

Multi-Camera IntelliFocus

Introduction

Yealink AVHub supports the dynamic tracking of multiple speakers. A simple setup allows tracking up to 54 participants across 2-9 cameras without requiring additional microphones. The multi-speaker layout supports the display of up to 4 high-definition portraits simultaneously. Enabling Multi-Camera IntelliFocus will trigger a restart of AVHub.

Supported Devices

For details on supported devices and version requirements, please see [Teams Room Supported Features List](#).

How to Use

To control camera settings, do either of the following:

- Use Yealink MTouch Touch Panel paired to your MVC system.
- Log in to the Yealink Device Management Platform (YDMP). This article explains how to control cameras using the Yealink MTouch Touch Panel. For instructions on controlling cameras through YDMP, refer to the [Remote Control](#) article for more details.

Before You Begin

Device Combination

Below is the deployment topology for the **Multi-Camera IntelliFocus** function:



NOTE

- When running **Multi-Camera IntelliFocus**, the peak power consumption of UVC86 will reach 33W, so AVHub cannot supply power to more than two UVC86 simultaneously. We recommend using an RCH40 or a gigabit PoE+ switch for power supply and data transmission for UVC86.
- If you use RCH40, each RCH40 can supply power to three UVC86.
- You can also connect a DC power supply to each UVC86, allowing a standard switch or direct connection of the UVC86 to AVHub.

Deployment Recommendations

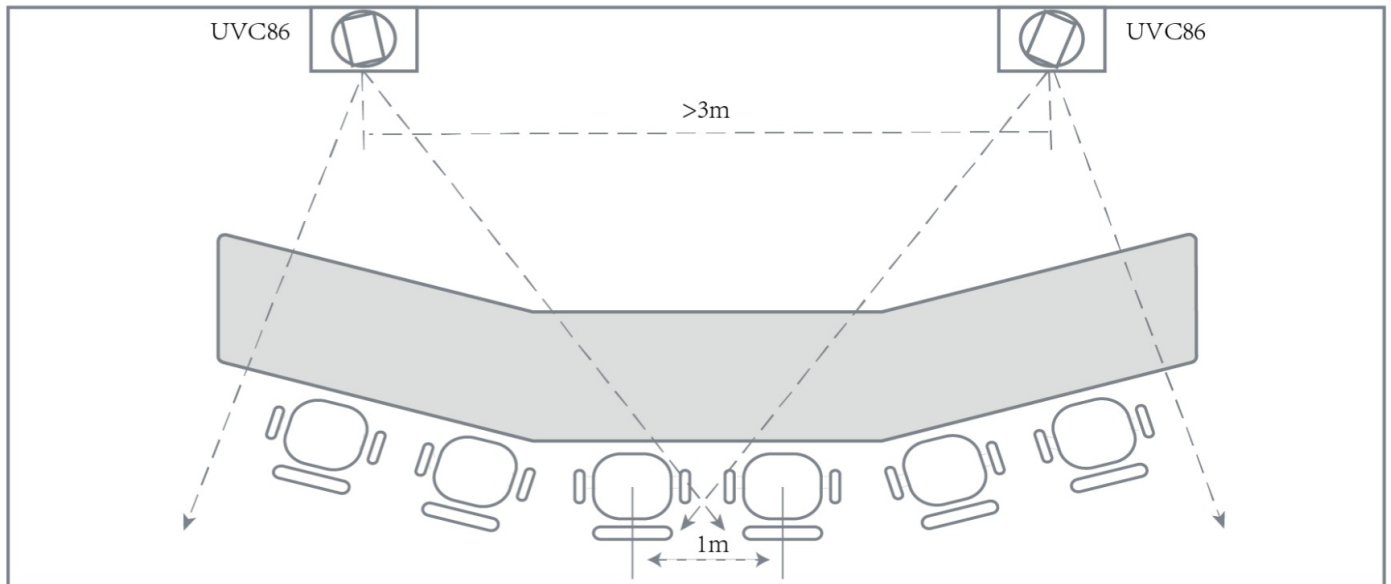
Multi-Camera IntelliFocus offers two conference room modes to choose from based on the actual layout of the room.

To ensure an optimal meeting experience, please select the appropriate mode according to the conference room layout. Incorrect selection of the layout type may affect functionality. If you are unsure which layout type to choose, you may contact Yealink technical support or select **Layout Type 2**.

Layout Type 1

NOTE
Layout Type 1 requires at least two UVC86 cameras.

Layout Type 1 is suitable for horizontal conference rooms with the following room configuration:

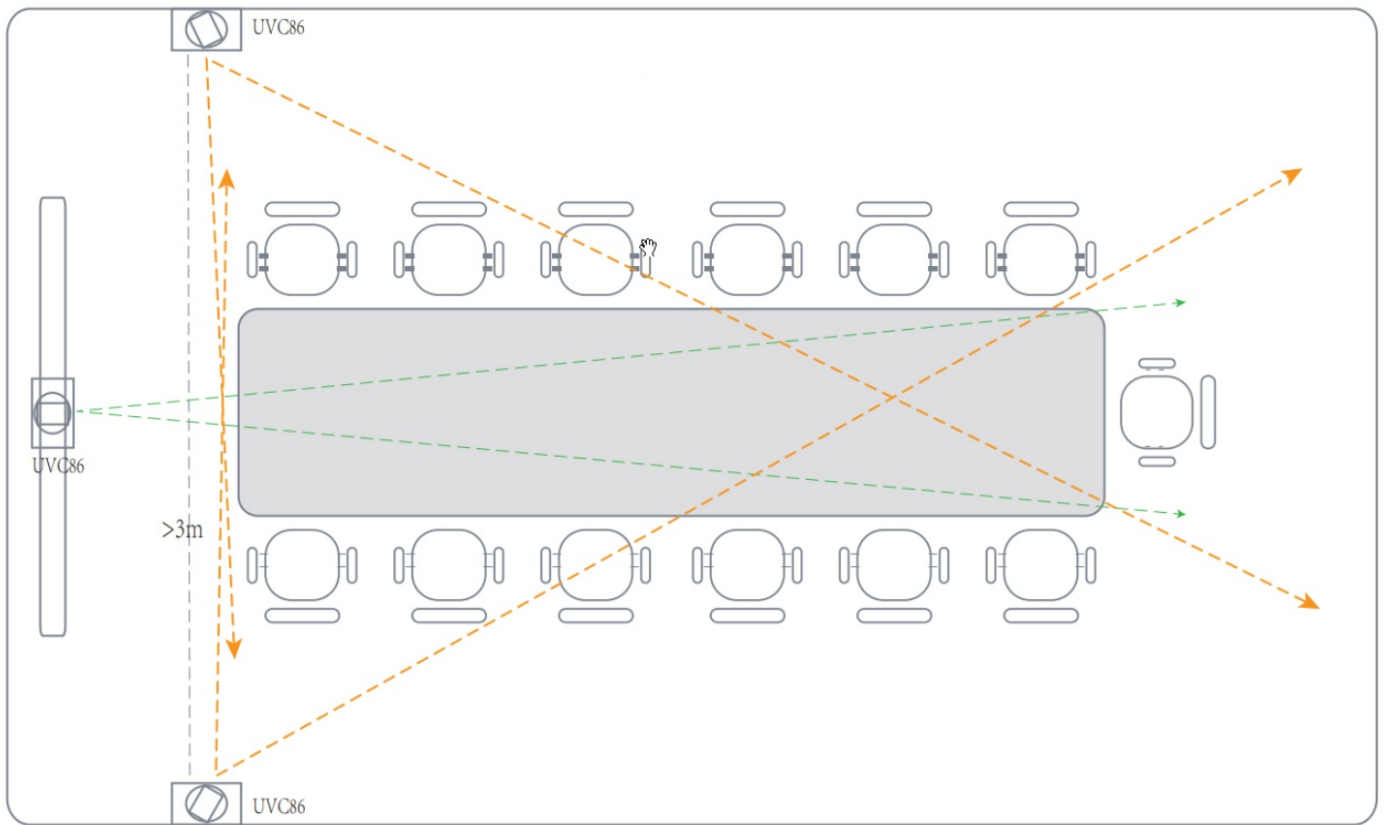
**Deployment Recommendations:**

1. Deploying devices between 1m and 2.5m is recommended for horizontal rooms.
2. The distance between devices should be more than 3m.
3. Select device deployment height based on participant positioning, avoiding a ratio of the participant-to-device distance to a device-to-floor height that exceeds 4:3. For example, if the participant is 2m away, the device height should not exceed 1.5m to prevent tracking limitations caused by low camera angles.
4. Seats in the room should be spaced at least 0.5m apart (1m is optimal). Close seating may cause tracking audio drift or overlap of speaker portrait frames.

Layout Type 2**NOTE**

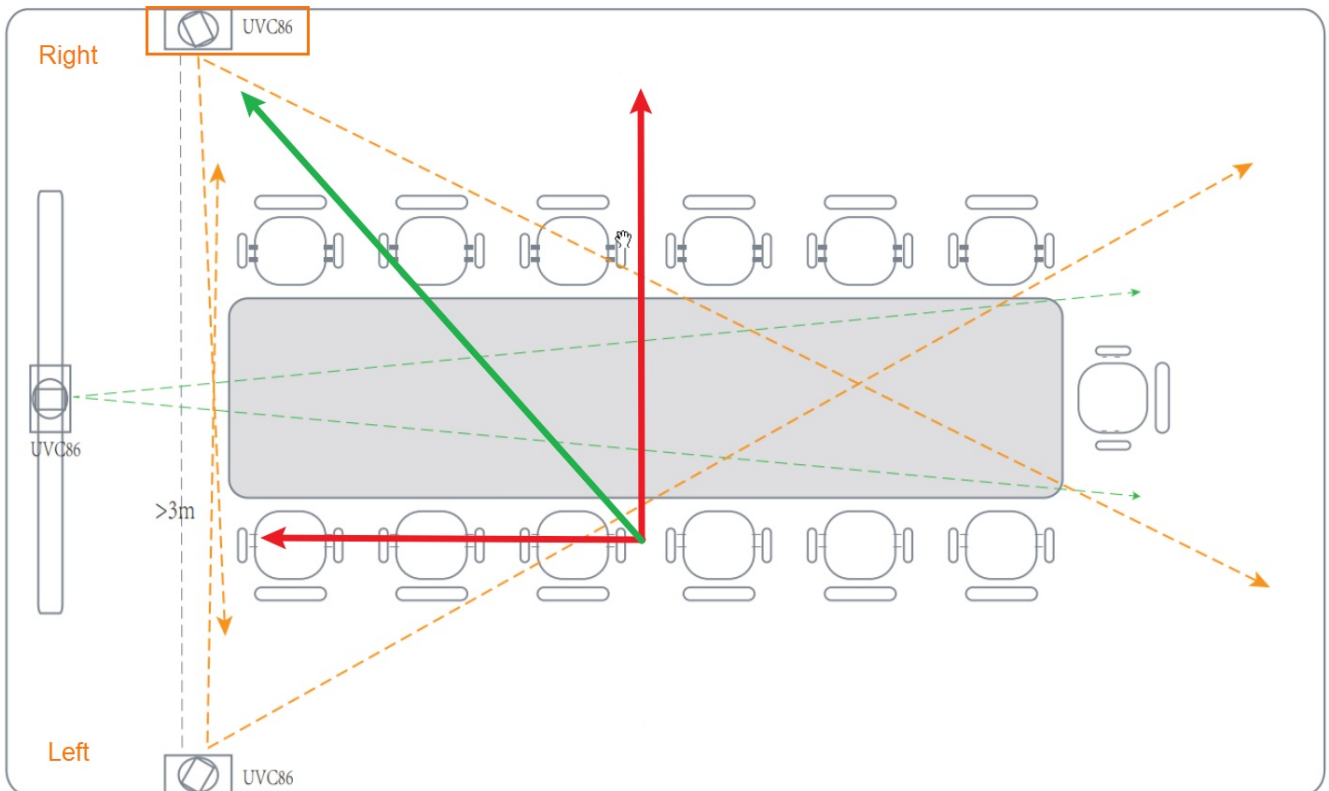
Layout Type 2 requires at least three UVC 86, which we recommend positioning at the left, center, and right, as shown above. If there are more than six seats on one side, increase the number of deployed cameras.

Layout Type 2 is suitable for vertical rooms or various other types of medium- to large-sized conference rooms, with the following room configuration:

**Deployment Recommendations:**

1. UVC86 cameras should not be deployed in room corners like wall intersections.
2. The recommended camera deployment height is 2m or above.

3. Side cameras should ideally be positioned at a 45° angle facing the midpoint of their coverage area, exceeding the position of the first participant to obtain a better portrait angle (the green arrow in the figure shows the recommended position for the right camera). Adjust camera positioning by $\pm 15^\circ$ as needed.



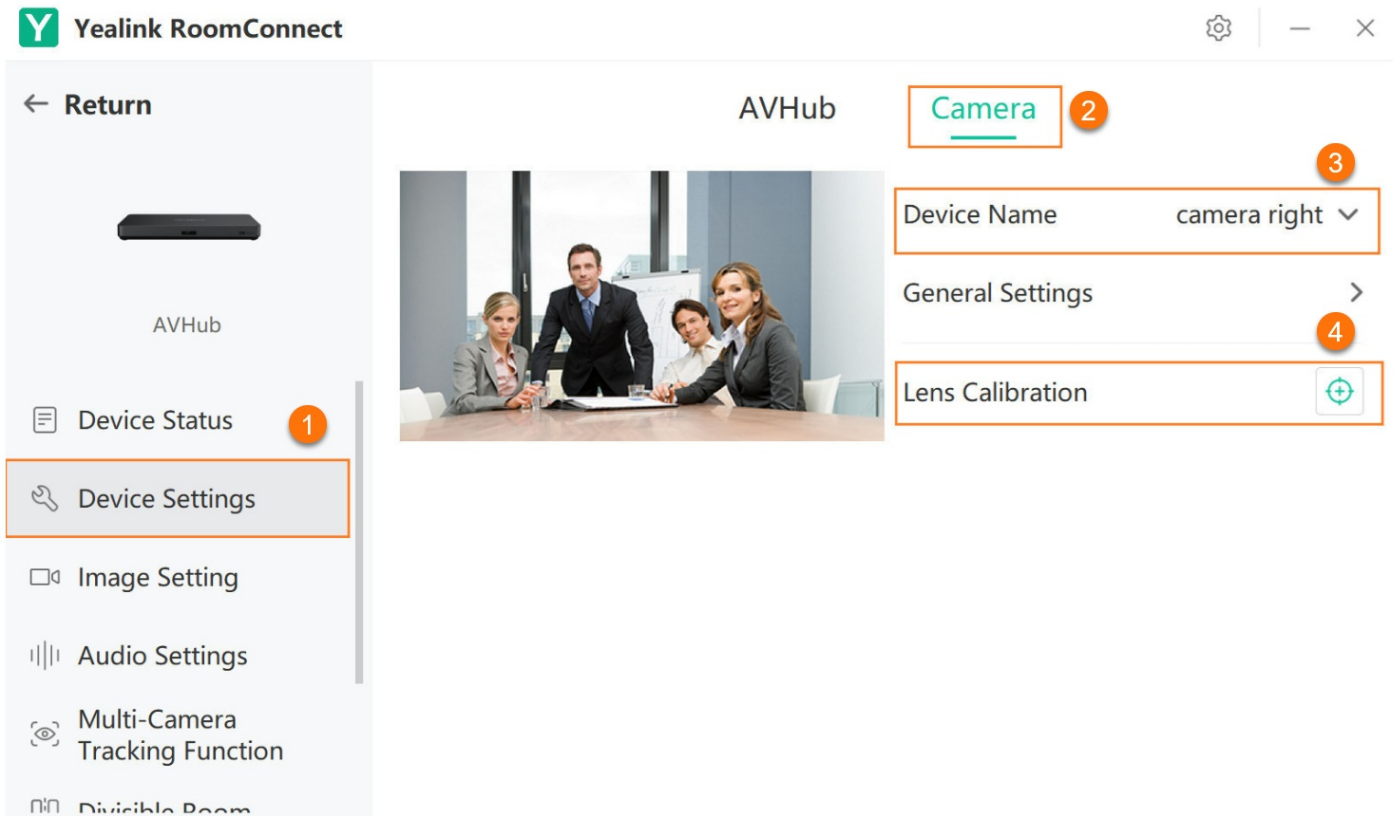
4. Avoid deploying cameras near continuous noise sources such as air conditioner outlets to prevent interference with sound source recognition.
5. Each camera can cover a maximum of six participants. Exceeding this will cause random participants within the coverage area not to be framed.
6. Multiple cameras cannot cover the same participant to avoid multiple screens appearing when speaking.

1. Lens Calibration

NOTE

- Before configuring **Multi-Camera IntelliFocus**, ensure all cameras have been calibrated. Follow the steps below to complete calibration if any camera remains uncalibrated.
- During lens calibration, ensure no obstructions are within 3 meters of the lens. If calibration fails, try recalibrating.

1. Open the Yealink RoomConnect application and select **AVHub**.
2. Select **Device Settings > Camera**.
3. Choose the uncalibrated camera, then click **Lens Calibration**.
4. Repeat step three until all lenses are calibrated.



2. Upside Down Camera

For the camera's Upside Down mode, please refer to [Basic Settings](#).

3. Feature Configuration

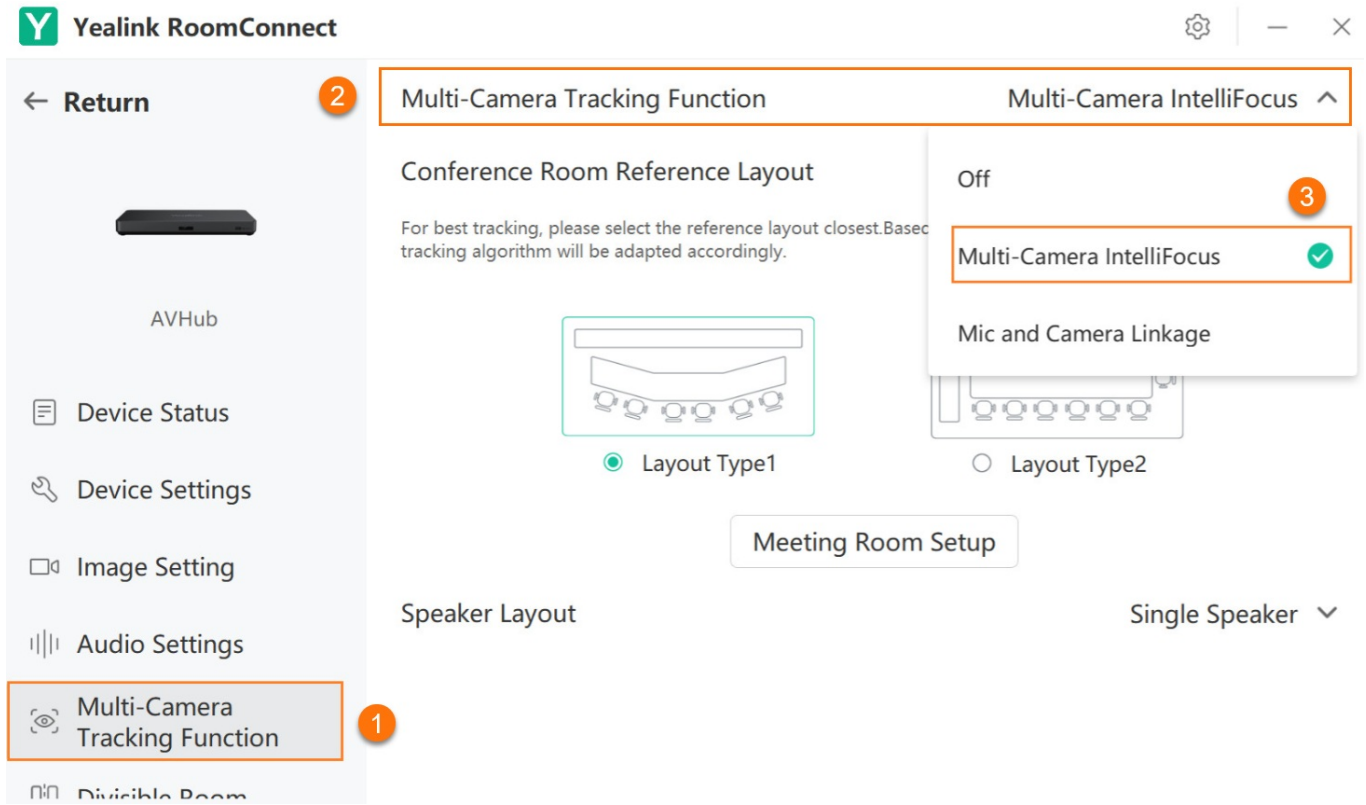
Before configuring **Multi-Camera IntelliFocus**, ensure the following steps are complete:

- Calibrate the lens for each connected camera.
- Configure conference room information (not required for Layout Type 1).

1. Enable Multi-Camera IntelliFocus

1. Open the Yealink RoomConnect application and select **AVHub**.
2. Click **Multi-Camera Tracking Function** and enable **Multi-Camera IntelliFocus**.

3. AVHub will restart, disconnect, and reconnect to the PC.



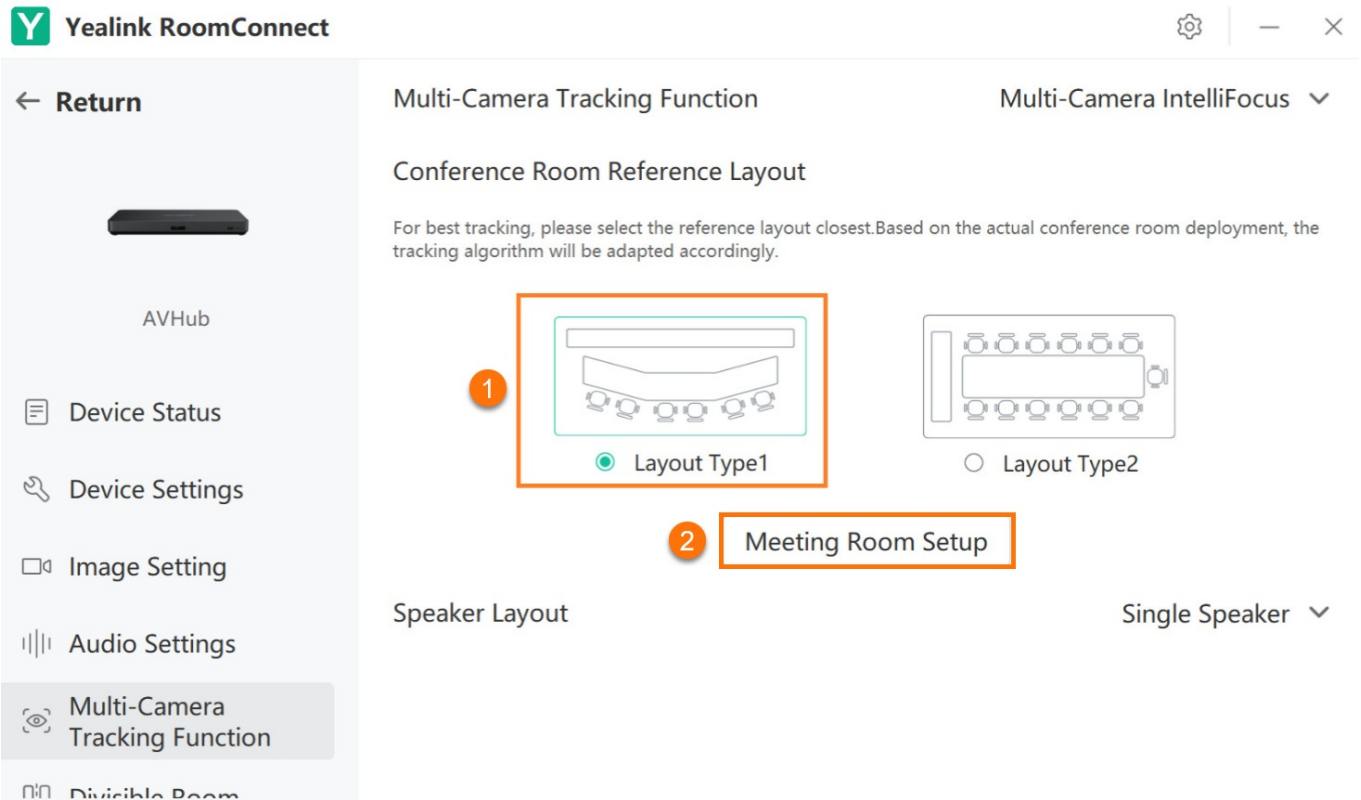
2. Configure Multi-Camera IntelliFocus

Select the conference room layout based on actual conditions:

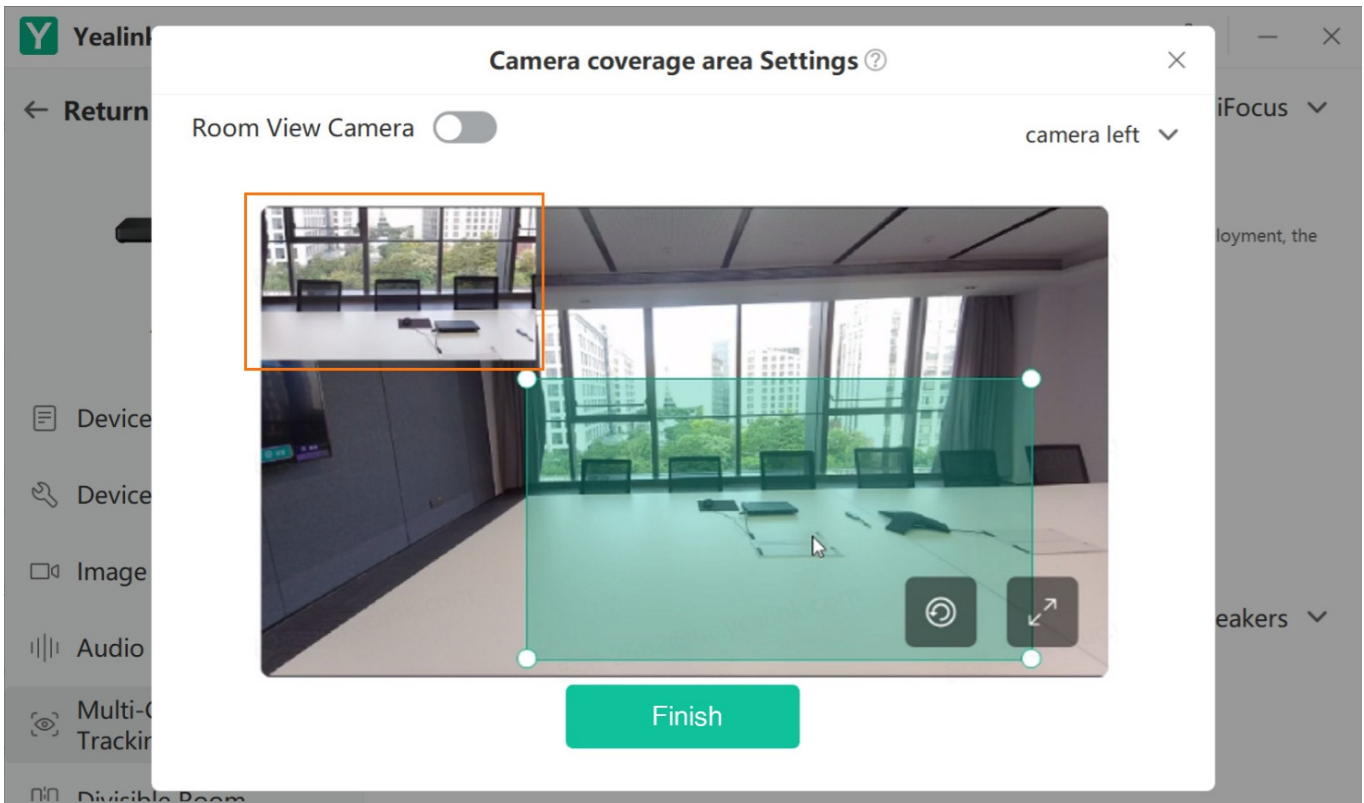
- Layout Type 1: For conference rooms with seating similar to telepresence or Signature setups.
- Layout Type 2: For other types of conference rooms beyond the telepresence or Signature setup.

Layout Type 1 (Suitable for Horizontal Rooms)

1. Select **Layout Type 1** and click **Meeting Room Setup**.



2. Adjust the camera coverage area by dragging the 16:9 green frame and adjusting the white points. Check the upper left preview each time you change to confirm coverage meets requirements.



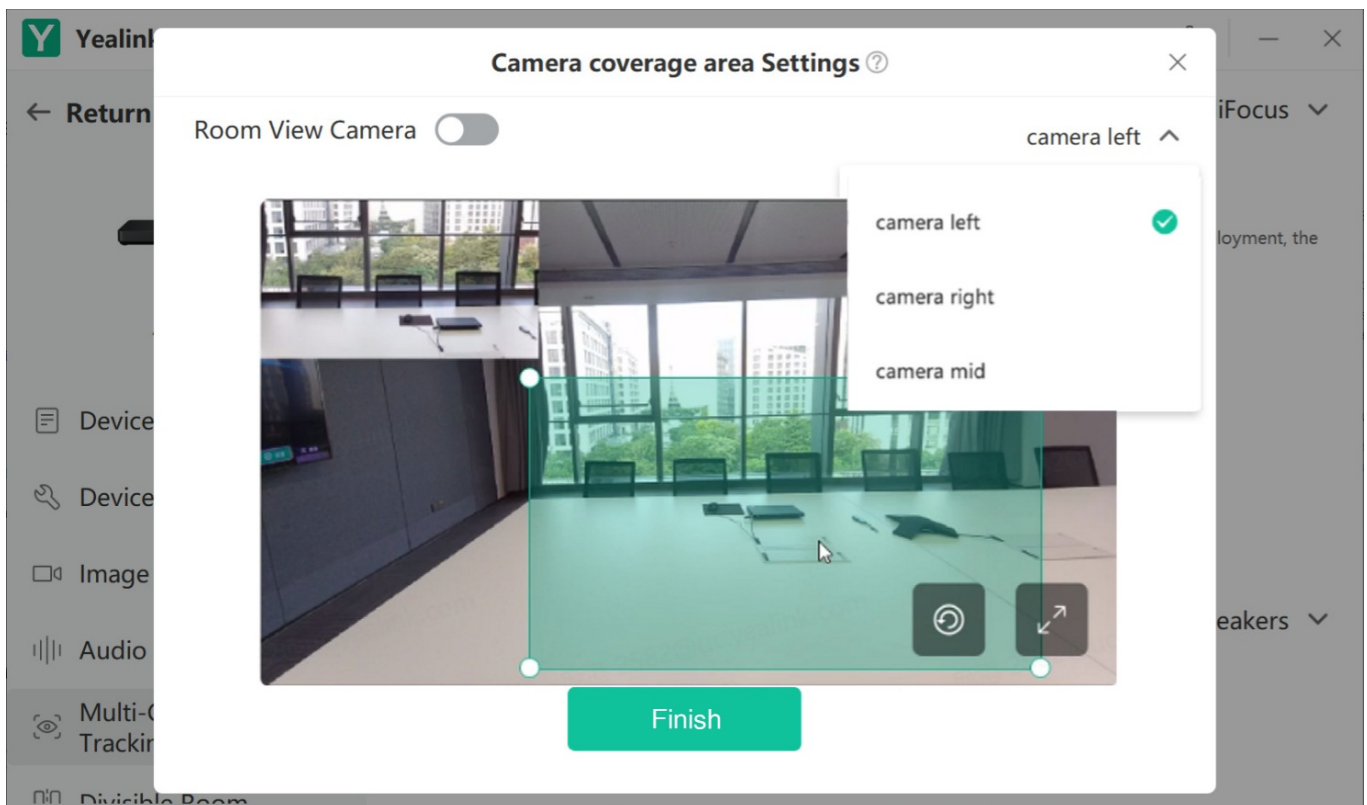
NOTE

The green frame on the panoramic lens image selects the needed coverage area. The optical lens will adjust to capture the designated area, though this may not precisely match due to angle changes. Refer to the **upper left** view for actual camera coverage.

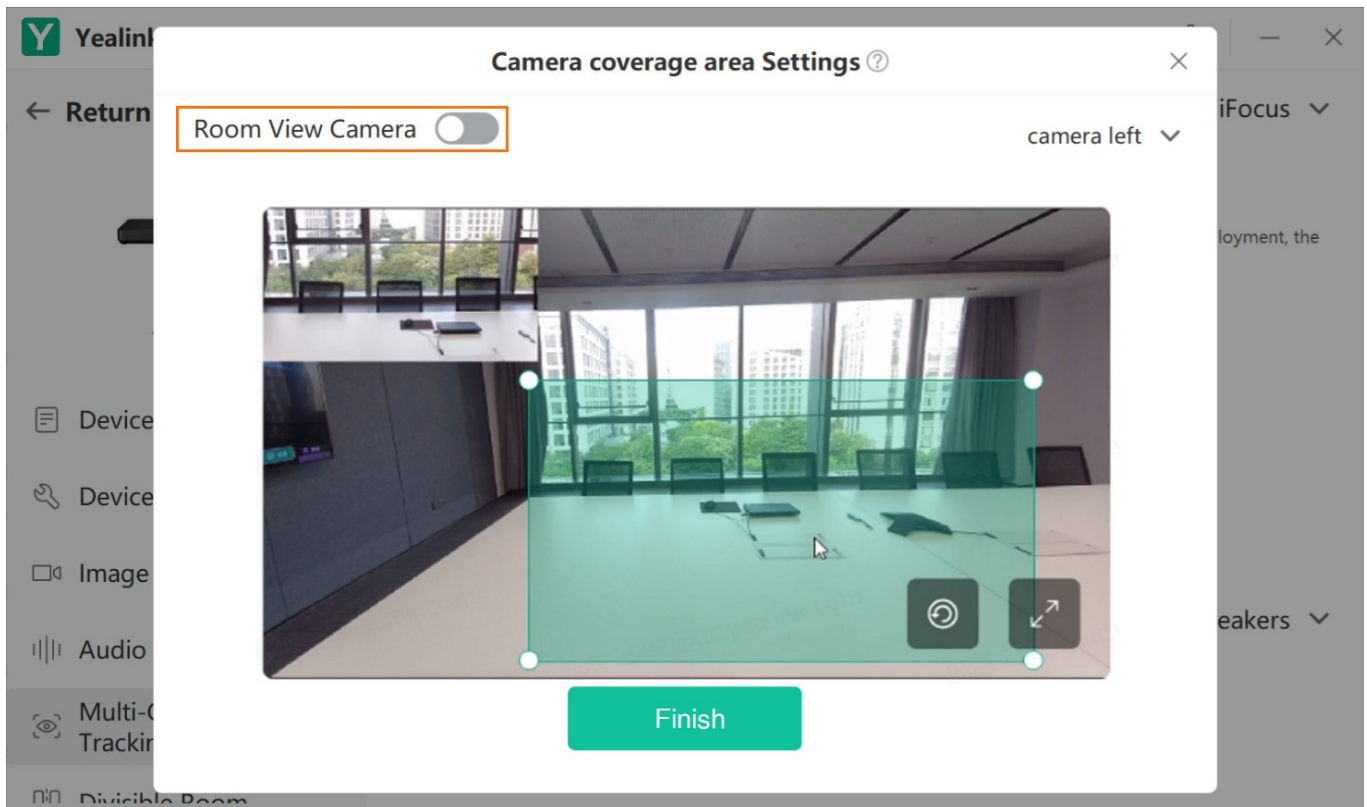
When setting the camera coverage area, remember:

- Avoid setting the coverage area too close to participants' shoulders on the edges. (See the third point in the notes at the end of this document for details.)
- Leave ample space above participants' heads.
- Avoid overlapping coverage of the same participant seat by multiple cameras.

3. After setting the current camera's coverage area, switch cameras via the dropdown in the upper right to place all coverage areas.



- The camera designated as **Room View Camera** will display the room's panoramic view; only one camera can be set for this.

**NOTE**

- We recommend setting the center camera as the Room View Camera.
- Turn off the **Room View Camera** if a panoramic room view is unnecessary.

Layout Type 2

Layout Type 2 is suitable for standard vertical rooms or various types of complex rooms. Configuring **Multi-Camera IntelliFocus** for this layout requires accurate room and camera positioning measurements. Before configuring Layout Type 2, measure the room dimensions (length, width, and height) and the camera locations. We recommend using the front left corner of the room as the origin point.

After deploying cameras per recommendations, follow these steps to configure **Multi-Camera IntelliFocus**:

1. Measure the room's length and width from the front left corner as the origin, ensuring measurement precision in cm/inch.

2. Measure and record the **position of each camera** with precision in cm/inch.

The camera height is the distance from the floor to the lens center. When facing the TV, consider the length as the front-left corner to the back-left corner and width as the front-left to the front-right corner, with height as the floor-to-camera distance.

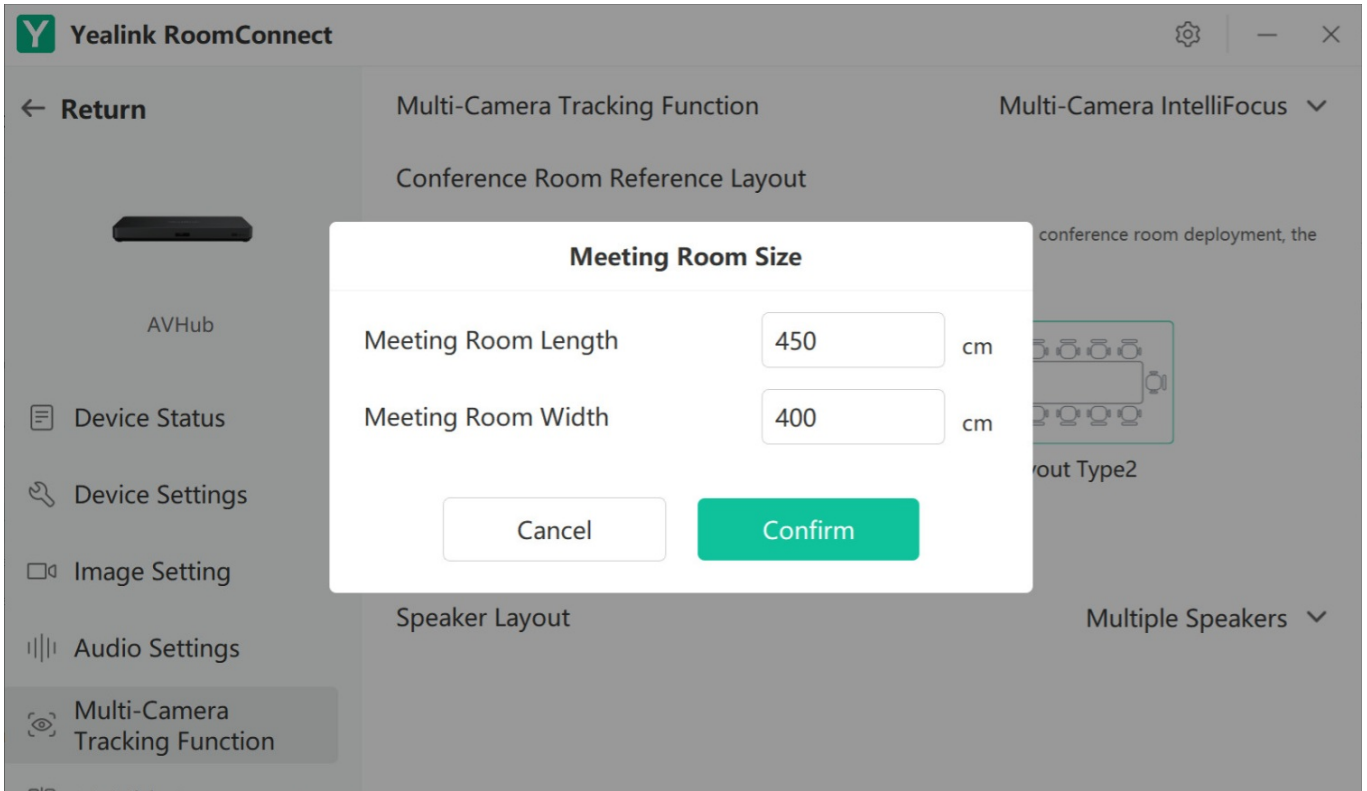


NOTE

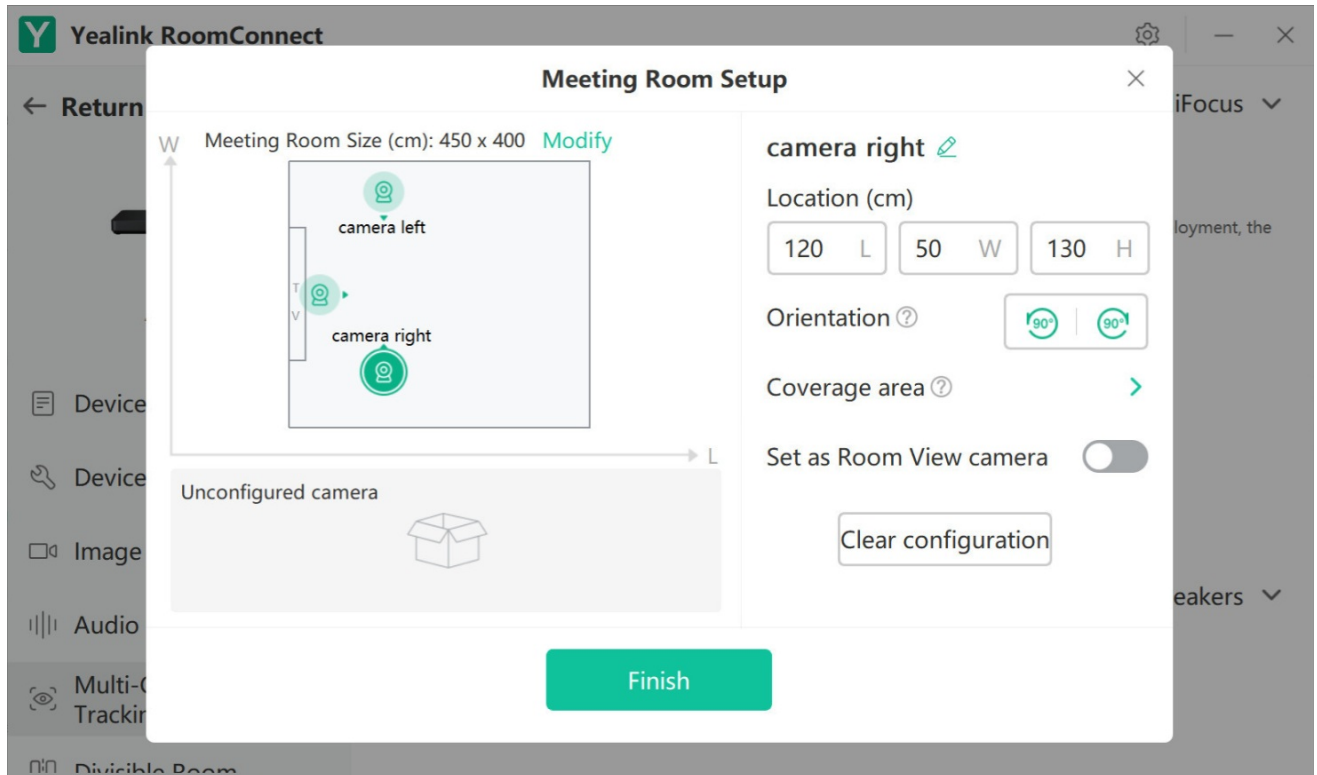
The unit of length (cm/inch) can be changed in the **Yealink RoomConnect** settings in the upper right corner.

3. Open **Yealink RoomConnect**, go to the **AVHub tab**, enable **Multi-Camera IntelliFocus**, and select **Layout Type 2**.

- 4. Upon initial entry to Layout Type 2, **Yealink RoomConnect** will prompt you to enter the measured length and width of the room.



5. In the **Meeting Room Setup** interface, adjust the camera according to the actual layout of the room.
- Select a camera from the **Unconfigured camera**, then enter the position and orientation of the camera on the right side. Repeat this process until no unconfigured cameras are left in the **Unconfigured camera**.
 - Optionally, enable **Set as Room View camera** to designate a camera as the **Room View Camera**, displaying a panoramic view of the meeting room. Only one camera can be set as the room view camera.

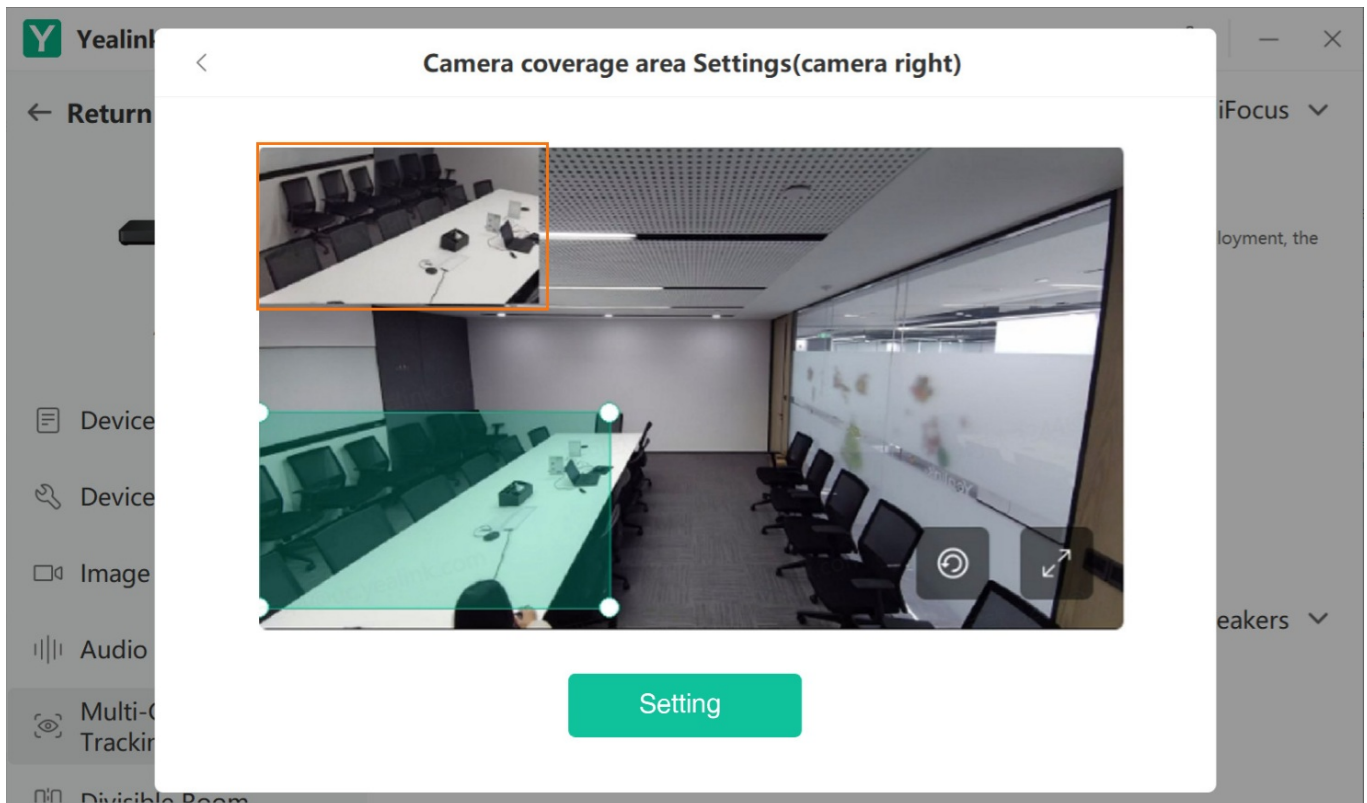


NOTE

- Setting the centrally positioned camera as the room view camera is recommended.
- If a panoramic view of the room is unnecessary, disable the **Set as Room View camera** switch.

6. Select the desired camera and click **Coverage area**.

7. Drag the 16:9 green frame and adjust the white dots to set the camera coverage area. After each adjustment, check the **upper left** corner's mini-window to ensure the overlay range meets your needs.



8. Set the coverage area for each camera.

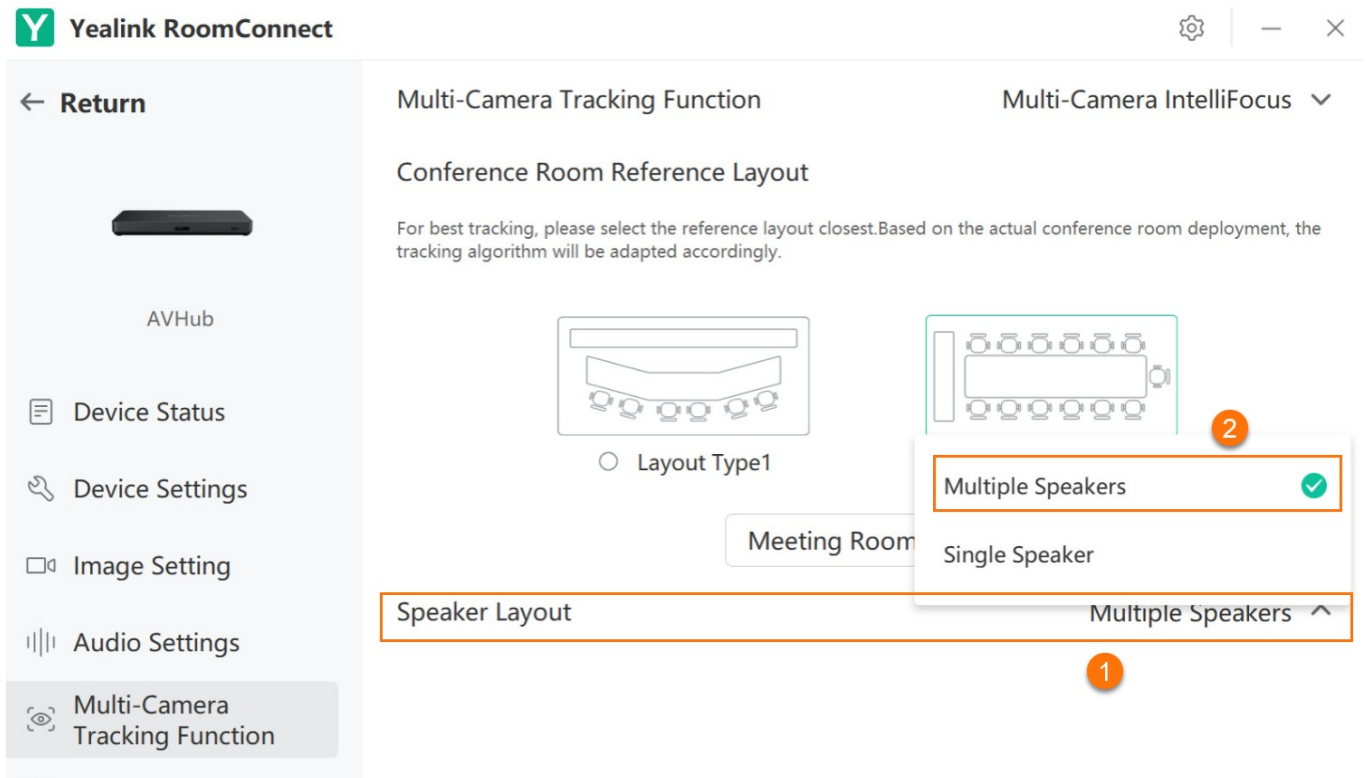
NOTE

After selecting the required coverage area with the green frame in the panoramic view, the camera will rotate to cover this area. Since the camera's angle after rotation differs from the scenic view, the captured image may not perfectly match the green frame. Refer to the **upper left** view for the actual camera overlay range.

Points to consider when setting camera coverage areas:

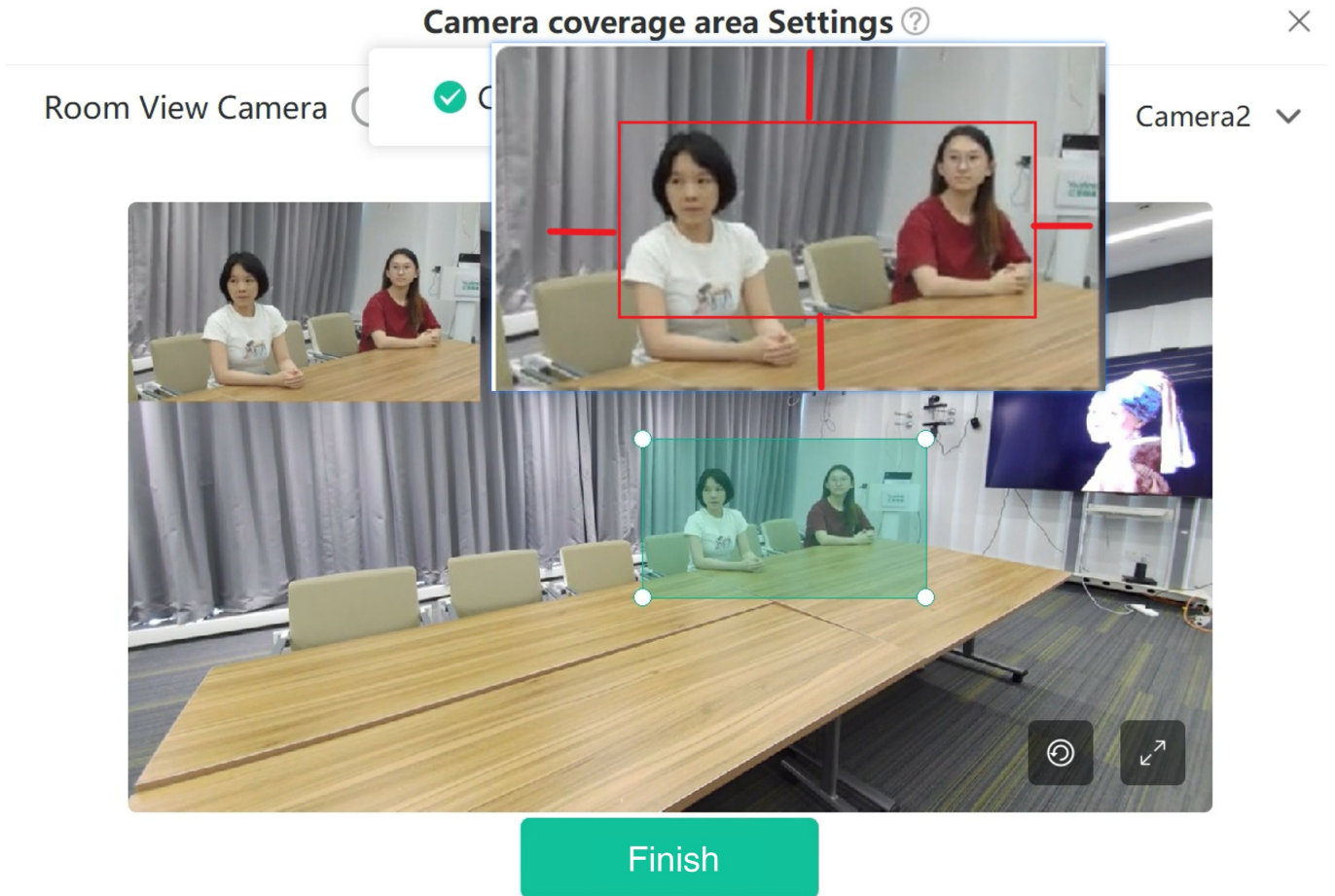
- Avoid setting the coverage area too close to participants' shoulders on the edges. (See the third point in the notes at the end of this document for details.)
 - If the room is long and has many seats, deploying multiple cameras on the sides is often necessary for participant coverage. Avoid overlapping coverage for the same participant's seat when setting the camera coverage areas.
9. Click **Speaker Layout** to switch to the desired speaker layout.
- **Single Speaker Mode:** Displays the currently speaking participant.

- **Multi-Speaker Mode:** Displays the last four speaking participants.



Attention

1. If speakers wear masks or look down while speaking, voice tracking may be slightly slower than usual.
2. Ensure the UVC camera is correctly positioned and avoid overlapping coverage of participants by multiple cameras.
3. When setting the camera coverage areas, avoid positioning the area too close to the shoulders of participants on the edges, as this can affect the accuracy of face-framing.



We recommend configuring the overlay as follows:

- After adjusting the green rectangular frame's position and size, check the **upper left** preview to confirm the current coverage area.
 - Ensure the coverage area covers all participants you want to capture (up to six people).
 - Leave a buffer of 1.5–2 head frames around the edges of the participant queue to ensure the AI can entirely crop participants' faces.
4. In **Multi-Camera IntelliFocus**, each camera can cover up to 6 participants. If the selected coverage area includes more than 6 participants, any additional speakers will not be framed, and the participants not framed will be random.
 5. In the **Multi-Camera IntelliFocus** function, each camera can cover up to 6 participants. The camera will adjust based on the number of participants within its coverage. For example, suppose the coverage area is set to cover 6 participants, and only one participant is detected in that area when the meeting begins. In that case, the AI will narrow the camera's field of view to focus on the single participant, providing maximum clarity. Suppose more participants enter the camera's range. In that case, the AI will expand the field of view until it fully matches the coverage area to ensure all participants are displayed during the meeting. After detecting stable seating or standing, the AI will take about 15 seconds to adjust the view. The same adjustment will occur when participants enter or leave the coverage area.