



## PRODUCT PILOT



## PoCUS ECCO Spray



Dr. Med. Helmut Haas has developed, tested and patented a novel ultrasound contact spray with more than 10,000 examinations in the final years of his professional career. He was motivated to make a change in a healthcare sector that has seen limited innovation in the last 40 years particularly in terms of the messy ultrasound gel examinations, patient comfort, physician ease of use and environmentally unfriendly clinical practices and waste streams.

EccoSpray Ltd was founded in 2022 by medical professionals Professor Helmut Haas and Dr. Holger Friedrich with business colleagues Will Hogan and Robert Spittler. The company has developed the POCUS Spray formulation, which been 10 years in the making.

## About GreenTech @ HIHI

GreenTech Sustainable Healthcare refers to the integration of green technologies in the healthcare sector to enhance environmental sustainability while maintaining or improving patient care quality. The healthcare sector is a notable contributor to global greenhouse gas (GHG) emissions, estimated to be between 5 to 15%.

Health Innovation Hub Ireland's GreenTech initiative aims to stimulate and support the development of innovative products, services, and start-ups that promote environmental sustainability in healthcare, with a particular focus on alternatives and improvements to single use products within healthcare.

GreenTech @ HIHI explores promotes reusable and recyclable options, eco-friendly materials in product manufacturing and seeks efficient disposal methods. By shifting focus to how products are made, used and disposed of, GreenTech sets out to impact healthcare practices across Ireland, supporting those who drive innovation in this field.



## The Healthcare Challenge

There is increasing global pressure at an economic, environmental and regulatory level to move towards more sustainable practices for waste management of consumables. When ultrasound technology is used, there are a number of waste products generated, notably, paper towels, ultrasound gel and ultrasound gel containers (bottles or sachets).

For every ultrasound scan, ultrasound gel is used. This gel is the medium through which sound waves travel from the device to the patient and back. The gel is normally quite liberally applied and patients must be cleaned post scan. Cleaning this gel can use up handfuls of paper towels which then need to be disposed of.

A common problem for ultrasound users is for a significant volume of

ultrasound gel to remain in the bottle after its useable shelf life once opened. This is product that the healthcare service is paying for but goes directly to waste.



# The Health Solution



The POCUS Spray ultrasound medium is a CE approved product for use in healthcare. The spray is designed to be an alternative ultrasound medium to be used across a range of ultrasound services. The spray adds to the suite of transmission media for medical ultrasound exams. POCUS Spray streamlines point-of-care ultrasound allowing medical professionals to just spray and scan.

POCUS Spray is a water-based spray stored in a 50 ml spray bottle. The spray averages 18 examinations per 50ml bottle with no requirement for paper towels post exam as the spray naturally evaporates after 4-5 minutes. This attribute also leaves no residue on the probe head.

Recent developments concerning achieving net-zero emissions in public and private healthcare in the EU and the UK and also in the relatively new medical field of point of care ultrasound makes the European launch of POCUS Spray very timely and very relevant. For more information, see [www.pocusspray.com](http://www.pocusspray.com).

## HIHI Role

HIHI supported a technical evaluation of the product in Tallaght University Hospital, as well as collecting anonymised feedback from clinicians. The Clinical Engineering Department carried out a comparison study of the POCUS Spray with a standard ultrasound gel used commonly throughout the hospital. HIHI conducted an anonymous survey of consultants who use ultrasound in Rheumatology, Emergency Department, Renal, Vascular and Respiratory Departments. HIHI supported this project by assisting the project team to engage with stakeholders, collecting and analysing feedback and usage data and providing project management expertise during the project.



## Outcome Report

The clinicians reported that POCUS Spray

- is a cleaner product to use than the ultrasound gel as there is less product remaining post scan.
- is a useful tool for the sonographer, particularly when used in conjunction with linear probes.
- is quick and practical to use.
- results in **no notable difference in image quality** when compared with the images produced when using generic ultrasound gels.

The clinical engineers tested POCUS Spray with nine ultrasounds from four major medical device manufacturers and identified that POCUS Spray

- is a **comparative product** that gives similar image quality and measurements to ultrasound gel, from an overall technical perspective.
- gives a comparable image quality and there were no artifacts, shadows, resonance effects noted in any of the images.
- when used with curvilinear probes, only produced images in a narrow field of view where the probe is in contact with the medium.

From a sustainability perspective, POCUS Spray is a suitable alternative to ultrasound gel in clinical environments. Using POCUS Spray

- **requires much less product** to be used for an ultrasound scan compared to ultrasound gel.
- results in less waste residue in the bottle when empty compared to ultrasound gel.
- requires a much smaller bottle than what is required for ultrasound gel.
- produces much less paper towel waste as there was very little residual ultrasound medium post exam.

## Testimonial

*"I could not recommend the HIHI team highly enough, what a amazing resource to have in Ireland supporting all levels of medical innovations. From initial contact to the final report they have been super supportive with guidance, direction and introductions. The results from the pilot are already helping our global ambitions for POCUS Spray. Thank you HIHI." - Will Hogan, COO EccoSpray Ltd*