



Mindtree helps US
audio technology
giant engineer
pioneering video
conferencing
product in record
time of 10 months

Client * overview

The client is a world leader in audio equipment manufacturing. They are best known for their speakers, home audio systems, professional audio products, noise-canceling headphones, audio sunglasses, and automobile sound systems.

The client recently made their entry into the field of communication devices and meeting room systems with the formation of their new product segment – **The product is an all-in-one USB conferencing device** as a part of their professional product portfolio. The new USB conferencing device strives to deliver the same quality, clarity, and simplicity of its world-class audio engineering to unified communications, collaboration, and conferencing. Every space can be utilized as a workspace in today's world, be it home, office, cars, coffee shops, etc. The product is designed to provide a seamless video conferencing experience from any of these workspaces. Moreover, the products is are built to integrate seamlessly with all the popular communication platforms to deliver an enhanced video and audio performance for virtual meetings.

The client's product is an all-purpose USB device, specially made for conferencing with an objective to bring premium audio and video capabilities to small groups and medium meeting rooms and enable the users to clearly communicate on video calls.





Client business ○ ○ * challenges

Mindtree has been associated with the client for more than three years now. Our initial engagement involved embedded software development with its Consumer Electronics division and gradually expanded our collaboration to other divisions, including health, automotive, and professional groups. Besides contributing to the client's innovative embedded software products, Mindtree is also involved in developing desktop applications, mobile applications, AI/ML, and testing.

While launching the product, the client was looking for a partner to outsource the entire software product development process to complement their audio and product engineering competency. The client reached out to Mindtree as their **partner of choice** to engineer the whole gamut of desktop, web, and mobile applications that help their users to interact with the device.

The primary functions of the applications were to enable:

- The system integrator to configure the product as per the meeting room's specifications
- Empower IT admins to remotely manage the networked devices
- Facilitate end-users to customize the device configuration to suit their meeting experience.



Engagement objectives and overview

- The client wanted six native applications to operate on the product across multiple platforms: Windows, MacOS, WebUI, Android, and iOS.
- Another key objective was to showcase the client's product at the Integrated Systems Europe (ISE) 2020, the most reputed show for audiovisual and system manufacturers.
- This meant that all the applications had to be developed in a short span of just ten months compared to the traditional new product development lifecycle of three years.
- Given the complexity of the applications and the constrained timelines, some of the client stakeholders were skeptical about achieving the goal. But Mindtree took up the challenge and set up a team encompassing domain experts, technology leads, and architects to brainstorm the solution.
- The team held in-depth discussions with the customer team to understand the requirement and evaluated different frameworks and platforms supported by prototyping. To achieve the goal, a cross-platform approach was proposed to the client instead of the originally planned native application development approach.

Solution * highlights

The solution delivered by Mindtree comprised of:

- Designed and developed cross-platform desktop applications using the **Electron JS framework**, which is **the first of its kind solution executed by Mindtree**.
- The architecture of the application provides the flexibility to use a single codebase for **both desktop apps and firmware WebUI app that supports multiple browsers**.
- Skilled groups of engineers worked on the project from both onsite and offshore locations. **The team was involved in the conceptualization, design, and development of the applications**. They collaborated closely with the firmware and product management team at the client location and were supported by firmware experts at Mindtree.

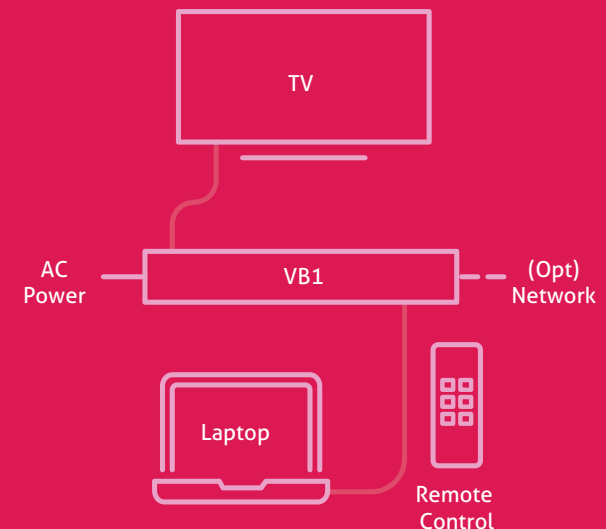
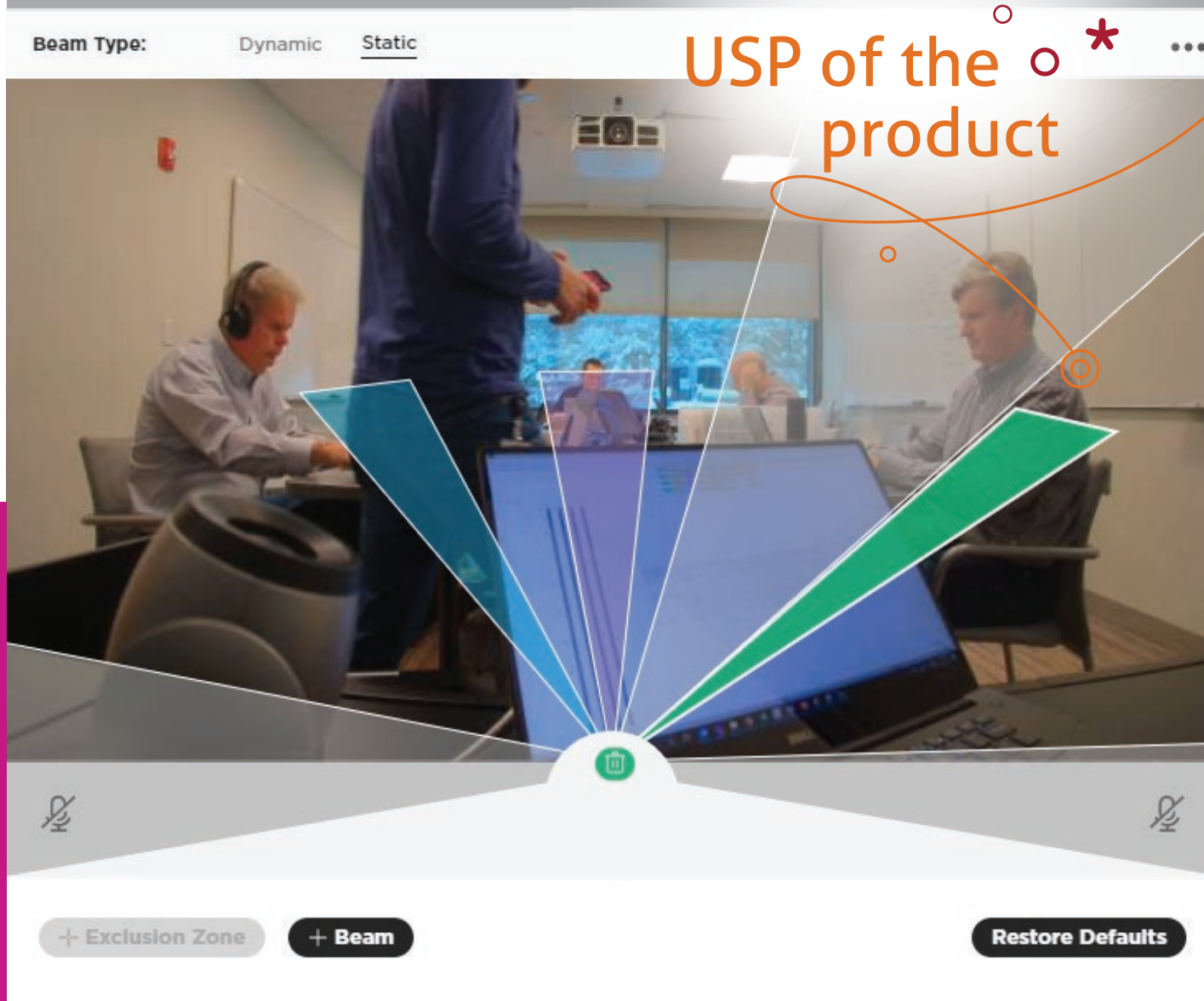


Exhibit 1: USP of the product

USP of the product



- The product has an intelligent mic array that can be configured by the apps to listen in the talker's direction and set mute zones in real-time.
- This feature helps capture every user's voice in the room evenly and ignores noise sources irrespective of where the user is seated and speaking.
- There was a need for an innovative and user-friendly UI that could enable end-users to navigate the product's complex settings seamlessly. For this, the Mindtree team developed the first-of-its-kind implementation of a 3D overlay on the real-time video to help users configure the mic array with a simple mouse drag and drop option.

Exhibit 2: USP of the product

Value delivered



Exhibit 3: The client, Global Head - receiving "Best of Show" award at ISE 2020

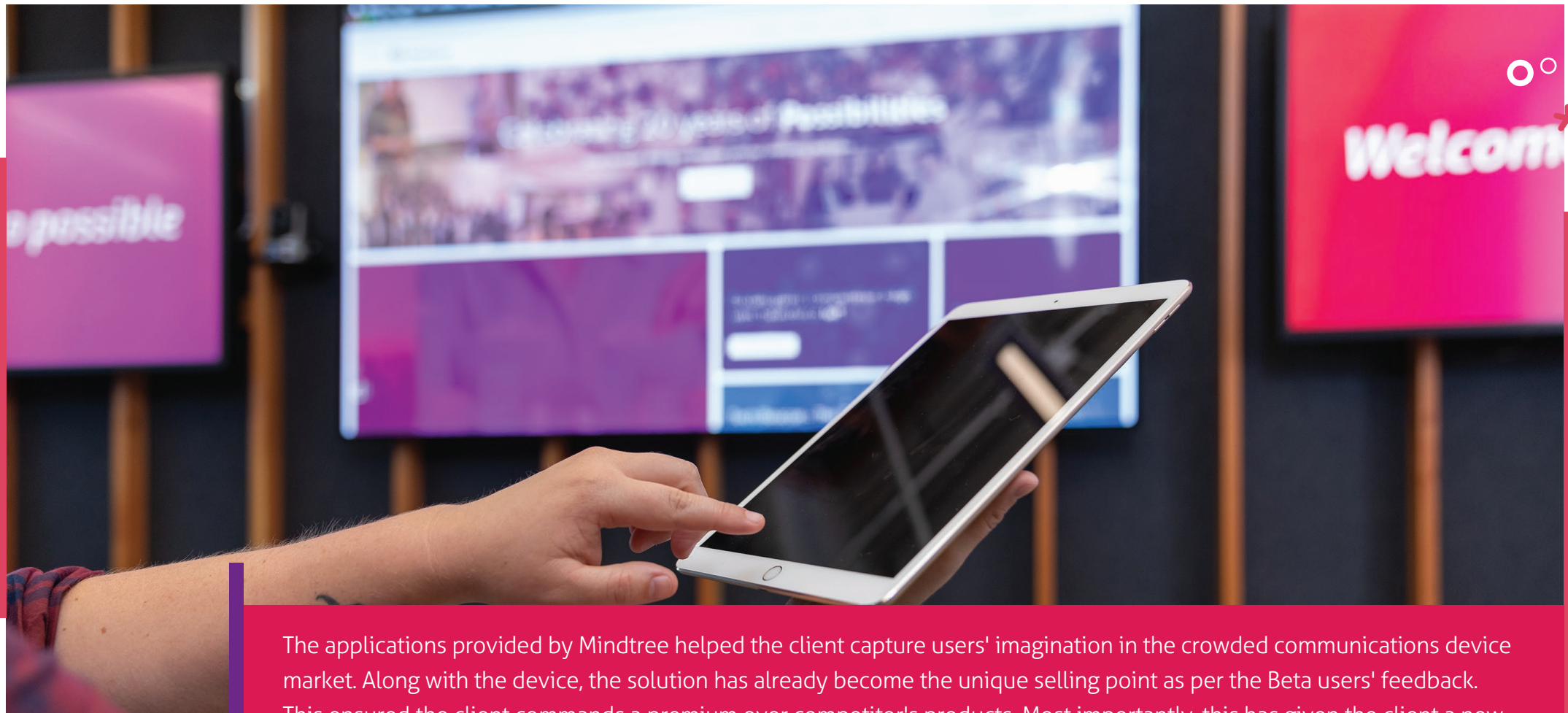
- Implementation of the cross-platform solution **helped the client to reduce their cost and time-to-market**. It also made application maintenance highly cost-effective.
- Mindtree implemented the video streaming over a web interface, which was a 'hard to achieve task' according to the client.
- The feature proved to help the end-users access the device directly over the web without the need to install any application.
- The overall solution's ingenuity helped the client win the **'Best of Show prize' at ISE 2020 held in Amsterdam earlier this year**.

The customer appreciated our work greatly with the following note:

“ ... Your ingenuity and inventiveness to add the video stream to the WebUI saved the show at ISE. Thank you so much for coming up with that idea and implementation. Each application is best in class compared to competitors, and we could not have done it without Mindtree.... ”



*Product Line Manager,
Client's org*



The applications provided by Mindtree helped the client capture users' imagination in the crowded communications device market. Along with the device, the solution has already become the unique selling point as per the Beta users' feedback. This ensured the client commands a premium over competitor's products. Most importantly, this has given the client a new stream of growth by diversifying its business and creating a snowball effect for future products.

About Mindtree

Mindtree [NSE: MINDTREE] is a global technology consulting and services company that enables enterprises across industries to drive superior competitive advantage, customer experiences and business outcomes by harnessing digital and cloud technologies. A digital transformation partner to more than 260 of the world's most pioneering enterprises, Mindtree brings extensive domain, technology and consulting expertise to help reimagine business models, accelerate innovation and maximize growth. As a socially and environmentally responsible business, Mindtree is focused on growth as well as sustainability in building long-term stakeholder value. Powered by more than 31,900 talented and entrepreneurial professionals across 24 countries, Mindtree — a Larsen & Toubro Group company — is consistently recognized among the best places to work.