
cisco Live!
Let's go

The bridge to possible

Designing regular and irregular meeting rooms

Cisco can help

Svein Terje Steffensen, Solutions Engineer, Collaboration

cisco Live!

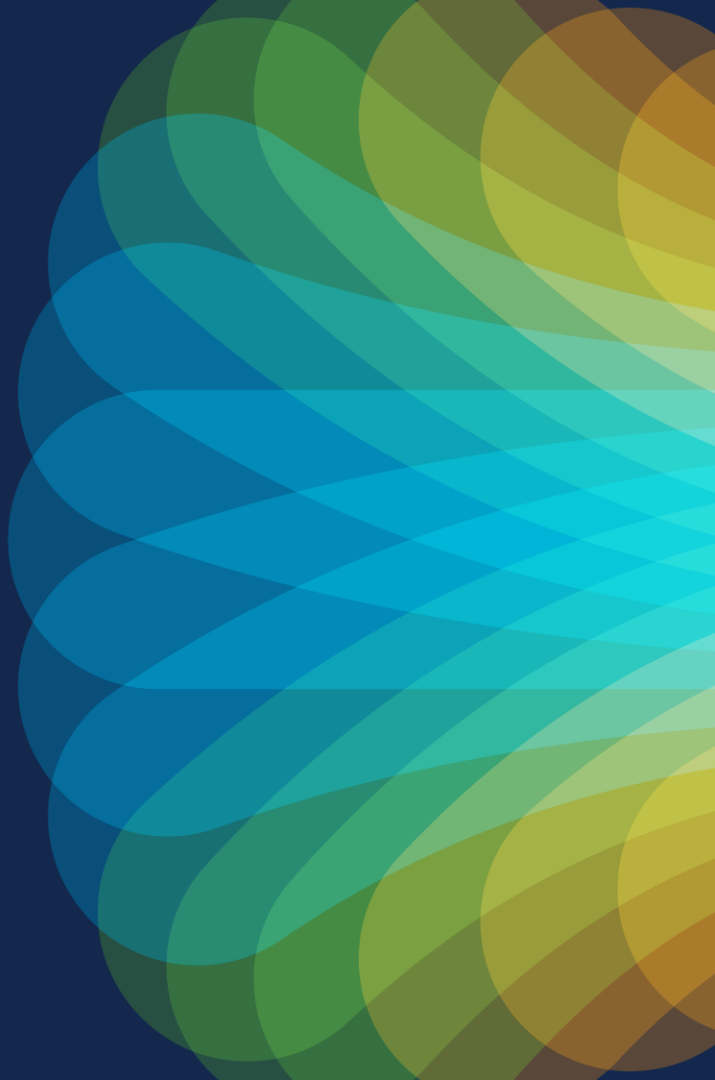
BRKCOL-1176

Agenda

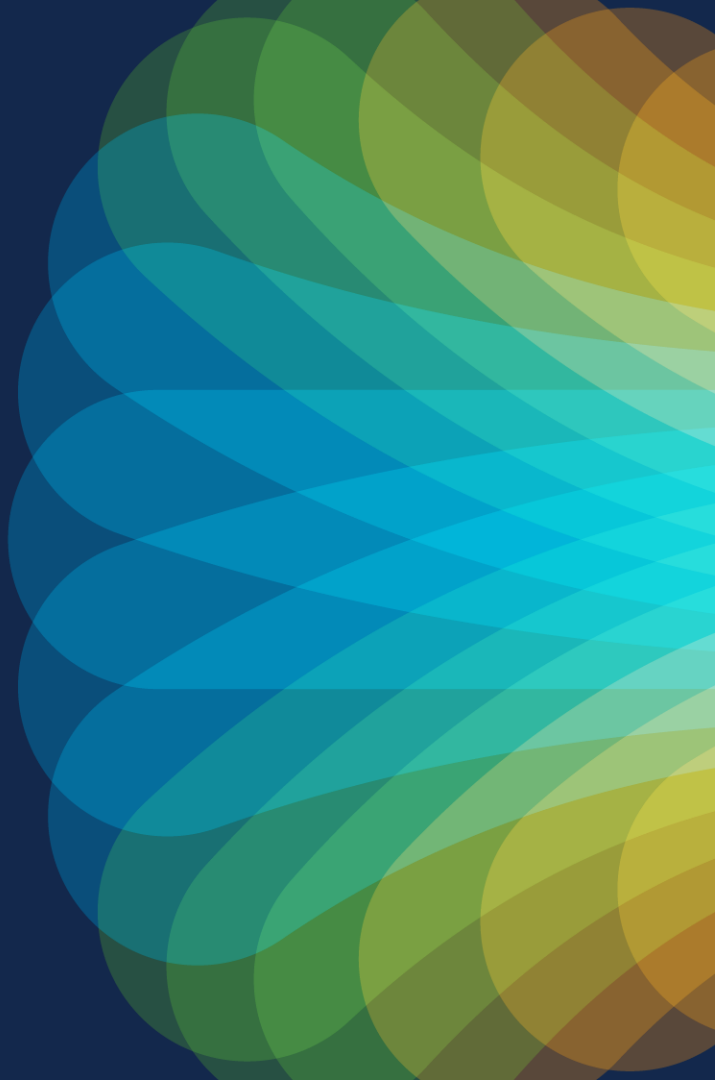
- Best Practices
- User Interfaces
- Cameras
- Audio and Acoustics
- Lighting
- Irregular rooms

Regular or irregular room

Cisco can help



Regular rooms



Best practices

Project Workplace

Devices Workspaces Solutions Learn

Log in 0

Best Practices for Creating Effective Video-enabled Rooms

The Best Practices guide is available in a new version for 2021, helping you get the most out of your video- enabled rooms when you return to the office. The guide covers everything you need to know for configuring great meeting spaces, safety at work during COVID-19 and best practices for successful video meetings from your home office.

Download our Best Practices guide now

Meeting room design

- Always start with the users and the use case
- Then consider the physical environment
  - Room size
  - Table and seating arrangement
  - Room acoustics
  - Lighting

Types of users

User interface

This is what some conference rooms feels like.

How many buttons do you want to have to press to get the room working as you wish?

Ooooh, buttons!

Aaargh, buttons!

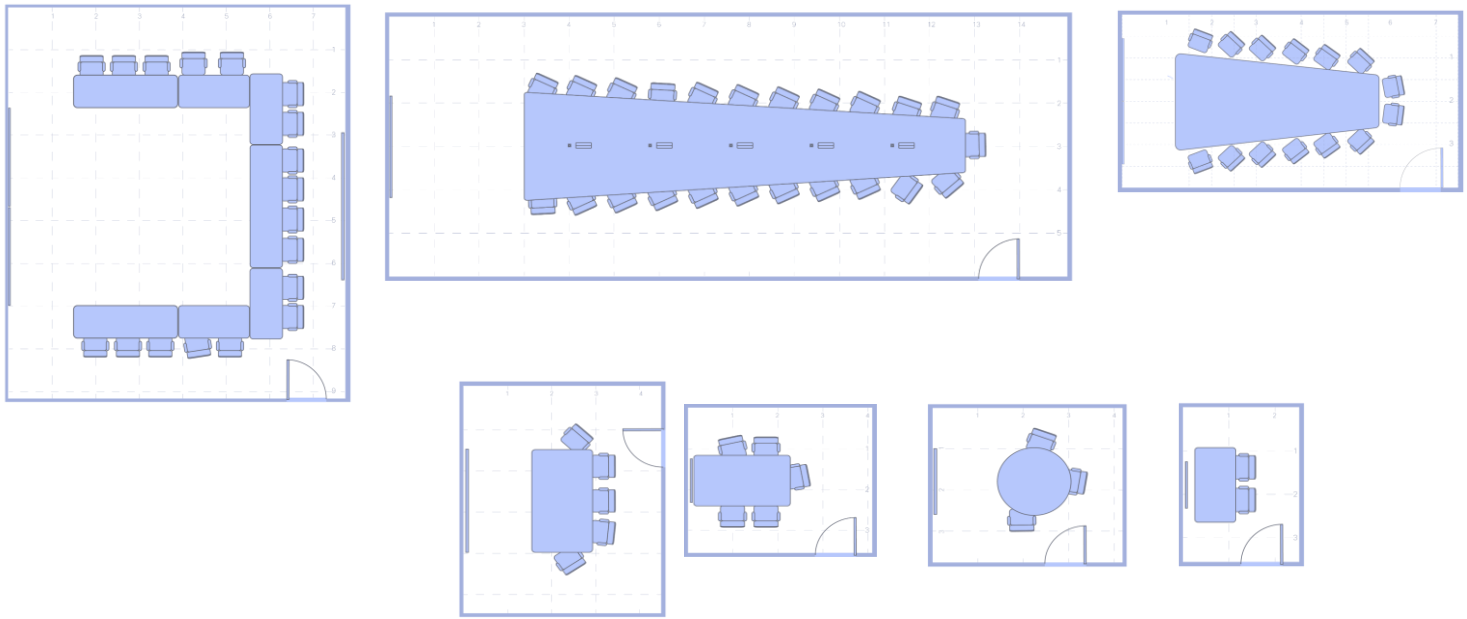
Flexibility and choice

RoomOS experience

MTR Experience

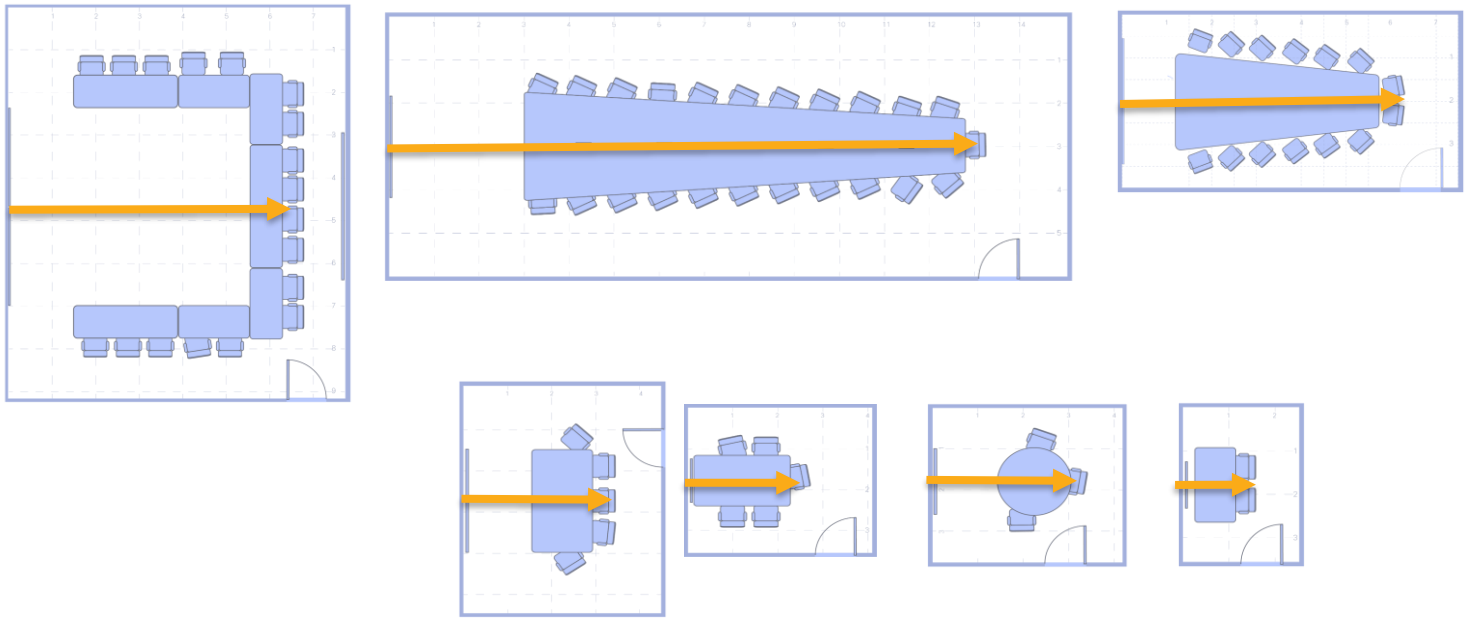
The physical room and the use case

Device selection must consider the purpose

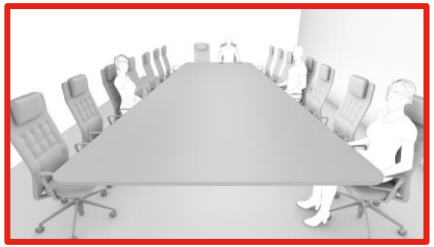


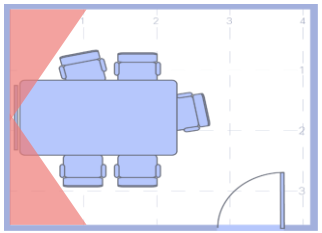
Camera selection

Distance from the screen to the furthest participant expected to be in frame

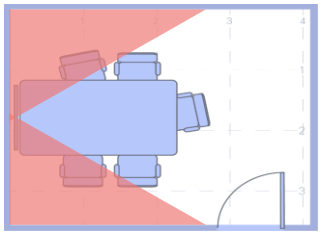


Camera views



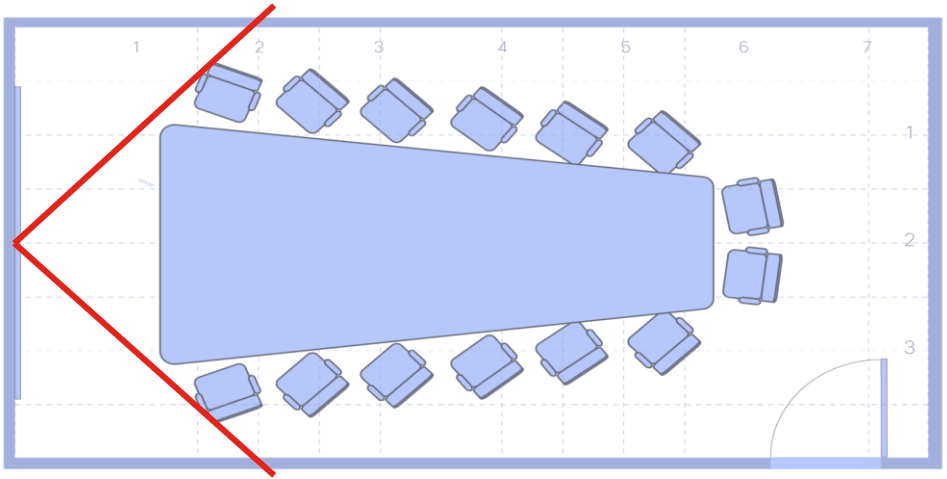


120 deg FOV

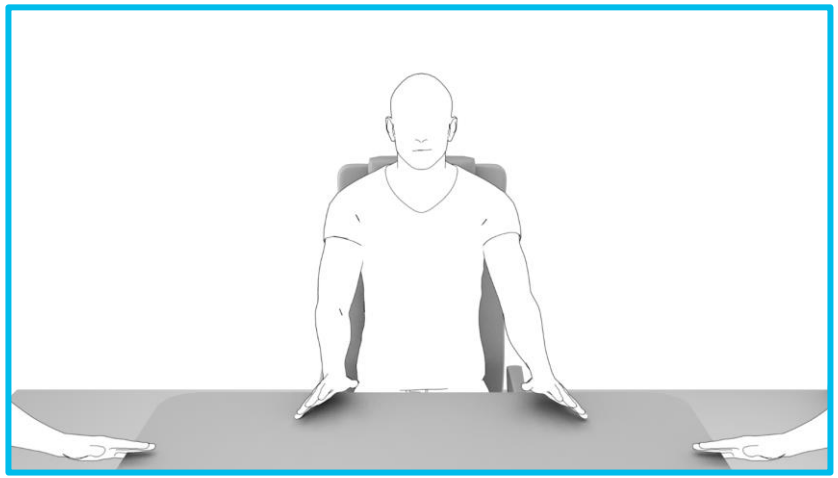


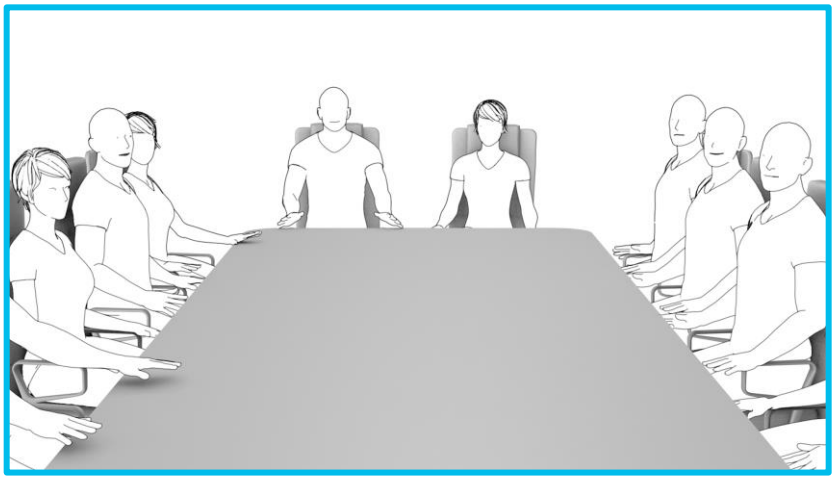
70 deg FOV

Best Overview

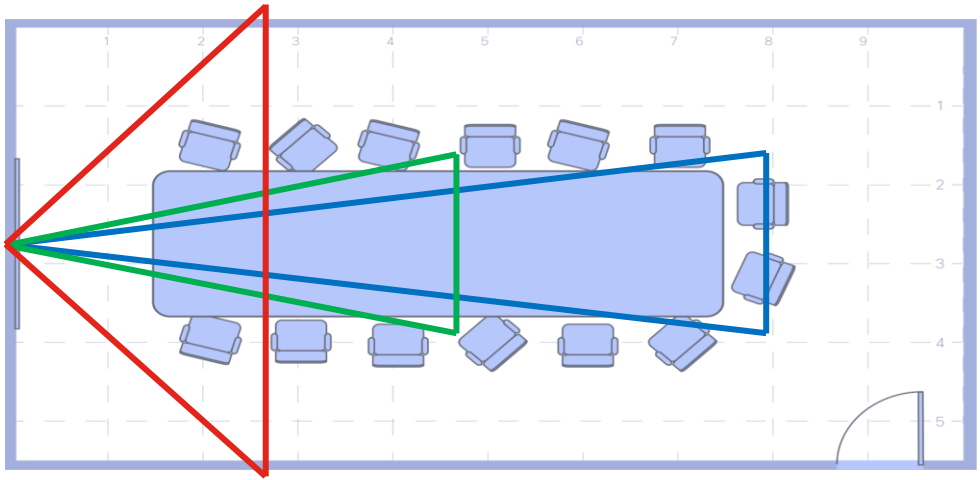


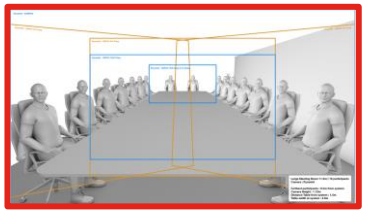
Selecting the correct camera



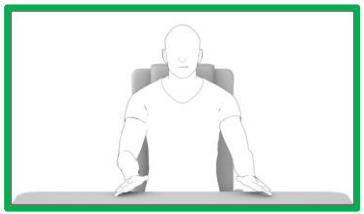


Cameras and Perspectives

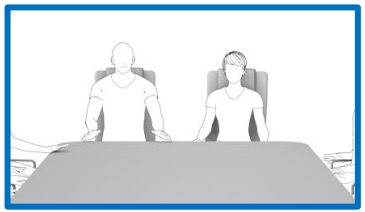




Best overview



Single Person Frame

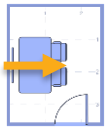


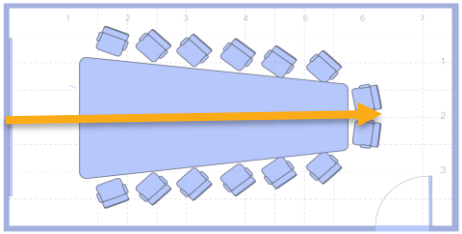
Two Person Frame

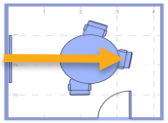
Camera Reach

For Your Reference

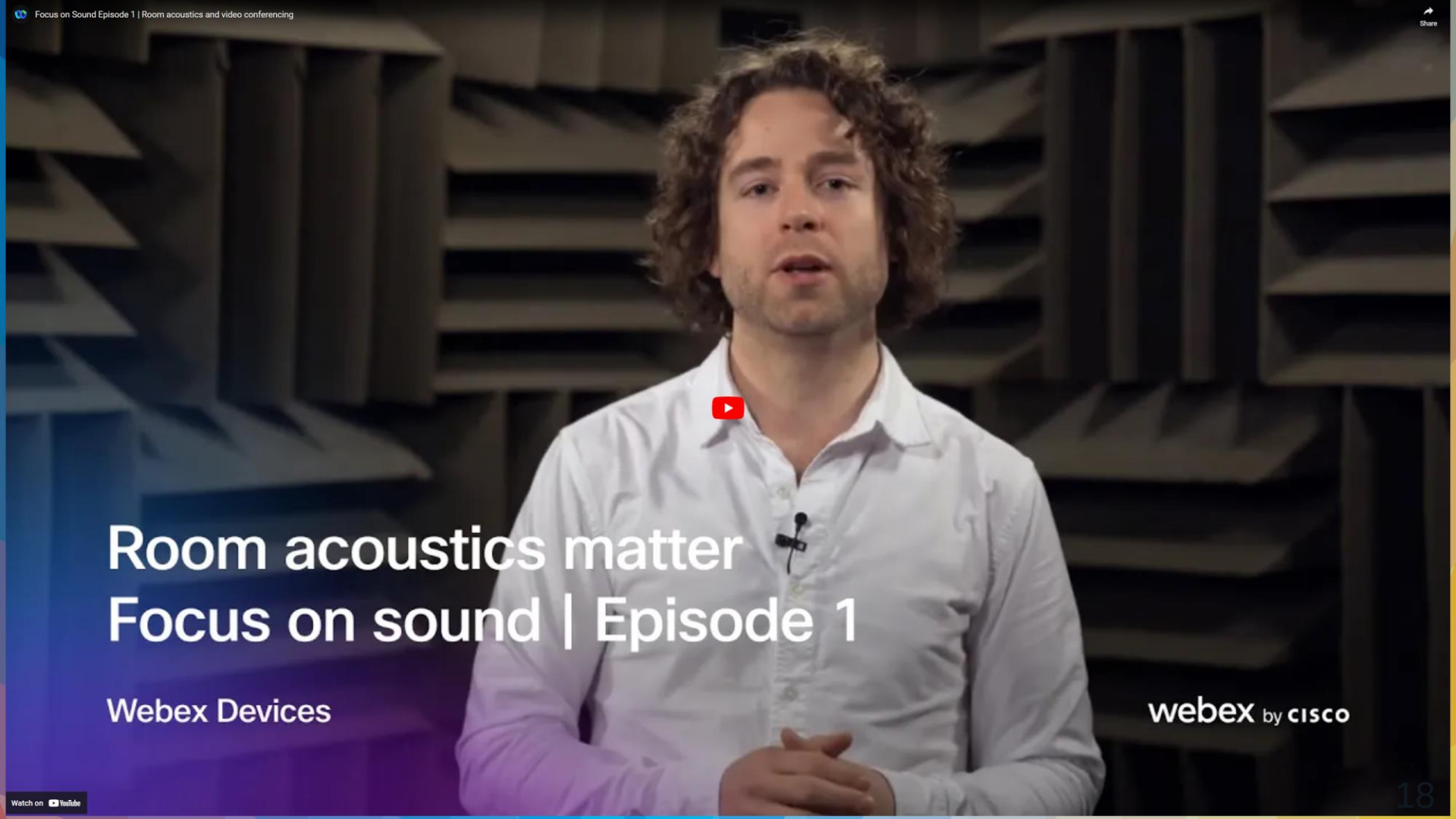
		Wide angle width at 1 m	Single person frame (up to)	Two person frame (up to)
Room Bar		3.5 m (11.5 ft)	2 m (6.5 ft)	4.5 m (15 ft)
Room Bar Pro		3 m (10 ft)	4 m (13 ft)	7 m (23 ft)
Quad Cam		1.8 m (6 ft)	6 m (20 ft)	9 m (30 ft)
Board Pro		3.5 m (11.5 ft)	3.5 m (11.5 ft)	6 m (20 ft)







Camera above or below the display?


Focus on Sound Episode 1 | Room acoustics and video conferencing
Share
Room acoustics matter
Focus on sound | Episode 1
Webex Devices
webex by cisco
Watch on YouTube

Reverberant rooms

- Reflections move on 3 different axis: X, Y and Z

- Too much reverberation cause headaches both locally and remotely

Reverberant rooms

- Acoustic panels in ceiling and on walls
- Furniture and plants can break up large, flat surfaces
- Curtains, DeAmp Panels or other types of modular walls, like Moelven Glass Front
- Carpeted floor have almost no effect (!)

Effect:

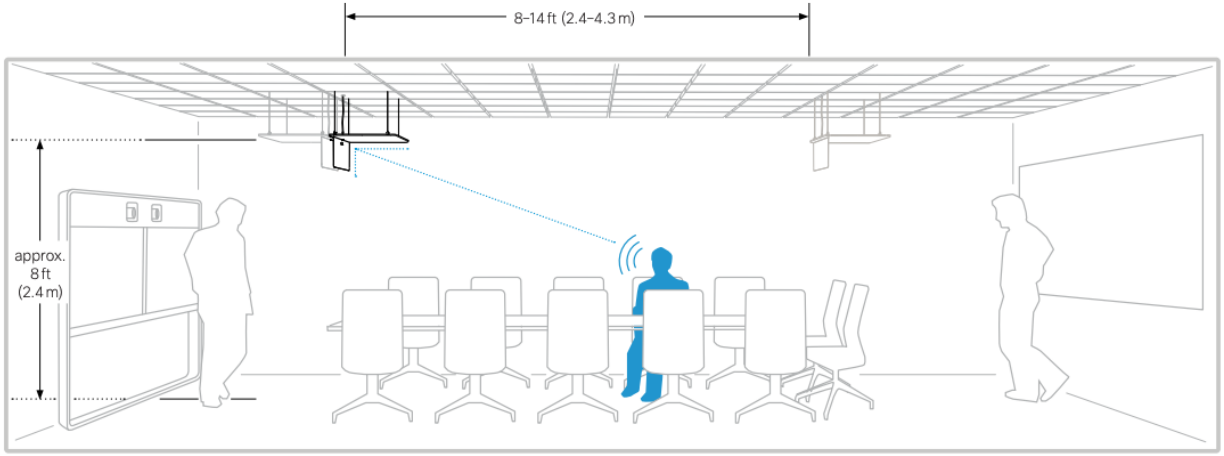
Better microphone range

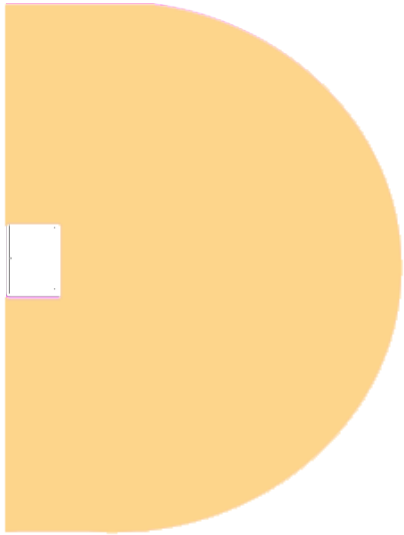
But still:

Shorter distance is better

Cisco Ceiling Microphone

Placement Guidance





The Ceiling Microphone has a semi-circle pick up radius of up to 4m (~14 feet).

Installation recommended height ranges between 2.1m (~7 feet) and 2.4m (~8 feet).

When installing a “presenter” microphone (reversed orientation), 1.5m (~5 feet) from the device is recommended.

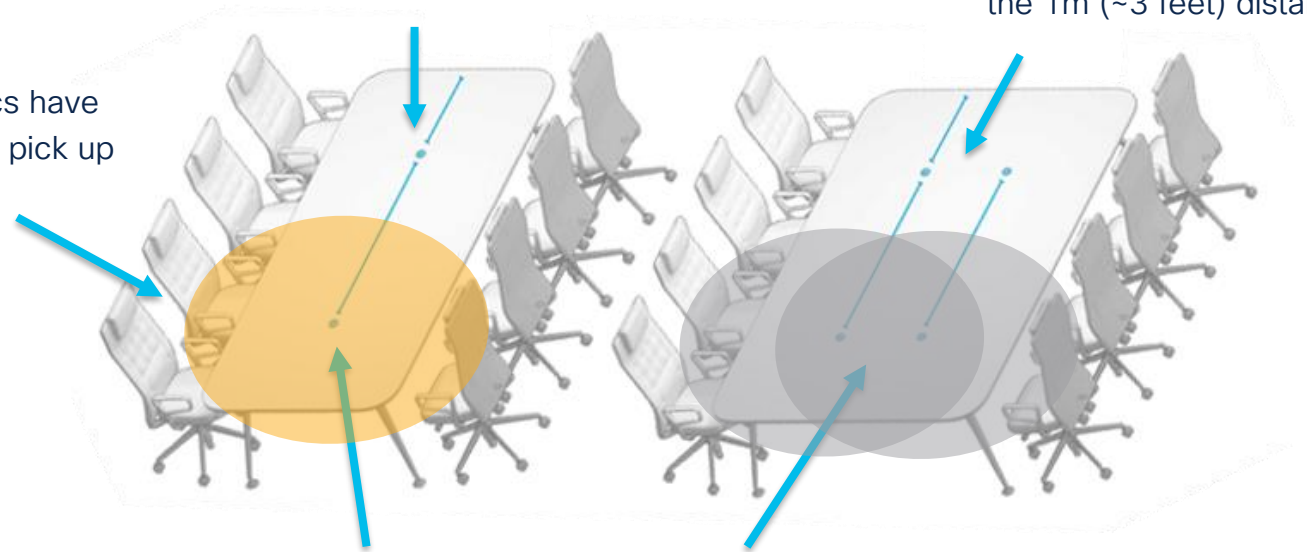
Cisco Table Microphone

Placement Guidance

Microphones should be no less than 0.15m(~6 inches) from table edge

Wide tables may require a second row of microphones to maintain the 1m (~3 feet) distance

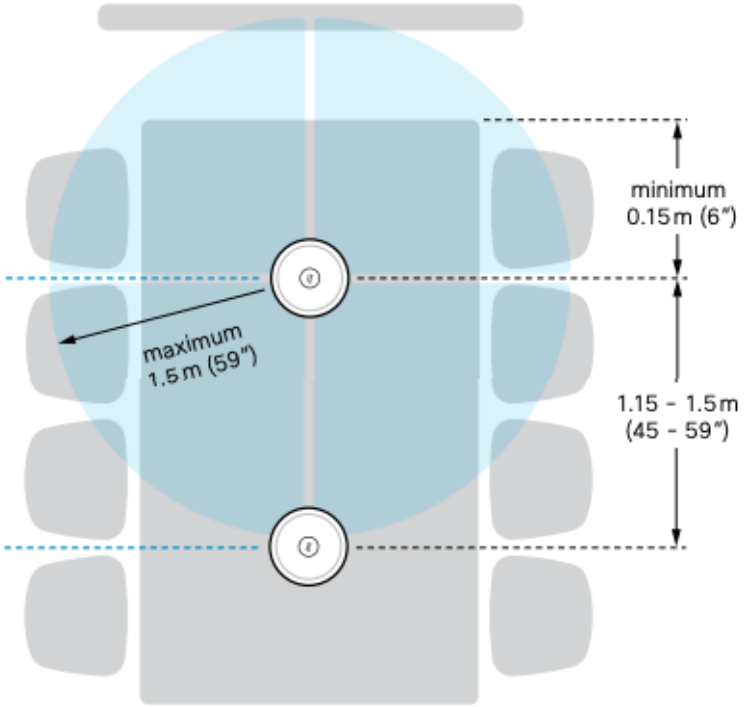
Cisco Table Mics have a ~1m (~3 feet) pick up radius.

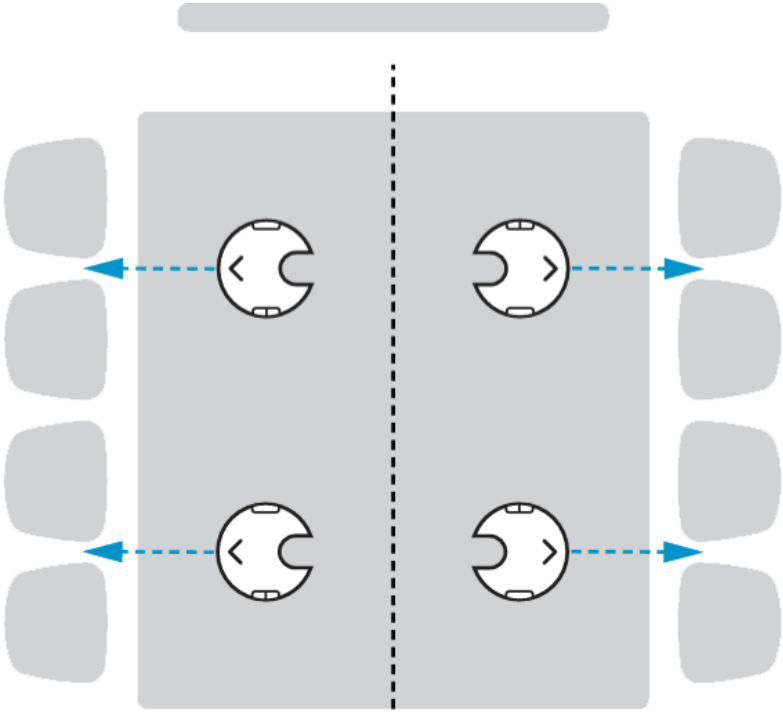


Follow the centerline of the table for even placements.

Table Microphone Pro

Placement guidance

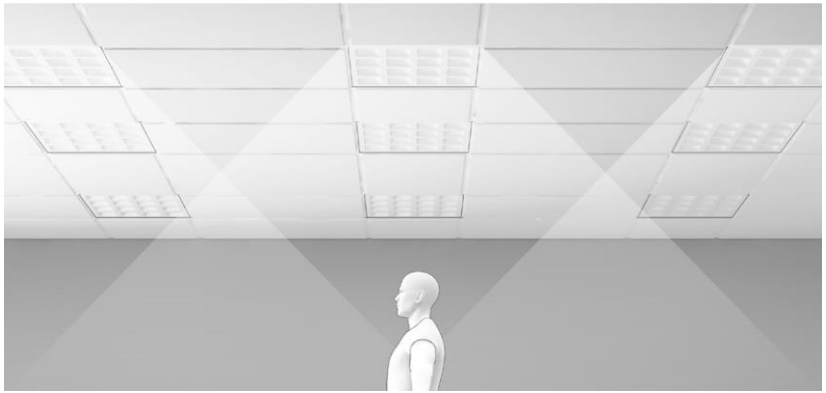




Moving on from audio, what about lighting?

Good Lighting

- Placement of Luminaries for local meetings may not be great for digital or hybrid meetings.
- Rule of thumb: Direct light is bad, indirect light is good.
- Tables have different levels of reflection
- PoE powered Luminaries is a sustainable choice, and come in many shapes and forms



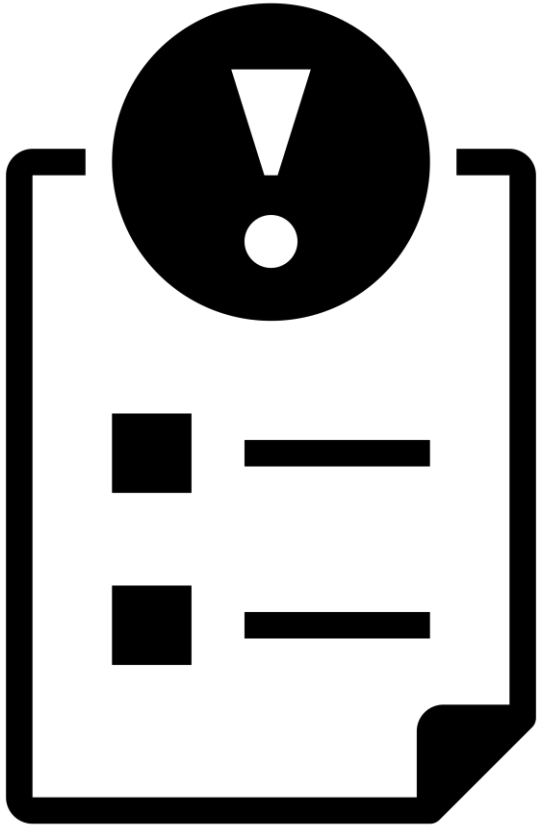
Fill light Key light Back light

Check out BRKCOL-2994 tomorrow morning at 8:45 for a deep dive

Device selection

We talked about the importance of

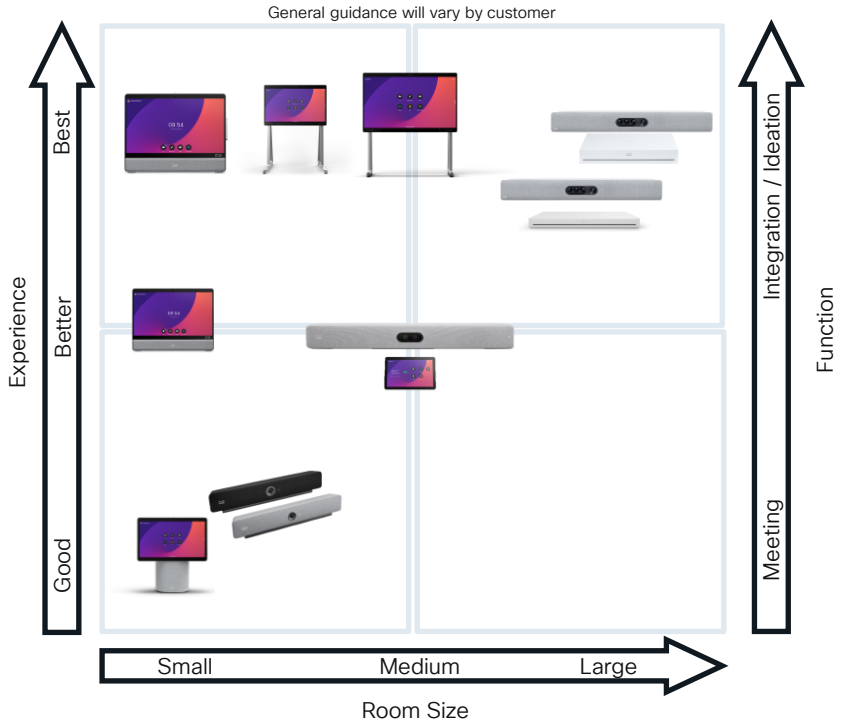
- Users and use case
- User Interface
- Audio and acoustics
- Cameras
- Lighting



Designing Your Rooms

Each room will vary in size and function

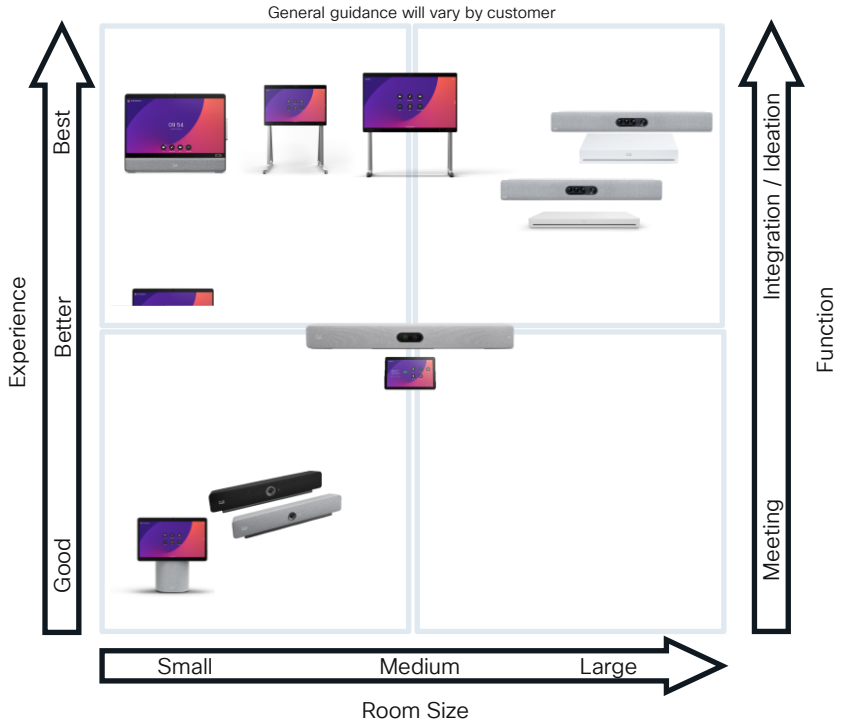
- Size – Room Size & number of users
- Screen – Does the room have existing screens
- Design – integration with room furniture, heating & light, speakers or microphones
- Booking – capability to manage & schedule



Designing Your Rooms

Decision Factors to select room devices:

- Room Function – role and type of the room
- Device Function – meetings, ideation, integrations
- Budget – device type & number devices per office



Simple guide to Rooms

For Your Reference

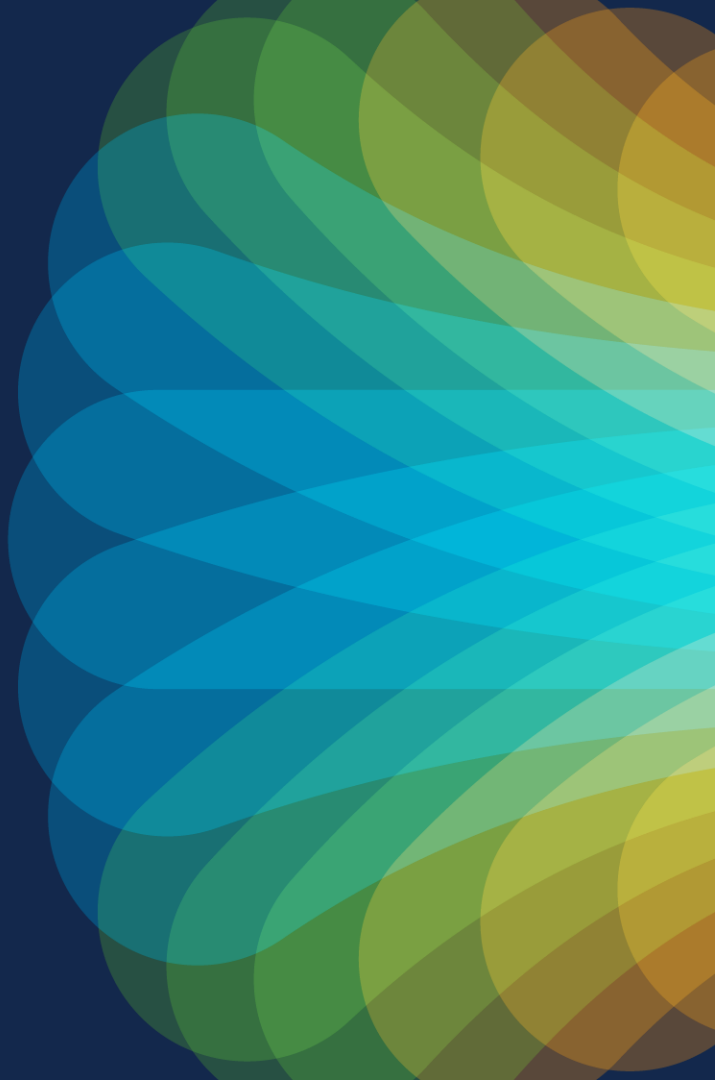





	Room Bar	Room Bar Pro	Room Kit EQ	Room Kit Pro	Board Pro	EQX
Use Case	Small room or huddle space	Medium room	Medium to large room Medium to high complexity	Medium to very high complexity	Small to medium room	Medium to large room
Choose this device for	Meeting room or home office	Meeting room	Meeting room + integration	Meeting room + deep integration	Meeting + whiteboard	Meeting room + integration
Also consider	External microphone + Extra Navigator for booking	External microphone + Extra Navigator for booking	Room design Displays Microphones Speakers Extra cameras Extra Navigator for booking	Room design Displays Microphones Speakers Extra cameras Extra Navigator for booking	Optional Navigator + External microphone + Extra Navigator for booking	Room design Displays Microphones Extra Navigator for booking

Regular or irregular room

Cisco can help



RoomOS or Microsoft Teams Room

Capability differences constantly change

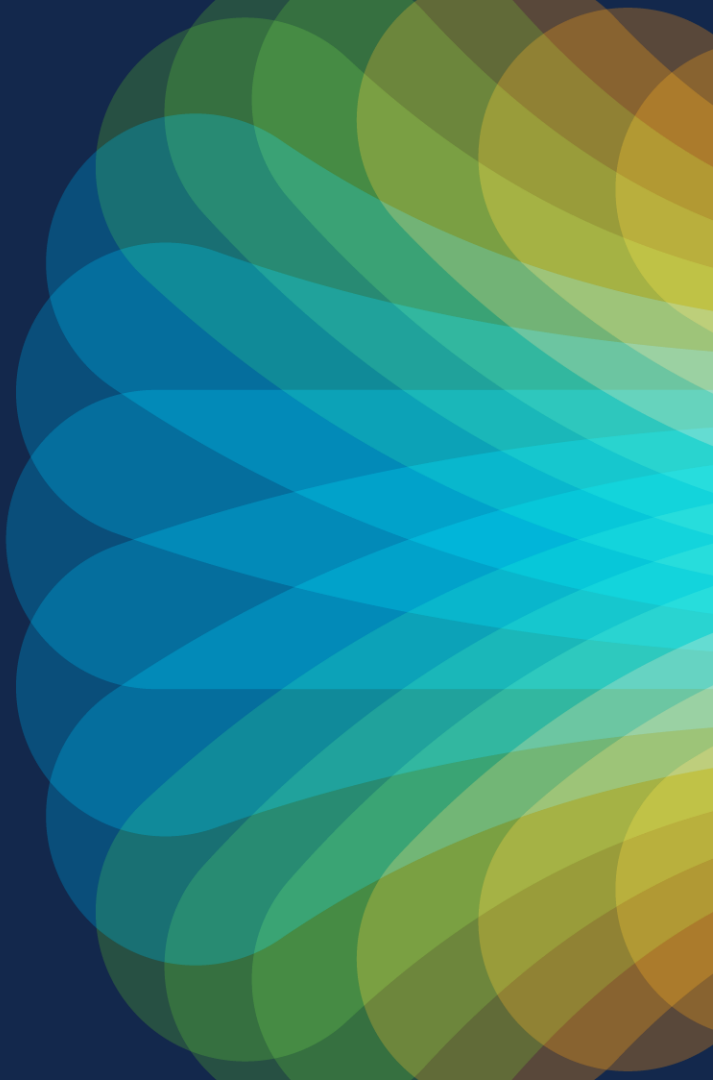
RoomOS: 

- Multiplatform
- Flexible UI customization
- People centric layouts
- Cinematic meetings

MTR: 

- Multiplatform-ish
- Some UI customization
- Content centric layouts

Cinematic Meetings



Cinematic meetings

- Umbrella term
- AI director
  = the brain
- Cameras
  = the eyes
- Microphones
  = the ears

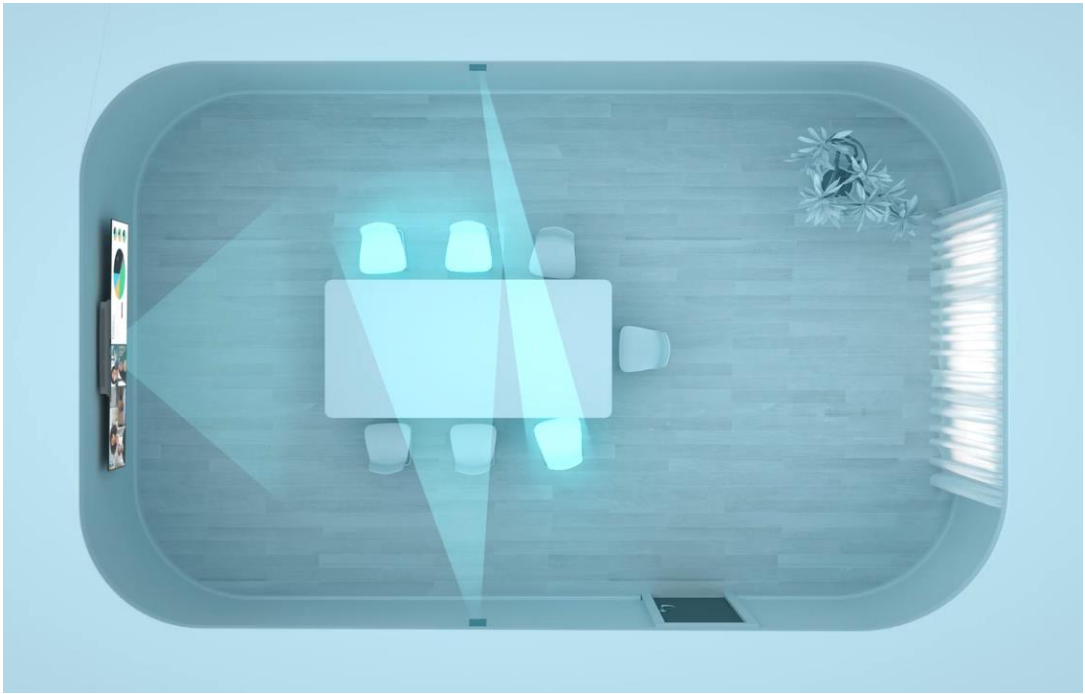
Cross View

Cross-view

- Combines a Quad Camera at the front of the room with two wall mounted PTZ4K
- Camera is selected based on the camera views and audio pickup.
- All intelligence related to camera switching and control is run locally on the codec meaning that Cross-view can work with other meeting platforms than Webex.

Setup

- Cross-view can be installed in different sized meeting rooms, based on the 70° HFOV of the PTZ4K and the width of the meeting room table.
- In-room participants must be positioned within the field of view of the Quad Camera in addition to one of the two side cameras for the feature to work optimally.



Far end experience

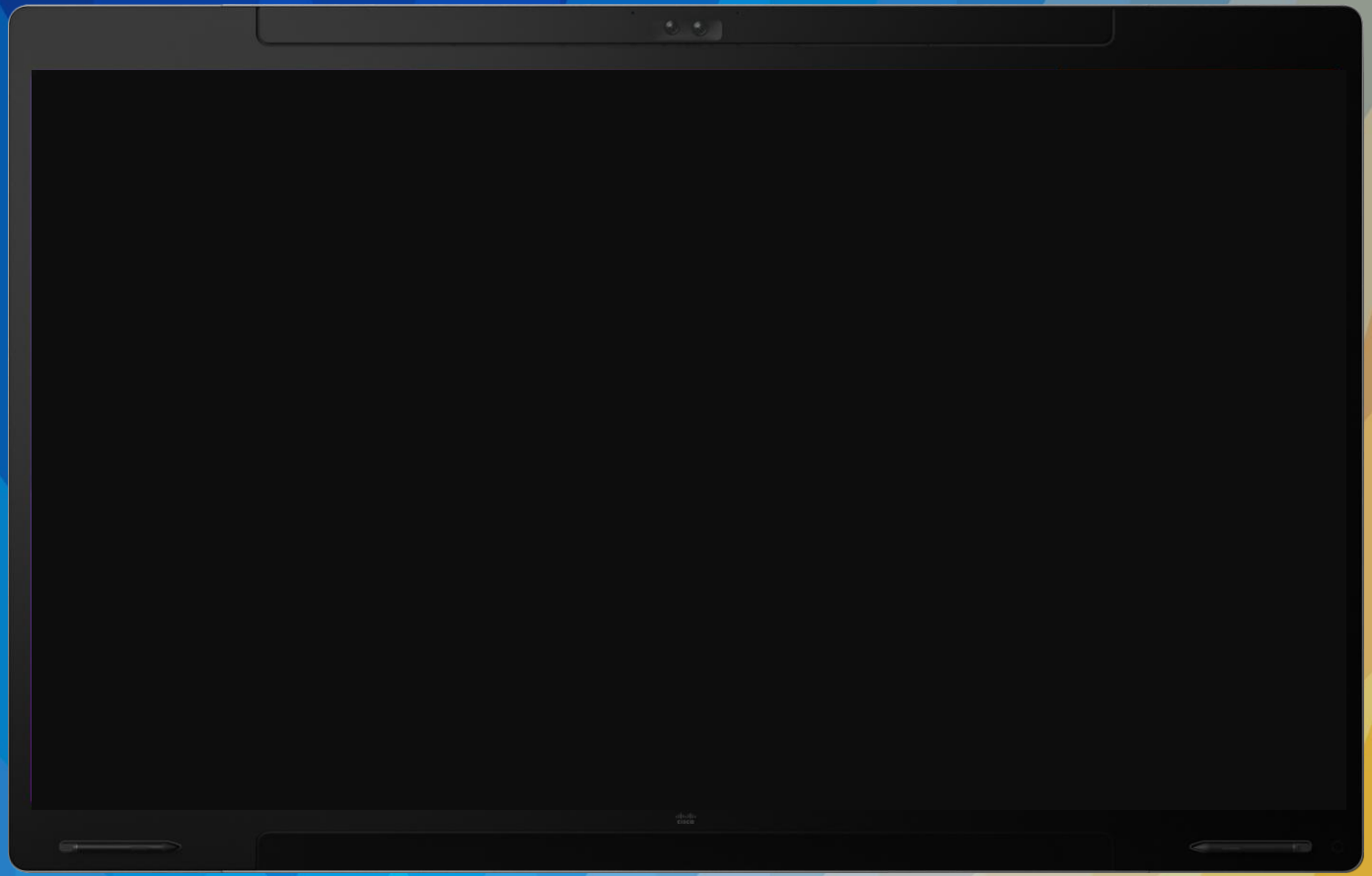
Campfire setup

Campfire setup

Art of the possible with the built-in flexibility of the Cisco collaboration products.

A roundtable setup creates equity among local meeting participants and ensures the remote side can see all in-room participants equally good, head-on.

Far end experience

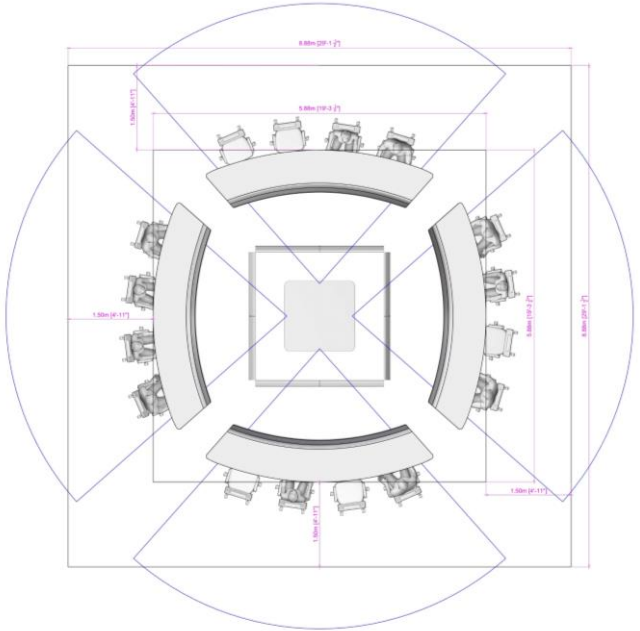


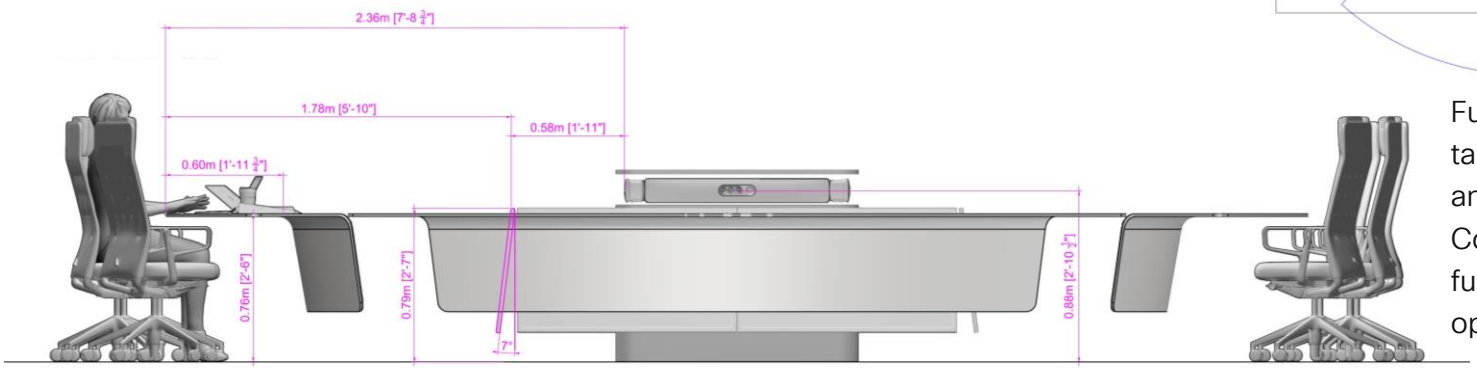
Dimensions

- Room should be minimum 9x9m to allow users to move around the campfire setup.
- Measurements has been carefully considered to provide optimal local and far-end experiences.

Technical drawings

- Segmented table avoid camera blind spots and offers ease of access for maintenance and cleaning
- Table shape is custom, but courtesy panels should be included



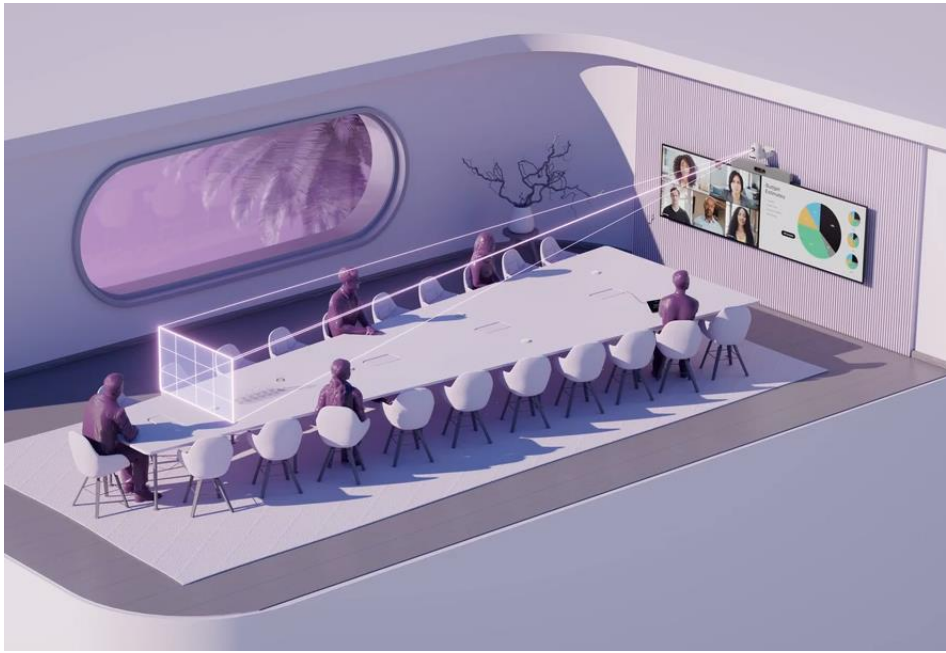


Furniture (center console, tables, chairs) is conceptual and not industrialized. Contact local carpenters and furniture supplier to discuss options.

Extended reach SpeakerTrack

Extended reach speaker tracking

- Covers meeting rooms with long tables using a combination of a Quad Camera and a 4K PTZ camera installed above.
- Automatically switch between the two cameras to capture in-room participants. The 4K PTZ camera is selected to provide a higher quality and tighter crop when capturing people positioned beyond the reach of the Quad Camera.
- Performance of the extended reach speaker tracking depends on room acoustics and light conditions. Current goal is to be able to track participants 15–18m (50–60’) away*.



* To be confirmed. Subject to change.

Irregular rooms

Training room

Briefing room

Class room

Training room

Briefing room

Theater

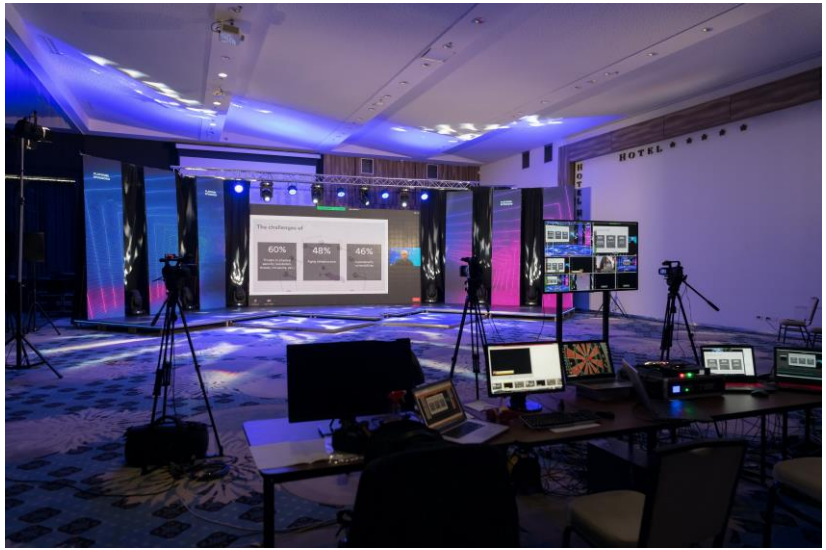
Classroom

Audience

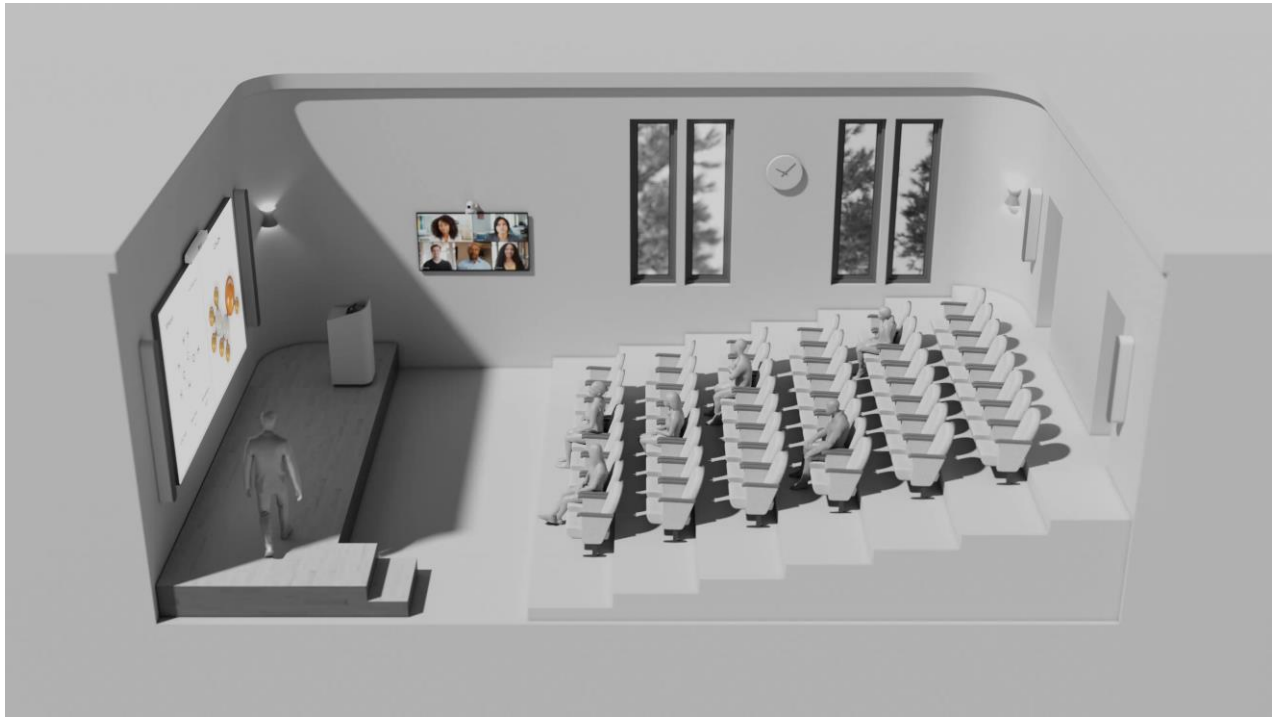
Presenter and Audience

What makes more sense?

It depends on the context



Presenter and Audience

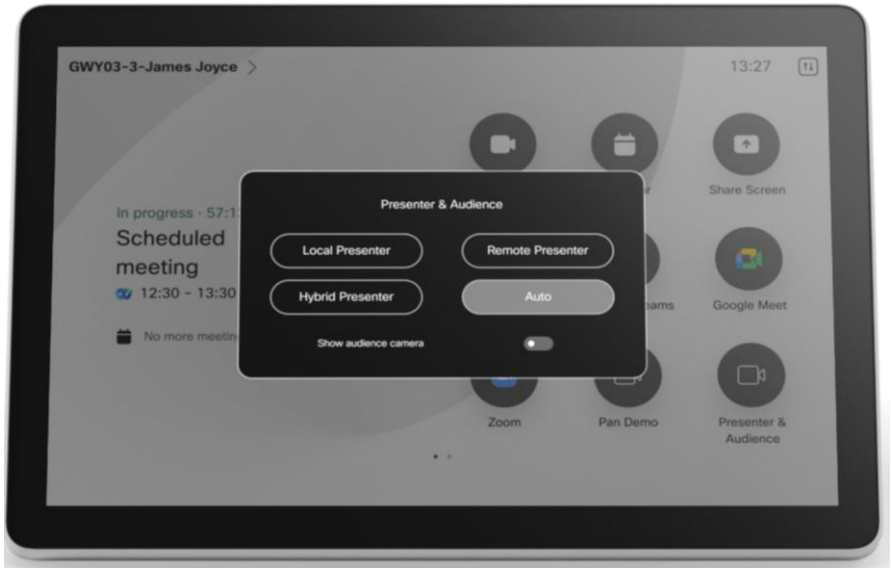


Removing the need of a production team

Automation by default, configuration at core

Your choice:

- Always be in full control of the event and make sure that participants, remote or in-person are able to follow the event
- Or leave it to automation if you don’t want to press any buttons
- Planned also for devices running as Microsoft Teams Room



Local Audio Reinforcement

- Presenters voice sometimes needs a bit of help
- A dedicated presenter microphone is reccommended
- We can do this with EQ or Pro
- However, we add a 25-30ms delay (DSPs: <3ms), so it may be better to use an external system.

Divisible rooms

Divisible rooms

Image source: https://roomready.com/resources/gallery/type/training/

Divisible Rooms

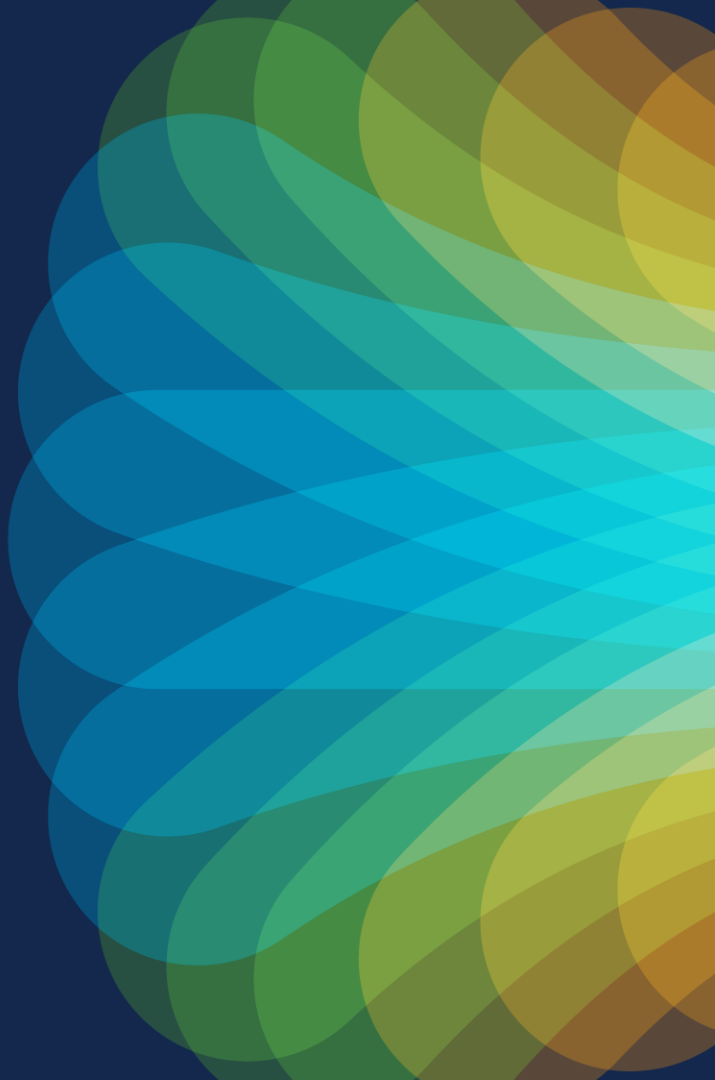
- One device per room
- Open walls and one becomes primary, the other(s) secondary
- Audio and video cross-routed to allow sharing peripherals such as microphones, speakers and cameras.

- Macro and line drawing example available on github*

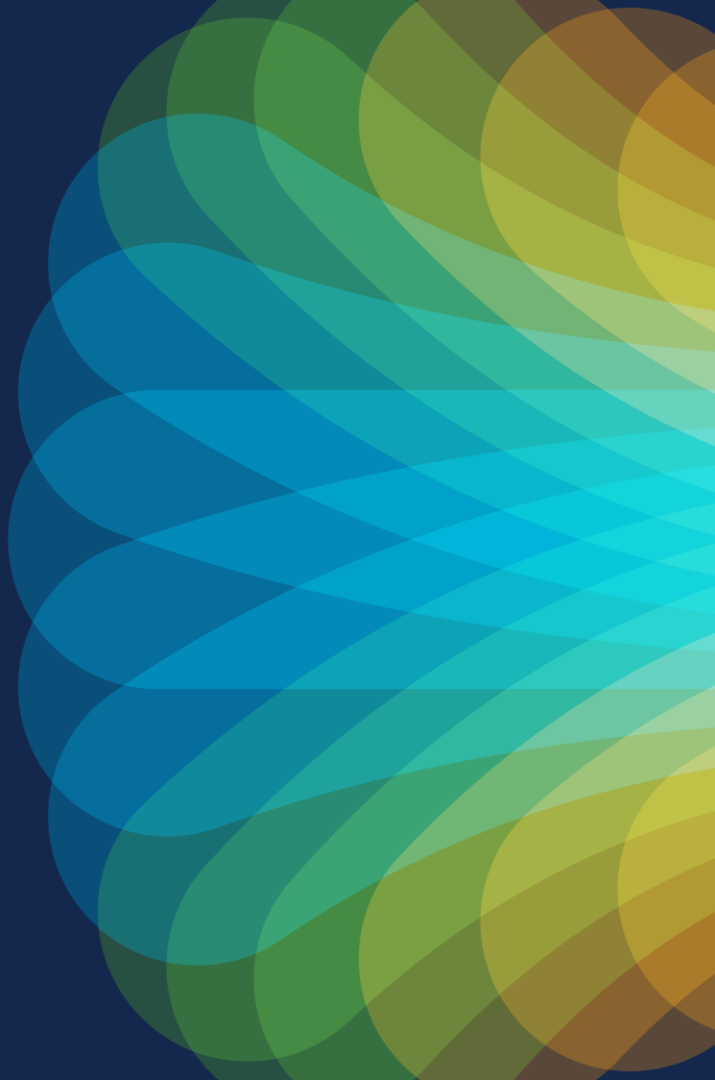
* https://github.com/gve-sw/gve_devnet_n_way_divisible_conference_rooms_webex_devices_macros

Regular or irregular room

Cisco can help



In the planning phase, I want you to involve Cisco early

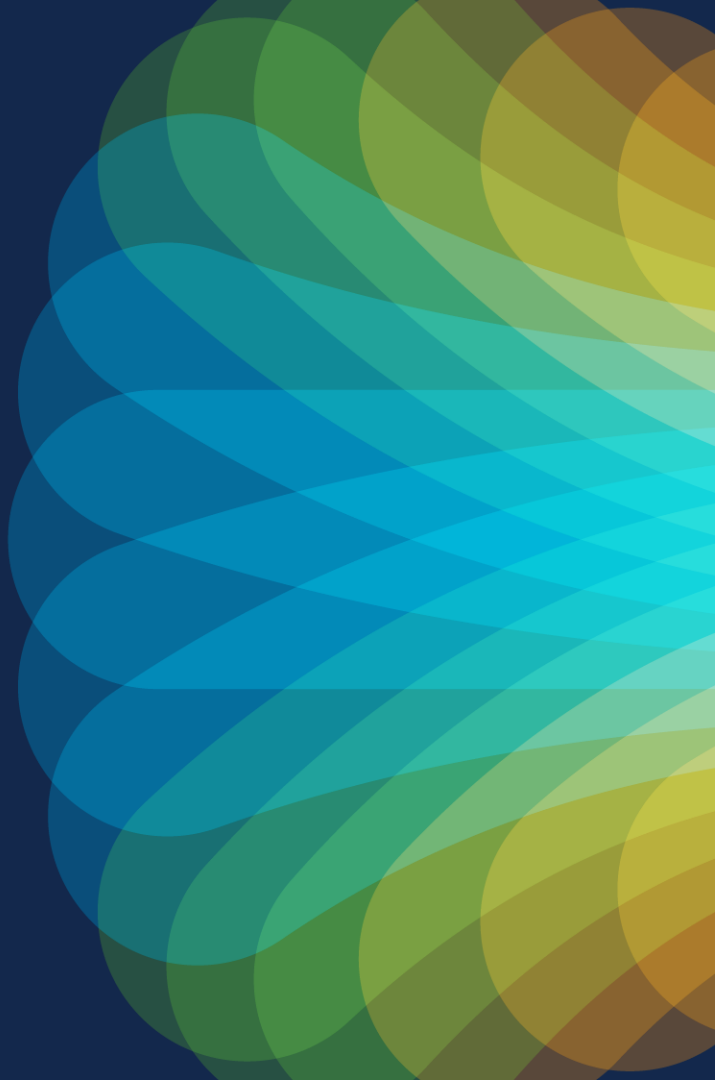


“A clever person solves a problem. A wise person avoids it.”

-Albert Einstein

The bridge to possible

Thank you



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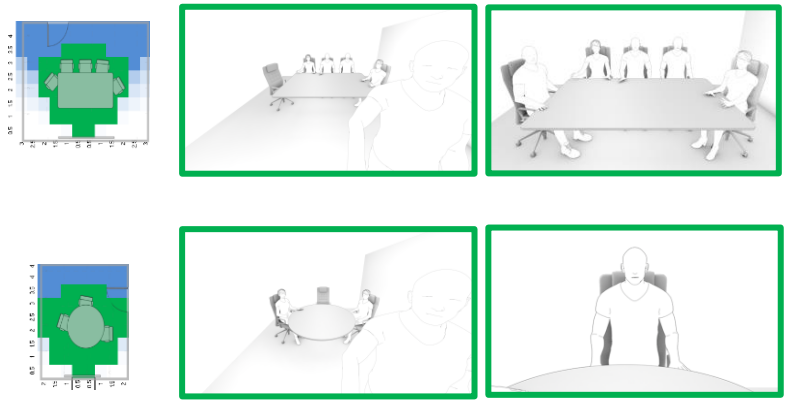
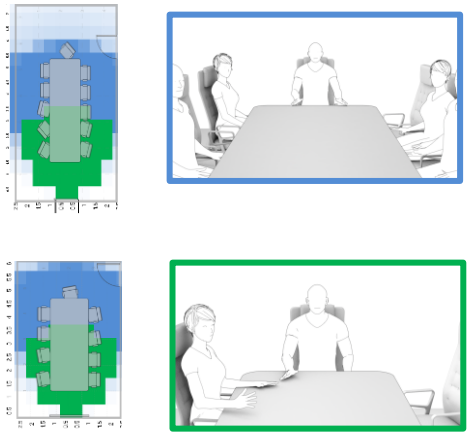
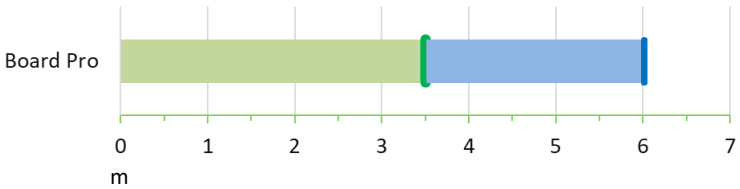
Appendix – Camera views

Board Pro







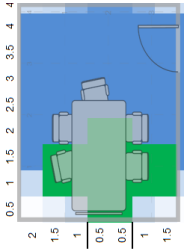
Board Pro	
Last updated version	26-Aug-23

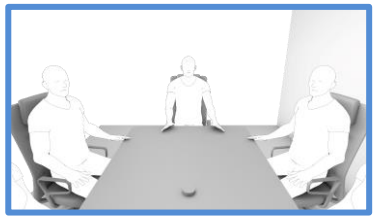
HFOV	HFOV
Wide camera	120 deg
Far camera	85 deg

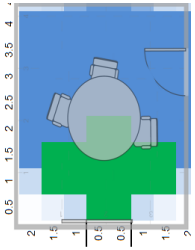
Zoom	
Max Speaker Track Zoom	3.0 X
Max Manual Zoom	5.0 X

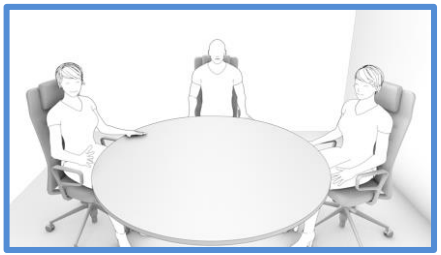
Reach	ft	mts
Width of table at 1 mt	11 ft	**3.5 m**
Single person frame	11 ft	**3.5 m**
Two person frame	20 ft	**6. m**

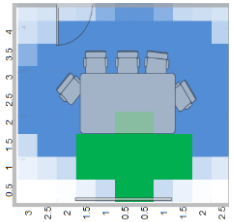
Room Bar

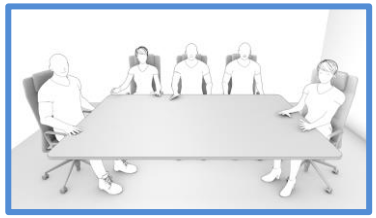


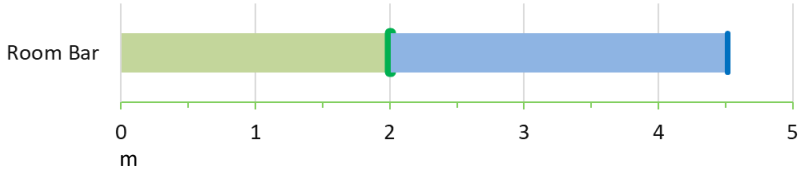












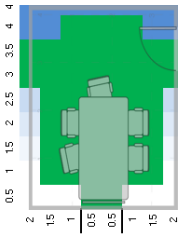
Room Bar	
Last updated version	26-Aug-23

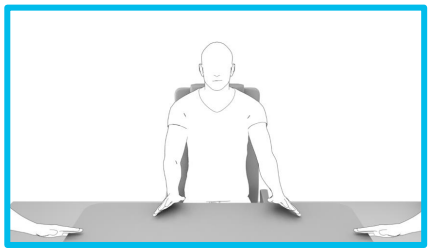
HFOV	HFOV
Wide camera	120 deg

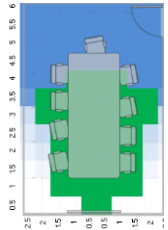
Zoom	
Max Speaker Track Zoom	3.0 X
Max Manual Zoom	5.0 X

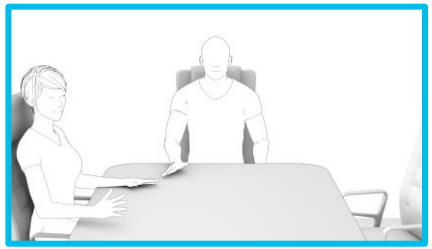
Reach	ft	mts
Width of table at 1 mt	11 ft	**3.5 m**
Single person frame	7 ft	**2. m**
Two person frame	15 ft	**4.5 m**

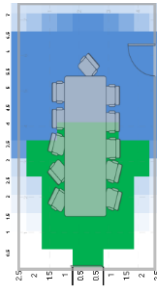
Room Bar Pro

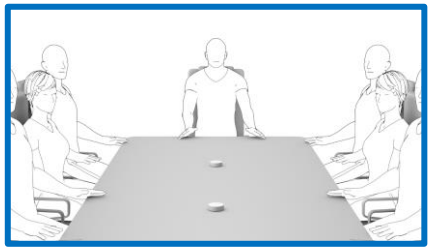


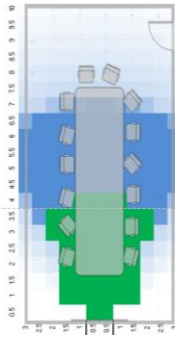


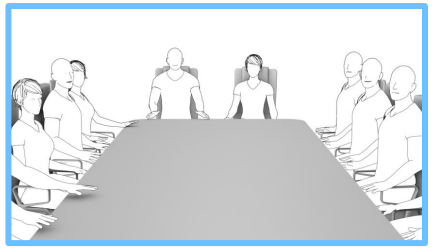


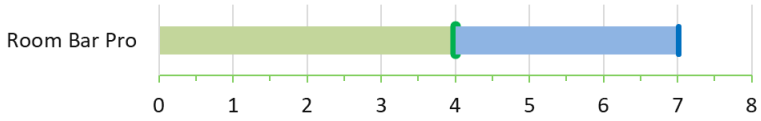












Room Bar Pro	
Last updated version	26-Aug-23

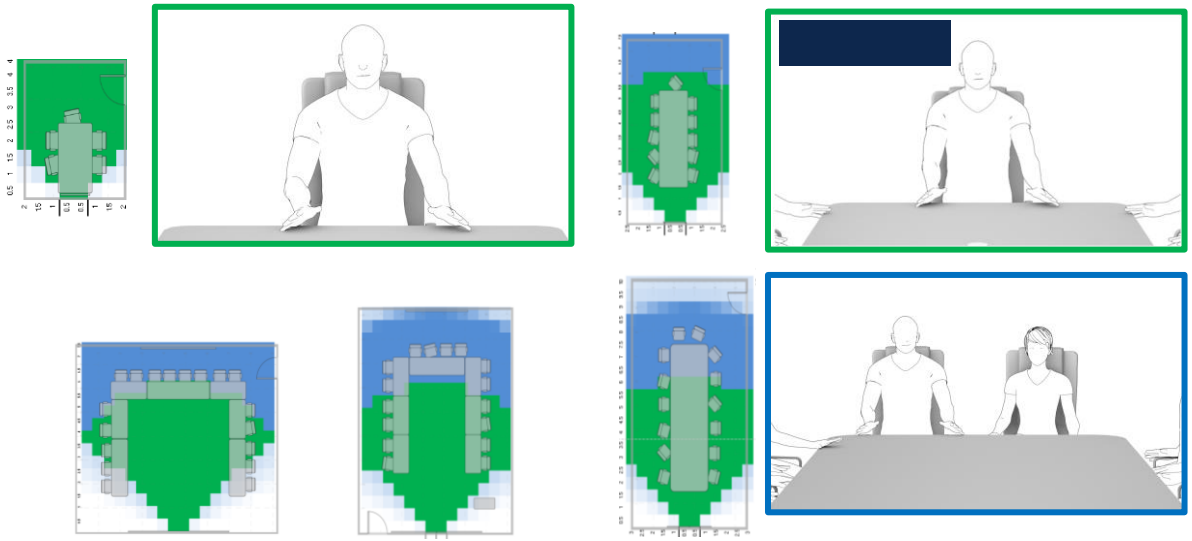
HFOV	HFOV
Wide camera	112 deg
Far camera	70 deg

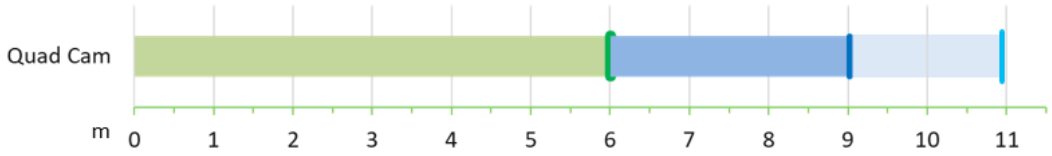
Zoom	
Max Speaker Track Zoom	2.3 X
Max Manual Zoom	5.0 X

Reach	ft	mts
Width of table at 1 mt	10 ft	**3. m**
Single person frame	13 ft	**4. m**
Two person frame	23 ft	**7. m**

Quadcam

(Room Kit Plus, Pro, EQ)





Quad Cam	
Last updated version	26-Aug-23

HFOV	HFOV
Wide camera	83 deg
Far camera	94 deg

Zoom	
Max Speaker Track Zoom	2.7 X
Max Manual Zoom	2.7 X

Reach	ft	mts
Width of table at 1 mt	6 ft	**1.8 m**
Single person frame	20 ft	**6. m**
Two person frame	30 ft	**9. m**
Extended Zoom Range	38 ft	**11.5 m**

NOTES:

Quadcam has 3 overlapping telelenses, each with 50 degree HFOV composing 100 degrees total HFOV

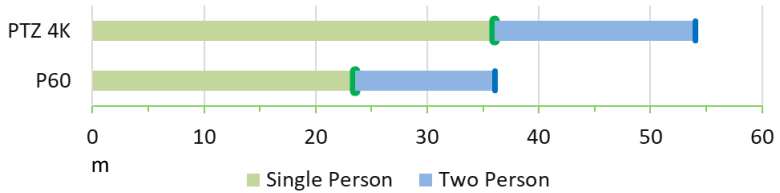
Enable extended Zoom Range:

:xConfiguration Cameras SpeakerTrack ZoomRange: Extended/Standard

PTZ 4k and P60

PTZ 4K	
Last updated version	12-Jul-23
Max Zoom Far Camera	
1080p zoom	24.0 X
720p zoom*	36.0 X
Max Manual Zoom	240.0 X
Width of table at 1 mt	1.4 m / 5 ft
Single person frame	36. m / 118 ft
Two person frame	54. m / 177 ft

P60	
Last updated version	12-Jul-23
Max Zoom Far Camera	
1080p zoom	20.0 X
Max Manual Zoom	20.0 X
Width of table at 1 mt	1.8 m / 6 ft
Single person frame	23.5 m / 77 ft
Two person frame	36. m / 118 ft

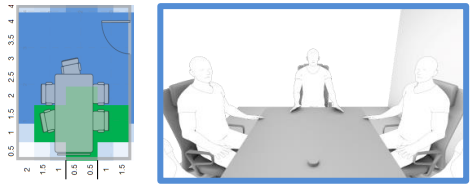


	PTZ4K	P60
Max Optical Zoom	12 X	10 X
Max Digital Zoom	20 X	2 X
Max Total Zoom	240 X	20 X

- Cisco PTZ4K and P60 do not have built-in speaker track functionality
- Extended reach together with a Quad Camera will enable speaker track functionality on PTZ4K
- Distances displayed on this table assume a quality of 1080p or superior at reasonable distances. Longer distances are reachable with high dependency on illumination conditions
- Presenter track can be enabled with a Codec Plus, Pro, EQ or Board Pro

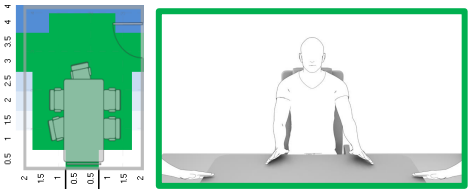
Speaker track Huddle-Small rooms

Room Bar



Board Pro

Room Bar Pro

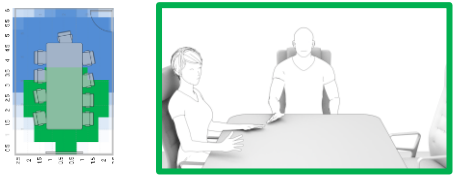


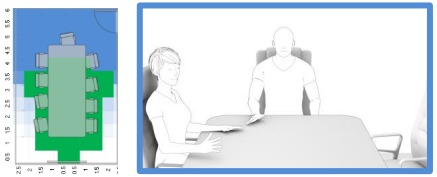
Speaker track Medium-Large rooms

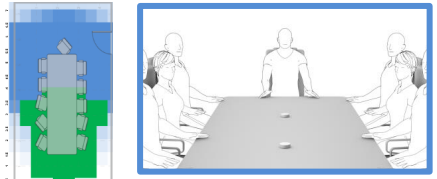
Board Pro

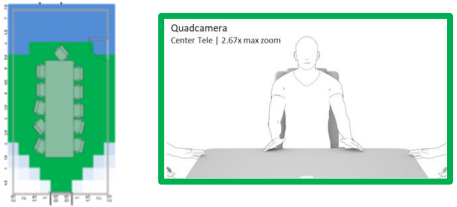
Room Bar Pro

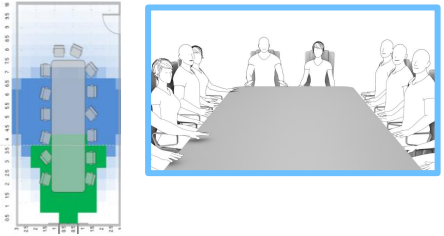
Quadcam

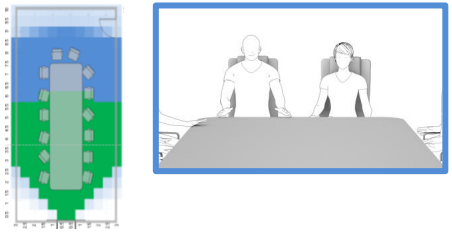










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