AI-Powered Meeting Rooms: Enhance Collaboration with Automation and High Definition

A recent survey by Dialpad reveals that professionals spend up to a third of their workweek in meetings. With so much time dedicated to collaboration—whether in person or virtually—it's worth asking why meeting room technology has remained relatively stagnant[1]. While large corporations often boast state-of-the-art video walls and advanced features for seamless content sharing and remote participation, the same can't be said for many mid-size and smaller businesses. For these organizations, meetings are still often reliant on basic tools like HDMI cables, laptops, and speakerphones—leading to sub-par audio and visual experiences that limit effective communication and collaboration.

Today's modern business meetings

The growing trend of at-home workers shifts the balance of business meetings from most participants being in-office to equal or even smaller amounts operating onsite. This represents a significant deviation from traditional business practices.

The new dynamic comes with novel considerations, which meeting organizers must now plan for when scheduling and setting up meetings. They must give careful thought to the equipment and technology they choose to outfit their conference rooms and remote attendees with. If they don't, business meetings risk being much less effective.

The technology already exists to overhaul older meeting setups to support these hybrid meeting environments. High-definition audio and multi-camera intelligent video have made their way into meeting rooms, and that's not all. These technologies also feature safety considerations for social distancing and the like, as well as smart features like auto-zoom and person detection. Many of these new tools have been designed for both the meeting room and for the home office.

1) Do you spend 30% of your week in meetings? Survey says many people do -TechRepublic

Conference room

Today's audio/video solutions bring next-level AI-driven innovation to business meetings. All-in-one audio/video products like these feature edge AI processors to provide a theater-like experience with the highest quality audio and video as well as various smart features. For example, on the video front, consider a video bar with multiple intelligent cameras that can provide a 180-degree field of view of the meeting room, along with dual whiteboard streams.

One stream can automatically detect who is speaking and zoom in on that person for a more personal close-up view. The other stream captures anything written on the whiteboard in real time, enhancing readability for all participants even if the board is angled sharply away from the camera.

New audio features are equally impressive. First, up to eight built-in microphones with AI-driven automatic voice detection capture speakers' voices and drown out external sounds with noise-cancelling technology. Multiple built-in speakers amplify the voices of at-home participants, so everyone at the table can hear — not just those in the middle, traditionally sitting closest to the proverbial speaker phone. Advanced beamforming technology maximizes the signal-to-noise ratio for crystal clear voices anywhere in the room.

Home office

Remote individuals also benefit from this innovation. Imagine experiencing a picture-in-picture view of the actual meeting room — clearly and fully seeing every individual. When someone speaks, your computer screen shows a zoomed-in picture of that person, while a second window focuses on the white board. Intelligent algorithms automatically capture and live-stream any white-board content to you in real time, so you feel like you are in the room.

Individuals working remotely or from home can now use professional quality smart cameras to broadcast more life-like images to onsite meeting participants. Individuals in the actual meeting room will see an ultra-HD view of the person. Advanced processors, on-board AI and a 13-megapixel camera with real-time video stitching deliver this precise picture with virtually zero latency. Like meeting-room zoom technology, these solutions can also detect when the at-home person is talking and automatically zoom in on them like they can for in-person participants.

For wider view angles, the same technology automatically formats the field of view to ensure all in-person participants are in the picture. Video quality is automatically and continuously optimized, even under varying lighting conditions, to provide the best viewing experience.

Intelligent lighting optimization, built into new personal cameras, adjusts the image in real time to present a high-definition view of the at-home individual. All these capabilities blur the lines between onsite and at-home meeting attendees.

These new AI and high-definition audio/visual innovations mean we are no longer hampered by physical distances between meeting participants. Teams and meeting attendees can now feel like they are all in the same room, at the same time, even if some of them are still in their pajamas (lower half only, of course).

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