



The Lyric™ device fits invisibly into the ear.

SRI International Tackles Medical Device Challenge

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Mike Lopez
Vice President
Manufacturing and Operations
InSound Medical, Inc.



InSound Medical, Inc. of Newark, California develops and manufactures next-generation hearing solutions. Lyric™, the company’s first product, has been warmly received in test markets and InSound recognizes that they can enhance their company’s success through advancements in their manufacturing process.

InSound Medical first identified significant technical issues they face using standard quality-control techniques, and they then asked SRI International to help resolve their greatest challenge.

In the highly competitive medical device business, developing successful products requires a much wider spectrum of talents than most manufacturers can hope to maintain in-house. In particular, innovative companies benefit from the rapid augmentation of their technical skills and resources that SRI, a renowned independent laboratory, can provide.

InSound suspected that the harsh environment their devices face causes a small number to fail prematurely, and that improvements to their surface coatings could extend the lives of those devices.

RAPID RESPONSE AND COLLABORATION

InSound asked SRI to collaborate with their R&D team and focus on both understanding and improving their coating techniques. SRI rapidly convened a multidisciplinary team of experts in coating technologies,

microfabrication, and medical device engineering to work with InSound.

After in-depth review, accompanied by preliminary tests, the SRI team presented a multi-pronged plan for developing potential solutions. SRI, with InSound’s concurrence, chose to investigate several approaches simultaneously. The least promising of those would be dropped, with work continuing on the best, ultimately leading to success for SRI’s client.

The project benefitted from close collaboration between InSound’s and SRI’s technical staff. SRI provided expertise and sophisticated facilities (including Scanning Electron Microscopes and Atomic Force Microscopy instruments) and InSound contributed guidance, proprietary testing, and insight based on their experience.

SPACE SHUTTLE TECHNOLOGY... APPLIED TO THE EAR

SRI had previously worked with NASA to improve the water resistance of heat-resistant tiles used on the Space Shuttle. The team considered how technology developed for the Space Shuttle could be beneficial for InSound. SRI took advantage of its portfolio of test protocols and materials and started productive laboratory work immediately, eliminating delays related to purchasing and delivery. As the initial experimental work got underway, SRI prepared for follow-on tests.

Initially, approaches ranging from chemical treatments to the use of new



materials were considered. SRI and InSound even brainstormed design modifications, recognizing that those could be incorporated in a second-generation device. Eventually, the work focused on a specific improvement to InSound's manufacturing process, and indications are that the insights gained and test methods developed will go a long way toward improving the durability of InSound's Lyric device.

"SRI's team was meticulous and methodical in their approach to solving our product issue," said Mike Lopez, InSound's vice president of manufacturing and operations. "As a temporary but very important extension of our product development team, they brought the in-depth expertise, creative thinking, and sophisticated equipment we needed to create a successful product."

ABOUT SRI INTERNATIONAL

Silicon Valley-based SRI International (www.sri.com) is one of the world's leading independent research and technology development organizations. Founded as Stanford Research Institute in 1946, SRI has been meeting the strategic needs of clients for more than 60 years. The nonprofit institute conducts sponsored R&D for government, business, and foundation clients in information and computing sciences, engineering and systems, pharmaceuticals and biotechnology, energy and environmental technologies, chemistry and materials, education, and economic development. SRI also licenses its technologies, forms strategic partnerships, and creates spin-off companies.

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