

# Insta360 X5 Mapping Guide



This guide explains how to map correctly with **Insta360 X5** using the **Over the Reality app**, **how mapping sessions work, what areas to map, how quality is checked, and how payments are calculated.**

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## 1. How Mapping Works

Mapping is done by walking with the **Insta360 X5 connected to the Over the Reality app.**

Main rules:

- One mapping session lasts up to **10 minutes**. The ideal mapping session consists of mapping for approximately **5 minutes in one direction**, then turning back and mapping the **same path for another 5 minutes**, in order to ensure good mapping quality.
- After 10 minutes, you must stop and start a new session
- Starting a new session means:
  - stopping the current mapping
  - starting a new mapping in the app
  - performing the pyramid calibration again
  - continuing to walk with the Insta360
- If you are mapping a large area (for example a city square), you can continue the planned path and complete the area across multiple sessions
- You can record multiple sessions per day, there is no limit on the total number of hours you can record

## 2. Initial Preparation and Camera Setup

The Insta360 X5 must be mounted on a fully extended selfie stick.

Before starting:

- If a lens cover is present, **remove it before calibration**
- Before starting the pyramid calibration, the selfie stick must already be **fully extended and held in the correct high position**
- The recording starts **automatically**, controlled by the app, so **the camera must already be positioned correctly**

Camera position:

- Height: **20–50 cm above your head**
  - The camera must stay **straight and vertical**
  - Do not tilt the camera forward
  - Do not change height during mapping
  - Do not wear large hats
  - Do not use objects that block the lenses
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## 3. Calibration (Pyramid)

Before starting the pyramid calibration on your phone, make sure that:

- The lens cover **has been removed**
- The selfie stick is **fully extended**
- The Insta360 is already in **its final position**
  - Height: 20–50 cm above your head
  - Camera straight and vertical
  - No hats or objects blocking the lenses

The recording will start automatically after calibration, so the camera **must already be correctly positioned** before beginning.

## 4. How Calibration Works

1. The app connects automatically to the **Insta360 via Bluetooth**
2. Using your **phone**, perform the **pyramid movement** as shown in the app
3. This first round around the pyramid starts the **initial mapping phase**
4. After calibration:
  - The app automatically activates the 360 camera
  - You can put the app in the background
  - You continue mapping freely while walking with the Insta360

During this phase, **GPS location data** is also collected in the background. Make sure to **accept location permissions** requested by the app.

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## 5. Selfie Stick Configuration

### Extension

The selfie stick must always be **fully extended**.

This is required for:

- Correct invisible stick functionality
- Greater distance from the head, reducing body interference in the footage
- Significant reduction of masked areas during 3D reconstruction

### Positioning

- Keep the selfie stick **perfectly vertical**
- Preferably orient the two lenses facing forward and backward relative to the walking direction
- Maintain a **constant height** throughout the entire mapping path

## 6. Walking Rules During Mapping

### Speed

- Recommended walking speed: **3–4 km/h**
- Maximum speed: **5 km/h**

### Movement

- Walk at normal walking speed
- Keep a constant and regular pace
- Avoid sudden rotations or movements
- Direction changes must be wide and progressive

Forbidden:

- Running
  - Bicycles / Scooters
  - Skateboards
  - Rollerblades
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## 7. Environmental Conditions

Critical conditions to avoid or manage carefully:

- **Crowded areas:** people moving in the scene reduce reconstruction quality
- Dark or narrow areas:
  - If unavoidable, slow down significantly
  - Slower speed reduces motion blur caused by longer exposure times

**Optimal conditions:**

- Prefer natural, diffused light
- Prefer weekdays / Avoid crowds
- Avoid rain

## 8. Areas to Map

You can map **only relevant areas**

Areas to map:

- City centers
- Urban streets
- Indoor environments (shopping malls, museums...)

Areas to avoid:

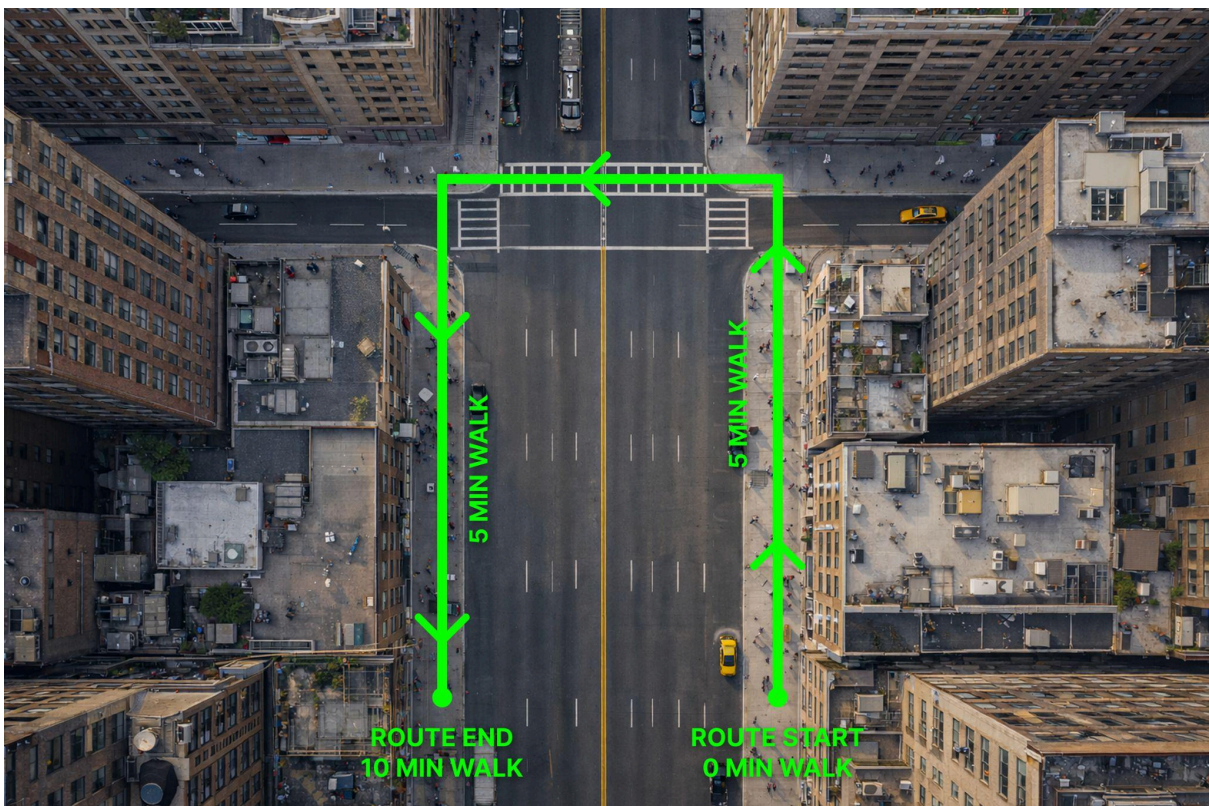
- Parks
- Forests
- Beaches
- Natural environments

The app does not block areas, but mappings from forbidden zones will not be approved.

## 9. Mapping by Environment Type

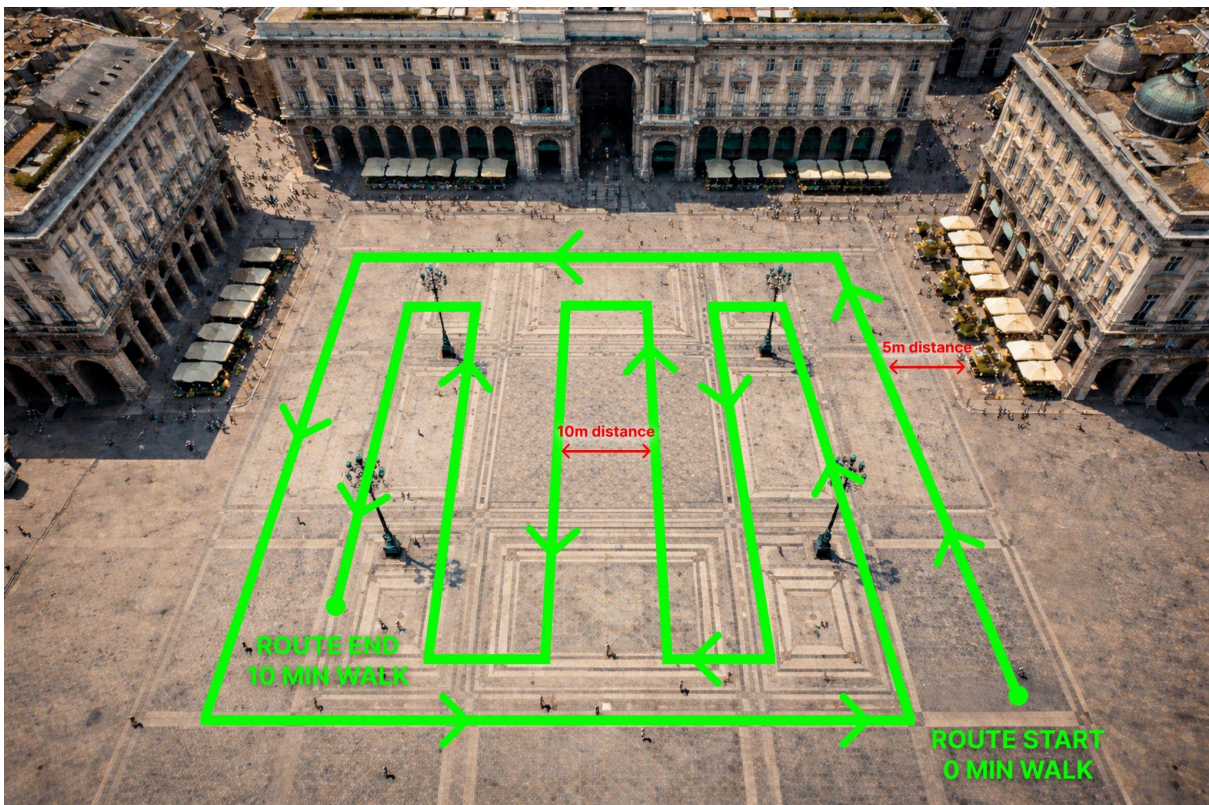
### Streets and Sidewalks

- Walk in the center of the sidewalk
- If the sidewalk is wide, keep a distance of **2–3 m from the walls**.
- If the street has sidewalks on both sides:
  - Walk approximately 5 minutes on one side
  - Turn back and walk approximately 5 minutes on the other side



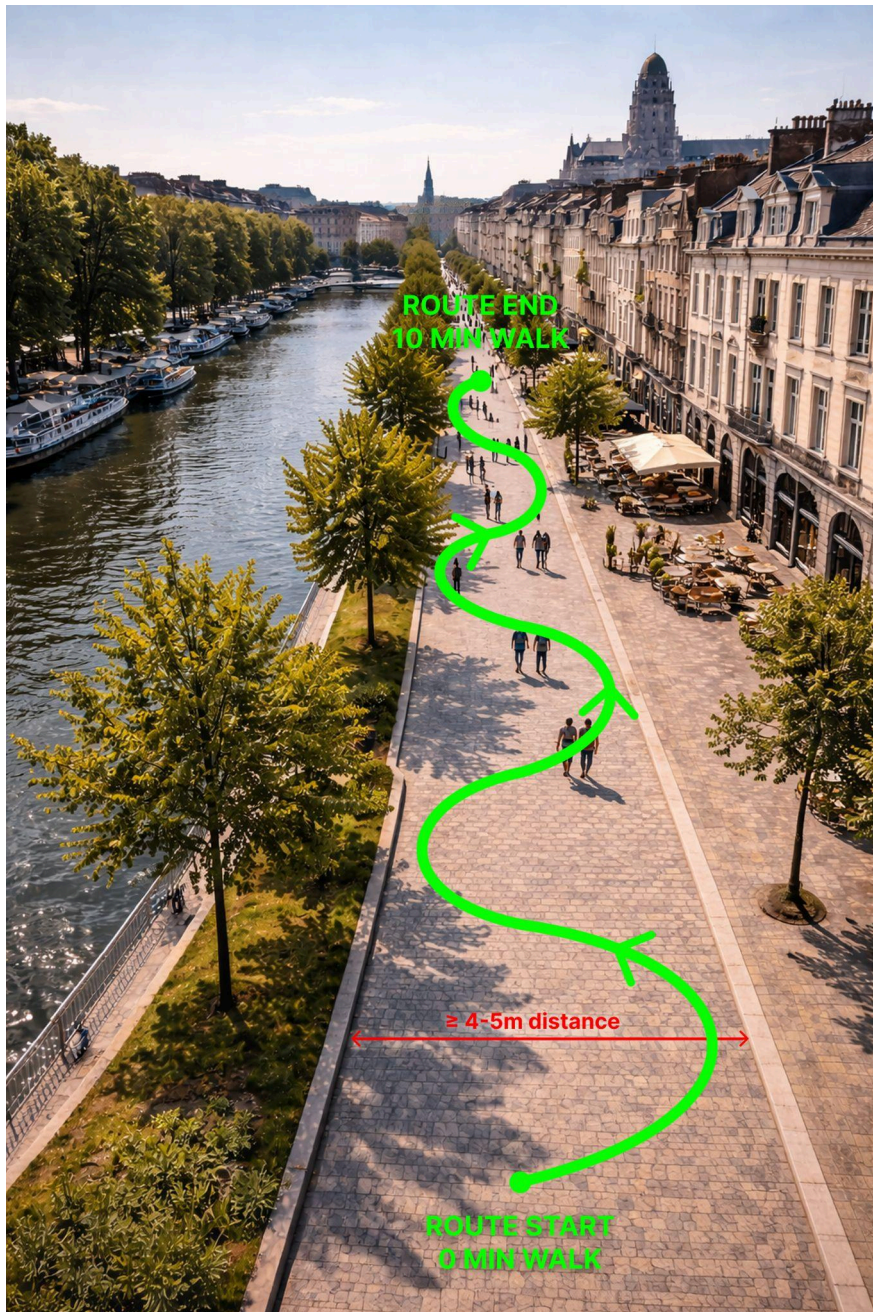
## City Squares

- Start with a panoramic walk around the square
- Do not walk too close to walls
- If the square is large, keep the panoramic at least **5 m** from walls
- After the panoramic loop, use a grid (reticulum) path
- Distance between grid paths: **~10 m**



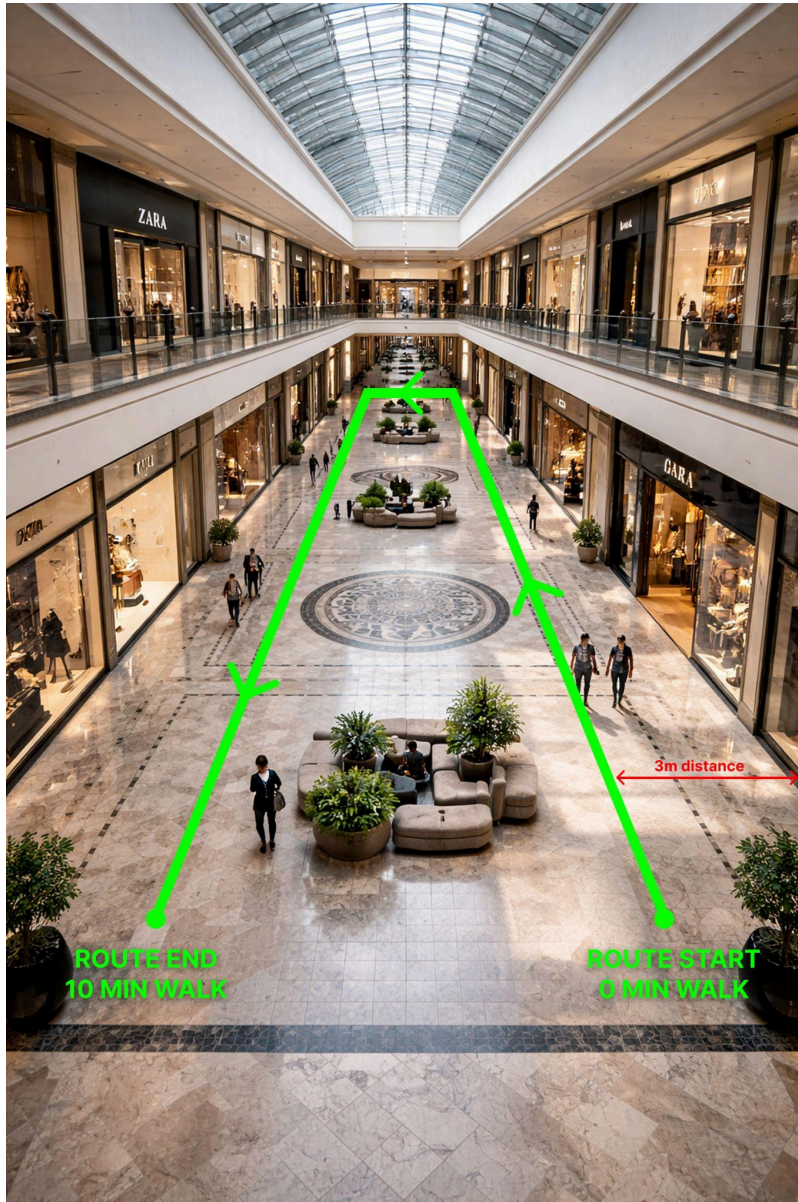
## Porticos and Corridors

- Walk along the center of the corridor
- Do not walk close to the walls
- Use a **sinusoidal (slalom) walking path** from side to side
- Walk slowly and steadily, keeping movements smooth and controlled



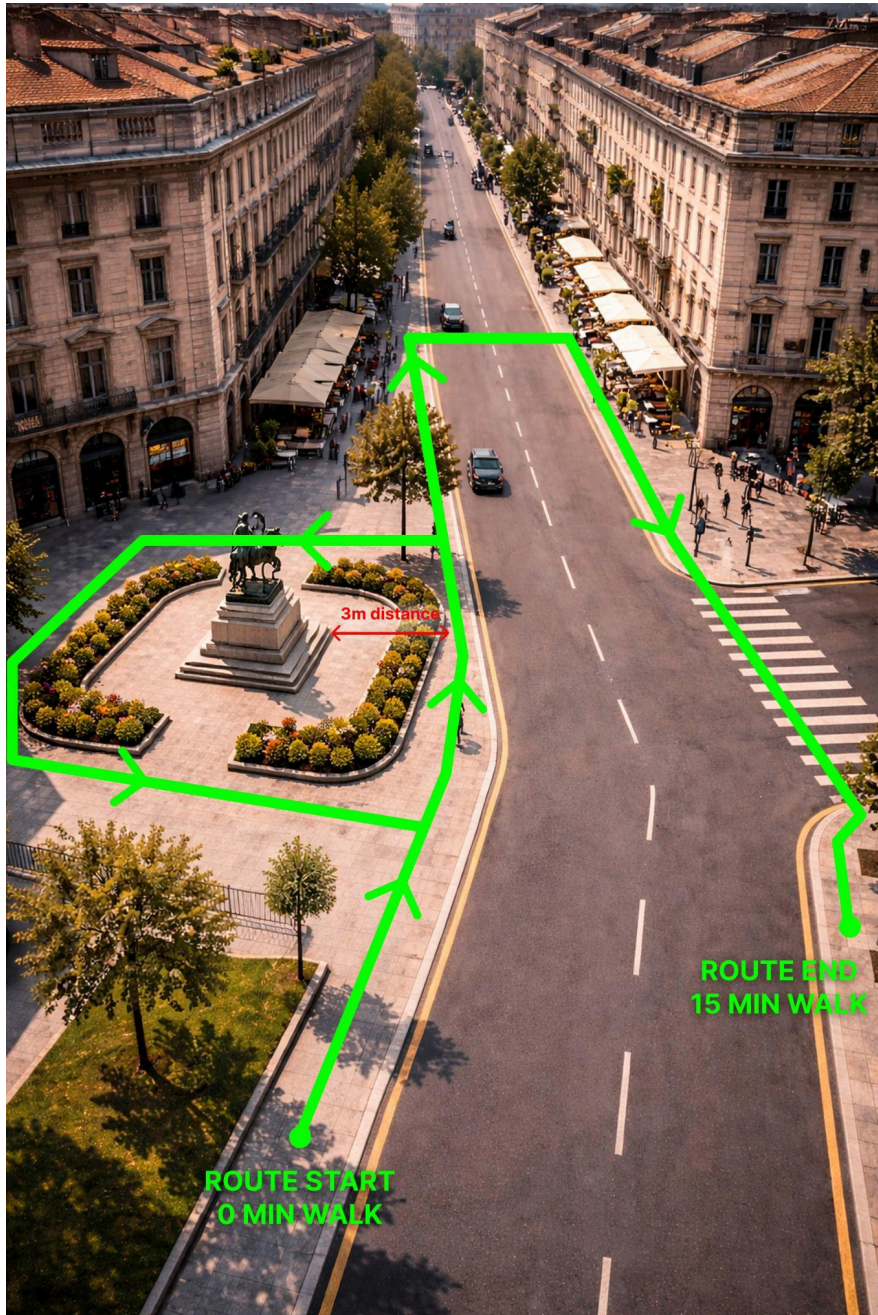
# Indoor Mapping

- Minimum distance from walls: **3 m**
- Long corridors: walk back and forth (double pass)
- Large rooms: same approach as city squares (panoramic + grid)



## Statues and Relevant Features

- If you encounter a statue or relevant feature:
  - Walk around it
  - Keep a minimum distance of **3 m**



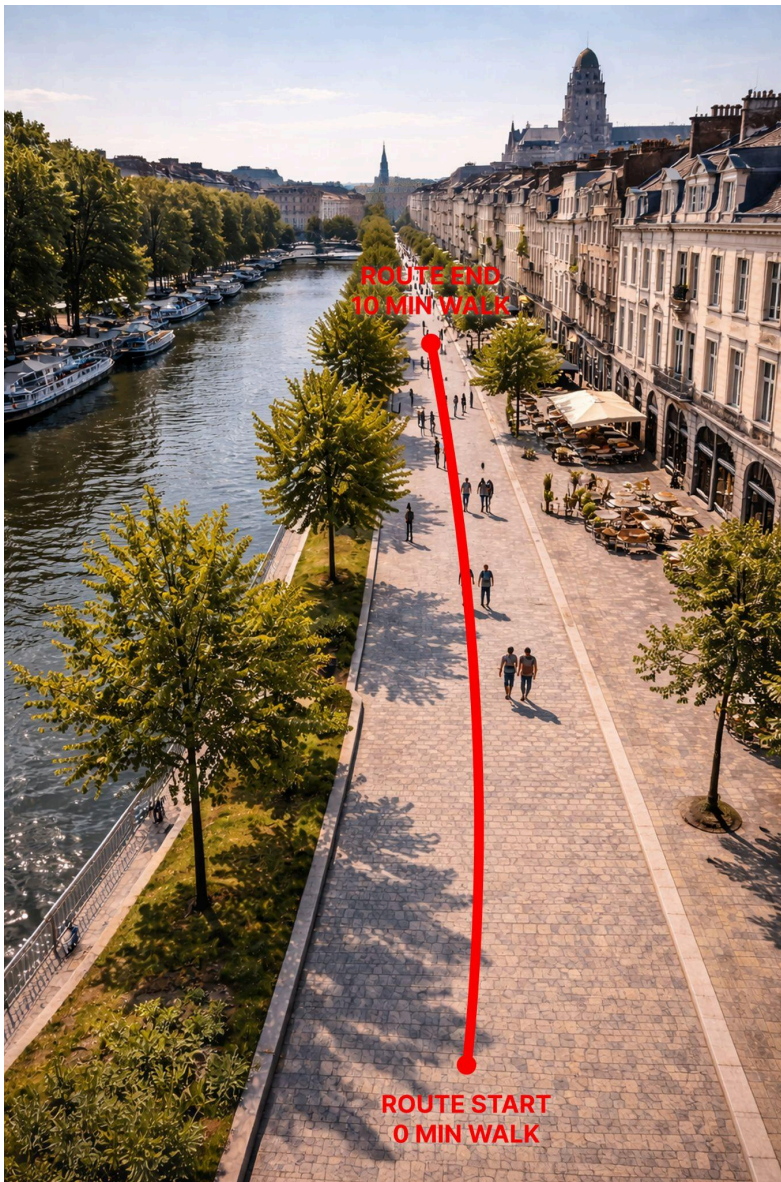
## Large Open Paths

- If the path width is  $\geq 4-5$  m:
  - Use a sinusoidal walking path
  - Maintain normal walking speed



## ✗ What Not To Do: Straight-Line Walking

- Never walk in a straight line for the entire mapping session
- Walking straight for **10 consecutive minutes** is strictly prohibited
- This behavior can significantly reduce mapping quality and may result in the collected data being considered **invalid**
- Avoid long, uninterrupted forward movement without changing perspective



Always use a **slalom trajectory** or perform a **return pass on the same route** to ensure sufficient visual diversity and mapping reliability.

## 10. If 10 Minutes are not enough

- Complete the planned path
- Stop the session
- Start a new 10-minute session
- Continue the mapping

This is allowed and expected.

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## 11. Uploading and Storage

- After uploading the mapping to Over the Reality, you can delete it from your 360 Camera.
  - Insta360 mapping files do not take significant storage space
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## 12. Quality Control

All Insta360 mappings are reviewed.

Checks include:

- Correct camera position
- Walking speed
- Area relevance
- Overall quality

Mappers can see:

- Number of mappings
- Links to view their pyramid scans

The Over the Reality team **will inform you of:**

- The total **number of hours mapped** by each user
- The total number of Insta360 mappings **approved vs rejected**
- The number of **hexagons crossed**

Only approved mappings count.

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## 13. Payment and Rewards

Payment rules:

- **\$12 per hour of approved mapping**
- Only approved time is paid
- Payments are processed **monthly**

Example:

- 52 hours recorded (208 Insta360 session of 10 minutes)
- 50 hour approved (200 Insta360 session of 10 minutes)
- Payment: **\$600 (\$12/h)**

Bonus:

- A **one-time \$100 bonus** is paid to mappers who complete the first 50 hours of approved mapping.
- This bonus is separate from hourly payments