



OPTIMIZING ROOM DESIGN FOR VIDEO CONFERENCING IN LARGE MEETING ROOMS

Best Practices for Successful Video Conferencing

A FROST & SULLIVAN MARKET INSIGHT
SPONSORED BY LOGITECH

FUTURE OF WORK

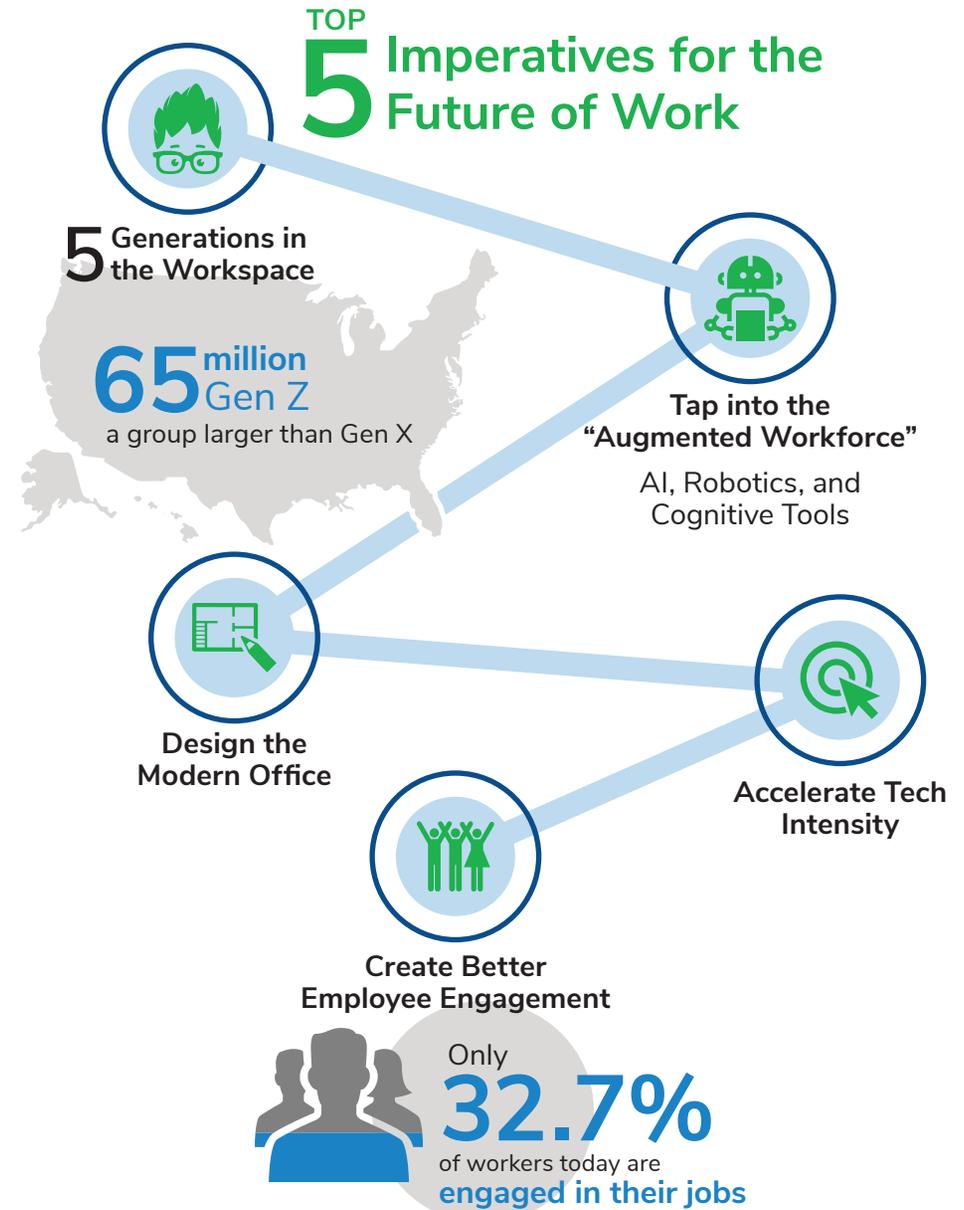
Exploring the Untapped Opportunities

Work is constantly changing. The future of work is reshaping traditional business models and prompting organizations to take a broader view of value creation—one that goes beyond productivity, profits, and shareholder value and focuses on **tapping the true potential of the human capital**.

People are the biggest asset of every organization. Demographics, technologies, economics, environmental sustainability, and social movements are shifting how people work. Technology adoption is increasingly focused on fostering better employee and customer engagement.

RESEARCH HAS SHOWN THAT ORGANIZATIONS WITH HIGH EMPLOYEE ENGAGEMENT OUTPERFORM THOSE WITH LOW ENGAGEMENT BY OVER 200%

Creating a work environment that promotes employee engagement—including **TRUST, TRANSPARENCY, AND STREAMLINED COMMUNICATIONS**—is a key strategic initiative for better business performance



Source: Frost & Sullivan; Gallup Poll—State of the American Workplace, 2017.

VIDEO CONFERENCING

Rethinking Technology and the Workplace

Video conferencing has emerged as an ideal collaboration solution to modernize today's workplace. A high-performing workplace is designed to deliver an elevated experience enabling employees to innovate faster and accelerate growth.

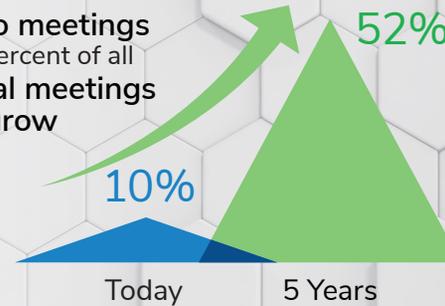
Digital users today want engaging conversations. Video conferencing builds a culture of trust, which is the foundation for greater employee and customer satisfaction. It provides a level of user engagement that far surpasses audio-only meetings.

The power of video communications with seamless content sharing packs a one-two punch for smarter and more effective meetings. And the good news is that it's not your father's video conferencing anymore! Next-gen cloud services, combined with sophisticated video conferencing hardware and software, is making the video calling experience as natural as possible, with an emphasis on user-friendly interfaces and AI-enabled features for smart meetings.

In a recent Frost & Sullivan survey, **HEAVY USERS OF VIDEO CONFERENCING REPORT THE FOLLOWING BUSINESS BENEFITS** over light users of the technology

Video Adoption is Booming

Video meetings as a percent of all virtual meetings will grow



The Video Conferencing Market is Growing



Video Conferencing Benefits


6x
Boosts Product Innovation


5x
Accelerates Decision Making


6x
Improves Customer Experience

Source: Frost & Sullivan.

MEETING ROOM TYPES

One Size Does Not Fit All

Huddle Spaces/
Ideation Rooms



Large Meeting Rooms

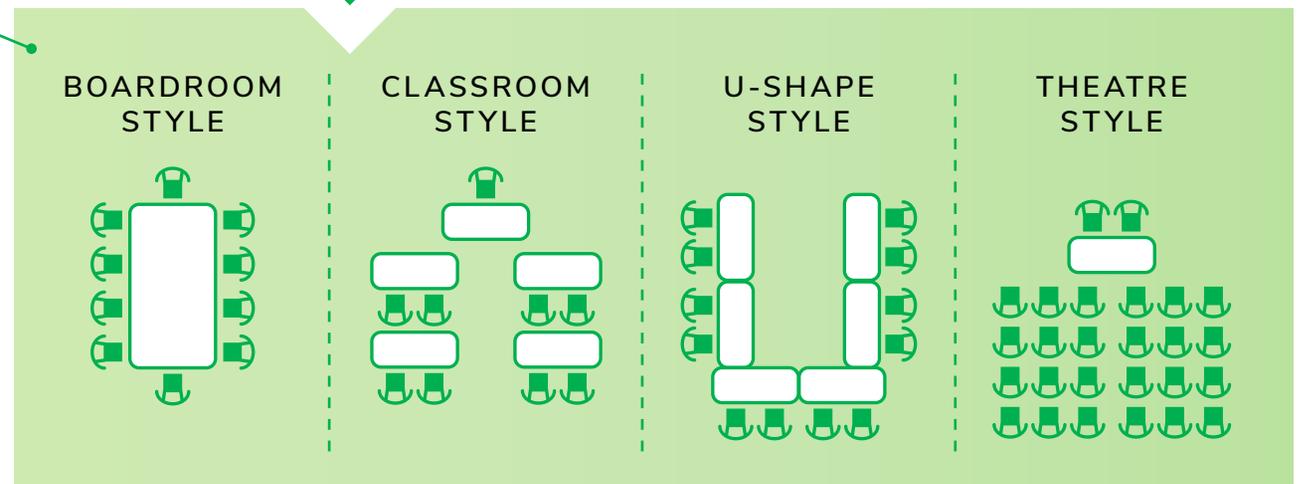


Mid-sized
Conference Rooms



Large meeting rooms can have varied configurations.

Video conferencing in large meeting spaces remains under-utilized and expensive. There is a growing need to **MATCH THE RIGHT EQUIPMENT TO THE PHYSICAL MEETING SPACE AND USE CASE.**



10 BEST PRACTICES FOR LARGE ROOM VIDEO COLLABORATION

Mindful Meeting Room Design that Contributes to the Entire Meeting Experience

The user experience in large meeting rooms can be sub-par if the approach is primarily based on DIY components glued together loosely. At the same time, enabling large group video conferencing doesn't mean compromising on interactivity. Though room design varies significantly by the type of meeting room and use cases, organizations must focus on key aspects to ensure exceptional user experiences.

INSTALLATION AND EASE OF USE



Choose solutions that offer easy installation, without requiring expensive proprietary equipment and complex configurations. Users must be able to easily start meetings from a controller and share content from any device.

1

FIELD OF VIEW



Match the camera's field of view with the physical characteristics of the space. The more participants in a room, the farther the camera needs to be from the participants. A wide 90° camera makes every seat at the table visible. For meeting rooms that are wider than deeper, a 120° field of view is optimal for better coverage.

2

CAMERA TRACKING



In large meeting rooms, simply installing a webcam that covers all participants in the room is not enough since remote participants may not be able to see everyone's expressions, missing out on important visual cues.

Enable cameras with auto framing technology like the one offered by Logitech RightSight, which automates camera control to perfectly auto-frame participants no matter their distance from the lens.

3

CAMERA PLACEMENT



An eye-level placement is ideal. A motorized PTZ camera helps fine-tune the viewing angle. When using dual displays, place the camera at eye level between the two screens for optimal eye contact.

4

AUDIO



Latest AI features, trained to distinguish human speech from other sounds, combined with background noise suppression are enhancing the audio quality. Noise-reduction carpeting and wall coverings further provide optimal acoustical support. For mic placement, there are two primary options:

- Extension tabletop mics serve rooms with varied configurations so being able to daisy-chain is essential. Spacing of 45–60 inches is recommended between mics to ensure voice pickup even in the largest rooms.
- Drop down mics cover all participants in the room without the need for additional wireless mics.

5

(CONTINUED)

10 BEST PRACTICES FOR LARGE ROOM VIDEO COLLABORATION

DISPLAY SIZE



A 55-inch or larger display ensures everyone in the meeting can easily see the shared content on the screen. The displays must be in proportion to the table and the overall meeting space. Dual displays allow one screen to display remote participants while the other can be dedicated to content, so people furthest from the screens can easily see the content.

6

CONTENT SHARING



Don't leave remote participants in the dark when sharing content. Enable rooms with optimal screen sharing so everyone (in-room and remote) clearly sees the content. Position the peripherals, including white boards, such that the remote site gets the full view.

7

CONNECTIVITY



Large rooms require connections between the hub, camera, speakers, optional expansion mics and peripherals. Consider routing connection cables that are CPR-compliant through a conduit or under-the-table wire tray to keep them organized, mitigate visual clutter, and reduce tripping hazards.

8

ROOM DESIGN



Position furniture/seating to enable the camera to deliver its full potential. Meeting tables designed with one end wider (like a triangle or trapezoid shape) ensure that the camera can "see" everyone.

9

LIGHTING



While choosing a space with minimum reflective surfaces is ideal, most modern meeting spaces have natural light. Cameras with the latest technology provide clarity and optimize the light balance to emphasize faces and render natural-looking skin tones, even in dim or backlit conditions. Meeting rooms with glass windows that face a hallway should be frosted to ensure not only a distraction-free experience but to also prevent the camera from registering passers-by when implementing auto framing.

10

7 TOP CONSIDERATIONS FOR CLASSROOM COLLABORATION

Revolutionize the Learning Experience

Technology deployment and room design for class rooms and training rooms must revolve around providing interactive and synchronous learning that results in improved student/trainee performance. In addition to the best practices covered in the previous section, training rooms/class rooms will benefit from the following considerations.



SIGHT LINES

Position cameras and displays to take into account internal instructor movements and sight lines needed. Enable modular audio/video kits with dual displays and eye level camera placement, including cameras using auto framing to keep the speaker(s) in clear view.



DISPLAYS

A large display screen in front of the room helps participants focus on the content, while an additional screen beside it (or on a side wall) is good to view remote presenter(s). Co-locate the second camera such that the local presenter can ensure effective eye contact with remote participants. The display screens must be mounted high above the floor in order to be visible from the back row.



SEATING

Opt for classroom sizes that accommodate a wide range of seating configurations at different capacities to adapt to changing needs and furniture modifications from semester to semester.



SIZE

Typically ranging from 400 to 800 sq. feet



CAPACITY

Anywhere from 10–50 students/trainees*



SEATING

Facing towards the front with working surfaces for each



USE CASE

Scheduled lectures, distance learning, training

* Higher capacity rooms (seminar rooms and auditoriums) not included.

(CONTINUED)

7 TOP CONSIDERATIONS FOR CLASSROOM COLLABORATION

AUDIO



Adequate acoustical separation from all other interior and exterior noise source ensures distraction free learning. Provide additional acoustical components and optional expansion mics. Sound-absorbing materials on ceilings and on the upper levels of walls in the rear of the room further ensure audio fidelity. Wireless mics give presenters the freedom to move around. One loudspeaker cluster above the center of the stage reproduces intelligible speech from local and remote presenters as well as the content audio for all students.:

RECORD AND SHARE



Video recording enables the delivery of recorded course material to be displayed in the classroom, at home on a laptop, or via mobile device allowing for blended learning and flipped classroom initiatives. In addition, integration with the LMS platform of your choice will make it easy for instructors to add recorded lectures to courses and assignments. Students can access video assets from within the LMS and can also create their own videos for homework assignments and submit them through the LMS platform.

ROOM DESIGN

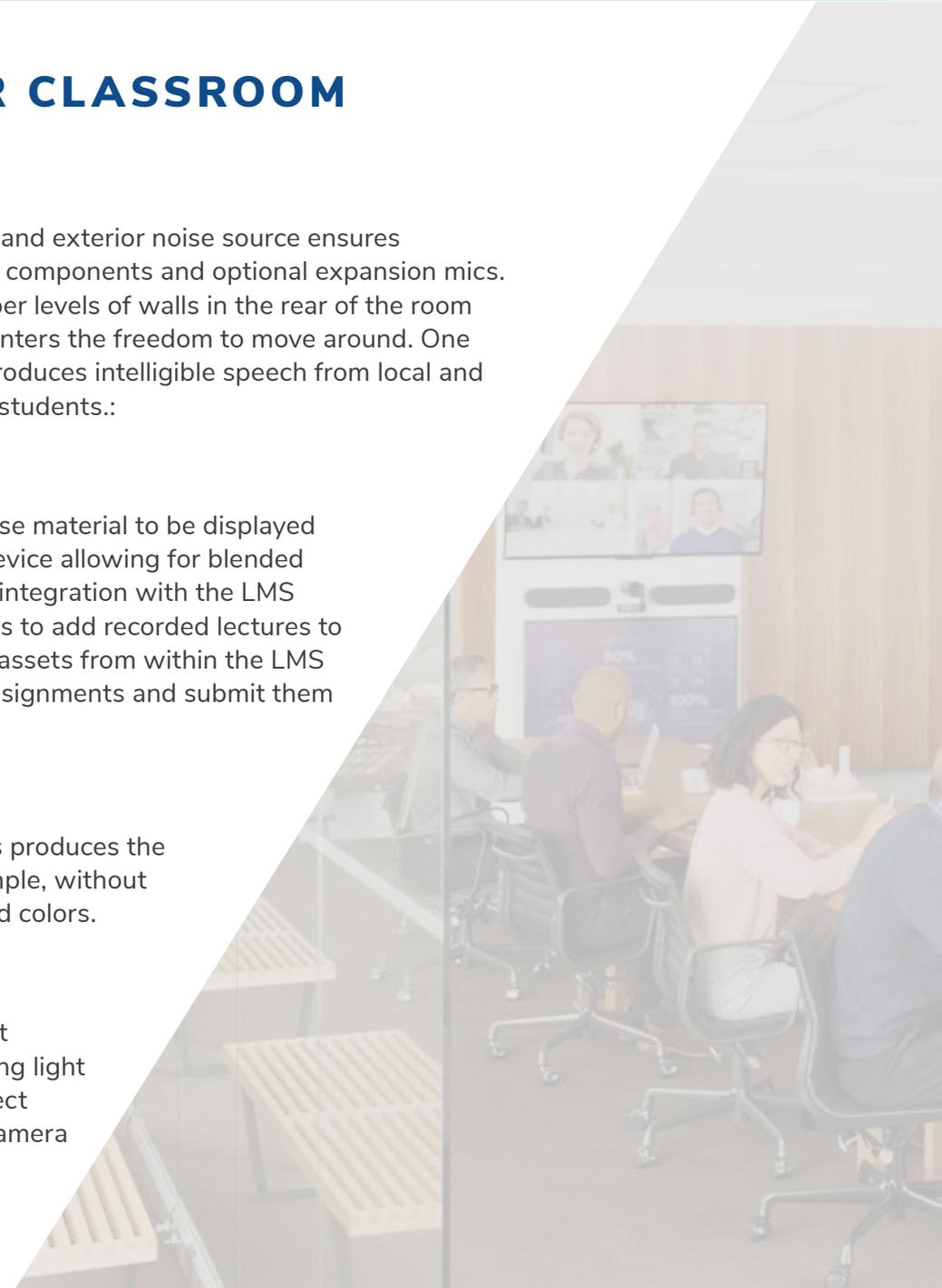


In a learning environment, it's critical that the cameras produces the best video quality possible. Keep the backgrounds simple, without discernable visual patterns and avoid heavily saturated colors.

LIGHTING



An evenly-lit space helps the camera capture the most accurate color, contrast and video definition. Any strong light source behind the instructor tends to darken the subject and produce an undesirable silhouette. Pointing the camera towards exterior windows or other harsh lighting (like directional spotlights) must be avoided.



7 TOP CONSIDERATIONS FOR BOARDROOM COLLABORATION

Design that Accelerates Business Decisions

Board rooms are designed with collaboration and serious negotiations in mind. However, they are no longer a technology island. Users want the same seamless and easy collaboration experiences in boardrooms that they are used to at their desktops and mobile devices. They want an exceptional audio-video experience that breaks all communication barriers. In addition to the core best practices covered in the previous sections, board rooms will benefit from the following considerations.



CAMERA POSITIONING

Position cameras and displays to take into account around-the-table seating. Enable dual displays and eye level camera placement options, including cameras using smart auto framing and advanced optics to provide the best video experience.



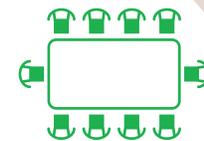
DISPLAYS

Display screens in front of the room help participants focus on the video and content. Many boardrooms leverage large video walls where the front wall becomes a visual canvas with multiple windows of content at high-resolution details. Board rooms with large round table seating typically have multiple displays around the room showing the same image so all participants have the same view.



SEATING

Arrange furniture so that the camera can “see” everyone at the table, typically accomplished by positioning the camera and screen at the head of the table and arranging seating on each of the long sides.



SIZE

Typically ranging from 400 to 1000 sq. feet



CAPACITY

Typically 10 to 30 people



SEATING

Facing towards each other for eye contact



USE CASE

Executive meetings, Command center, client negotiations, customer experience meetings



(CONTINUED)

7 TOP CONSIDERATIONS FOR BOARDROOM COLLABORATION



AUDIO

Robust audio is critical to boardroom meetings. Intelligent audio features such as noise masking, noise reduction, adjusting audio levels, auto-muting and unmuting features minimize the effect of unwanted sounds (e.g.. paper shuffling at the table). Optional expansion mics that allow more people to collaborate and ceiling mics in the boundary areas ensure that all participants can be heard.



ACOUSTICS

The room must be designed to provide adequate acoustical separation from all unwanted interior and exterior noise sources. Pay attention to HVAC and noise from fluorescent lighting. Noise-reduction carpeting and sound-absorbing materials on ceilings and on the upper levels of walls in the rear further ensure audio fidelity.



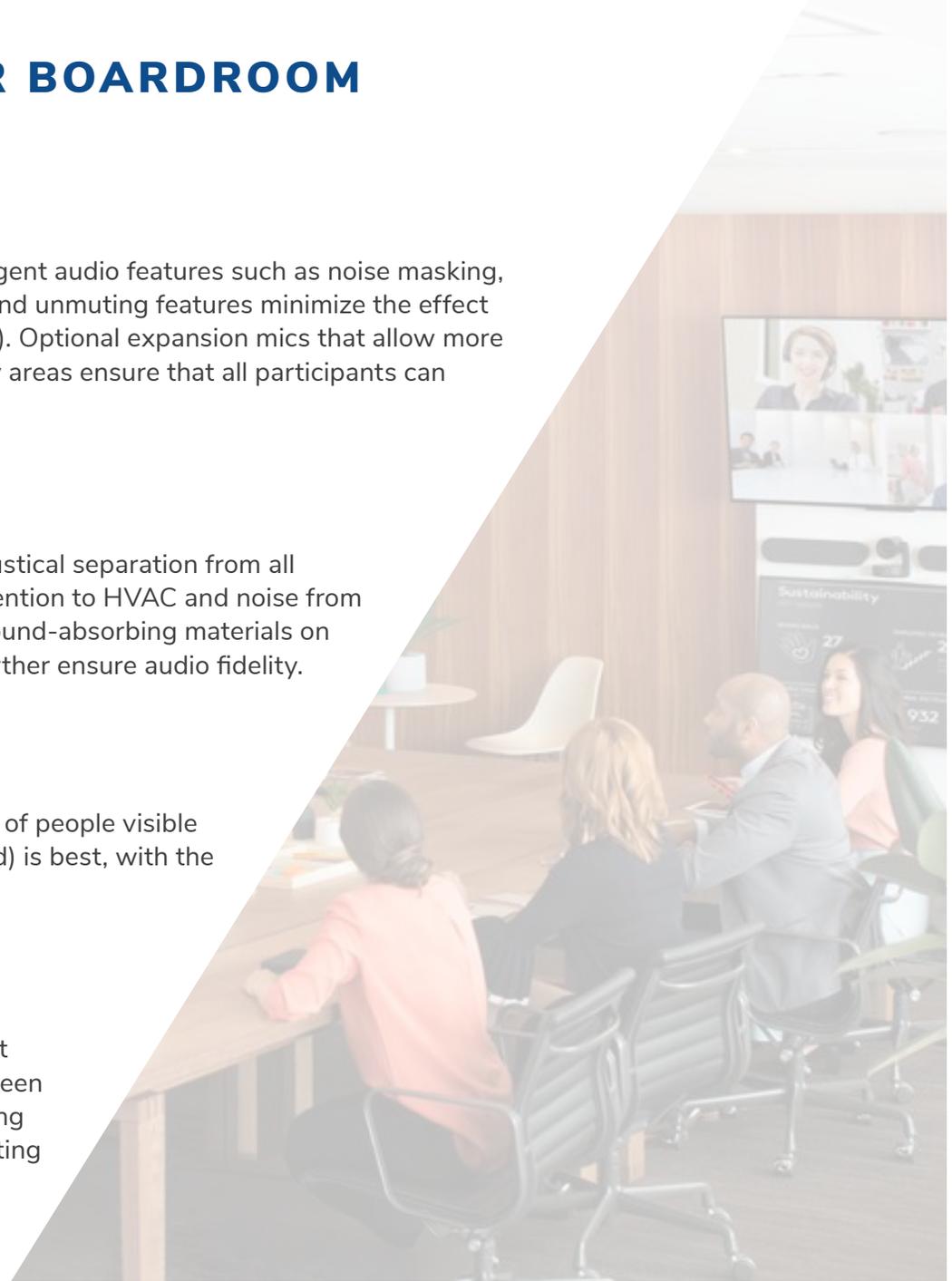
ROOM DESIGN

The shape of the table can help maximize the number of people visible on camera; a slanted shape (like a triangle or trapezoid) is best, with the wider end nearest to the screen and camera.



LIGHTING

An evenly-lit space helps the camera capture the most accurate color, contrast and video definition. Touchscreen systems to control lighting, displays, and shades among other things, ensure users are able to control the meeting environment.



SOLUTION SPOTLIGHT: LOGITECH RALLY

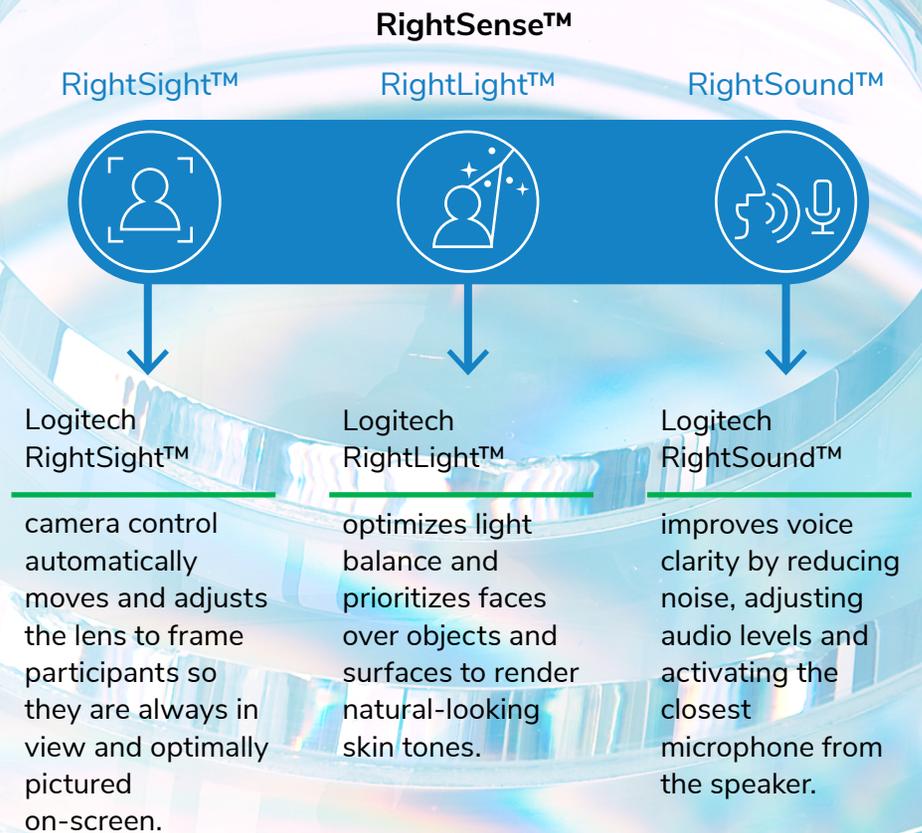
A High Performance Modular Conference Cam for Large Spaces

- Advanced optics and 4K sensor with whisper-quiet mechanical PTZ .
- Ultra-HD video at 30 fps, 15X HD zoom, 90° field of view.
- USB plug-and-play connectivity with leading video conferencing software platforms.
- The Logitech Rally system includes Rally Camera, table and display hubs, one speaker and one mic pod; optional extension mics expand audio coverage.



Logitech's mission: make
**VIDEO CONFERENCING
EASIER FOR EVERYONE**

Leveraging AI for Smart Collaboration



WHAT CUSTOMERS ARE SAYING

The (Rally) Camera is a significant improvement over PTZ Pro—smooth/quiet operation and the picture quality is excellent in less than ideal lighting scenarios.

—Zach Feinne, Audiovisual and Technology Project Manager, Autodesk

Really like how simple [Rally] is to use and the quality of each component. The image is excellent, the sound is great, and everyone likes how easy it is to mute the mics by tapping them.

—Matt Pocock, Director of Technology, Miss Hall's School

Our Distance Learning Classroom gives us the ability to communicate face-to-face around the globe. At Delta, we fly people around the world; that's what we do. Our video meeting space provides a valuable enhancement to what we used to do in situations when we wouldn't travel. We're now leveraging every part of the Distance Learning Classroom as a springboard to deliver the best learning experience possible

— Bruce Drabek, Technical Operations Training Leader, Delta Air Lines



VIDEO

KEY TENETS OF EFFECTIVE VIDEO CONFERENCING IN LARGE ROOMS

Create Stellar Digital Experiences that Drive Business Performance

Ease of use with exceptional UX

- Match the right equipment to the right space
- Keep it simple—slash deployment time and costs
- Optimize lighting, furniture, and background

Instant meetings

- Offer instant meetings with a one-touch join and easy content sharing

Flexible

- Empower users with BYOD-friendly solutions.
- Invest in technology that scales easily with plenty of headroom for expansion

Affordable

- Don't break the bank—select solutions that offer value without compromising on quality
- Leverage existing displays, peripherals, and software investments made in the meeting rooms

Consistent

- Eliminate technology islands—move away from a room or project approach and invest in solutions that ensure Uniform UI and software across all spaces



For more information, visit

<https://www.logitech.com/en-us/room-solutions>

NEXT STEPS

-  Interested in learning more about the topics covered in this ebook? Call us at 877.GoFrost and reference the paper you're interested in. We'll have an analyst get in touch with you.
-  Visit our [Digital Transformation](#) web page.
-  Attend one of our [Growth Innovation & Leadership \(GIL\)](#) events to unearth hidden growth opportunities.

Frost & Sullivan, the Growth Partnership Company, works in collaboration with clients to leverage visionary innovation that addresses the global challenges and related growth opportunities that will make or break today's market participants. For more than 50 years, we have been developing growth strategies for the Global 1000, emerging businesses, the public sector and the investment community. Is your organization prepared for the next profound wave of industry convergence, disruptive technologies, increasing competitive intensity, Mega Trends, breakthrough best practices, changing customer dynamics and emerging economies?

For information regarding permission, write:

Frost & Sullivan
3211 Scott Blvd
Santa Clara CA, 95054

SILICON VALLEY

3211 Scott Blvd
Santa Clara, CA 95054
Tel 650.475.4500
Fax 650.475.1571

SAN ANTONIO

7550 West Interstate 10
Suite 400
San Antonio, TX 78229
Tel 210.348.1000
Fax 210.348.1003

LONDON

566 Chiswick High Road
London W4 5YF
Tel +44 (0)20 8996 8500
Fax +44 (0)20 8994 1389