



# ET4Digital – Empowering Trainers for Digital Innovation in Construction Ecosystem

## Deliverable 3.3

### *Guidelines for the replicability of the demonstrator*

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- <sup>1</sup> PU = Public  
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## Summary

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# INTRODUCTION

## Summary

ET4Digital – Empowering Trainers for Digital Innovation in construction Ecosystem is dedicated to advancing the quality, effectiveness, and innovation in training trainers and teachers within the construction sector for the seamless integration of digital technologies. The initiative involves creating innovative tools and a comprehensive capacity-building programme. Trainers will engage with a specially designed digital technologies demonstrator, fostering hands-on experience. The project aims to overcome barriers hindering SMEs from adopting digital technologies by co-designing, testing, and validating training programmes. The ultimate goal is to empower trainers to lead the digital transition in the construction industry, tapping into its significant but underexplored potential.

Although digital innovation has grown significantly in recent years, companies are finding it difficult to effectively exploit this enormous potential. Instead, digitisation in the construction sector can offer significant opportunities for the entire value chain by not only improving existing practices but also integrating disruptive technologies and tools that can lead to new processes, business models, materials and solutions. It is important to underline that the combination of digital technologies makes it possible to maximise the benefits associated with digital transformation. For example, BIM, IoT, Augmented Reality and Digital Twins are deeply interconnected, as they refer to technologies that leverage each other and can be seen as different phases or elements of the same digital transformation.

As demonstrated by several European and national research studies, the construction sector lags far behind other industrial fields when it comes to digitalisation.

To date, the European construction sector is facing challenges that are hampering its competitiveness. Among these are:

- Labour shortage
- Lack of digital skills in some countries
- Lack of interest among entrepreneurs and workers in the digitalisation of processes
- Lack of motivation on the part of young people to work in the sector
- Need to increase productivity while improving quality, cost efficiency and project delivery
- High costs related to technologies and digital tools

Therefore, the specific objective of the project is to deliver customised programmes to professional trainers, aiming to equip them with new digital strategies, tools and skills. As intermediaries, these trainers play a crucial role in demonstrating to enterprises and workers the benefits of digitalisation and the positive outcomes it can yield. This approach facilitates the upgrading of workers' skills in digitalisation, emphasising that traditional materials and techniques can be innovatively supported by digital technologies, leading to reduced costs and time wastage.

Furthermore, the job market continually evolves, shaping the required profiles and skills that workers need to possess in response to the demands of companies and employers. By updating the professional profiles required in the construction sector and digitalising its processes, we can attract young, educated workers to a field of work still considered 'traditional'.

## Purpose of the document

The purpose of this document is to provide **trainers** with a set of **clear and operational guidelines** for understanding, using and replicating the Digital Twin demonstrator developed in the ET4Digital project within their own vocational education and training contexts.

The document is designed as a methodological support that accompanies the trainer throughout the entire process of implementing the Digital Twin, from understanding the conceptual framework to building the demonstrator, to its use in teaching and its adaptation to different training and professional contexts.

The proposed guidelines are not intended to provide detailed technological instructions or prescribe unique solutions, but to offer a **replicable and flexible model** based on real and accessible tools already present in the operational processes of the construction sector. The focus is on understanding the construction process and the educational value of the Digital Twin as an environment for mediating between practical experience and digital representation.

The document is aimed in particular at:

- trainers and teachers in the construction sector;
- vocational education and training institutions;
- those involved in the design and management of training courses geared towards digital transition.

These guidelines help trainers to develop teaching programmes that use the Digital Twin as a tool to reinforce experience-based learning, encourage critical analysis of the construction process and develop transferable skills in a professional context.

The guidelines are supplemented by **multimedia resources** (video recordings of training sessions), developed as part of the Transnational Training for Trainers programme, to support the independent implementation of the demonstrator.

The videos are available at the following links:

Part 1 – Prof. Marco Alvise Bragadin

[LINK](#)

Part 2 – Andrea Ballabeni

[LINK](#)

Part 3 – Shrinija Poudel

[LINK](#)

## Target audience

This document is primarily intended for **trainers and teachers** involved in vocational education and training in the construction sector, with particular reference to those working in technical training, continuing education and professional development. The guidelines are designed to support trainers in introducing and using Digital Twin as a teaching tool, providing a methodological and operational reference that can be adapted to different training contexts.

The document is also aimed at **vocational education and training institutions**, technical training centres and organisations involved in the design and management of training courses geared towards the digital transition of the construction sector. In this context, the guidelines provided can be used as a basis for structuring training activities that integrate practical experience, digital tools and analysis of the construction process.

Another target group is **professionals and technicians from small and medium-sized enterprises** in the construction sector who are interested in understanding and experimenting with the use of Digital Twin in relation to their operational processes. Thanks to the use of real, accessible tools that are already present in professional practice, the document can also support business contexts in understanding and gradually adopting digital approaches.

Finally, the document may be of interest to **institutional stakeholders, training support bodies and those involved in skills policies** who wish to explore training models geared towards the integration of digital technology, the construction process and skills development.

# PART I – CONCEPTUAL AND METHODOLOGICAL FRAMEWORK

## 1. The Digital Twin in training for the construction sector

The digital transformation of the construction sector is profoundly changing the processes of design, construction and management of works. The introduction of information models, collaborative platforms and data management systems has made it increasingly important to interpret the project as a **structured process over time**, rather than as a simple end result. In this scenario, vocational training plays a strategic role in supporting the development of skills consistent with the evolution of the sector.

The **Digital Twin** is a paradigm that allows a real system to be described and observed through a dynamic digital representation, capable of integrating geometric, organisational and temporal information. In the construction sector, the Digital Twin is increasingly recognised as a tool for understanding and managing the life cycle of a building, as it allows the project to be linked to the construction activities and data generated during the construction process (Boje et al., 2020).

Applied to training, the Digital Twin takes on significant methodological value because it allows **the processes** that characterise work on site to **be made explicit**. Through the digital representation of

the project in the Digital Twin, students and trainers can observe the sequence of work, the relationships between activities, the organisation of work and the evolution of the intervention over time. This approach promotes process-oriented learning, in which practical experience is accompanied by tools for analysis and reflection.

In the context of vocational training, the Digital Twin supports the development of cross-cutting skills that are fundamental to the construction sector, such as the ability to plan activities, interpret work progress, understand the interdependencies between operational phases and read the project as a complex system. In this sense, the Digital Twin becomes a mediator between operational experience and organisational understanding of the construction process, reinforcing experiential learning and professional awareness.

## 2. The ET4Digital Digital Twin demonstrator

The **Digital Twin demonstrator developed in the ET4Digital project** fits into this conceptual framework and is designed as a training support tool for the construction sector. The demonstrator translates the concept of Digital Twin into a replicable operational configuration, adapted to vocational education and training contexts.

The demonstrator is based on the integration of three fundamental elements: the **real project**, understood as a set of construction activities carried out in the laboratory or on the training site; the **digital representation of the project**, built using information models and project management tools; and the **information flow** that links activities, times and data generated during the process. This architecture allows the project to be viewed as a dynamic system, in which activities are planned, executed and monitored over time.

In the ET4Digital project, the Digital Twin was developed according to a level of maturity consistent with the training needs and small and medium-sized enterprises in the sector. The digital representation integrates the information model of the work with the planning of activities and data from the real project, allowing the organisation of work and the progress of the work to be analysed without introducing unnecessary technological complexity in the educational field (Sacks et al., 2020).

The ET4Digital demonstrator was designed with a **replicability-oriented** approach, using collaborative platforms and open formats so that it can be adapted to different training contexts. The focus is not on the tool itself, but on the method: the Digital Twin is used as a learning environment in which the real project becomes the subject of observation, analysis and discussion. Through the demonstrator, trainers have an operational framework to guide students in understanding the construction process, linking practical experience to its digital representation. In this way, the ET4Digital Digital Twin acts as a methodological support for training, capable of strengthening understanding of processes and preparing students for the transformations taking place in the construction sector.

## PART II – CONSTRUCTION OF THE DEMONSTRATOR

### 3. Launch of the real project (Physical Twin)

The construction of the Digital Twin demonstrator starts with **the real project**, which is the concrete reference point for the entire system. In the training context, the real project represents the set of construction activities carried out in the laboratory, on the teaching site or in a controlled learning environment, and provides the basis on which the digital representation of the process is developed. The selection of the real project is based on the training objectives and the skills to be developed. The project may involve a single process or a limited sequence of activities, provided that it allows for the observation of a process articulated over time. Defining the **operational scope** allows for the identification of the relevant phases, the resources involved and the relationships between activities, making the project readable and structurable from a digital point of view.

During the practical activities, the real project is accompanied by a **systematic collection of information**, including descriptions of the processes, indicative times, materials used and visual documentation. This phase allows for the construction of a first level of knowledge of the process, which feeds into the subsequent development of the Digital Twin.

### 4. Digital architecture of the demonstrator

Once the real project has been launched, the construction of the demonstrator continues with the definition of **the digital architecture**, understood as the set of tools and environments that host the representation of the project and support its organisation.

In the ET4Digital demonstrator, the digital architecture is based on an **open collaborative platform**, which allows the project to be managed as a unified information system. The platform acts as a central environment where activities are organised, content is shared and the progress of the process can be observed over time.

From a methodological point of view, the choice of digital architecture responds to the need to ensure accessibility, interoperability and replicability. The adoption of open solutions allows working with standard formats and adapting the demonstrator to different training contexts, while maintaining methodological consistency and operational continuity.

### 5. Construction of the digital twin: information model

The **digital twin** is built from an **information model** of the project, which represents the structured basis on which information relating to activities and processes is grafted. In the ET4Digital demonstrator, the information model serves as a common reference for reading the project, allowing construction elements, operational phases and project data to be linked.

The information level of the model is defined in line with the training objectives, favouring a clear and legible representation of the project. The use of **open BIM formats**, in particular the IFC format, makes the model interoperable and accessible within the digital platform, facilitating the involvement of trainers and students with different skills.

The relationship between the information model and the actual project allows the parts of the work to be associated with the activities carried out, making the link between digital representation and the construction process explicit.

## 6. Structuring the digital project

The construction of the demonstrator continues with the **structuring of the digital project**, using tools for organising and planning activities. In this phase, the project is broken down into a **Work Breakdown Structure (WBS)** that reflects the sequence of work and the relationships between the operational phases.

The time planning of activities allows the project to be represented over time, associating each phase with an indicative duration and a location within the overall process. The link between activities, times and information model allows the evolution of the project to be observed and the progress of the work to be analysed in a structured manner.

This approach enhances understanding of the organisation of work and supports the analysis of interdependencies between the different phases of the project.

## 7. Collaborative environment and visualisation

The collaborative environment represents the operational level through which the Digital Twin demonstrator is used in training practice. The platform allows users to visualise the information model, navigate the project through views and sections, and access information associated with activities.

User and role management allows collaborative work to be structured, encouraging the participation of trainers and students within the same digital environment. The visualisation of the project thus becomes a tool to support discussion, analysis and information sharing.

In the training context, the collaborative environment facilitates understanding of the project as a shared system, in which practical activities correspond to the digital representation of the process.

## PART III – DATA AND DATA-DRIVEN DIGITAL TWIN

### 8. Integration of data from the real project

A central feature of the Digital Twin is its ability to integrate **data from the real project**, making the digital representation informed by the actual performance of the activities. In the training context, data integration allows the construction process to be observed over time and practical activities to be linked to the operating conditions in which they take place.

In the ET4Digital demonstrator, the data-driven approach has been developed in a progressive and controlled manner, with the aim of making the data **understandable, readable and usable for educational purposes**. The data provides an information base for observing, analysing and discussing the construction process, strengthening the link between the real project and the digital representation.

#### 8.1 Types of data in the demonstrator

In the ET4Digital model, the data integrated into the Digital Twin can be divided into three main categories:

- **Descriptive data**, related to the activities of the real project, such as work phases, indicative times, materials and resources involved;
- **Documentary data**, such as photographs, images, annotations, surveys and materials produced during the course of the activities;
- **Measured data**, coming from detection devices installed in the context of the real project.

This classification allows the trainer to structure the integration of data in a gradual manner, starting with directly available information and progressively introducing more structured data.

#### 8.2 Integration of environmental sensors

In the ET4Digital project, environmental sensors are used to collect data on the operating conditions of the educational construction site. They allow the monitoring of parameters relevant to the reading of the working context, such as:

- air temperature;
- relative humidity;
- atmospheric pressure;
- CO<sub>2</sub> concentration;
- particulate matter (PM2.5 and PM10);
- other environmental quality indicators.

The sensors used are low-cost, easy-to-integrate devices that are compatible with prototyping platforms commonly used in education. Their integration enriches the Digital Twin, allowing activities to be linked to the environmental conditions in which they take place.

### 8.3 Integration of the camera as a source of visual data

In addition to environmental sensors, the ET4Digital demonstrator uses a **camera** as a source of visual data from the real project. The camera contributes to the collection of **documentary data**, integrating qualitative information into the Digital Twin.

The images acquired allow you to:

- document the status of the construction site or educational laboratory at specific times;
- observe the progress of activities over time;
- support the interpretation of the organisation of work and the configuration of the construction site;
- provide a visual reference for interpreting the data measured by environmental sensors.

In the demonstrator, the camera is used as a tool for observing the process and documenting the status of the actual project, contributing to the construction of a more complete and consistent digital representation.

### 8.4 Data collection and management methods

In the ET4Digital demonstrator, data collection takes place during the phases of the real project, in a manner consistent with the training context. Environmental data is acquired at regular intervals and associated temporally with the activities in progress, while visual data is collected at significant moments during the work process.

From an operational point of view, for the trainer this involves:

- defining the data collection periods;
- associating data with project phases;
- maintaining temporal consistency between activities carried out and information collected.

The data is initially stored as **raw data** within the digital platform and then organised to facilitate reading and interpretation.

### 8.5 Integration of data into the digital platform

Data from the actual project is integrated into the demonstrator platform through links to activities and work packages. This approach allows a direct link to be maintained between:

- the data collected;
- the time of its acquisition;

- the activities underway in the real project.

Within the platform, the data is made accessible to trainers and students in a structured form, helping to consolidate the Digital Twin as a single environment for observing the project.

## 8.6 Dashboards and data visualisation

To make the data usable for training purposes, **visualisation dashboards** have been developed in the ET4Digital demonstrator, which transform raw data into graphs and time representations.

The dashboards allow you to:

- observe the trend of parameters over time;
- compare environmental data and visual data;
- link operating conditions to the activities carried out;
- stimulate discussion and interpretation of results.

These tools support the transition from data collection to data analysis, promoting the development of critical information reading skills.

## 8.7 Educational value of the data-driven approach

The integration of data into the Digital Twin reinforces experience-based learning, offering students the opportunity to observe the real project as a dynamic system, informed by operating conditions and collected data.

Data becomes a tool for:

- understand the work context;
- analyse the organisation of the construction site;
- reflect on safety, comfort and environmental quality;
- connecting activities, times and real conditions.

For the trainer, the data-driven approach provides a concrete basis for designing teaching activities that integrate practice, observation and reflection, using the Digital Twin as a learning environment geared towards understanding the construction process.

# PART IV – TRAINING USE AND ADAPTATION

## 9. Use of the Digital Twin in teaching

In the ET4Digital project, the Digital Twin is used as **an integrated learning environment**, in which the real project and its digital representation are closely linked. This approach allows operational

activities to be accompanied by structured moments of observation, analysis and discussion of the construction process, strengthening the link between practical experience and organisational understanding.

In the classroom, the Digital Twin supports the introduction of the project, the presentation of the operational phases and the reading of the sequence of activities. The visualisation of the information model, planning and collected data allows a shared vision of the process to be constructed before the practical activities begin.

In the laboratory or on the teaching site, the Digital Twin accompanies the work, providing a digital reference that makes it possible to observe the relationships between activities, times and operating conditions. At the end of the activities, the Digital Twin becomes an analysis tool, through which trainers and students can reflect on the progress of the project, compare what was planned with what was achieved and discuss the organisational choices made.

This use promotes process-based learning and prepares students to read the project as a dynamic system, in line with professional practices in the sector.

## 10. Adaptation of the demonstrator to educational and professional contexts

The ET4Digital Digital Twin demonstrator has been designed to be **adaptable to different contexts**, both in training and professional settings. As highlighted in Deliverable 3.1, the demonstrator is built using **real tools that are already present or easily introduced into the operational processes of the construction sector**, making it accessible even to **small and medium-sized enterprises**.

The use of open collaborative platforms, interoperable information models and easily integrated planning and data collection tools allows the Digital Twin model to be applied not only in structured educational contexts, but also in small-scale production environments. This is particularly relevant, as many SMEs operate with limited resources and need solutions that can be progressively integrated into existing processes.

In the educational context, this feature reinforces the value of the demonstrator as **a bridge between education and the world of work**. Students have the opportunity to engage with tools and operating methods consistent with those used in businesses, developing skills that are directly transferable to the professional context.

The demonstrator can be adapted by modulating:

- the complexity of the real project;
- the information level of the digital model;
- the degree of integration of data and sensors;
- the methods of use of the collaborative platform.

This flexibility allows trainers and companies to calibrate the Digital Twin according to their needs, while maintaining the methodological principles that characterise its approach.

## 11. Evaluation and improvement of the experience

Assessment of the Digital Twin experience is a key element in the consolidation and evolution of the demonstrator. In line with Deliverable 3.1, the evaluation concerns both the training outcomes and the effectiveness of the Digital Twin as an operational and educational tool.

Trainers can collect evaluation data through:

- observation of the activities carried out;
- comparison between planning and results obtained;
- collective discussion with students or participants;
- Reflection on the use of digital tools and data.

This information allows for the identification of possible improvements, both in relation to the organisation of the actual project and to the configuration of the Digital Twin. The demonstrator can thus be progressively refined, maintaining a consistent structure that is adaptable to the needs of different educational and professional contexts.

Evaluation becomes an integral part of the process, helping to make the Digital Twin a dynamic tool, capable of evolving over time and accompanying the digital transformation of the construction sector.

## CONCLUSIONS

This document has presented a structured approach to using and replicating a Digital Twin demonstrator in the context of training for the construction sector. The aim is to provide trainers with a clear and operational reference for integrating digital technology as a tool to support understanding of the construction process, combining practical experience with a structured and shared representation of the actual project.

The Digital Twin, as described in these guidelines, allows the project to be observed as a dynamic system in which activities, times, resources and operating conditions are closely connected. Through the organisation of work processes, time planning, visualisation of the information model and integration of data from the educational construction site, the trainer has a tool to make the dynamics that characterise daily work in the construction sector readable and discussable.

A central element of this approach is the focus on **replicability**. The demonstrator is built using real, accessible tools that are already present in the sector's operational processes, such as collaborative platforms, interoperable information models and low-complexity data collection systems. This approach allows the model to be adapted to different training and professional contexts, including those of small and medium-sized enterprises, promoting continuity between training and work practice.

The integration of data into the Digital Twin reinforces experience-based learning, offering students the opportunity to observe the project in relation to the operational conditions in which it is developed. Descriptive, documentary and measured data become tools for analysing the

organisation of the construction site, reflecting on operational choices and developing critical reading skills of the construction process.

The role of the trainer remains central to this process. Through the selection of the real project, the organisation of activities and the conscious use of digital tools, the trainer accompanies and guides students in building an integrated vision of the project. The Digital Twin thus becomes an environment for educational mediation, supporting experiential learning and contributing to the development of transferable skills in the professional context.

The proposed guidelines aim to provide a solid and flexible basis on which each trainer can build their own path, adapting it to the available resources, the profile of the students and the training objectives. In this sense, the Digital Twin represents not a technological achievement, but a methodological support to accompany training in the construction sector towards greater awareness of the processes and transformations taking place.

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## ANNEX I

### Step-by-step guide to using OpenProject BIM for the Digital Twin demonstrator (for trainers)

#### Step 1 — Access the platform and verify your account

1. Open OpenProject BIM from your browser (PC or tablet).
2. Select **Sign in** and enter your credentials.
3. After logging in, verify that the **user's initials** appear at the top (login confirmation).

#### Step 2 — Enter the demonstrator project

1. From the menu, open **Projects** to see the list of available projects.
2. Filter (if necessary) by **active / archived / favourite**.
3. Click on **the name of the demonstrator project** to open it.

#### Step 3 — Read the 'Project Overview' as a control panel

In the **Project Overview** tab, check and use this information:

- **Project description** (useful for introducing students to the scenario and objectives);
- **Status** (general status);
- **Members** (who is participating);
- **Macro overview** (summary view of the project).

#### Step 4 — Use the side menu to navigate the work areas

On the left-hand side is a list of project sections (Work packages, BCF, Gantt, Members, Meetings, Documents, etc.).

This column is the operational 'map' of the platform for moving between:

- activity organisation,
- BIM visualisation,
- planning,
- collaboration,
- documentation,
- data (sensors).

#### Step 5 — Manage activities with "Work Packages" (WBS)

1. Open **Work Packages**: these represent the **Work Breakdown Structure (WBS)** of the project.
2. Verify that the activities are organised by **phase** (and that they are legible to students).
3. Check the following for each task:
  - **status**,
  - **priority**,

- **assignee** (responsible person).
- 4. To focus on the student, use the '**tasks assigned to me**' view.
- 5. Open a Work Package to see the details (description, status, assignments).

### Step 6 — View models in "BIM Collaboration Format (BCF)"

1. Open **BIM Collaboration Format (BCF)**.
2. The main window displays the selected model; on the sides, you will find tools for filtering and managing models.
3. In the side panel, you can:
  - activate/deactivate models (check/uncheck),
  - explore **objects, classes, and storeys** (floors).
4. Open the list of IFC models (icon/menu at the top) to see the uploaded files and the options available based on your permissions.
5. To upload a model:
  - click the **green** button (upload),
  - upload an **IFC** file,
  - set (if necessary) the model as **default**.
6. Use the view commands to switch between:
  - 2D/3D,
  - orthographic/perspective,
  - full view,
  - **sections and slices** to enter the model.
7. Load multiple models and use them in **overlay** (e.g. BIM + point cloud) for comparisons and status checks.

### Step 7 — Plan and read the work schedule in "Gantt Charts"

1. Open **Gantt Charts**.
2. Here you will find the same information as in the Work Packages, plus:
  - **start/finish dates**,
  - **predecessors/successors**,
  - graphical representation of the Gantt chart.
3. Use the information button (icon 'i') to call up useful details while reading.
4. When available, use the **3D model view of the task** to clarify which part of the work a Gantt activity refers to.

### Step 8 — Manage participants and roles in 'Members'

1. Open **Members** to see the list of participants.
2. Filter the view by groups or by 'all'.
3. Check/assign **roles** (based on available permissions) and check consistency with assigned activities.

### Step 9 — Organise meetings and coordination sessions in "Meetings"

1. Open **Meetings**.
2. Create a meeting with the green button:
  - **one-time** or **recurring**.
3. Enter the title and details; select participants from the member list.
4. Use the meeting as a coordination space: agenda, updates and actions.

#### **Step 10 — Share materials in 'Documents' (File Sharing)**

1. Open the **Documents** section for file sharing.
2. Upload documents and folders useful for teaching (instructions, photos, worksheets, assignments).
3. Keep a simple folder structure (e.g. 'Phase 1', 'Phase 2', 'Photos', 'Student work').

#### **Step 11 — Consult sensor data (Sensor Readings)**

1. Access **Sensor Readings** from the menu (the guide shows access from Work Packages and/or recent activities).
2. View the data by **time stamp** and open the details by clicking on **the ID**.
3. Use the 'Latest activity' view to quickly consult recent readings.
4. Check the collection frequency (in the case of ET4Digital: readings at regular intervals and defined time slots).

#### **Step 12 — Read data immediately with the Sensors Dashboard**

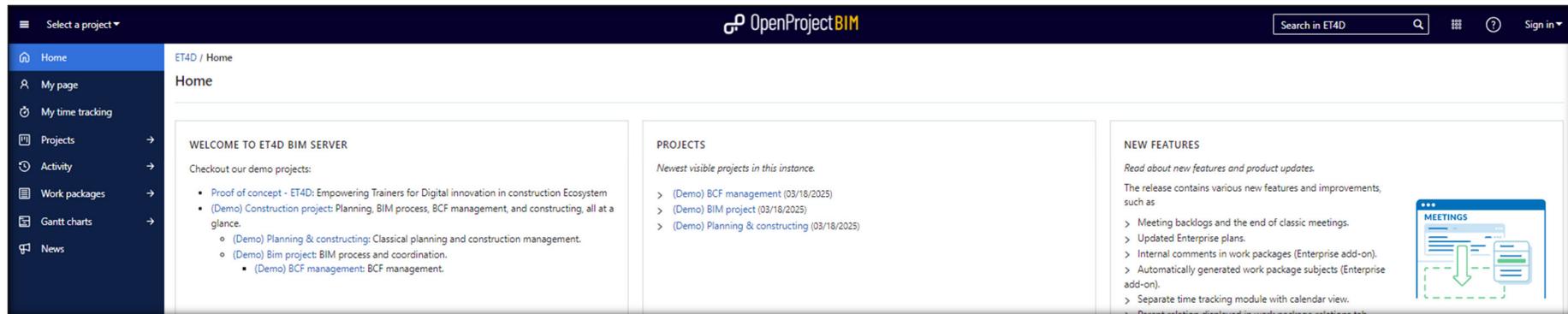
When available, consult the **Sensors Dashboard** from **the Project Overview**: here the data is presented in graphical form (trends and comparisons), which is more readable for students and trainers.



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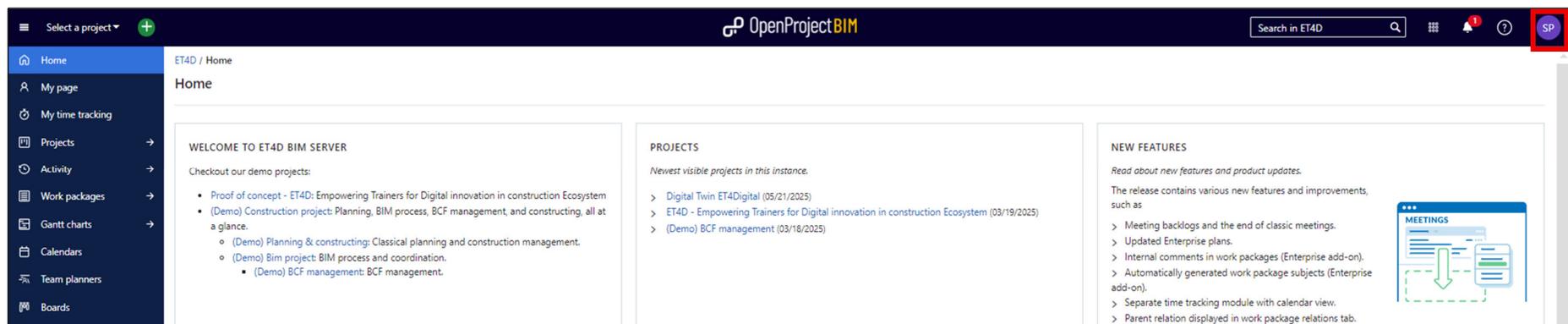
## ANNEX II

Home screen-Sign in button.



Logging in to the Platform

Once logged in, the initials of the user can be seen if logged in.





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## Starting a Project

To start, go to projects to view all the projects with which the logged-in user is associated/engaged.

The screenshot shows the OpenProjectBIM web interface. The top navigation bar includes a search bar, a notification bell, and a user profile icon labeled 'SP'. The left sidebar contains a menu with items: Home, My page (highlighted with a red box), My time tracking, Projects, Activity, Work packages, Gantt charts, Calendars, Team planners, Boards, Meetings, News, and Time and costs. The main content area is titled 'Home' and contains three columns: 'WELCOME TO ET4D BIM SERVER' with demo project details, 'PROJECTS' with a list of recent projects and a '+ Project' button, and 'NEW FEATURES' with a list of updates and a 'MEETINGS' diagram.



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List of all the projects can be viewed, or filtered as per requirement for active, archived or favourite projects. The projects can be accessed by clicking on the name.

The screenshot shows the OpenProjectBIM interface. The top navigation bar includes a search bar for ET4D and a user profile icon. The left sidebar shows a navigation menu with options like 'Active projects', 'My projects', 'Favorite projects', 'Archived projects', and 'PROJECT STATUS' (On track, Off track, At risk). The main content area displays a table of active projects. The first row, '(Demo) Construction project', is highlighted with a red box. The table columns are: FAVORITE, NAME, STATUS, PUBLIC, CREATED ON, LATEST ACTIVITY AT, REQUIRED DISK STORAGE, and SENSORS.

FAVORITE	NAME	STATUS	PUBLIC	CREATED ON	LATEST ACTIVITY AT	REQUIRED DISK STORAGE	SENSORS
	(Demo) Construction project	ON TRACK	✓	03/18/2025	03/18/2025		...
	▶ (Demo) BIM project	ON TRACK	✓	03/18/2025	06/06/2025		...
	▶ (Demo) BCF management	ON TRACK	✓	03/18/2025	06/06/2025		...
	▶ (Demo) Planning & constructing	ON TRACK	✓	03/18/2025	06/06/2025		...
	Digital Twin ET4Digital	ON TRACK		05/21/2025	05/21/2025		...
	ET4D - Empowering Trainers for Digital innovation in construction Ecosystem	ON TRACK		03/19/2025	10/15/2025	24 MB	...



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## Project Overview

The overview panel opens once you open a project.

The screenshot shows the OpenProject BIM interface for the project "ET4D - Empowering Trainers for Digital innovation in construction Ecosystem". The left sidebar contains a navigation menu with "Overview" selected. The main content area is divided into three sections: "PROJECT DESCRIPTION", "PROJECT STATUS", and "MEMBERS".

**PROJECT DESCRIPTION**

ET4D- Empowering Trainers for Digital innovation in construction Ecosystem.

The construction sector is one of the least digitalized sectors, especially in SMEs. ET4Digital is an European project funded by the Erasmus+ program (2024–2026), which aims to support the digital transition of the construction sector. Its main objective is to train trainers and teachers in innovative digital tools so that they can, in turn, help small and medium-sized enterprises (SMEs) in the construction industry adopt these technologies.

To achieve this, the project is organized into several components, including an analysis of the sector's digital ecosystem (WP2) and the creation of an educational demonstrator based on digital twins (WP3), designed to train professionals using practical and interactive tools. A comprehensive training program is also planned to strengthen trainers' skills (WP4).

The project is coordinated by the Bologna Institute of Professional Training in Construction (Italy) and brings together nine European partners from six countries. These include the Fundación Laboral de la Construcción (Spain), Bau Bildung Sachsen (Germany), PEDMEDE (Greece), Tallinna Tehnikaülikool University (Estonia), the University of Bologna, the innovation firm R2M Solution, the Knowledge and Skills Management Centre K&S Skopje (North Macedonia) and the European Center of Entrepreneurship Competence & Excellence (Austria). This consortium combines expertise in vocational training, engineering, innovation and pedagogy.

**PROJECT STATUS**

**ON TRACK** -

The Project is on track.

**MEMBERS**

**Member**

- benedetta.balzani3 @unibo.it
- digging.company@gmail.com
- MEP Engineers
- sensor raspberry
- Structural Engineers
- Valentina Dell'Infante

**Project admin**

- Davide Cocolini
- Marco Alvise Bragadin
- Shrinija Poudel

+ Member View all members



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Here you can add the description of the project, and information that might help understand the project by everyone.

The screenshot displays the OpenProject BIM interface for the project "ET4D - Empowering Trainers for Digital innovation in construction Ecosystem". The interface is divided into several sections:

- Navigation Sidebar:** Includes Overview, Activity, Roadmap, Work packages, BCF, Gantt charts, Calendars, Boards, Meetings, Paiements, Backlogs, News, Time and costs, Budgets, and Forums.
- Project Overview:** Shows the project title and a "PROJECT DESCRIPTION" section (highlighted with a red box). The description states: "ET4D- Empowering Trainers for Digital innovation in construction Ecosystem. The construction sector is one of the least digitalized sectors, especially in SMEs. ET4Digital is an European project funded by the Erasmus+ program (2024–2026), which aims to support the digital transition of the construction sector. Its main objective is to train trainers and teachers in innovative digital tools so that they can, in turn, help small and medium-sized enterprises (SMEs) in the construction industry adopt these technologies. To achieve this, the project is organized into several components, including an analysis of the sector's digital ecosystem (WP2) and the creation of an educational demonstrator based on digital twins (WP3), designed to train professionals using practical and interactive tools. A comprehensive training program is also planned to strengthen trainers' skills (WP4). The project is coordinated by the Bologna Institute of Professional Training in Construction (Italy) and brings together nine European partners from six countries. These include the Fundación Laboral de la Construcción (Spain), Bau Bildung Sachsen (Germany), PEDMEDE (Greece), Tallinna Tehnikakooli University (Estonia), the University of Bologna, the innovation firm R2M Solution, the Knowledge and Skills Management Centre K&S Skopje (North Macedonia) and the European Center of Entrepreneurship Competence & Excellence (Austria). This consortium combines expertise in vocational training, engineering, innovation and pedagogy."
- PROJECT STATUS:** Shows "ON TRACK" with a green circle icon and the text "The Project is on track."
- MEMBERS:** Lists project participants, including "Member" (benedetta.balzanis, digging.company, MEP Engineers, sensor raspberry, Structural Engineers, Valentina Dell'Infante) and "Project admin" (Davide Coccolini, Marco Alvise Bragadin, Shrinija Poudel). A "+ Member" button and "View all members" link are also present.
- Project attributes:** Shows "Sensors" with a minus sign and an edit icon.



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Project status panel shows the summarized progress of the project.

The screenshot displays the OpenProjectBIM interface for the ET4D project. The top navigation bar includes the project name, a search bar, and user profile icons. The left sidebar lists various project management tools. The main content area is divided into three panels: 'PROJECT DESCRIPTION' (highlighted with a red box), 'PROJECT STATUS' (highlighted with a red box), and 'MEMBERS'. The 'PROJECT STATUS' panel shows a green circle icon and the text 'ON TRACK' and 'The Project is on track.'. The 'MEMBERS' panel lists project admin (Davide Coccolini, Marco Alvise Bragadin, Shrinija Poudel) and members (benedetta.balzani3, digging.company, MEP Engineers, sensor raspberry, Structural Engineers, Valentina Dell'Infante).



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Members panel shows a short list of stakeholders in the project.

The screenshot displays the OpenProject BIM interface for the project "ET4D - Empowering Trainers for Digital innovation in construction Ecosystem". The interface includes a sidebar with navigation options such as Overview, Activity, Roadmap, Work packages, BCF, Gantt charts, Calendars, Boards, Meetings, Payments, Backlogs, News, Time and costs, Budgets, and Forums. The main content area is titled "Overview" and contains three highlighted sections:

- PROJECT DESCRIPTION:** ET4D- Empowering Trainers for Digital innovation in construction Ecosystem. The construction sector is one of the least digitalized sectors, especially in SMEs. ET4Digital is an European project funded by the Erasmus+ program (2024–2026), which aims to support the digital transition of the construction sector. Its main objective is to train trainers and teachers in innovative digital tools so that they can, in turn, help small and medium-sized enterprises (SMEs) in the construction industry adopt these technologies. To achieve this, the project is organized into several components, including an analysis of the sector's digital ecosystem (WP2) and the creation of an educational demonstrator based on digital twins (WP3), designed to train professionals using practical and interactive tools. A comprehensive training program is also planned to strengthen trainers' skills (WP4). The project is coordinated by the Bologna Institute of Professional Training in Construction (Italy) and brings together nine European partners from six countries. These include the Fundación Laboral de la Construcción (Spain), Bau Bildung Sachsen (Germany), PEDMEDE (Greece), Tallinna Tehnikaülikool University (Estonia), the University of Bologna, the innovation firm R2M Solution, the Knowledge and Skills Management Centre K&S Skopje (North Macedonia) and the European Center of Entrepreneurship Competence & Excellence (Austria). This consortium combines expertise in vocational training, engineering, innovation and pedagogy.
- PROJECT STATUS:** ON TRACK. The Project is on track.
- MEMBERS:** Member: benedetta.balzani3@unibo.it, digging.company@gmail.com, MEP Engineers, sensor raspberry. Project admin: Davide Coccolini, Marco Alvisè Bragadin, Shrinija Poudel.

Additional elements include a search bar at the top right, a notification bell, and a "Project attributes" panel on the right side.



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Macro activities overview showcases a complex data of selected requirement.

ET4D - Empowering Trainers for Digital innovation in construction Ecosystem / Overview

**PROJECT DESCRIPTION**

ET4D- Empowering Trainers for Digital innovation in construction Ecosystem.

The construction sector is one of the least digitalized sectors, especially in SMEs. ET4Digital is an European project funded by the Erasmus+ program (2024-2026), which aims to support the digital transition of the construction sector. Its main objective is to train trainers and teachers in innovative digital tools so that they can, in turn, help small and medium-sized enterprises (SMEs) in the construction industry adopt these technologies.

To achieve this, the project is organized into several components, including an analysis of the sector's digital ecosystem (WP2) and the creation of an educational demonstrator based on digital twins (WP3), designed to train professionals using practical and interactive tools. A comprehensive training program is also planned to strengthen trainers' skills (WP4).

The project is coordinated by the Bologna Institute of Professional Training in Construction (Italy) and brings together nine European partners from six countries. These include the Fundación Laboral de la Construcción (Spain), Bau Bildung Sachsen (Germany), PEDMEDE (Greece), Tallinna Tehnikaülikool University (Estonia), the University of Bologna, the innovation firm R2M Solution, the Knowledge and Skills Management Centre K&S Skopje (North Macedonia) and the European Center of Entrepreneurship Competence & Excellence (Austria). This consortium combines expertise in vocational training, engineering, innovation and pedagogy.

**PROJECT STATUS**

**ON TRACK**

The Project is on track.

**MEMBERS**

Member

- benedetta.balzano3 @unibo.it
- digging.company @gmail.com
- MEP Engineers
- sensor raspberry
- Structural Engineers
- Valentina Dell'Infante

Project admin

- Davide Cocolini
- Marco Alvise Bragadin
- Shrinija Poudel

+ Member View all members

**MACRO ACTIVITIES OVERVIEW**

Status



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On the left-hand side, this list shows all the different sectors of a project. From here different aspects of the project can be accessed.

The screenshot shows the OpenProject BIM interface for the project "ET4D - Empowering Trainers for Digital innovation in construction Ecosystem". The left sidebar is highlighted with a red box, listing various navigation options. The main content area is divided into several sections:

- PROJECT DESCRIPTION:** ET4D- Empowering Trainers for Digital innovation in construction Ecosystem. The construction sector is one of the least digitalized sectors, especially in SMEs. ET4Digital is an European project funded by the Erasmus+ program (2024–2026), which aims to support the digital transition of the construction sector. Its main objective is to train trainers and teachers in innovative digital tools so that they can, in turn, help small and medium-sized enterprises (SMEs) in the construction industry adopt these technologies.
- PROJECT STATUS:** ON TRACK. The Project is on track.
- MEMBERS:** A list of project members, including benedetta.balzano3@unibo.it, digging.company@gmail.com, IMEP Engineers, sensor raspberry, Structural Engineers, and Valentina Dell'Infante.
- MACRO ACTIVITIES OVERVIEW:** A section for tracking project activities, currently showing a status of "300".



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## Work Packages-Work Breakdown Structure(WBS)

Work packages: this gives the list of all the work packages, it is basically the work break down structure of the project.

The screenshot displays the OpenProject BIM interface for the project "ET4D - Empowering Trainers for Digital innovation in construction Ecosystem". The left sidebar contains a navigation menu with the following items: Overview, Activity, Roadmap, Work packages (highlighted with a red box), BCF, Gantt charts, Calendars, Boards, Meetings, Paiements, Backlogs, News, Time and costs, Budgets, Forums, and OpenProjectBIM CDE ... The main content area shows the "Overview" page with the following sections:

- PROJECT DESCRIPTION**

ET4D- Empowering Trainers for Digital innovation in construction Ecosystem.

The construction sector is one of the least digitalized sectors, especially in SMEs. ET4Digital is an European project funded by the Erasmus+ program (2024-2026), which aims to support the digital transition of the construction sector. Its main objective is to train trainers and teachers in innovative digital tools so that they can, in turn, help small and medium-sized enterprises (SMEs) in the construction industry adopt these technologies.

To achieve this, the project is organized into several components, including an analysis of the sector's digital ecosystem (WP2) and the creation of an educational demonstrator based on digital twins (WP3), designed to train professionals using practical and interactive tools. A comprehensive training program is also planned to strengthen trainers' skills (WP4).

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- PROJECT STATUS**

ON TRACK -

The Project is on track.
- MEMBERS**

Member

  - benedetta.balzano3@unibo.it
  - digging.company@gmail.com
  - MEP Engineers
  - sensor raspberry.
  - Structural Engineers
  - Valentina Dell'Infante

Project admin

  - Davide Cocolini
  - Marco Alvise Bragadin
  - Shrinija Poudel

+ Member View all members
- Project attributes**

Sensors



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The tasks are categorised under different phases and listed in comprehensible manner. The status of tasks, phases, and priority level can be checked in a glance. The list of assignee provides with added layer of information that helps with clearly understanding the responsible authority to be contacted in case of an issue.

The screenshot shows the OpenProjectBIM interface. The top navigation bar includes the project name 'ET4D - Empowering Trainers for Digital innovation in construction Ecosystem', the OpenProjectBIM logo, a search bar, and notification icons. The left sidebar shows a 'Work packages' menu with options like 'All open', 'Latest activity', 'Recently created', 'Overdue', 'Summary', 'Created by me', 'Assigned to me', 'Shared with users', and 'Shared with me'. The main content area displays a table of tasks under the heading 'All open'. The table has columns for ID, SUBJECT, TYPE, STATUS, ASSIGNEE, and PRIORITY. The tasks are organized into a tree structure under 'A.00. Project' and 'A.01. Walls'.

ID	SUBJECT	TYPE	STATUS	ASSIGNEE	PRIORITY
122	A.00. Project	TASK	New	MB Marco Alvise Bragadin	Low
78	A.00. Preparation	PHASE	New	SP Shrinija Poudel	Normal
79	A.00.3. Commencement of works	TASK	New	D@ digging.company@gmail.com	Normal
80	A.00.2. Site preparation	TASK	New	D@ digging.company@gmail.com	Normal
81	A.00.1. Securing the construction site with site fences	TASK	New	D@ digging.company@gmail.com	High
137	A.00.4 Install sensors	TASK	New	SR sensor raspberry	Low
82	A.01. Walls	PHASE	New	SE Structural Engineers	Normal
83	A.01.1. Brick walls Type 1	TASK	New	B@ benedetta.balzani3@unibo.it	Normal
84	A.01.2. Brick walls Type 2	TASK	New	B@ benedetta.balzani3@unibo.it	Normal
85	A.02. Staircase	PHASE	New	SP Shrinija Poudel	Normal
86	A.02.1. Staircase walls	TASK	New	SP Shrinija Poudel	Normal



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The users can conveniently get a list of tasks assigned to them.

The screenshot shows the OpenProjectBIM interface. The top navigation bar includes the project name "ET4D - Empowering Trainers for Digital innovation in construction Ecosystem", the OpenProjectBIM logo, a search bar, and user profile information (SP). The left sidebar shows a "Work packages" menu with "All open" highlighted in red. The main content area displays a table of tasks under the heading "All open".

ID	SUBJECT	TYPE	STATUS	ASSIGNEE	PRIORITY
122	A.00. Project	TASK	New	MB Marco Alvise Bragadin	Low
78	A.00. Preparation	PHASE	New	SP Shrinija Poudel	Normal
79	A.00.3. Commencement of works	TASK	New	D@ digging.company@gmail.com	Normal
80	A.00.2. Site preparation	TASK	New	D@ digging.company@gmail.com	Normal
81	A.00.1. Securing the construction site with site fences	TASK	New	D@ digging.company@gmail.com	High
137	A.00.4 Install sensors	TASK	New	SR sensor raspberry	Low
82	A.01. Walls	PHASE	New	SE Structural Engineers	Normal
83	A.01.1. Brick walls Type 1	TASK	New	B@ benedetta.balzani3@unibo.it	Normal
84	A.01.2. Brick walls Type 2	TASK	New	B@ benedetta.balzani3@unibo.it	Normal
85	A.02. Staircase	PHASE	New	SP Shrinija Poudel	Normal
86	A.02.1. Staircase walls	TASK	New	SP Shrinija Poudel	Normal
87	A.02.2. Staircase step/grades	TASK	New	B@ benedetta.balzani3@unibo.it	Normal



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The status of the task and person who assigned the task can be seen here.

The screenshot shows the OpenProject BIM interface. The top navigation bar includes the project name "ET4D - Empowering Trainers for Digital innovation in construction Ecosystem", the OpenProject BIM logo, and a search bar. The left sidebar shows a "Work packages" menu with options like "All open", "Latest activity", "Overdue", and "Assigned to me" (which is selected). The main content area displays a table of tasks assigned to the user.

ID	SUBJECT	TYPE	STATUS	AUTHOR	UPDATED ON
98	A.05.1. Paint internal walls	TASK	New	Valentina Dell'Infante	10/15/2025 3:50 PM
86	A.02.1. Staircase walls	TASK	New	Valentina Dell'Infante	10/15/2025 3:48 PM
133	A.06. Roof	PHASE	New	Jules Verrier	10/15/2025 3:47 PM
93	A.03. Floorings	PHASE	New	Valentina Dell'Infante	10/15/2025 3:47 PM
85	A.02. Staircase	PHASE	New	Valentina Dell'Infante	10/15/2025 3:47 PM
78	A.00. Preparation	PHASE	New	Valentina Dell'Infante	10/15/2025 3:44 PM



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Click the back arrow to back to the project overview list, from where other parts of the project can be accessed.

The screenshot shows the OpenProjectBIM interface. The top navigation bar includes the ET4D logo, the text "ET4D - Empowering Trainers for Digital innovation in construction Ecosystem", the OpenProjectBIM logo, a search bar, and user profile icons. The left sidebar is titled "Work packages" and contains a search bar and a list of filters: "DEFAULT", "All open", "Latest activity", "Recently created", "Overdue", "Summary", "Created by me", "Assigned to me" (highlighted), "Shared with users", and "Shared with me". The main content area is titled "Assigned to me" and displays a table of work packages. The table has columns for ID, SUBJECT, TYPE, STATUS, AUTHOR, and UPDATED ON. There are six rows of data, each representing a different task or phase assigned to the user.

ID	SUBJECT	TYPE	STATUS	AUTHOR	UPDATED ON
98	A.05.1. Paint internal walls	TASK	New	Valentina Dell'Infante	10/15/2025 3:50 PM
86	A.02.1. Staircase walls	TASK	New	Valentina Dell'Infante	10/15/2025 3:48 PM
133	A.06. Roof	PHASE	New	Jules Verrier	10/15/2025 3:47 PM
93	A.03. Floorings	PHASE	New	Valentina Dell'Infante	10/15/2025 3:47 PM
85	A.02. Staircase	PHASE	New	Valentina Dell'Infante	10/15/2025 3:47 PM
78	A.00. Preparation	PHASE	New	Valentina Dell'Infante	10/15/2025 3:44 PM



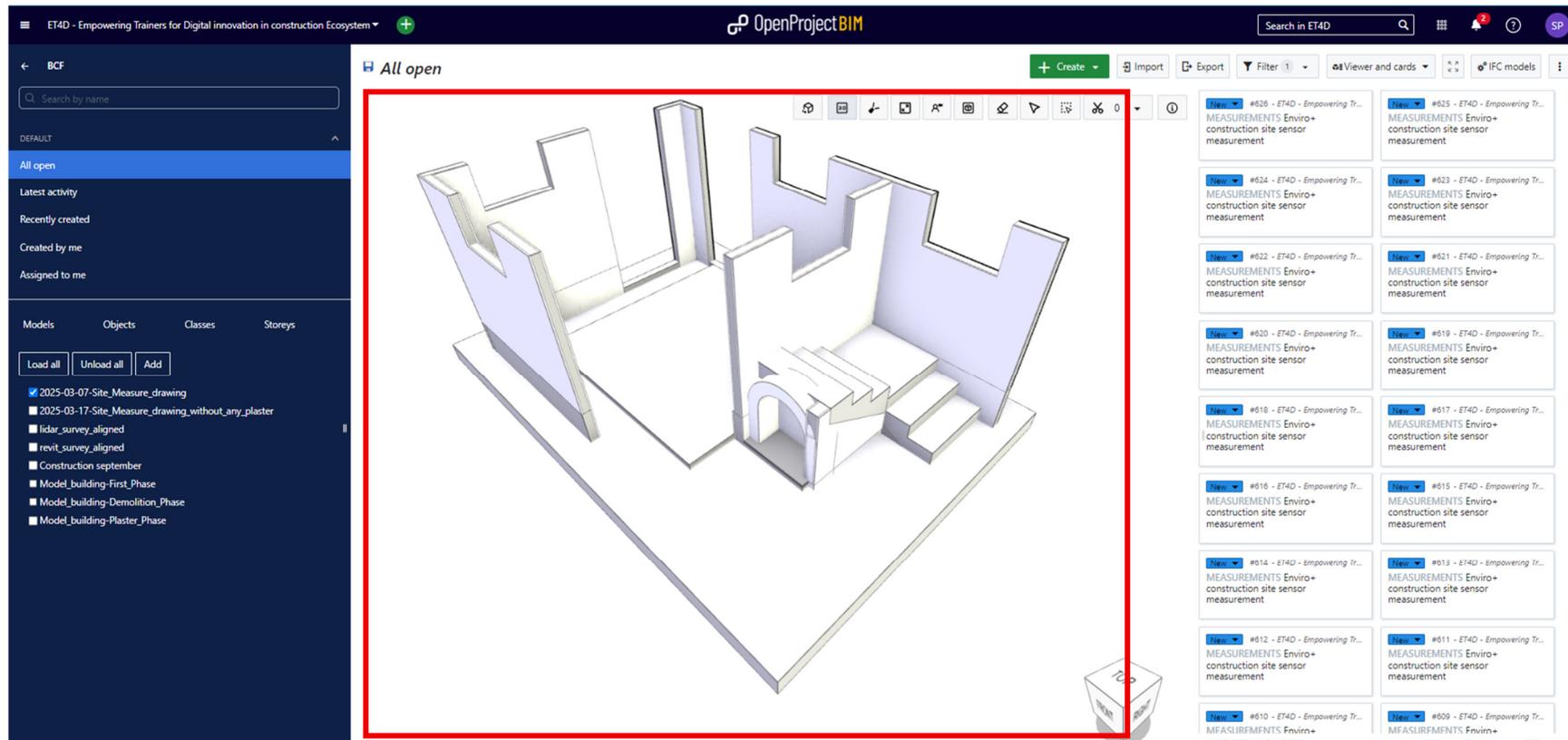
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## BIM Collaboration Format (BCF)

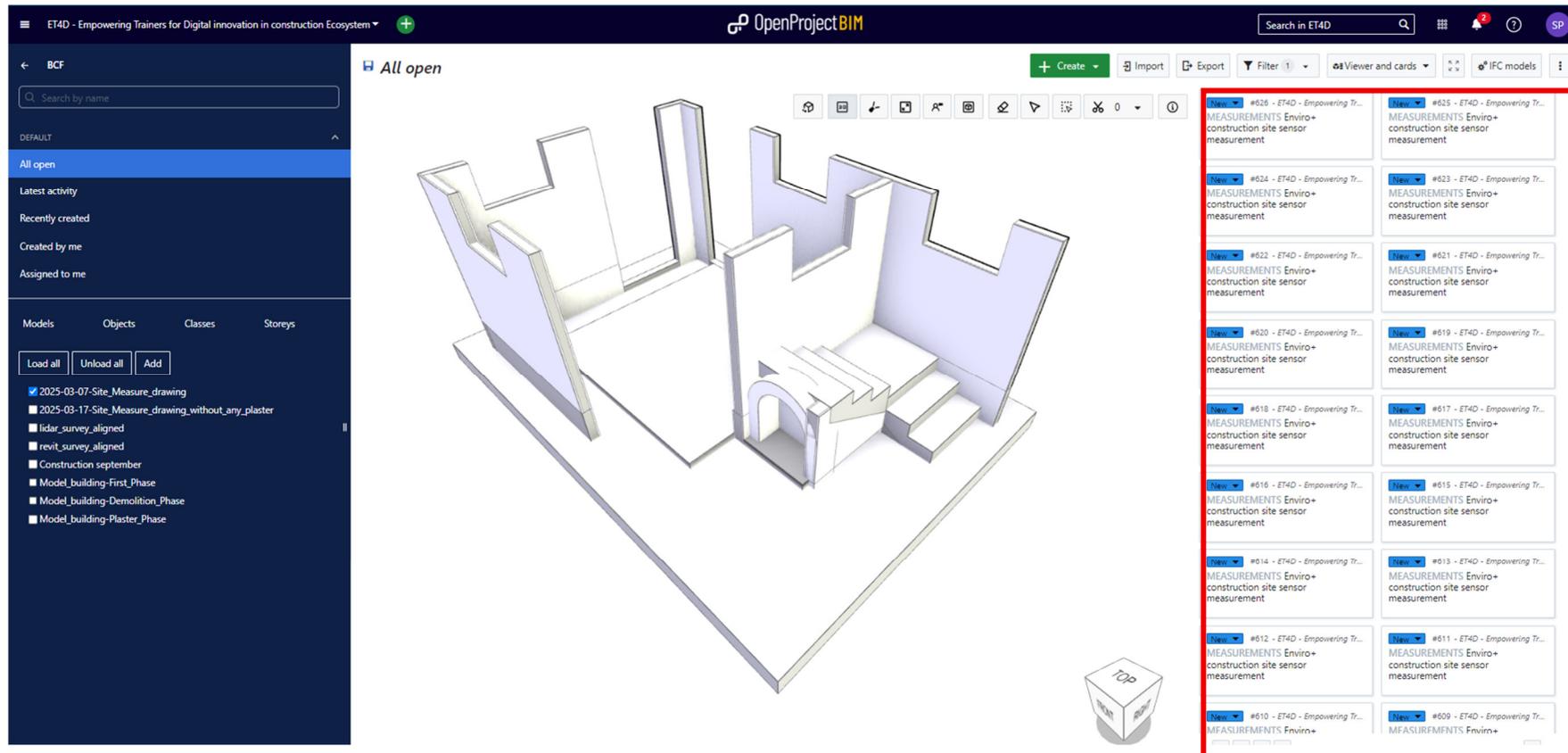
BIM Collaboration Format allows the user to view the BIM model of the project.

The screenshot shows the OpenProject BIM interface. The left sidebar contains a navigation menu with the following items: Overview, Activity, Roadmap, Work packages, BCF (highlighted with a red box), Gantt charts, Calendars, Boards, Meetings, Paiements, Backlogs, News, Time and costs, Budgets, Forums, and OpenProjectBIM CDE ... The main content area is titled 'Overview' and contains three panels: 'PROJECT DESCRIPTION' with text about the project's goals and partners, 'PROJECT STATUS' showing 'ON TRACK' with a green circle, and 'MEMBERS' listing project members and administrators. The top navigation bar includes the project name, a search bar, and user profile information.

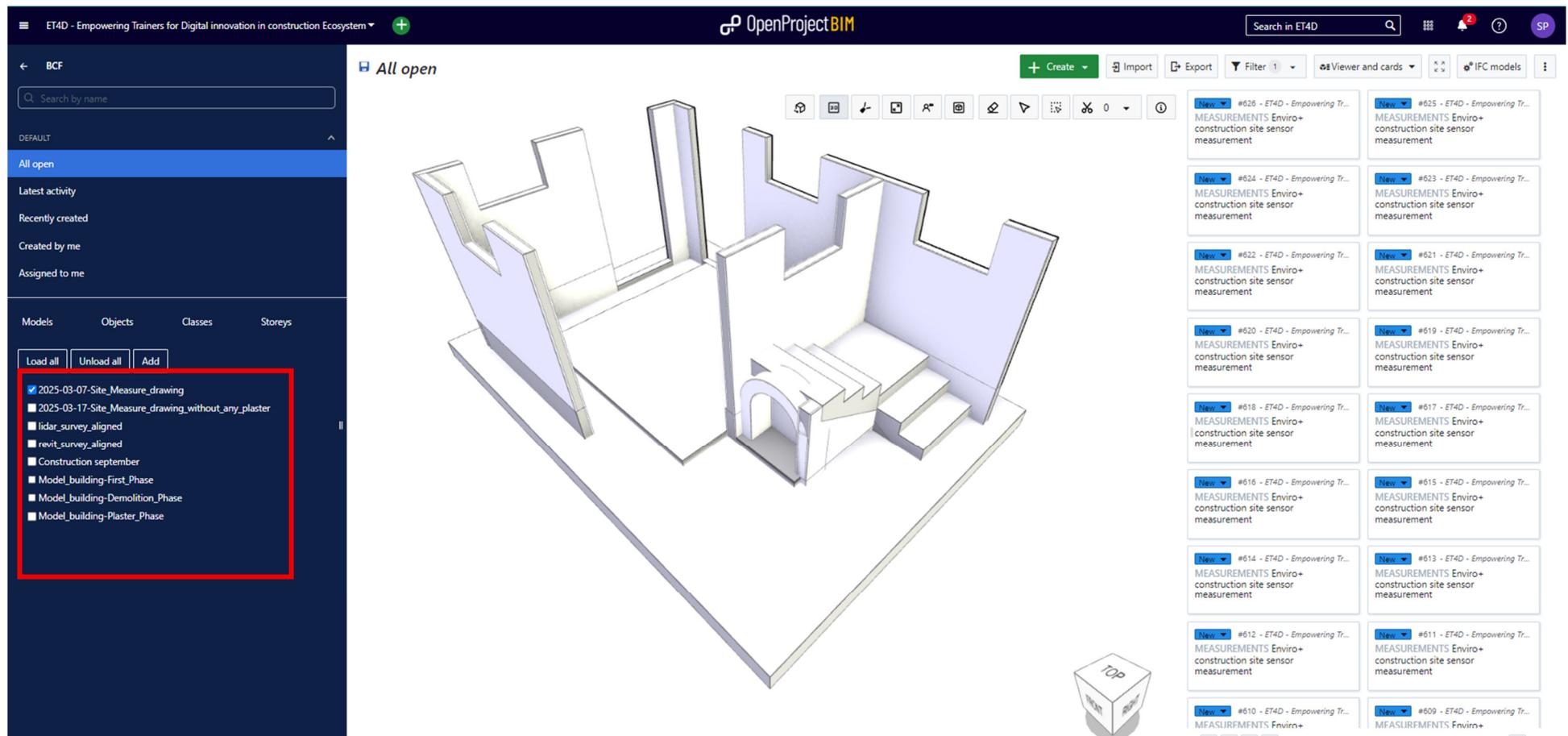
The main part of the window shows the BIM model that is/are selected.



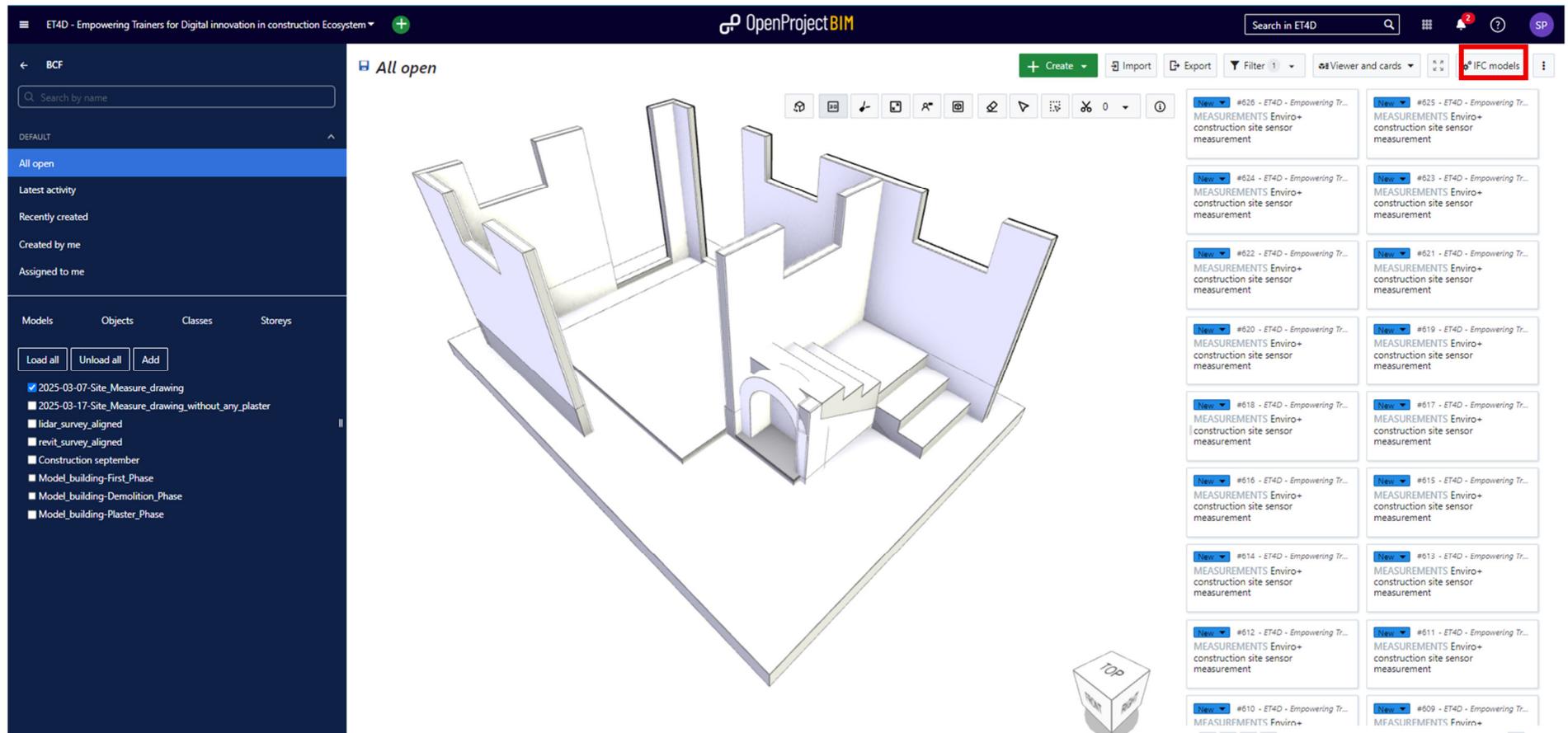
The right hand side of the BCF window can be filtered to show just the model or other information from the drop-down menu on the top.



The list of available IFC models can be found on the left-hand side. The models can be checked or unchecked to view or hide the models respectively. Model objects, classes and storeys can also be viewed individually.



The list of all IFC models can be accessed by clicking on the right-hand top corner.





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This window gives the details of the uploaded models, the models can be downloaded, edited or deleted, according to the permission granted to the user.

The screenshot shows the OpenProject BIM interface. The top navigation bar includes the project name "ET4D - Empowering Trainers for Digital innovation in construction Ecosystem", the OpenProject BIM logo, a search bar, and user profile information. The left sidebar shows navigation options like "BCF", "All open", "Latest activity", "Recently created", "Created by me", and "Assigned to me". The main content area displays a table of IFC models with columns for Title, Default Model, Created On, Updated On, Uploader, and Processing?.

TITLE	DEFAULT MODEL	CREATED ON	UPDATED ON	UPLOADER	PROCESSING?
2025-03-07-Site_Measure_drawing	✓	2025-03-19 15:26:52 UTC	03/19/2025	Valentina Dell'Infante	Completed
2025-03-17-Site_Measure_drawing_without_any_plaster		2025-03-27 15:05:08 UTC	03/27/2025	Shrinija Poudel	Completed
lidar_survey_aligned		2025-03-31 10:05:58 UTC	03/31/2025	Valentina Dell'Infante	Completed
revit_survey_aligned		2025-03-31 10:07:58 UTC	03/31/2025	Valentina Dell'Infante	Completed
Construction september	✓	2025-07-22 11:20:37 UTC	07/22/2025	Jules Verrier	Completed
Model_building-First_Phase		2025-10-16 10:39:12 UTC	10/16/2025	Shrinija Poudel	Completed
Model_building-Demolition_Phase		2025-10-16 10:40:15 UTC	10/16/2025	Shrinija Poudel	Completed
Model_building-Plaster_Phase		2025-10-16 10:41:28 UTC	10/16/2025	Shrinija Poudel	Completed



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The green button on the top right corner allows to upload a new IFC model.

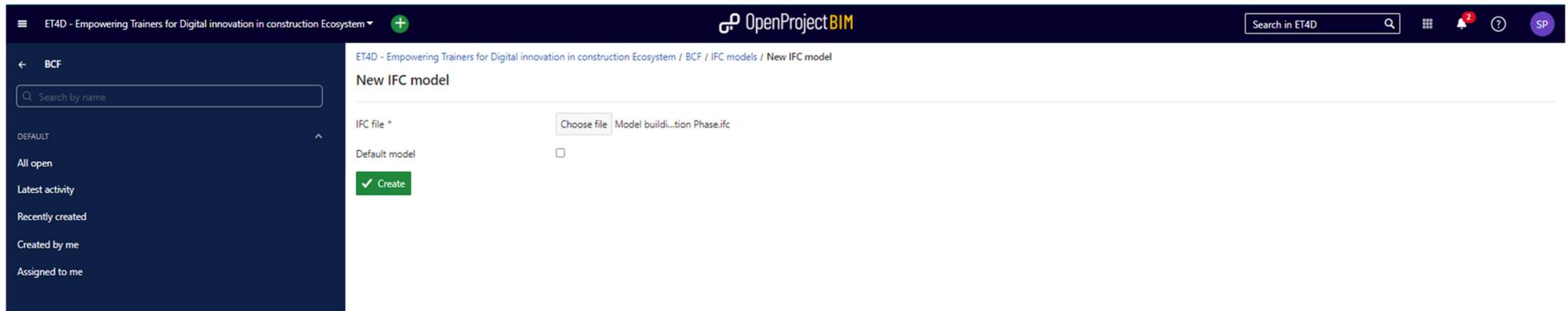
The screenshot shows the OpenProject BIM interface. The top navigation bar includes the ET4D logo, the OpenProject BIM logo, a search bar, and user profile icons. The main content area displays a list of IFC models under the heading 'IFC models'. A green button with a plus sign and the text '+ IFC model' is highlighted with a red box in the top right corner of the main content area. The table below lists several IFC models with columns for Title, Default Model, Created On, Updated On, Uploader, and Processing?.

TITLE	DEFAULT MODEL	CREATED ON	UPDATED ON	UPLOADER	PROCESSING?
2025-03-07-Site_Measure_drawing	✓	2025-03-19 15:26:52 UTC	03/19/2025	Valentina Dell'Infante	Completed
2025-03-17-Site_Measure_drawing_without_any_plaster		2025-03-27 15:05:08 UTC	03/27/2025	Shrinija Poudel	Completed
lidar_survey_aligned		2025-03-31 10:05:58 UTC	03/31/2025	Valentina Dell'Infante	Completed
revit_survey_aligned		2025-03-31 10:07:58 UTC	03/31/2025	Valentina Dell'Infante	Completed
Construction september	✓	2025-07-22 11:20:37 UTC	07/22/2025	Jules Verrier	Completed
Model_building-First_Phase		2025-10-16 10:39:12 UTC	10/16/2025	Shrinija Poudel	Completed
Model_building-Demolition_Phase		2025-10-16 10:40:15 UTC	10/16/2025	Shrinija Poudel	Completed
Model_building-Plaster_Phase		2025-10-16 10:41:28 UTC	10/16/2025	Shrinija Poudel	Completed

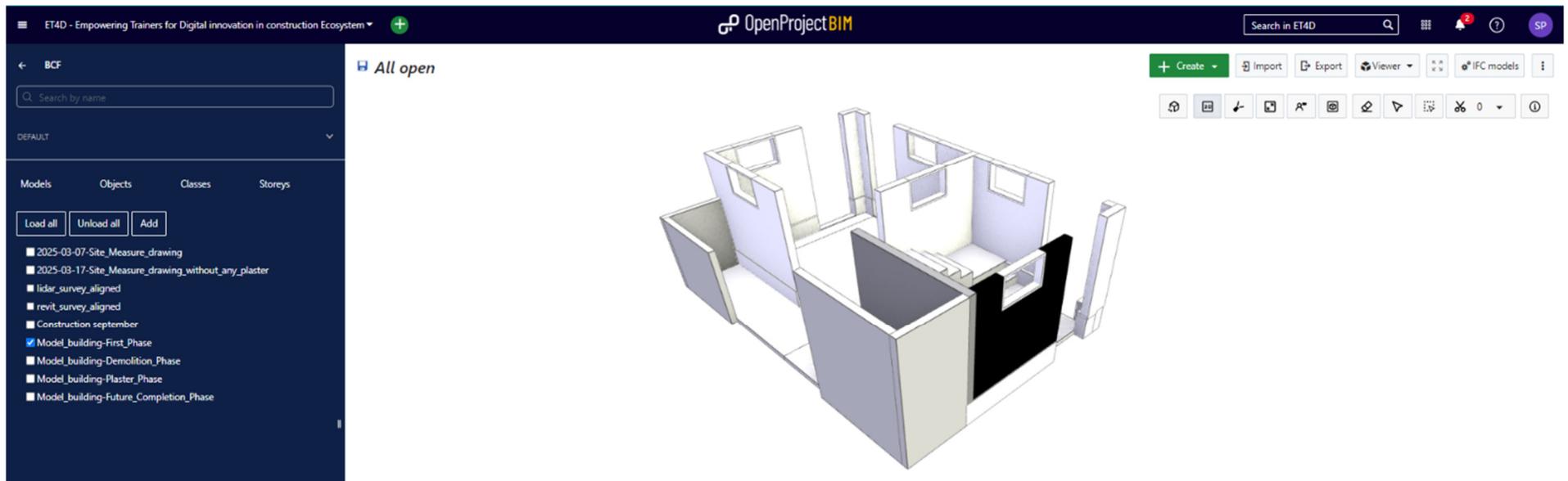


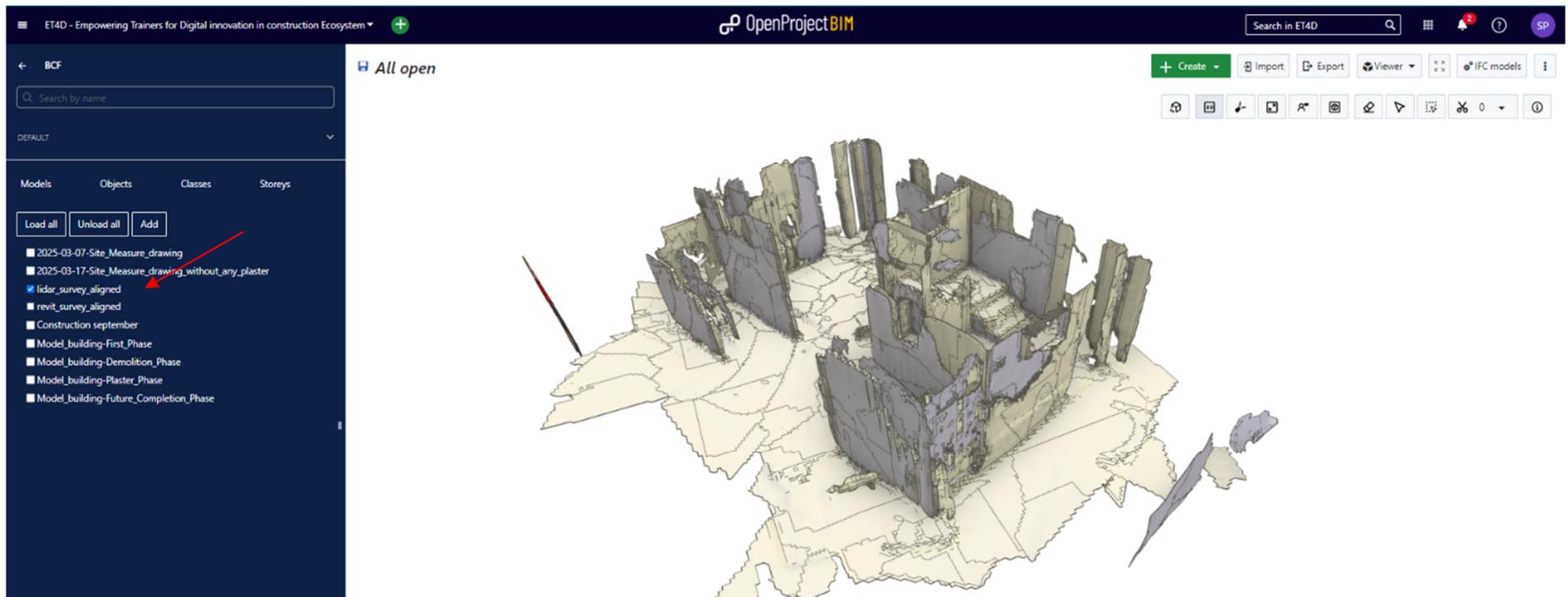
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You can choose if the model is default model while uploading, or this can be changed later.

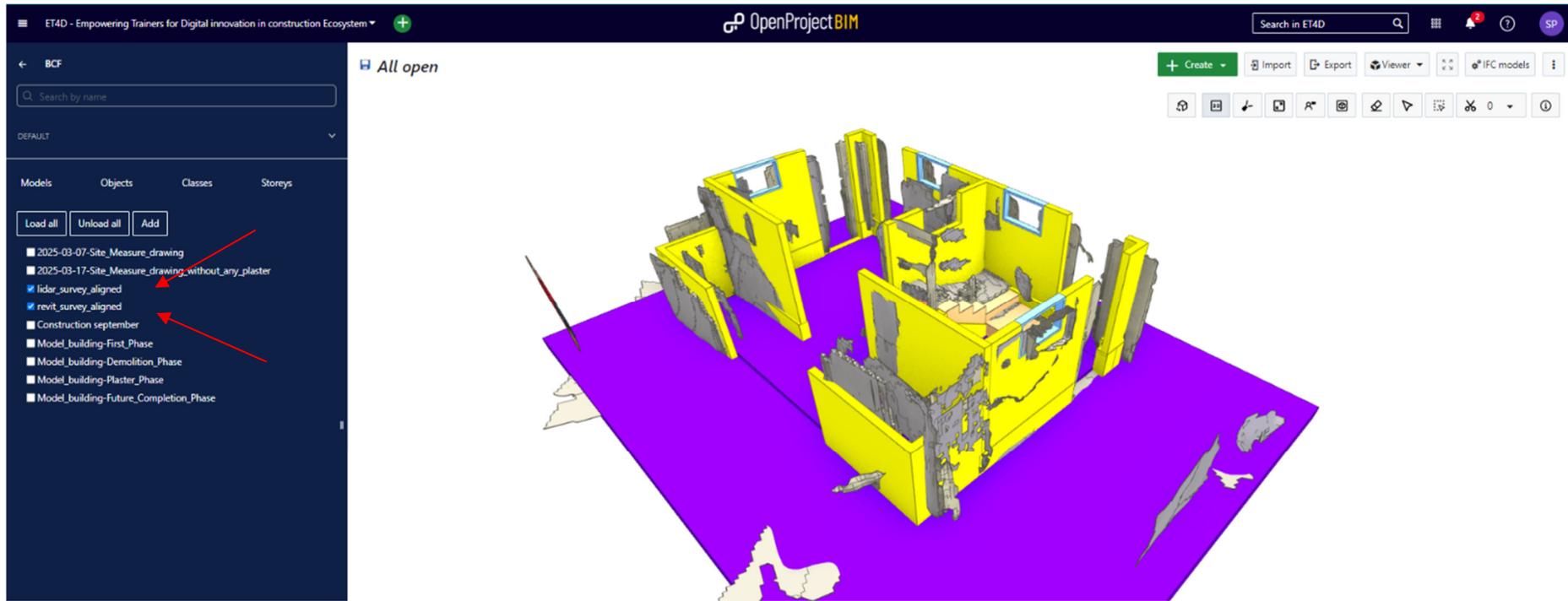


The models can be viewed individually...





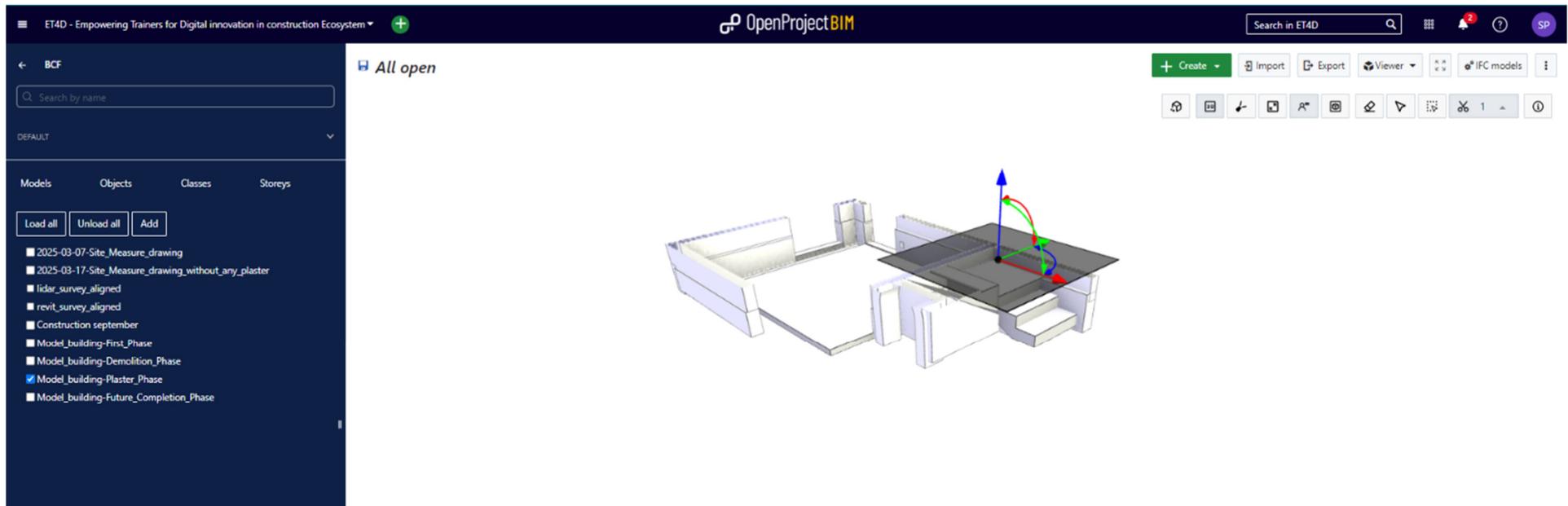
...or overlapped.



The buttons on the top right corner allow to view the 2D drawings, 3D, orthographic, or perspective views, and do various action like to view the model as a whole....



...or make sections and slices to get inside the buildings.





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## Gantt Charts

Next, we can have a look at the status and plan of the project in the Gantt Charts.

The screenshot shows the OpenProjectBIM interface for the ET4D project. The left sidebar contains a navigation menu with 'Gantt charts' highlighted. The main content area is titled 'Overview' and contains three main sections:

- PROJECT DESCRIPTION:** ET4D- Empowering Trainers for Digital innovation in construction Ecosystem. The construction sector is one of the least digitalized sectors, especially in SMEs. ET4Digital is an European project funded by the Erasmus+ program (2024-2026), which aims to support the digital transition of the construction sector. Its main objective is to train trainers and teachers in innovative digital tools so that they can, in turn, help small and medium-sized enterprises (SMEs) in the construction industry adopt these technologies. To achieve this, the project is organized into several components, including an analysis of the sector's digital ecosystem (WP2) and the creation of an educational demonstrator based on digital twins (WP3), designed to train professionals using practical and interactive tools. A comprehensive training program is also planned to strengthen trainers' skills (WP4). The project is coordinated by the Bologna Institute of Professional Training in Construction (Italy) and brings together nine European partners from six countries. These include the Fundación Laboral de la Construcción (Spain), Bau Bildung Sachsen (Germany), PEDMEDE (Greece), Tallinna Tehnikakooli University (Estonia), the University of Bologna, the innovation firm R2M Solution, the Knowledge and Skills Management Centre K&S Skopje (North Macedonia) and the European Center of Entrepreneurship Competence & Excellence (Austria). This consortium combines expertise in vocational training, engineering, innovation and pedagogy.
- PROJECT STATUS:** ON TRACK. The Project is on track.
- MEMBERS:** Member: benedetta.balzaniz@unibo.it, digging.company@gmail.com, MEP Engineers, sensor raspberry, Structural Engineers, Valentina Dell'Infante. Project admin: Davide Coccolini, Marco Alvisè Bragadin, Shrinija Poudel.



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Here, the same information found in Work packages can be found, with addition of start and finish dates, predecessors and successors, along with the Gantt chart on the split left side of the screen.

The screenshot displays the OpenProject BIM interface. On the left, a sidebar shows navigation options like 'Gantt charts', 'Milestones', and 'PUBLIC'. The main area is split into two panes. The left pane, titled 'All open', contains a table of tasks with columns for ID, TYPE, SUBJECT, STATUS, START DATE, FINISH DATE, and DURATION. The right pane shows a Gantt chart for the year 2025, with tasks represented as horizontal bars corresponding to the data in the table.

ID	TYPE	SUBJECT	STATUS	START DATE	FINISH DATE	DURATION
81	TASK	A.00.1. Securing the construction site with site fences	New	09/22/2025	09/22/2025	1 day
80	TASK	A.00.2. Site preparation	New	09/22/2025	09/22/2025	1 day
79	TASK	A.00.3. Commencement of works	New	09/22/2025	09/22/2025	1 day
82	PHASE	A.01. Walls	New	09/26/2025	09/29/2025	2 days
84	TASK	A.01.2. Brick walls Type 2	New	09/26/2025	09/29/2025	2 days
83	TASK	A.01.1. Brick walls Type 1	New	09/26/2025	09/29/2025	2 days
85	PHASE	A.02. Staircase	New	10/03/2025	10/06/2025	2 days
86	TASK	A.02.1. Staircase walls	New	10/03/2025	10/03/2025	1 day
87	TASK	A.02.2. Staircase step/grades	New	10/06/2025	10/06/2025	1 day
93	PHASE	A.03. Floorings	New	10/10/2025	10/17/2025	6 days
94	TASK	A.03.1. Cement screed	New	10/10/2025	10/10/2025	1 day
95	TASK	A.03.2. Flooring tiles	New	10/13/2025	10/13/2025	1 day
96	TASK	A.03.3. Flooring tiles finish	New	10/17/2025	10/17/2025	1 day
90	PHASE	A.04. Wall finish	New	10/20/2025	10/27/2025	6 days
92	TASK	A.04.2. Plaster external walls	New	10/20/2025	10/20/2025	1 day
91	TASK	A.04.2. Plaster interior walls	New	10/20/2025	10/20/2025	1 day
114	TASK	A.04.3. Wall tiles	New	10/24/2025	10/24/2025	1 day
120	TASK	A.04.4. Wall Tiles grouting	New	10/27/2025	10/27/2025	1 day
97	PHASE	A.05. Paint walls	New	10/27/2025	10/27/2025	1 day
98	TASK	A.05.1. Paint internal walls	New	10/27/2025	10/27/2025	1 day
133	PHASE	A.06. Roof	New	10/31/2025	10/31/2025	1 day



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ET4D - Empowering Trainers for Digital innovation in construction Ecosystem

OpenProjectBIM

Search in ET4D

Gantt charts

All open

ID	TYPE	SUBJECT	STATUS	START DATE	FINISH DATE	DURATION
81	TASK	A.00.1. Securing the construction site with site fences	New	09/22/2025	09/22/2025	1 day
80	TASK	A.00.2. Site preparation	New	09/22/2025	09/22/2025	1 day
79	TASK	A.00.3. Commencement of works	New	09/22/2025	09/22/2025	1 day
82	PHASE	A.01. Walls	New	09/26/2025	09/29/2025	2 days
84	TASK	A.01.2. Brick walls Type 2	New	09/26/2025	09/29/2025	2 days
83	TASK	A.01.1. Brick walls Type 1	New	09/26/2025	09/29/2025	2 days
85	PHASE	A.02. Staircase	New	10/03/2025	10/06/2025	2 days
86	TASK	A.02.1. Staircase walls	New	10/03/2025	10/03/2025	1 day
87	TASK	A.02.2. Staircase step/grades	New	10/06/2025	10/06/2025	1 day
93	PHASE	A.03. Floorings	New	10/10/2025	10/17/2025	6 days
94	TASK	A.03.1. Cement screed	New	10/10/2025	10/10/2025	1 day
95	TASK	A.03.2. Flooring tiles	New	10/13/2025	10/13/2025	1 day
96	TASK	A.03.3. Flooring tiles finish	New	10/17/2025	10/17/2025	1 day
90	PHASE	A.04. Wall finish	New	10/20/2025	10/27/2025	6 days
92	TASK	A.04.2. Plaster external walls	New	10/20/2025	10/20/2025	1 day
91	TASK	A.04.2. Plaster interior walls	New	10/20/2025	10/20/2025	1 day
114	TASK	A.04.3. Wall tiles	New	10/24/2025	10/24/2025	1 day
120	TASK	A.04.4. Wall Tiles grouting	New	10/27/2025	10/27/2025	1 day
97	PHASE	A.05. Paint walls	New	10/27/2025	10/27/2025	1 day
98	TASK	A.05.1. Paint internal walls	New	10/27/2025	10/27/2025	1 day
133	PHASE	A.06. Roof	New	10/31/2025	10/31/2025	1 day



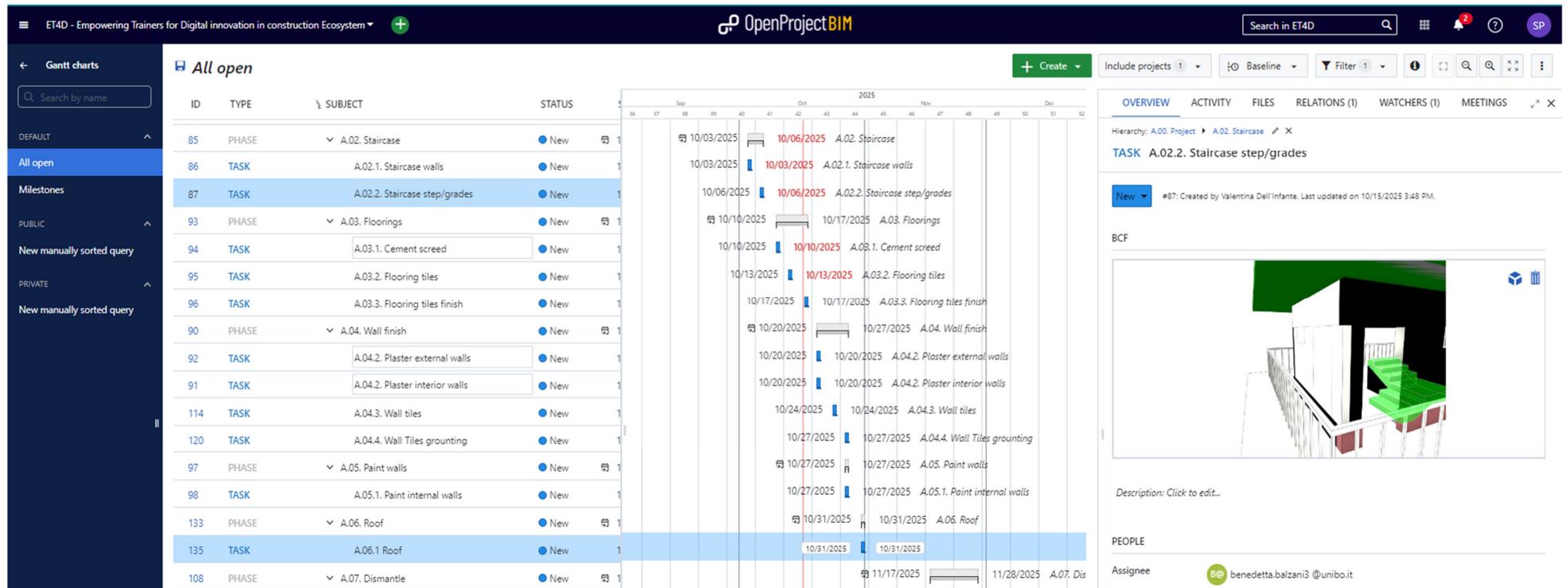
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On clicking the i-information button....

The screenshot displays the OpenProject BIM interface. On the left, a sidebar shows navigation options like 'Gantt charts', 'All open', 'Milestones', 'PUBLIC', and 'PRIVATE'. The main area features a table of tasks and a Gantt chart on the right. A red arrow points to the information icon (i) on the task row with ID 87.

ID	TYPE	SUBJECT	STATUS	START DATE	FINISH DATE	DURATION
81	TASK	A.00.1. Securing the construction site with site fences	New	09/22/2025	09/22/2025	1 day
80	TASK	A.00.2. Site preparation	New	09/22/2025	09/22/2025	1 day
79	TASK	A.00.3. Commencement of works	New	09/22/2025	09/22/2025	1 day
82	PHASE	A.01. Walls	New	09/26/2025	09/29/2025	2 days
84	TASK	A.01.2. Brick walls Type 2	New	09/26/2025	09/29/2025	2 days
83	TASK	A.01.1. Brick walls Type 1	New	09/26/2025	09/29/2025	2 days
85	PHASE	A.02. Staircase	New	10/03/2025	10/06/2025	2 days
86	TASK	A.02.1. Staircase walls	New	10/03/2025	10/03/2025	1 day
87	TASK	A.02.2. Staircase step/grades	New	10/06/2025	10/06/2025	1 day
93	PHASE	A.03. Floorings	New	10/10/2025	10/17/2025	6 days
94	TASK	A.03.1. Cement screed	New	10/10/2025	10/10/2025	1 day
95	TASK	A.03.2. Flooring tiles	New	10/13/2025	10/13/2025	1 day
96	TASK	A.03.3. Flooring tiles finish	New	10/17/2025	10/17/2025	1 day
90	PHASE	A.04. Wall finish	New	10/20/2025	10/27/2025	6 days
92	TASK	A.04.2. Plaster external walls	New	10/20/2025	10/20/2025	1 day
91	TASK	A.04.2. Plaster interior walls	New	10/20/2025	10/20/2025	1 day
114	TASK	A.04.3. Wall tiles	New	10/24/2025	10/24/2025	1 day
120	TASK	A.04.4. Wall Tiles grouting	New	10/27/2025	10/27/2025	1 day
97	PHASE	A.05. Paint walls	New	10/27/2025	10/27/2025	1 day

...3D model of the task can be viewed. This helps to clear up the doubt of which specific task the project schedule is mentioned for the specific user and time frame.



The screenshot displays the OpenProject BIM interface. On the left, a sidebar shows navigation options like 'Gantt charts', 'All open', 'Milestones', 'PUBLIC', and 'PRIVATE'. The main area features a Gantt chart for the year 2025, with tasks listed in a table below it. The table includes columns for ID, TYPE, SUBJECT, and STATUS. A task with ID 87, 'A.02.2. Staircase step/grades', is highlighted in blue. To the right, a detailed view of this task is shown, including a 3D model of a staircase with green steps and a white railing. The interface also includes a search bar, a 'Create' button, and various filters and settings.

ID	TYPE	SUBJECT	STATUS
85	PHASE	A.02. Staircase	New
86	TASK	A.02.1. Staircase walls	New
87	TASK	A.02.2. Staircase step/grades	New
93	PHASE	A.03. Floorings	New
94	TASK	A.03.1. Cement screed	New
95	TASK	A.03.2. Flooring tiles	New
96	TASK	A.03.3. Flooring tiles finish	New
90	PHASE	A.04. Wall finish	New
92	TASK	A.04.2. Plaster external walls	New
91	TASK	A.04.2. Plaster interior walls	New
114	TASK	A.04.3. Wall tiles	New
120	TASK	A.04.4. Wall Tiles grouting	New
97	PHASE	A.05. Paint walls	New
98	TASK	A.05.1. Paint internal walls	New
133	PHASE	A.06. Roof	New
135	TASK	A.06.1 Roof	New
108	PHASE	A.07. Dismantle	New



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## Members

The Members-tab provides the list of all the members associated with the project.

The screenshot displays the OpenProject BIM interface for the ET4D project. The 'Members' tab is selected in the sidebar. The main content area shows the 'Overview' page with the following sections:

- PROJECT DESCRIPTION:** ET4D- Empowering Trainers for Digital innovation in construction Ecosystem. The construction sector is one of the least digitalized sectors, especially in SMEs. ET4Digital is an European project funded by the Erasmus+ program (2024-2026), which aims to support the digital transition of the construction sector. Its main objective is to train trainers and teachers in innovative digital tools so that they can, in turn, help small and medium-sized enterprises (SMEs) in the construction industry adopt these technologies. To achieve this, the project is organized into several components, including an analysis of the sector's digital ecosystem (WP2) and the creation of an educational demonstrator based on digital twins (WP3), designed to train professionals using practical and interactive tools. A comprehensive training program is also planned to strengthen trainers' skills (WP4). The project is coordinated by the Bologna Institute of Professional Training in Construction (Italy) and brings together nine European partners from six countries. These include the Fundación Laboral de la Construcción (Spain), Bau Bildung Sachsen (Germany), PEDMEDE (Greece), Tallinna Tehnikaülikool University (Estonia), the University of Bologna, the innovation firm R2M Solution, the Knowledge and Skills Management Centre K&S Skopje (North Macedonia) and the European Center of Entrepreneurship Competence & Excellence (Austria). This consortium combines expertise in vocational training, engineering, innovation and pedagogy.
- PROJECT STATUS:** ON TRACK. The Project is on track.
- MEMBERS:** Lists project members and administrators. Members include benedetta.balzano3@unibo.it, digging.company@gmail.com, MEP Engineers, and sensor raspberry. Project admins include Davide Cocolini, Marco Alvisè Bragadin, and Shrinija Poudel.



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The view list can be chosen according to the assigned groups or all.

ET4D - Empowering Trainers for Digital innovation in construction Ecosystem

OpenProject BIM

Search in ET4D

Members

All

Filter

+ Member

NAME	EMAIL	ROLES	GROUPS	SHARED	STATUS	CURRENT RATE
benedetta.balzani3@unibo.it	benedetta.balzani3@unibo.it	Member			active	0.00 EUR
Davide Coccolini	davide.coccolini2@unibo.it	Project admin			active	0.00 EUR
digging.company@gmail.com	digging.company@gmail.com	Member			invited	0.00 EUR
Marco Alvise Bragadin	marcoalvise.bragadin@unibo.it	Project admin (All roles due to admin status)			active	0.00 EUR
MEP Engineers		Member			active	
sensor raspberry	andy.vasquez@gmail.com	Member			active	0.00 EUR
Shrinija Poudel	shrinija.poudel@studio.unibo.it	Project admin (All roles due to admin status)			active	0.00 EUR
Structural Engineers		Member			active	
Valentina Dell'Infante	valentin.dellinfant2@unibo.it	Member (All roles due to admin status)			active	0.00 EUR

(1 - 9/9)

Per page: 20 100



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The roles of the members can be assigned and viewed in this tab and filtered to list accordingly as well.

ET4D - Empowering Trainers for Digital innovation in construction Ecosystem / Members / All

Filter

NAME ↑	EMAIL	ROLES	GROUPS	SHARED	STATUS	CURRENT RATE
benedetta.balzani3 @unibo.it	benedetta.balzani3@unibo.it	Member			active	0.00 EUR
Davide Coccolini	davide.coccolini2@unibo.it	Project admin			active	0.00 EUR
digging.company @gmail.com	digging.company@gmail.com	Member			invited	0.00 EUR
Marco Alvise Bragadin	marcoalvise.bragadin@unibo.it	Project admin (All roles due to admin status)			active	0.00 EUR
MEP Engineers		Member			active	
sensor raspberry	andy.vasquez@gmail.com	Member			active	0.00 EUR
Shrinija Poudel	shrinija.poudel@studio.unibo.it	Project admin (All roles due to admin status)			active	0.00 EUR
Structural Engineers		Member			active	
Valentina Dell'Infante	valentin.dellinfant2@unibo.it	Member (All roles due to admin status)			active	0.00 EUR

(1 - 9/9)

Per page: 20 | 10



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## Meetings

Meetings can be organized in the platform itself.

The screenshot displays the OpenProjectBIM web interface. The top navigation bar includes the project name 'ET4D - Empowering Trainers for Digital innovation in construction Ecosystem', the OpenProjectBIM logo, a search bar, and user profile icons. The left sidebar contains a menu with items like Overview, Activity, Roadmap, Work packages, BCF, Gantt charts, Calendars, Boards, Meetings (highlighted with a red box), Paiements, Backlogs, News, Time and costs, Budgets, and Forums. The main content area shows the 'Overview' page for the project, featuring a 'PROJECT DESCRIPTION' section with text about the project's goals and partners, a 'PROJECT STATUS' section showing 'ON TRACK' with a green indicator, and a 'MEMBERS' section listing project participants and administrators. A 'Project attributes' sidebar is visible on the right.



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One time meeting can be organised, or a recurring meeting can be scheduled from the green button on the top right corner.

ET4D - Empowering Trainers for Digital innovation in construction Ecosystem

OpenProject BIM

Search in ET4D

Meetings

My meetings

Recurring meetings

All meetings

MEETING SERIES

Stakeholders meeting

INVOLVEMENT

ET4D - Empowering Trainers for Digital innovation in construction Ecosystem / Meetings / My meetings

My meetings

Filters 1 → Upcoming ⌚ Past

Title	Date and time	Duration	Location
-------	---------------	----------	----------

No meetings to display

There are no meetings that meet the active filter criteria.

+ Meeting

One-time  
Organize your meeting as a dynamic list of agenda items, optionally linking them to a work package.

Recurring  
Create meeting series with dynamic template for each occurrence.



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The meetings can be named, and the creator of the meeting is mentioned for the clarity of the event. The details of the meeting is shown in the right-hand side of the screen.

The screenshot displays the ET4D meeting management interface. The main header shows 'ET4D - Empowering Trainers for Digital innovation in construction Ecosystem' and 'OpenProjectBIM'. The meeting title is 'Erasmus Day 2025', created by Shrinija Poudel. A 'Participants' modal is open, listing the following participants:

Participant	Invited	Attended
B@ benedetta.balzani3@unibo.it	<input type="checkbox"/>	<input type="checkbox"/>
DC Davide Coccolini	<input type="checkbox"/>	<input type="checkbox"/>
D@ digging.company@gmail.com	<input type="checkbox"/>	<input type="checkbox"/>
MB Marco Alvise Bragadin	<input type="checkbox"/>	<input type="checkbox"/>
SR sensor raspberry	<input type="checkbox"/>	<input type="checkbox"/>
SP Shrinija Poudel	<input checked="" type="checkbox"/>	<input type="checkbox"/>
VD Valentina Dell'Infante	<input type="checkbox"/>	<input type="checkbox"/>

The 'Meeting details' panel on the right shows the following information:

- Meeting details
- Date: 10/16/2025
- Time: 02:00 PM - 03:00 PM urc
- Duration: 1 hr
- Location: IIPLE, Bologna, Italy
- Meeting status: Open
- Start meeting button



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Participants can be added/selected by clicking the 'add participant' icon for the meeting from the list of members that appear in the dialogue box.

The screenshot shows the OpenProjectBIM interface for a meeting titled "Erasmus Day 2025". A "Participants" dialog box is open, displaying a list of users with checkboxes for "Invited" and "Attended". The "Invited" column has a checked box for "Shrinija Poudel". The dialog also includes "Cancel" and "Save" buttons. In the background, the meeting details panel shows a "+ Add" button, which is highlighted by a red arrow.

	Invited	Attended
B@ benedetta.balzani3@unibo.it	<input type="checkbox"/>	<input type="checkbox"/>
DC Davide Coccolini	<input type="checkbox"/>	<input type="checkbox"/>
D@ digging.company@gmail.com	<input type="checkbox"/>	<input type="checkbox"/>
MB Marco Alvise Bragadin	<input type="checkbox"/>	<input type="checkbox"/>
SR sensor.raspberry	<input type="checkbox"/>	<input type="checkbox"/>
SP Shrinija Poudel	<input checked="" type="checkbox"/>	<input type="checkbox"/>
VD Valentina Dell'Infante	<input type="checkbox"/>	<input type="checkbox"/>



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Recurring meeting like stakeholder or board meeting series can be scheduled beforehand and the status and updates can be accessed from tabs on the right-hand side of the screen

ET4D - Empowering Trainers for Digital innovation in construction Ecosystem

OpenProjectBIM

Search in ET4D

ET4D - Empowering Trainers for Digital innovation in construction Ecosystem / Meetings / Stakeholders meeting (Meeting series)

### Stakeholders meeting (Meeting series)

Every 4 days at 10:00 AM (UTC)

→ Upcoming ↻ Past

#### Agenda opened

Open meetings have agendas that can be edited and show up in individual users' 'My meetings' section. Changes to the meeting series template do not affect already-open meeting occurrences.

Date and time	Starts	Status	
10/16/2025 10:00 AM	in 17 hours	Open	...

#### Planned

The following meetings are planned in the recurring meeting schedule but are not open yet. Every time a planned meeting starts, the next one will automatically be opened for you. You can also open planned meetings manually to import the template and start editing the agenda.

Date and time	Starts	Status	
10/20/2025 10:00 AM	in 5 days	Planned	Open ...
10/24/2025 10:00 AM	next week	Planned	Open ...
10/28/2025 10:00 AM	in 2 weeks	Planned	Open ...
11/01/2025 10:00 AM	in 2 weeks	Planned	Open ...
11/05/2025 10:00 AM	in 3 weeks	Planned	Open ...

There are more scheduled meetings (Every 4 days at 10:00 AM (UTC)). [Show more](#)



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## File Sharing

For file sharing, the document tab must be opened.

The screenshot displays the OpenProjectBIM web interface. The top navigation bar includes the project name 'ET4D - Empowering Trainers for Digital innovation in construction Ecosystem', the OpenProjectBIM logo, a search bar, and notification icons. The left sidebar contains a menu with various project management tools. The 'Documents' tab is highlighted with a red box. The main content area shows the 'Overview' page, which includes a 'PROJECT DESCRIPTION' section with text about the project's goals and partners, a 'PROJECT STATUS' section showing 'ON TRACK', and a 'MEMBERS' section listing project members and administrators. A 'MACRO ACTIVITIES OVERVIEW' section is partially visible at the bottom.



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Any type of documents can be share among the members in this tab.

The screenshot displays the OpenProjectBIM web interface. The top navigation bar shows the project name 'ET4D - Empowering Trainers for Digital innovation in construction Ecosystem' and the OpenProjectBIM logo. A search bar and user profile icon are also present. The left sidebar contains a menu with various project management tools. The main area is titled 'Documents' and lists several document entries, each with a title and a timestamp. A '+ Document' button is located in the top right of the document list area.

Category	Date	Title	Attachment author
Documentation	04/13/2025 01:08 PM	Lidar survey	
		Lidar survey in skp format	
		Blender revised survey	
	04/13/2025 01:08 PM		
		Lidar survey survey revised in Blender	
Other			
IPLE Pictures	04/13/2025 01:06 PM		
		IPLE Pictures 2025.03.07	
Price List	04/13/2025 01:06 PM		
		Materials and manufacturing price list	



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## Sensor Reading

Sensor data can be accessed from the work package tab on the right-hand side menu then checking the 'Latest activity' tab for most recent sensor data.

The screenshot displays the OpenProjectBIM interface. The left-hand menu is open, showing the 'Work packages' section with the 'All open' tab selected. A red arrow points to this tab. The main content area shows a table of work packages with columns for ID, SUBJECT, TYPE, STATUS, ASSIGNEE, and PRIORITY. The table lists various tasks and phases, such as 'A.00. Project', 'A.00. Preparation', and 'A.01. Walls'. The status for all items is 'New', and the priority varies from 'Low' to 'High'.

ID	SUBJECT	TYPE	STATUS	ASSIGNEE	PRIORITY
122	A.00. Project	TASK	New	Marco Alvise Bragadin	Low
78	A.00. Preparation	PHASE	New	Shrinija Poudel	Normal
79	A.00.3. Commencement of works	TASK	New	digging.company@gmail.com	Normal
80	A.00.2. Site preparation	TASK	New	digging.company@gmail.com	Normal
81	A.00.1. Securing the construction site with site fences	TASK	New	digging.company@gmail.com	High
137	A.00.4 Install sensors	TASK	New	sensor raspberry	Low
82	A.01. Walls	PHASE	New	Structural Engineers	Normal
83	A.01.1. Brick walls Type 1	TASK	New	benedetta.balzani3@unibo.it	Normal
84	A.01.2. Brick walls Type 2	TASK	New	benedetta.balzani3@unibo.it	Normal
85	A.02. Staircase	PHASE	New	Shrinija Poudel	Normal
86	A.02.1. Staircase walls	TASK	New	Shrinija Poudel	Normal
87	A.02.2. Staircase step/grades	TASK	New	benedetta.balzani3@unibo.it	Normal
90	A.04. Wall finish	PHASE	New	Valentina Dell'Infante	Normal
91	A.04.2. Plaster interior walls	TASK	New	Valentina Dell'Infante	Normal
92	A.04.2. Plaster external walls	TASK	New	MEP Engineers	Normal



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ET4D - Empowering Trainers for Digital innovation in construction Ecosystem + OpenProjectBIM Search in ET4D

Work packages

Search by name

DEFAULT

All open

Latest activity

Recently created

Overdue

Summary

Created by me

Assigned to me

Shared with users

Shared with me

### All open

+ Create Include projects 1 Baseline Filter 1

ID	SUBJECT	TYPE	STATUS	ASSIGNEE	PRIORITY
122	A.00. Project	TASK	New	MB Marco Alvise Bragadin	Low
78	A.00. Preparation	PHASE	New	SP Shrinija Poudel	Normal
79	A.00.3. Commencement of works	TASK	New	D@ digging.company@gmail.com	Normal
80	A.00.2. Site preparation	TASK	New	D@ digging.company@gmail.com	Normal
81	A.00.1. Securing the construction site with site fences	TASK	New	D@ digging.company@gmail.com	High
137	A.00.4 Install sensors	TASK	New	SR sensor rasperry	Low
82	A.01. Walls	PHASE	New	SE Structural Engineers	Normal
83	A.01.1. Brick walls Type 1	TASK	New	B@ benedetta.balzani3@unibo.it	Normal
84	A.01.2. Brick walls Type 2	TASK	New	B@ benedetta.balzani3@unibo.it	Normal
85	A.02. Staircase	PHASE	New	SP Shrinija Poudel	Normal
86	A.02.1. Staircase walls	TASK	New	SP Shrinija Poudel	Normal
87	A.02.2. Staircase step/grades	TASK	New	B@ benedetta.balzani3@unibo.it	Normal
90	A.04. Wall finish	PHASE	New	VD Valentina Dell'Infante	Normal
91	A.04.2. Plaster interior walls	TASK	New	VD Valentina Dell'Infante	Normal
92	A.04.2. Plaster external walls	TASK	New	ME IMEP Engineers	Normal
114	A.04.3. Wall tiles	TASK	New	B@ benedetta.balzani3@unibo.it	Normal



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The readings from different sensors can have different names, so the data can be filtered clearly. They can be sorted as per readings or off this case, as per the time stamp. X

ID	SUBJECT	TYPE	STATUS	ASSIGNEE	PRIORITY	UPDATED ON
510	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 10:56 AM
511	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:06 AM
512	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:11 AM
513	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:16 AM
514	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:21 AM
515	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:26 AM
516	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:31 AM
517	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:36 AM
518	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:41 AM
519	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:46 AM
520	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:51 AM
521	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:56 AM
522	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/15/2025 7:00 AM
523	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/15/2025 7:05 AM
524	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/15/2025 7:10 AM
525	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/15/2025 7:15 AM
526	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/15/2025 7:20 AM
527	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/15/2025 7:25 AM
528	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/15/2025 7:30 AM
529	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/15/2025 7:35 AM
530	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/15/2025 7:40 AM
531	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/15/2025 7:45 AM



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These reading can be individually accessed for the detailed information, according to the time stamp, but for the graphs of the sensor data can be accessed from the dashboard in the overview panel.

The screenshot shows the OpenProjectBIM interface with a list of sensor measurements. The table has columns for ID, SUBJECT, TYPE, STATUS, ASSIGNEE, PRIORITY, and UPDATED ON. A red arrow points to the row with ID 512.

ID	SUBJECT	TYPE	STATUS	ASSIGNEE	PRIORITY	UPDATED ON
510	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 10:56 AM
511	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:01 AM
512	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:06 AM
513	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:11 AM
514	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:16 AM
515	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:21 AM
516	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:26 AM
517	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:31 AM
518	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:36 AM
519	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:41 AM
520	Enviro+ construction site sensor measurement	MEASUREMENTS	New	-	Low	10/14/2025 11:46 AM



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Environmental parameters like Temperature, Light, Noise, Gas, Dust and Number of people present in the site are read by the sensors currently in the site.

The screenshot displays the OpenProjectBIM interface for a project titled "MEASUREMENTS Enviro+ construction site sensor measurement". The main content area shows a table of environmental parameters:

ENVIRONMENTAL PARAMETERS			
Temperature	26.5841	Humidity	34.8655
Pressure	1,018.0189		
LIGHT			
Lux	321.6345		
NOISE			
Decibel	0		
GAS			
Oxidising (nitrogen dioxide)	64.3419	Reducing (carbon monoxide)	423.8442
NH3 (ammonia)	253.5477		
DUST			
PM 1 (particulate matter)	8	PM 2.5 (particulate matter)	22
PM 10 (particulate matter)	22		
PEOPLE AT THE CONSTRUCTION SITE			

The interface also includes a sidebar with navigation options like "Work packages", "All open", "Latest activity", and "Recently created". The top navigation bar shows the project name "ET4D - Empowering Trainers for Digital innovation in construction Ecosystem" and the OpenProjectBIM logo. The right sidebar contains tabs for "ACTIVITY", "FILES", "RELATIONS", "WATCHERS (1)", and "MEETINGS".



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## Sensors Reading- Sensor Dashboard

The graphs can be viewed from the Sensors Dashboard button in the overview panel.

ET4D / ET4D - Empowering Trainers for Digital innovation in construction Ecosystem / Overview

Overview



+ Widget

Project attributes

Sensors

Project description

### ET4D- Empowering Trainers for Digital innovation in construction Ecosystem.

The construction sector is one of the least digitalized sectors, especially in SMEs. ET4Digital is an European project funded by the Erasmus+ program (2024–2026), which aims to support the digital transition of the construction sector. Its main objective is to train trainers and teachers in innovative digital tools so that they can, in turn, help small and medium-sized enterprises (SMEs) in the construction industry adopt these technologies.

To achieve this, the project is organized into several components, including an analysis of the sector's digital ecosystem (WP2) and the creation of an educational demonstrator based on digital twins (WP3), designed to train professionals using practical and interactive tools. A comprehensive training program is also planned to strengthen trainers' skills (WP4).

The project is coordinated by the Bologna Institute of Professional Training in Construction (Italy) and brings together nine European partners from six countries. These include the Fundación Laboral de la Construcción (Spain), Bau Bildung Sachsen (Germany), PEDMEDE (Greece), Tallinna Tehnikaülikool University (Estonia), the University of Bologna, the innovation firm R2M Solution, the Knowledge and Skills Management Centre K&S Skopje (North Macedonia) and the European Center of Entrepreneurship Competence & Excellence (Austria). This consortium combines expertise in vocational training, engineering, innovation and pedagogy.

#### News

[Sensors Dashboard](#)

Project status

ON TRACK

The Project is on track.

Members

- Carlos Almagro
- Muhammad Mubasher
- Lihnida Stojanovska-Georgievska
- Stojan Spasevski
- David Rodríguez

[View all members](#)

Macro activities overview

## Environmental Sensors Dashboard - IIPLE

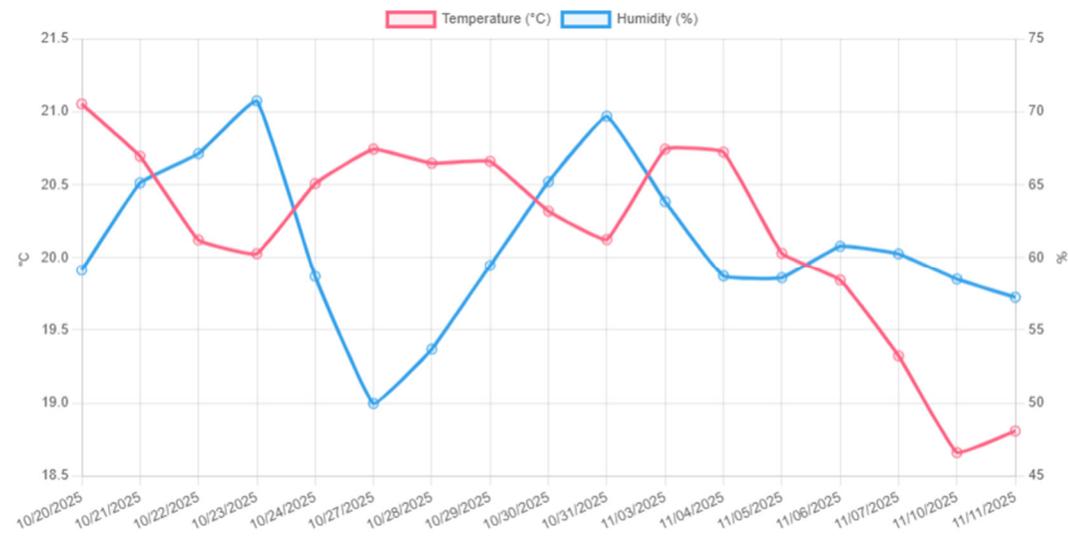
Preset Range:

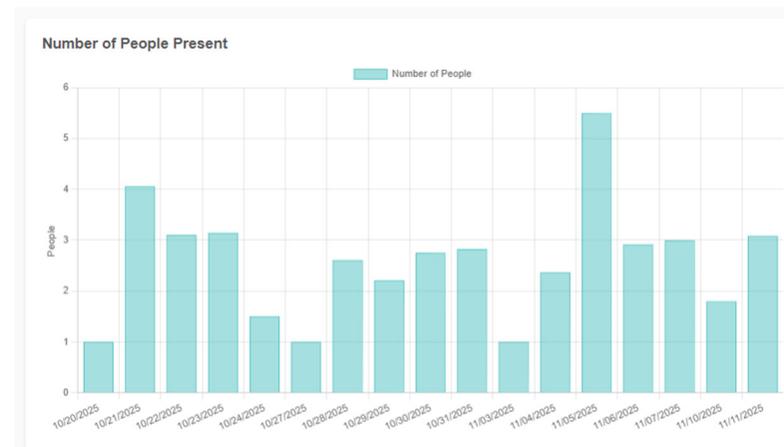
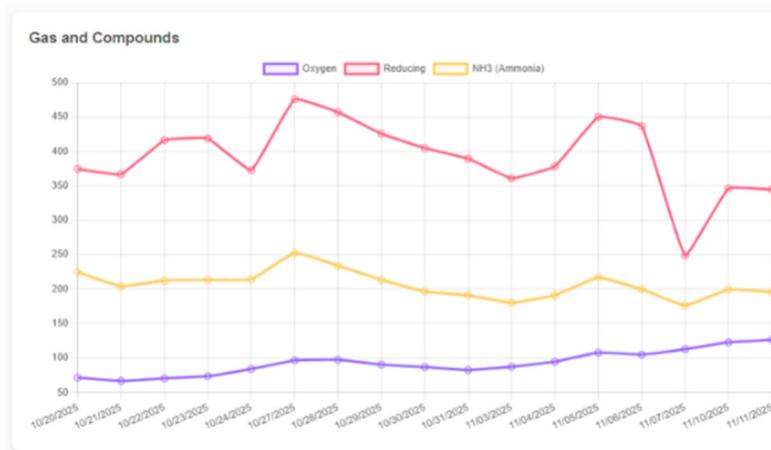
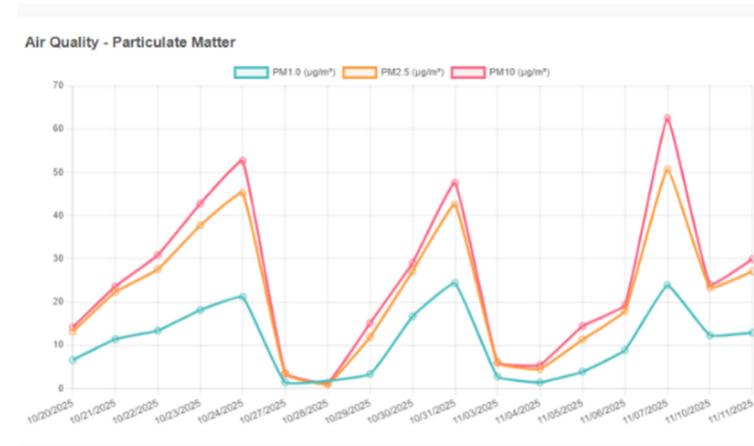
Last 30 days ▾

Update

Displaying 1000 measurements from 2025-10-18 to 2025-11-17

### Temperature and Humidity







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The platform is very flexible and customisable for each project. Further information can be found in the official website of OpenProject; linked underneath.

<https://www.openproject.org/collaboration-software-features/>



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# ET4Digital

## Empowering Trainers for Digital Innovation in the Construction Ecosystem

PROJECT no. 2024-1-IT01-KA220-VET-000249119

**ET4D**



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