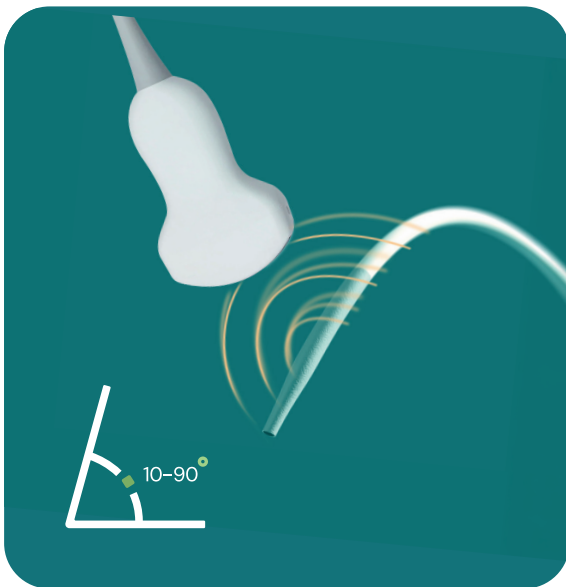


● REGULAR



In an independent NICE study published in *Gastrointestinal Endoscopy*, the echogenic performance of SonoCoat® was evaluated against nine widely used EUS-FNA biopsy needles. Sixty experienced clinicians conducted blind assessments of the devices. The SonoCoat®-coated needle earned top overall ranking, scoring 10% to 40% higher in acoustic visibility than every competitor ($p < 0.01$).

Tang SJ, Vilmann P, et al. Gastrointest Endosc. 2016;84(3):424–433.

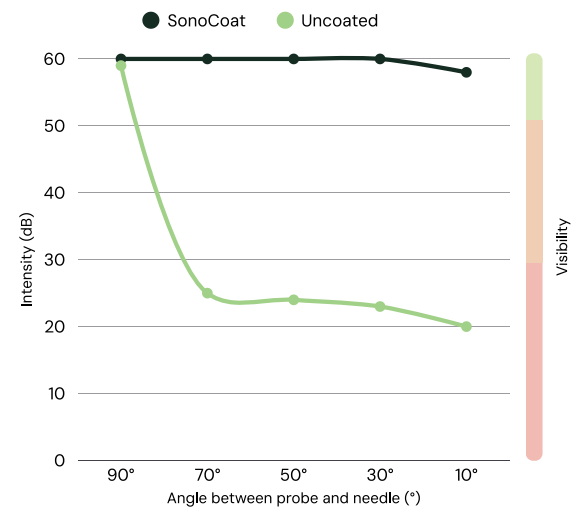


Finally angle-independent reflection

Ultrasound is essential for exact instrument positioning. However, steeper insertion angles traditionally scatter ultrasound waves away from the probe, obscuring the instrument. SonoCoat® maintains strong signal reflection across all operational angles.

Read our full application paper and lab insights at:
www.lipocoat.com

Visibility at Different Angles:
 SonoCoat® vs. Uncoated



Regulatory and certification

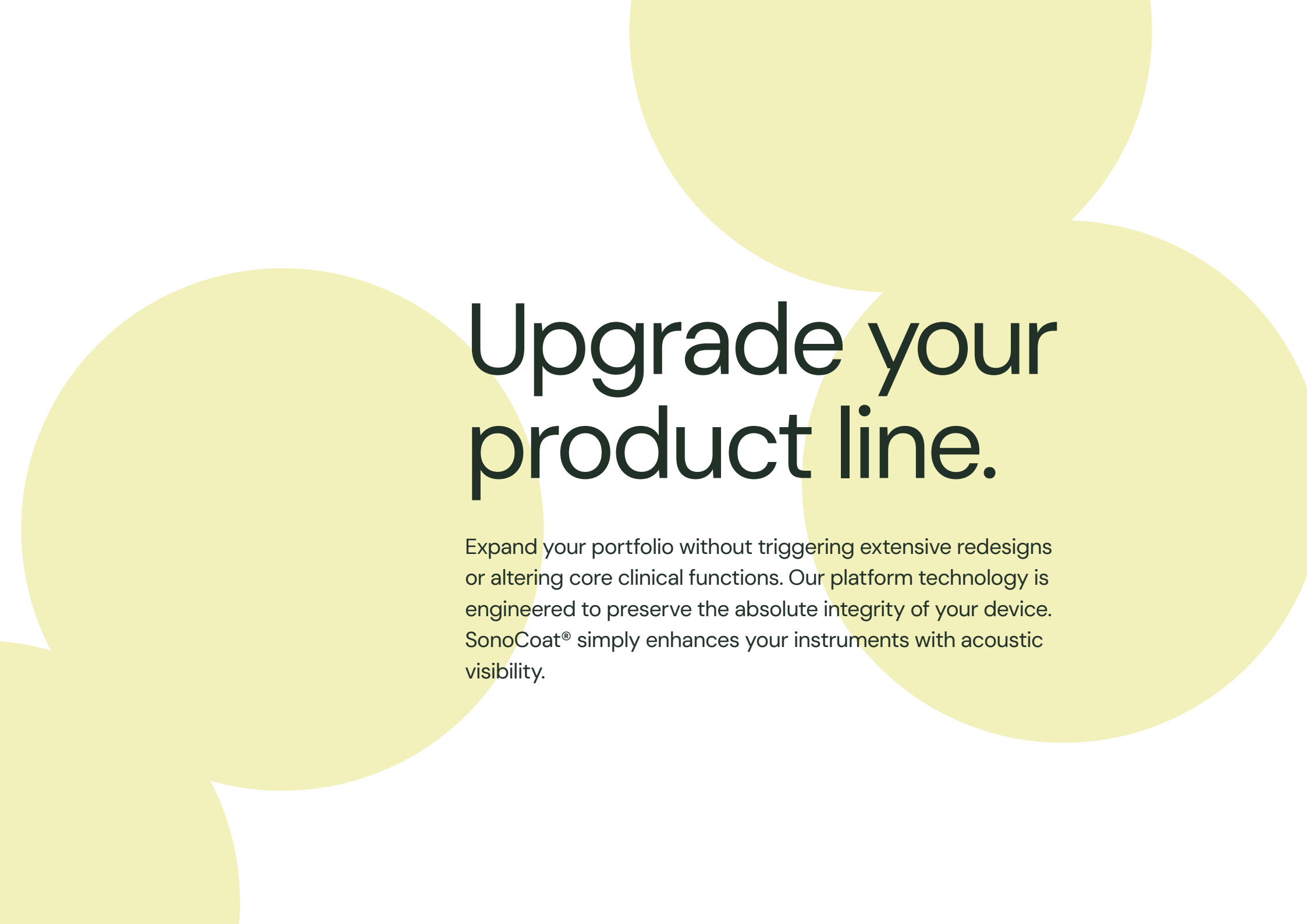
SonoCoat® provides echogenic visibility for interventional needles and catheters without compromising safety or biocompatibility. Both our M-Series (metal/ceramic) and P-Series (polymer) formulations have consistently proven non-cytotoxic, non-irritant, and non-systemically toxic in comprehensive in vitro and in vivo screenings.

Evaluated per relevant ISO 10993 standards, including ISO 10993-5 and ISO 10993-10.

Because regulatory requirements vary by device class and target market, we provide comprehensive compliance documentation digitally.

Read more at: lipocoat.com/regulatory





Upgrade your product line.

Expand your portfolio without triggering extensive redesigns or altering core clinical functions. Our platform technology is engineered to preserve the absolute integrity of your device. SonoCoat® simply enhances your instruments with acoustic visibility.

● INTEGRATION OPTIONS



1

Your core product

Whether engineered from metals or polymers, the original material specifications and clinical functionality of your core product remain completely untouched.

2

Add omnidirectional visibility

Embedded microspheres reflect ultrasound waves in all directions. The coating ensures reliable real-time visualization during complex interventions.

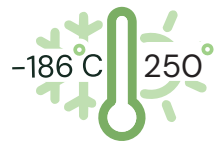
3

Add antifouling protection

By incorporating LipoCoat® as an optional hydrophilic additive, your device gains a smooth, low-friction surface profile that shields against bio-fouling and inhibits bacterial attachment.

Specifications

Thermal resistance (M-series)



Substrates All common medical metals and polymers

M-series
P-series

Coating thickness Adjustable 25–90 µm



Mechanic durability High flexibility and strong resistance to abrasion



Validate our coating for your next medical device.

Connect with our engineering team to set up a pilot study tailored to your exact testing parameters. The coating process fits smoothly into existing workflows with no complex environmental or handling requirements.

Request an R&D sample kit via our website:



Use cases

Hospitals and surgical centers are increasingly adopting mandatory ultrasound guidance across multiple specialties. Yet maintaining instrument visibility remains a persistent operational challenge.

Real-time ultrasound guidance is specifically recommended to prevent complications during high-risk procedures, such as Central Venous Catheter (CVC) placement, PICC lines, and complex infusion protocols.



Enhanced real-time visibility for complex procedures

Because the consequences of misplacing a catheter can be dangerous and potentially life-threatening for patients, accurately verifying catheter placement is critical. For this reason, virtually all international medical institutions mandate or strongly advise the use of real-time 2D ultrasound guidance during central venous catheter (CVC) insertions.

However, steep insertion angles required for deeper vessels cause traditional needles to disappear from the display screen, leaving clinicians operating blindly.

SonoCoat® makes polymer catheters echogenic. Integrating our platform technology gives clinicians visual feedback from every angle under ultrasound guided interventions.

Do you want to position your product as the preferred choice for hospitals when it comes to echogenic catheters and PICC lines? Contact us to explore integration options with our platform technology.



ONCOLOGY & BIOPSY

Higher accuracy for targeted tissue sampling

Precise instrument guidance is vital during tissue biopsies and tumor ablations, especially when targeting small or deep lesions. Standard echogenic needles frequently blend into surrounding acoustic tissue noise, creating a risk of missing the target. This can lead to false-negative diagnoses or accidental damage to adjacent organ structures.

SonoCoat® improves acoustic contrast and edge definition under ultrasound, enabling clear tip localization and distinct visualization of the device against surrounding tissues.

“ *Ultrasound visibility shouldn't rely on clinician experience. With SonoCoat®, we enable OEM's to create medical instruments that stay reliably and continuously visible.* ”

Bram Pape
COO Lipocoat



REGIONAL ANESTHESIA

No maneuvers needed to find your reference point

Conventional needles lose acoustic reflection at insertion angles beyond 45 degrees. SonoCoat® embeds acoustic microspheres that scatter sound waves back to the probe regardless of device orientation. This delivers uniform, high-contrast device tracking across steep angles and deep acoustic pathways, without requiring probe or trajectory adjustments.



Integrate SonoCoat® in your portfolio.

SonoCoat® is engineered for seamless transfer into existing OEM manufacturing lines, ensuring high batch-to-batch reproducibility without requiring specialized handling or complex disposal protocols.

To enhance the echogenic visibility of medical devices, SonoCoat® utilizes an advanced additive coating technology with embedded acoustically reflective microspheres. The coating platform is fully customizable to your device dimensions and target clinical depths without altering underlying device tolerances. Furthermore, the coating is fully compatible with conventional medical sterilization methods and ready for combination with lubricious or antimicrobial topcoats without loss of echogenicity.

About us

We founded "*Lipocoat Company*" with a clear mission: to solve complex medical challenges without using harmful substances. What began as an in-depth study into the functioning of human cell membranes evolved into an innovative coating technology entirely free of active or toxic substances. In less than ten years, The Lipocoat Group has grown to develop, manufacture, and sell multiple medical coating solutions worldwide.



Our platforms:

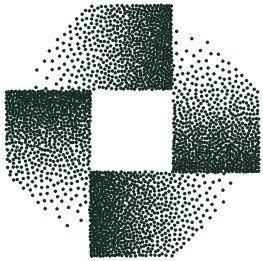
- LipoCoat®
- SonoCoat®



Lipocoat

- Based in The Netherlands, Enschede
- Internal R&D Centre
- Internal production & test facility
- 1000 m² R&D, cleanroom, laboratory, and production facility
- ISO 13485:2016





Services

Beyond coatings, Lipocoat provides expert analytical services to quantify (bio)materials, medical devices, and coatings using ASTM- and ISO-aligned standards. We deliver precise, traceable data to support regulatory compliance, optimize surface performance, and ensure product quality and safety for medical applications.

● SURFACE MEASUREMENTS

● BIOCOMPATIBILITY

● MICROBIAL EVALUATION

● FRICTION TESTING



Partner up

Ready to experience our unique coating technology firsthand? Partner with our team to start evaluating our samples on your specific medical devices.



Improved patient safety and comfort

Reliable acoustic tip tracking minimizes blind needle passes and tissue trauma. ecNEe Wo



Competitive pricing model

Get to know our competitive model, from low switching costs to low material consumption



Upgrade your portfolio

Transform your instruments into echo-visible premium devices without redesign.



Low barrier to entry

Scale up fast thanks to our OEM-ready integration process.

Ready to evaluate our coating?



Disclaimer: SonoCoat® is a trademark of Lipocoat Holding, registered as SONO-COAT. The description by Lipocoat BV of the characteristics and properties of Lipocoat coatings as contained in this brochure is for general information purposes only, and may not be relied upon in individual situations. All materials offered by Lipocoat BV supplied under a contract contain detailed product specifications, and the customer shall be exclusively responsible for, and shall bear full responsibility for the consequences of, (i) whether or not the product is suitable for use in the devices (or for any other (authorized) use that customer may wish to make of the product), and (ii) whether the product specifications are sufficient and sufficiently well defined in order for the product to be fit and suitable for use by user. User undertakes to keep itself actively informed as to developments in the relevant fields of its applications.

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