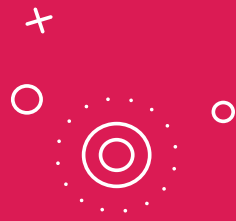




Mindtree

A Larsen & Toubro Group Company

Case Study:
Product Engineering and
Co-innovation with
**American Audio
Equipment Giant**



Welcome to possible

CLIENT

The client is an American manufacturing company that sells audio equipment. With half a century of experience, they are known for their home audio systems and speakers, noise-cancelling headphones, professional audio products and automobile sound systems. With revenues exceeding US\$3 billion in 2020, they employ over 8,000 people across the world.

CHALLENGE

The client, being a renowned name in the audio industry, had a range of requirements which cut across several domains. These included R&D, wellness concept engineering, wellness product engineering and sustenance, emerging business, and automotive. In particular, the client wanted help with a series of products that they had envisioned - these included glasses, sleep buds, smart headphones and custom profiles.

SOLUTION



For smart glasses, Mindtree devised an "Audio Augmented Reality" which included Firmware development for interfacing various sensors and Bluetooth. It also integrated application design and development with business logic.



For sleep buds, we devised synchronization - achieving a clock synchronization algorithm to keep both buds synchronized, and a mobile application connected to buds for periodic synchronization using PTP protocol.



For smart headphones, we deployed intelligent user recognition by recognizing a person's intent to communicate with headphone users and deactivate ANC; the video frames captured at the headphone are fed to the mobile phone over bluetooth for AI processing and action.



For custom profiles, we created a mesh by discovering the client's products and establishing connections. Then, we introduced multiple feature sets like custom data exchange, media sharing, and firmware upgrades.



For wireless headphones, we enabled remote sharing of content by letting users share high quality binaural live audio content to remote parties (network, WiFi) in order to create an immersive listening experience.



■ ABOUT MINDTREE

Mindtree [NSE: MINDTREE] is a global technology consulting and services company, helping enterprises marry scale with agility to achieve competitive advantage. "Born digital," in 1999 and now a Larsen & Toubro Group Company, Mindtree applies its deep domain knowledge to 275+ enterprise client engagements to break down silos, make sense of digital complexity and bring new initiatives to market faster. We enable IT to move at the speed of business, leveraging emerging technologies and the efficiencies of Continuous Delivery to spur business innovation. Operating in more than 15 countries across the world, we're consistently regarded as one of the best places to work, embodied every day by our winning culture made up of over 22,000 entrepreneurial, collaborative and dedicated "Mindtree Minds."