Pilot Cases I preparation and set up: Case of Cultural Heritage Buildings



IV Plenary 17 June 2025

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WP9 - Pilots preparation and set up

T9.1 Pilot Cases I preparation and set up: Case of Cultural Heritage Buildings

<u>Demo site 1:</u>
The Museum of Humor
in lieau of the Christo
And Jeanne-Claude Center,
Gabrovo - Bulgaria



<u>Demo site 2:</u>
The Brancacci Chapel,
Florence - Italy



Start date	1 June 2025
End date	31 May 2026
WP leader	City of Florence (FLO)
WP contributors	CERTH, E@W, UNIS, MoG, MHS
Deliverables	D9.1 Pilot Cases I-III: preparation and set up
Milestones	MS 8 Implementation roadmap and revised Gantt available



Overview and plans

- Short Description - > Task objectives:

This task aims to ensure the smooth and timely implementation of demonstrations. It will guide the activities to be performed within WP10 and a **dedicated site manager** will be responsible for the preparatory activities and the execution of works.

Gabrovo Site manager: Margarita Dorovska

Florence Site manager: Giorgio Caselli

An **implementation roadmap time plan** will be developed leveraging on the works performed within T1.2 and the AccesS Gantt will be further updated and made specific for each demo site, embracing roles and responsibilities of related partners and 3rd parties ones. Crucially, **pilot models** will be created to facilitate the implementation of AccesS tools, allowing for the seamless integration of accessibility-enhancing processes.

During T9.1, the **stakeholders involved, will also be trained** for the implementation of the AccesS Suite, capitalizing on the dedicated educational material being developed within T13.2



Work plan, tasks, objectives

Definition of the use cases of interest for each Demo Site: **Florence**

- ✓ **Energy Efficient and Sustainable Design Tool (T4.1)**
- ✓ **Energy Comfortness Tool (T4.2)**
- ✓ **ErgoFlow (T4.3)**
- ✓ **Virtual User Models and VUM-based Virtual Humans (T5.1)**
- ✓ **3D Simulation Environments (T5.3)**
- ✓ **Adaptive Building Operation and Management System (BOMS) (T6.1)**
- ✗ **EV Charging Optimizer (T6.3)**
- ✓ **Universal Accessibility Assessment Tool (T7.1)**



The state of art of the pilot preparation and set up

Preliminary steps already taken

- On-site inspection of the Brancacci Chapel to define type, location and number of sensors.
- The two people-counting sensors will be installed one in the cloister entrance, the other at the chapel exit.
- The sensor that collects environmental data outdoors could be installed at the entrance of the cloister (hypothesis 1), or along the East wall of the cloister (hypothesis 2).
- The two sensors collecting data inside the chapel will be installed the first at the bottom behind the altar, about 1.50 meters above the floor, the other next to the window, about 4 meters from the floor.
- Finally, the two sensors that will be used to count how much time people stay inside the chapel will be installed on the entrance sides of the transept.





The state of art of the pilot preparation and set up

What is already available

- Subcontract.
- Sensor technical specification sheets.
- Company that will install the sensors.



Camera



Resistance temperature sensor



compact indoor ambience



Sensors out of the chapel



Counting people sensor at the exit



Counting people sensor at the entrance from the ticket office



Cameras on the pillars of transept, towards Brancacci Chapel

Sensors inside the chapel

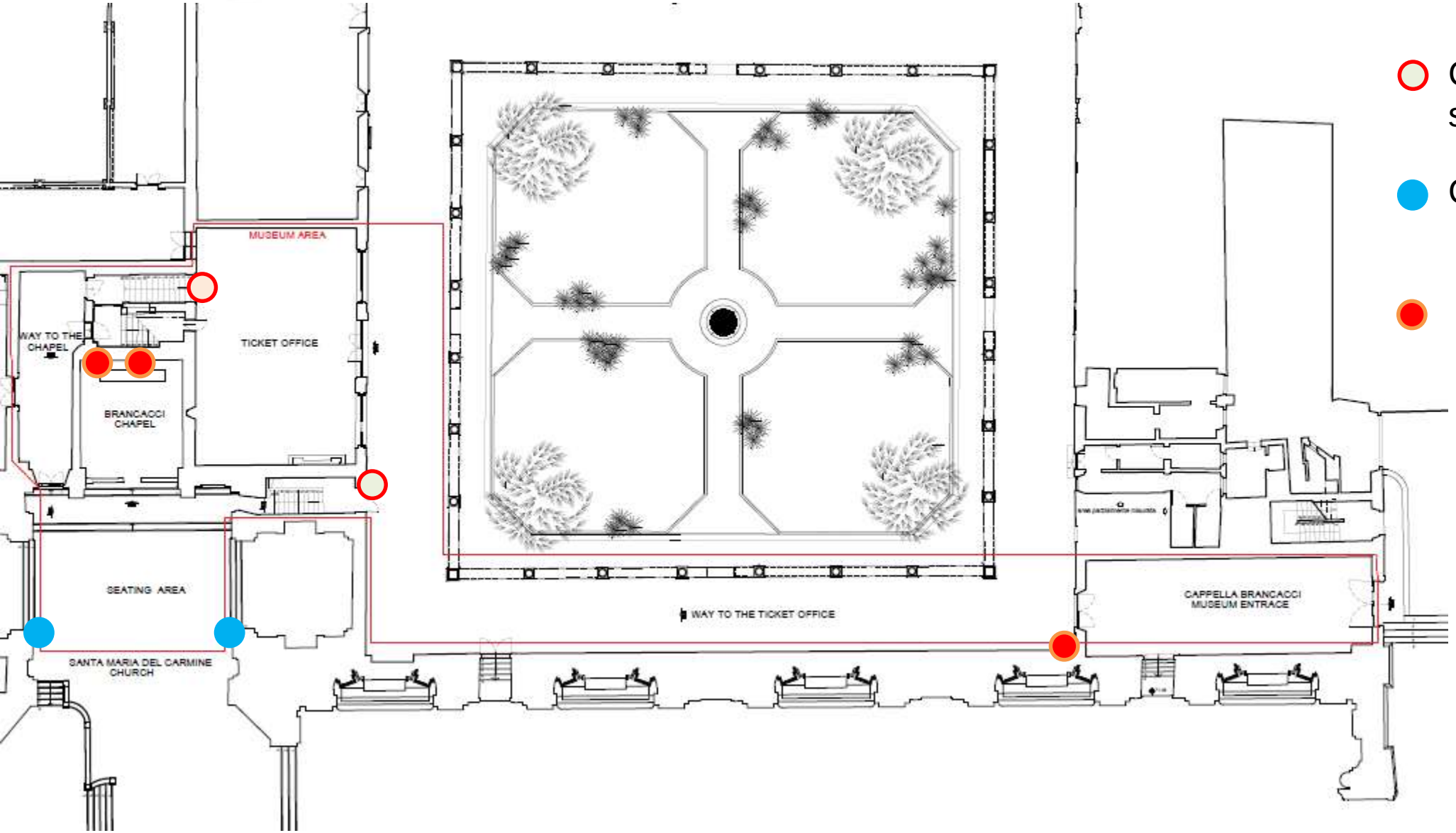


Air dust sensor



Resistance temperature sensor next to the window





Counting-people sensors

Cameras

Environment sensors



The state of art of the pilot preparation and set up

What is missing - general overview

- Purchase of sensors.
- Inspection with official of Soprintendenza ABAP and authorization to install the sensors.
- Installation of sensors in the cloister and chapel.
- We make ourselves available with FORTH for the task *T5.2 3D Simulation environnements* (M11-M18).
- We make ourselves available with the partners involved for the task *T4.2 Energy comfortness tool* (M6-M17) [UNIS (12) - CERTH(6), QUE(2)].



Action Plan for the next 6 months

	June 25	July 25	Aug 25	Sept 25	Oct 25	Nov 25
Subcontract for technical support for sensor net (CNR) – (T9.1, T10.1)						
Finalization of the sensor design (T4.1; T4.2)						
Sensor installation and testing						
Interface testing and interoperability with systems already in use						
Input/feedback for VUM (T5.1) and 3D (T5.3)						
Data exchange sensor net and BOMS						
Input for ErgoFlow (T4.3)						
Input for Universal Accessibility Tool (T7.1)						
Related communication/dissemination activities – TBD						



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City of Gabrovo

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Work plan, tasks, objectives

Definition of the use cases of interest for each Demo Site: **Gabrovo**

- ✓ **Energy Efficient and Sustainable Design Tool (T4.1)**
- ✗ **Energy Comfortness Tool (T4.2)**
- ✗ **ErgoFlow (T4.3)**
- ✓ **Virtual User Models and VUM-based Virtual Humans (T5.1)**
- ✓ **3D Simulation Environments (T5.2)**
- ✓ **Adaptive Building Operation and Management System (BOMS) (T6.1)**
- ✓ **EV Charging Optimizer (T6.3)**
- ✓ **Universal Accessibility Assessment Tool (T7.1)**



The state of art of the pilot preparation and set up

Preliminary steps already taken

- On-site inspection of floor 4. at the Museum of Humor and Satire to suggest type, location and number of sensors.
- The two people-counting sensors may be installed one at the exhibition hall entrance, the other at the far end of the exhibition hall.
- The sensor that collects environmental data outdoors already exists and is mounted on the western façade of the Museum.
- The two sensors collecting data inside the exhibition hall may be installed both on the ceiling, about 3.5 meters from the floor.
- Finally, the two sensors that will be used to count how much time people stay inside the chapel may be installed at the entrance/exit of the exhibition hall.





Sensors in the exhibition hall, inside the Museum



Suggested location for counting people sensor at the entrance/exit



Suggested location for counting people sensor at the far end



Suggested location for cameras



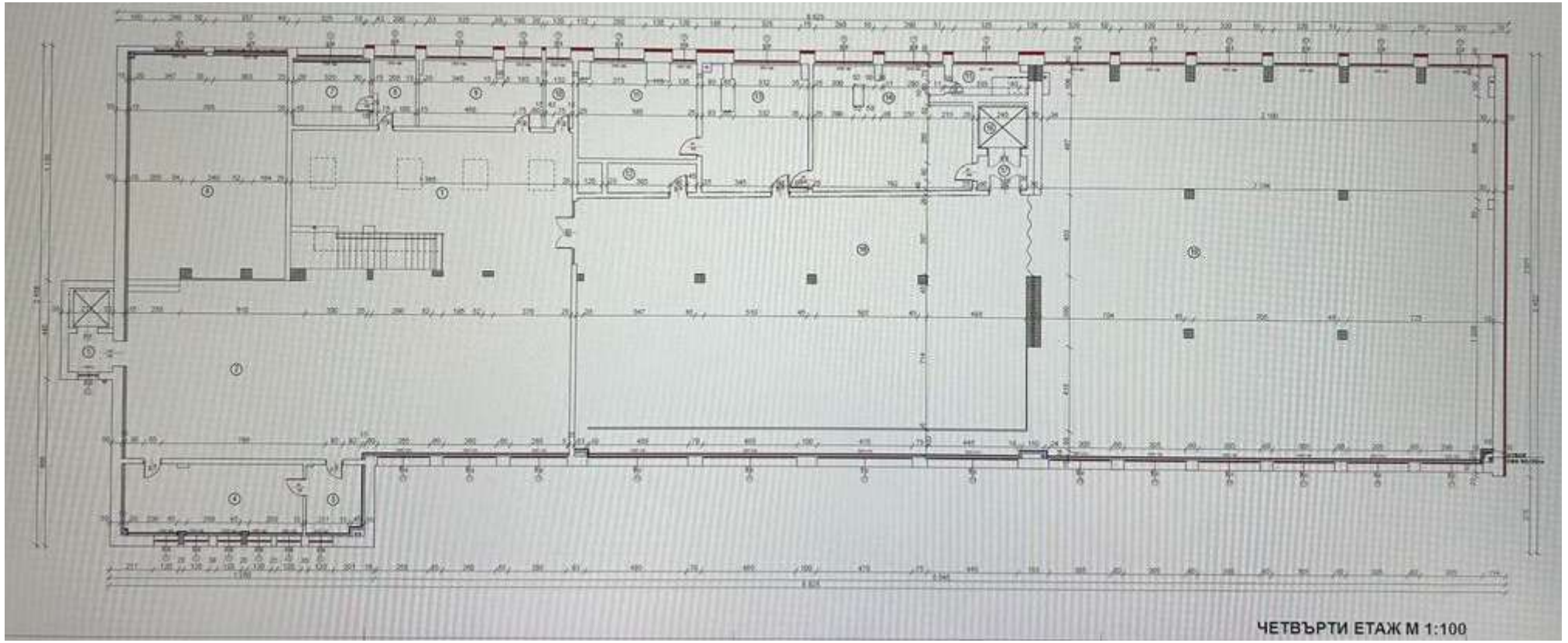
Sensors outside the Museum





Location of outside sensors, already installed

Floor plan 4th floor, Museum of Humour



The state of art of the pilot preparation and set up

What is missing – Christo and Jeanne-Claude Center (Gabrovo)

•**Sensor procurement pending** – The purchase of the required sensor equipment is yet to be completed.

•**Final decision on sensor location** – An online meeting with the site manager and the Museum of Humor technician is needed to determine suitable indoor/outdoor sensor locations.

•**Authorization and access** – As the Center is currently non-operational and undergoing preparation for reconstruction, any temporary access for technical setup will need municipal coordination.

•**Agreement to use alternative site** – Due to the inactive state of the Center, the Museum of Humor (less than 150m away) is proposed as an alternative site for sensor installation, given the comparable environmental and visitor conditions.

•**Coordination with partners** for:

- **T5.2 – 3D Simulation Environments**: Awaiting decision on appropriate indoor areas for scanning or 3D modeling, either at the Museum or through architectural plans of the Center.



Action Plan for the next 6 months



Schedule for Adaptive Reuse Reconstruction	
July 2025 – January 2026	Two-phase architecture competitions
January – February 2026	Contracting the winning architecture studio
March 2026 – January 2027	Development of architectural and technical project
November 2026 – January 2027	Procurement of building company/ies
February 2027	Contracting the winning building company/ies
March 2027 – March 2029	Reconstruction work at the Center

Photo: Rosina Pencheva. © Christo and Jeanne-Claude Center, Gabrovo





Thank you for your attention!

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