English Edition

cype v.2022

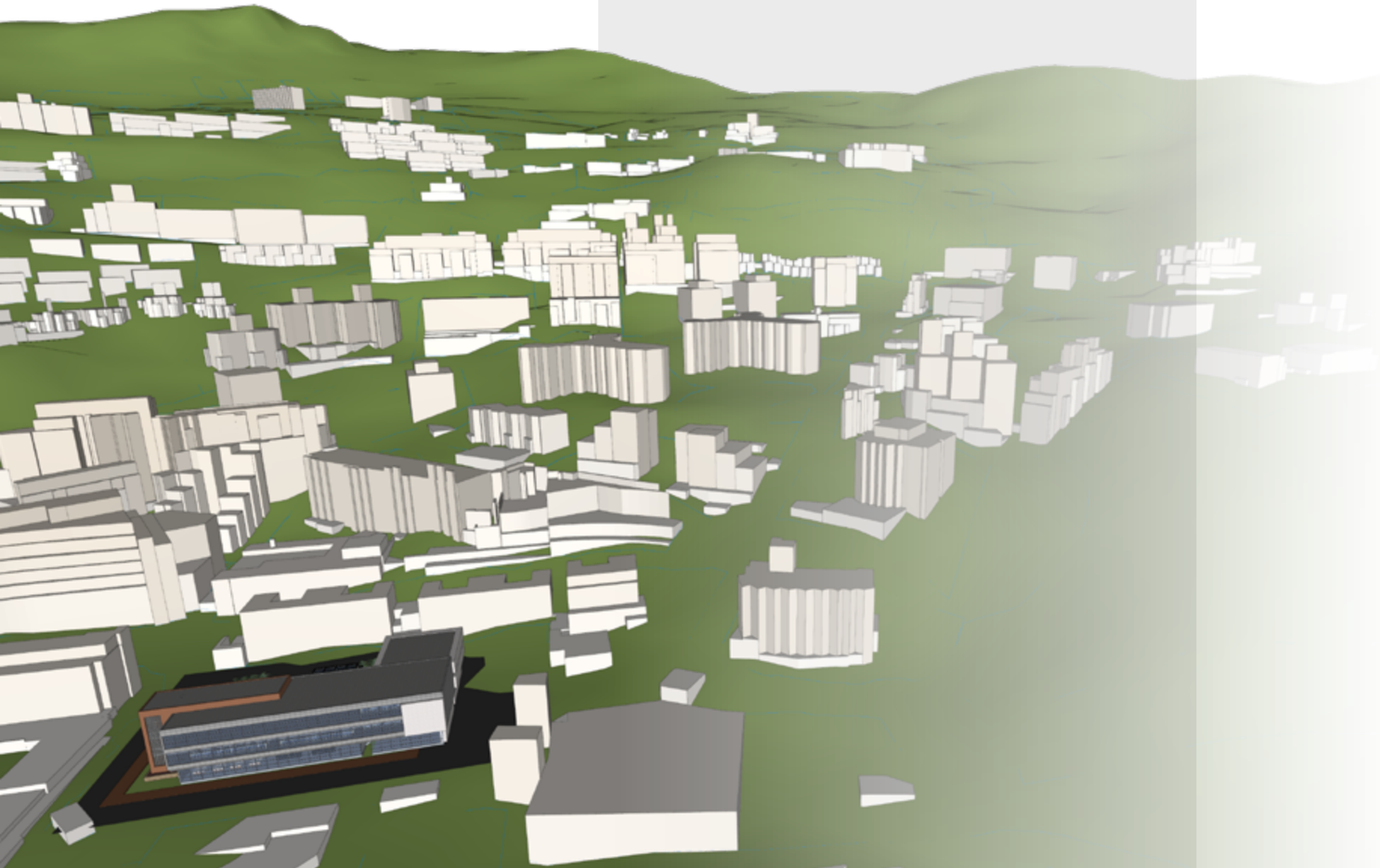
Software for Architecture, Engineering and Construction

cype.com

CYPE version 2022 includes new features and improvements, most notably those made to the architectural applications associated with the design and 3D modelling of buildings.

CYPE Architecture in particular has undergone a major evolution in the past few months. Some of the improvements that have been made to simplify work are creating direct links from this program to other programs, exporting BIM information from the model to other applications such as CYPECAD and Open BIM Layout, **perfecting the editing of the geometry of the project elements** or improving the graphic representation of vegetation, among many others.

CYPE version 2022 is accompanied by the launch of a new, completely free program that will allow professionals to define the initial conditions of a project site. This tool, called Open BIM Site, can establish the geographical location of models, **manage different types of maps, enter topographical surfaces and add elements from the site environment, such as parcels and buildings.**



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BIM ESSENTIALS

Architectural modelling is the first step in most BIM projects. During this phase, the building concept begins to take shape, and the spaces, uses, ergonomics, configuration and aesthetics of the building are established. Within CYPE software, this task is carried out in **CYPE Architecture**, which allows professionals to **develop an architectural model from the sketch phase through to the development of a detailed BIM model.**

Defining the **exact location of a building by means of a coordinate system** and including topographical and urban planning data in the project can be carried out using the **Open BIM Site** tool.

Thanks to the thermal and acoustic characterisation and the **description of the building's constructive elements** that can be carried out in **Open BIM Construction Systems,** the model can be completed with additional data. Once the architectural model is correctly defined, the project will be ready to receive more layers of information and to add the other disciplines to the workflow in order to complete the final model.

Coordinating and ensuring the quality of the final model are the main aims of the **Open BIM Model Checker** program.

Once the model has been developed, two very important phases of the construction project cycle can be carried out. On the one hand, generating the project's **bill of quantities** using **Open BIM Quantities**, based on the properties of the developed model. On the other hand, **extracting floor plans**, elevations, sections, construction details and perspectives, using **Open BIM Layout**, in order to generate the set of deliverables that make up the graphic documentation of the project.

CYPE **Architecture**

Architectural design and modelling of buildings, integrated in the multidisciplinary collaborative Open BIM workflow.

Open BIM **Site**

Defining the initial conditions of a project site including establishing the geographical location of models, managing different types of maps, and entering topographical surfaces, parcels and buildings, among others.

Open BIM **Model Checker**

Reviewing BIM projects and managing incidents.

Open BIM **Layout**

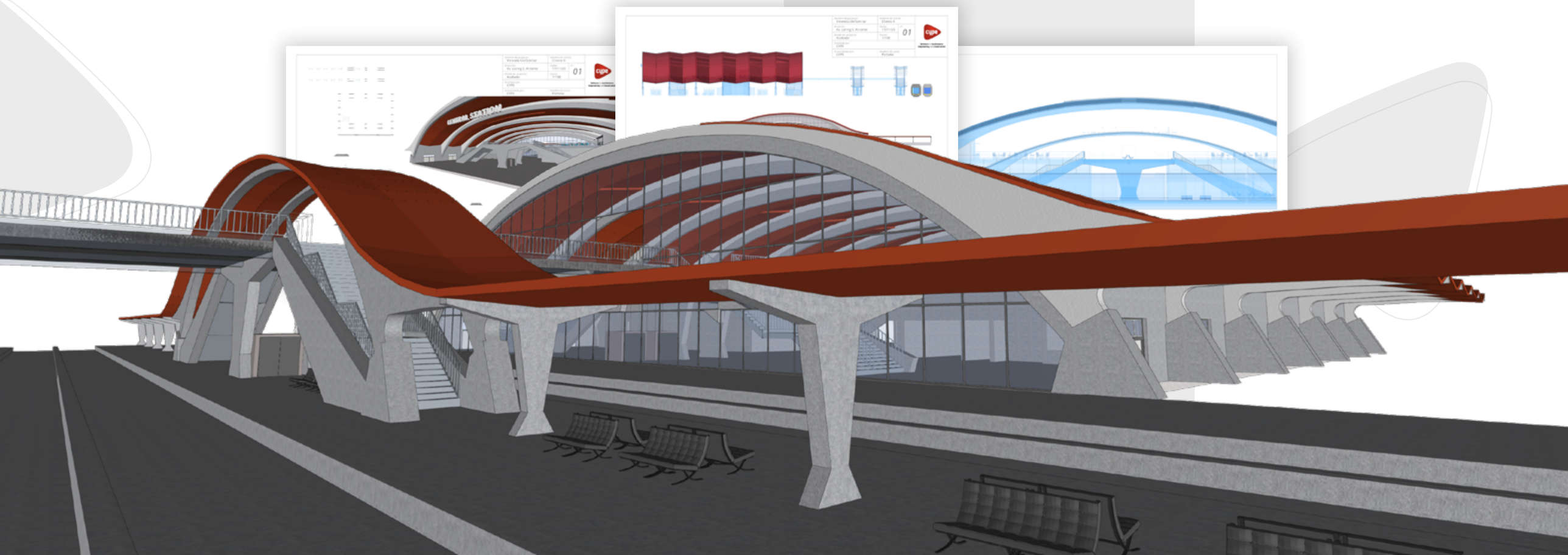
Composing plans with 2D and 3D sections and views that have been created based on BIM models in IFC format from the same BIMserver.center project.

Open BIM **Construction Systems**

Describing the construction systems that make up the building envelope and interior partitioning system.

Open BIM **Quantities**

Generating the quantities and cost estimations of BIM models defined in the BIMserver.center platform.



STRUCTURES

The durability, stability and safety of buildings rely on rigorous structural design and analysis. CYPE is specialised in this field due to their initial approach and extensive experience in the speciality of analysis and design of complex or high-rise structures.

CYPE has the best offer on the market in applications for the modelling and structural analysis of buildings, with highly detailed analysis justification documents for new structures or structural rehabilitation of buildings, either in reinforced concrete, steel, timber, aluminium, composite structures or in structural masonry elements.

Used by thousands of technical offices for structural analyses and controlling bodies all over the world, the software developed by CYPE guarantees **maximum reliability in analyses and allows users to propose technical and economical structural solutions for the project.**

CYPECAD in Open BIM

CYPECAD is now compatible with the collaborative Open BIM workflow via the BIMserver.center platform. Any architectural model generated from CYPE Architecture can be used as a reference for the structural model in CYPECAD.

CYPECAD

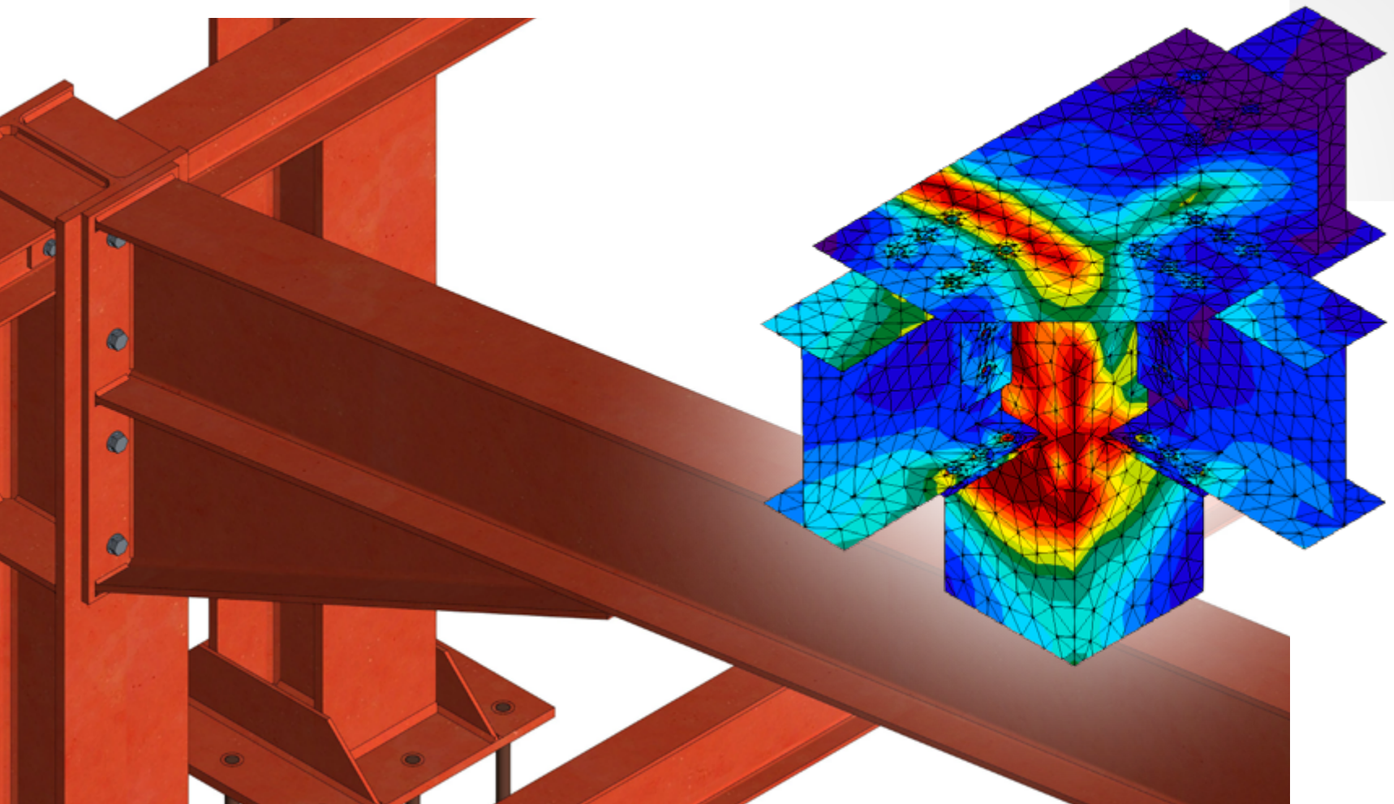
Modelling, analysing and designing reinforced concrete, steel and composite structures as well as structural masonry elements.

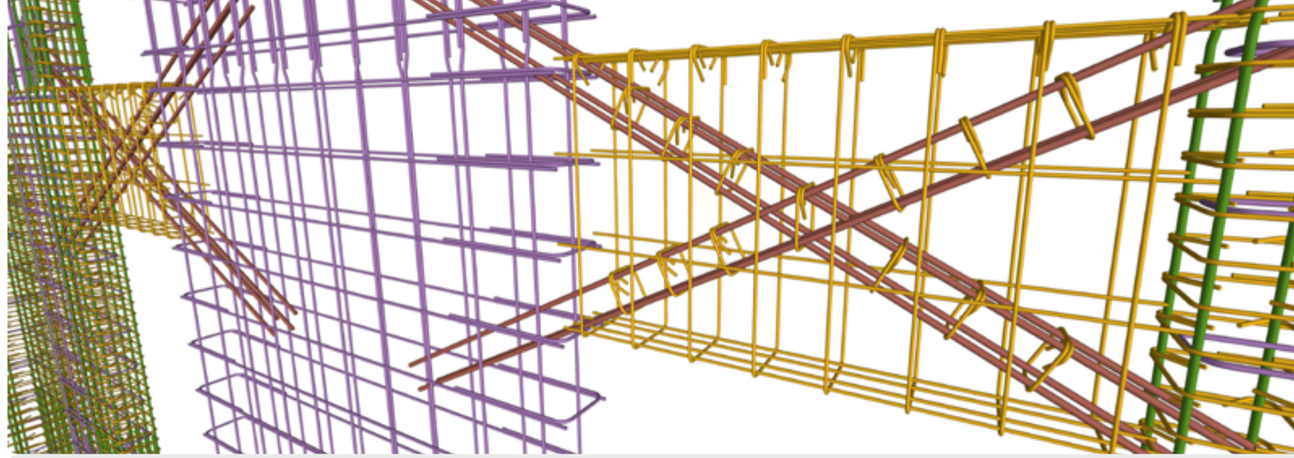
StruBIM **Shear Walls**

Designing reinforced concrete shear walls in accordance with codes ACI 318-11, ACI 318-14, NTC-RSEE 2017, Eurocode 2 and Eurocode 8.

StruBIM **Rebar**

BIM modelling of reinforcement in reinforced concrete structural elements.





Portal frame generator

Creates the geometry and loads of frames made up of rigid nodes and roof and floor trusses in a quick and simple way. Provides users with the design of roof and lateral façade purlins, optimising their section and separation.

CYPE **3D**

Modelling and design of steel, timber, aluminium or reinforced concrete trusses and structures.

CYPE **Connect**

Modelling and analysing steel-to-timber connections using finite elements.

StruBIM **Steel**

Modelling steel structures including all the necessary elements (sections, plates, bolts, welds and anchors) to define their manufacturing. The program offers shop drawings in DSTV format as a result.

Reinforced Concrete Cantilever Walls

Designing and checking reinforced concrete walls, working with cantilever, for soil retention, both on strip footing and on capping beams.

Embedded Retaining Walls

Analysing, designing and reinforcing reinforced concrete walls, concrete piles, mini piles and metal sheet pile walls.

Box Culverts

Designing and checking reinforced concrete frames used in road underpasses and drainage works.

ENERGY AND ACOUSTIC SIMULATION

Nowadays, optimising the energy performance of buildings is a priority for all project developers, whether they are constructing new buildings or renovating existing ones. To this end, the energy efficiency analysis of the project should be carried out as early as possible to allow the recommendation of a bioclimatic design of the building as well as the necessary energy efficient and economical systems.

With CYPE's **CYPETHERM** software range, dedicated to the energy simulation of buildings, the thermal engineer has all the tools to **ensure the inhabitants' comfort and reduce the buildings' energy consumption.**

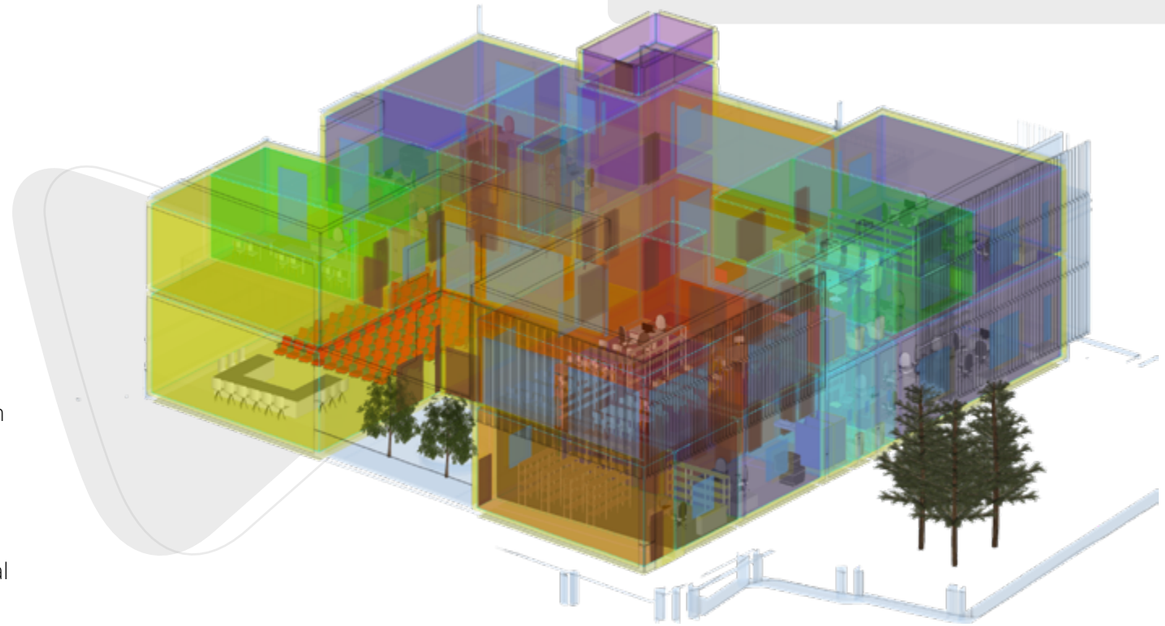
Energy analysis including the **certification of compliance with different codes**, obtaining specific energy labels (Effinergie, HQE, BREEAM, LEED, etc.), dynamic energy simulation, studies of singular points... all associated with a digital model to guarantee the increase in quality and project productivity.

Providing a comfortable visual environment promotes the well-being of those occupying the building. Additionally, daylight-oriented design and proper management of artificial lighting can significantly reduce energy consumption.

With **CYPELUX**, the lighting designer has a simple and comprehensive tool for **designing the building's lighting system** (normal and safety lighting) and compliance checking with codes or certification requirements.

AcouBAT by CYPE

Analysing and checking sound insulation and proofing using the AcouBAT analysis engine, designed by the French organisation, CSTB.



IFC Builder

Creating and maintaining exportable 3D models in IFC format.

Open BIM Analytical Model

Generating geometric analytical models from architectural models in IFC format, used in thermal and acoustic analyses.

CYPELUX

Lighting analysis of lighting installations, including Radiance software developed by the Lawrence Berkeley National Laboratory.

CYPELUX EN

Designing the lighting system of the building and meeting the requirements of the EN 12464-1 code.

CYPELUX LEED

Justification of the natural lighting requirements necessary to obtain the LEED v4 certification.

CYPETHERM LOADS

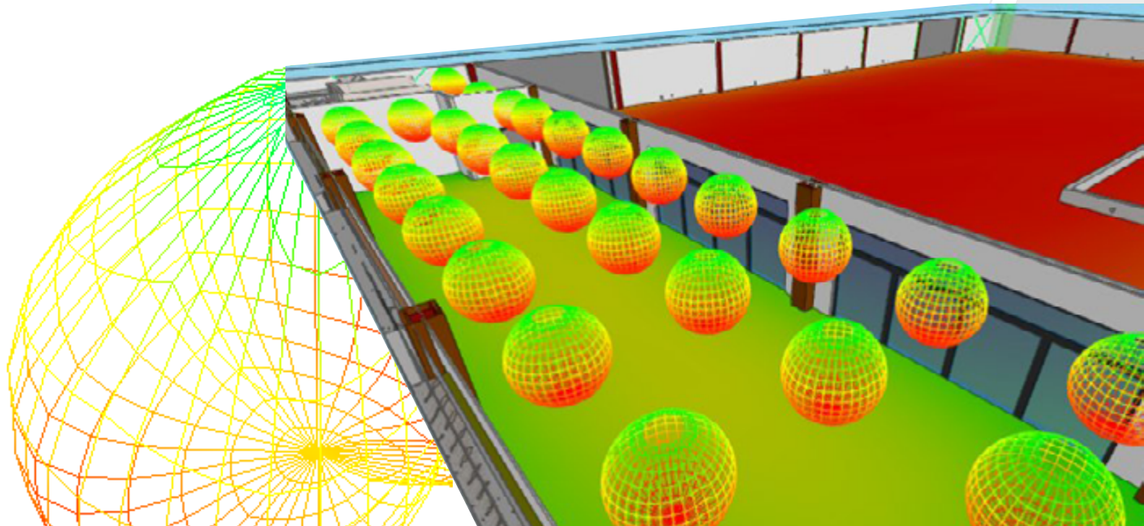
Analysis of the thermal load of buildings according to the Radiant Time Series Method (RTSM), proposed by ASHRAE.

CYPETHERM EPlus

Energy modelling and simulation of buildings with the EnergyPlus™ calculation engine.

CYPETHERM Improvements Plus

Energy audit of the building and analysing possible improvement measures, with energy and economic analyses.

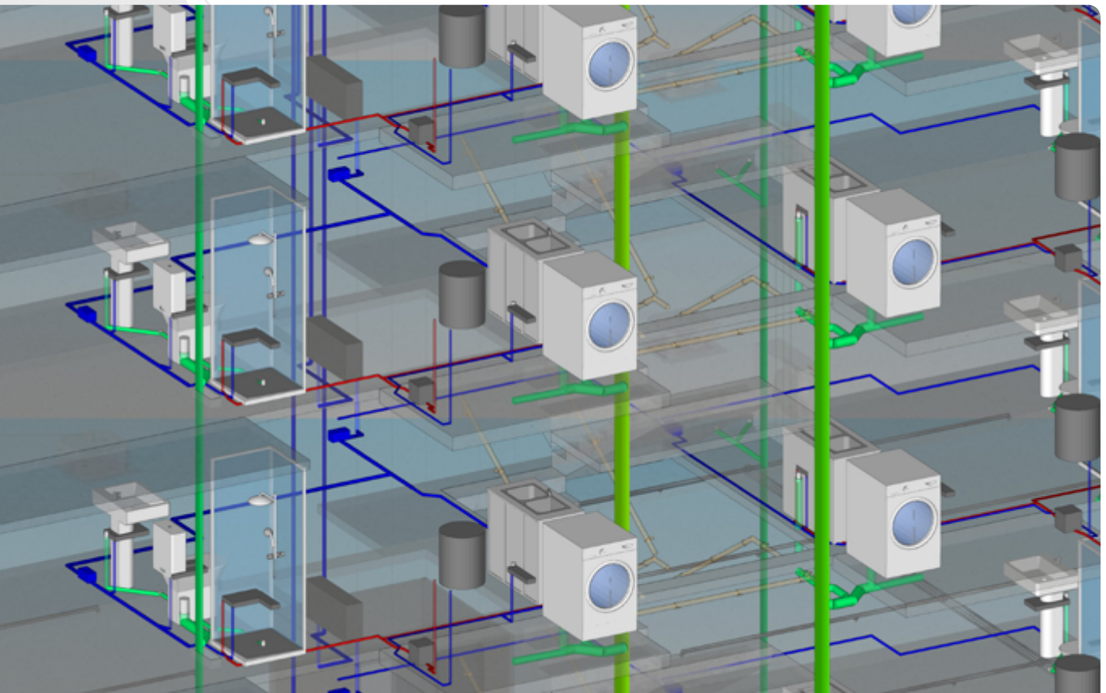


PLUMBING AND WASTEWATER

Among the building's technical networks, water supply and drainage play a particularly delicate role during the life of a building by ensuring the hygiene and comfort of its occupants.

Pipes must be designed and possible interactions with other disciplines (other technical networks, creating openings for installations in the structure, etc.) must be foreseen.

With **CYPEPLUMBING** software, **designing water supply and drainage networks** combines graphic input with technical and code analyses, allowing both supply and drainage networks to be entered directly into the BIM model in order to visualise the 3D layout of the remaining networks and the project structure.



CYPEPLUMBING **Sanitary Systems**

Design of wastewater and rainwater installations.

CYPEPLUMBING **Water Systems**

Design of water supply installations.

CYPEPLUMBING **Schematic diagrams**

Creation of diagrams for water supply installations.

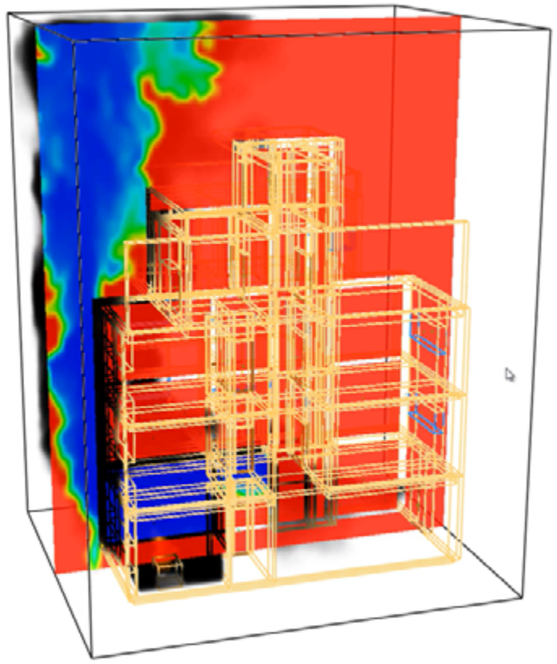
CYPEPLUMBING **Solar Systems**

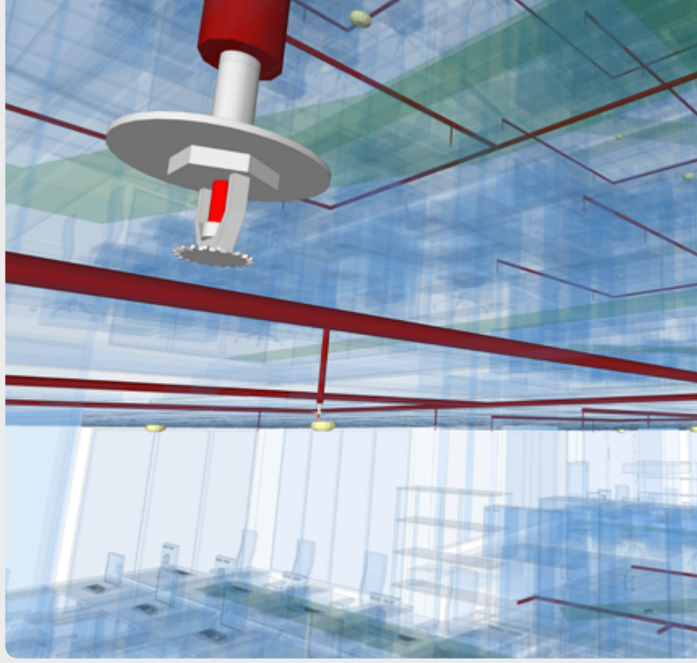
Design of solar thermal collection installations.

FIRE PROTECTION

The compliance of a public building project with fire regulations has a major impact on the architectural design of the project. CYPEFIRE Design makes it easier for architects and specialised architectural firms to adapt their design in accordance with fire regulations at a very early stage.

Fire safety engineering helps to complete the code approach by assessing fire risks. To do this, **CYPEFIRE FDS** allows the **proper functioning of the fire installation design to be simulated**: proper detection, flame and smoke propagation control, and the feasibility of escape routes.





Open BIM Sprinklers

With CYPEFIRE Hydraulic Systems, designing fire extinguishing systems is done directly on the BIM model.

CYPEFIRE **Design**

Design of fire protection installations. Passive (compartmentation, propagation and evacuation routes) and active (protection installations) means of protection.

CYPEFIRE **Hydraulic Systems**

Design of hydraulic systems for fire extinguishing installations. Includes American software "EPANET 2".

CYPEFIRE **Pressure Systems**

Design of pressure differential systems in accordance with the European EN 12101-6 code.

CYPEFIRE **FDS**

Design of complex building models to run fire evolution simulations using the fluid dynamics computational standard FDS (Fire Dynamics Simulator).

CYPEFIRE **FDS Viewer**

View of the results generated by the Fire Dynamics Simulator.

ELECTRICAL SYSTEMS

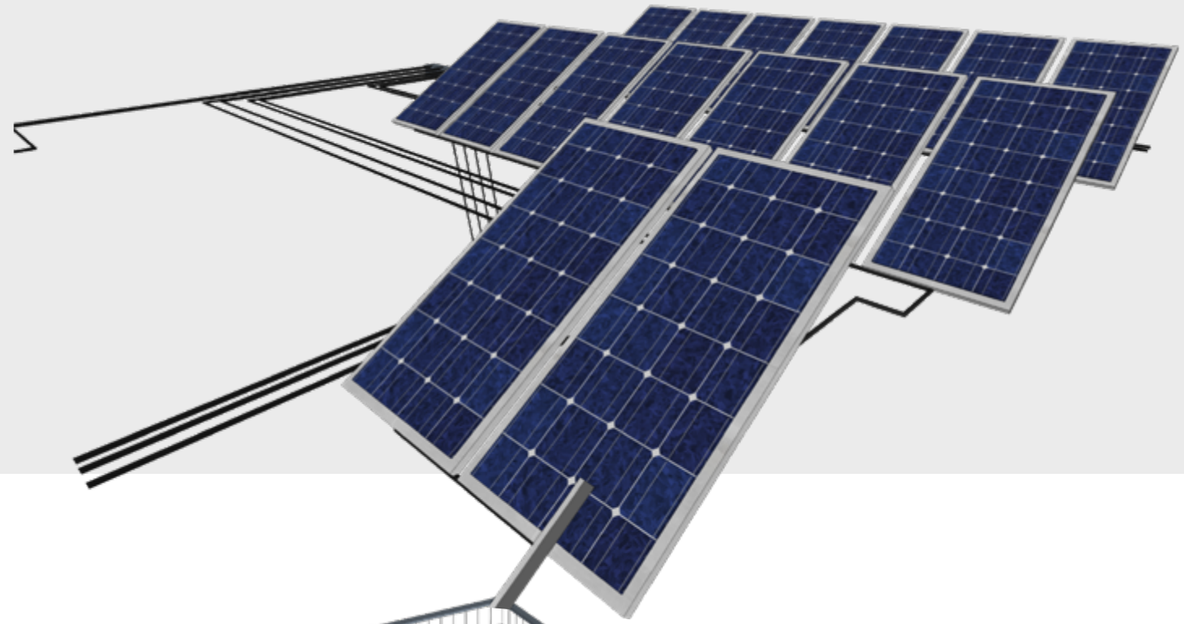
The design of high, medium and low voltage networks requires a precise layout of units, an efficient network layout and a strict application of the codes associated with each type of system.

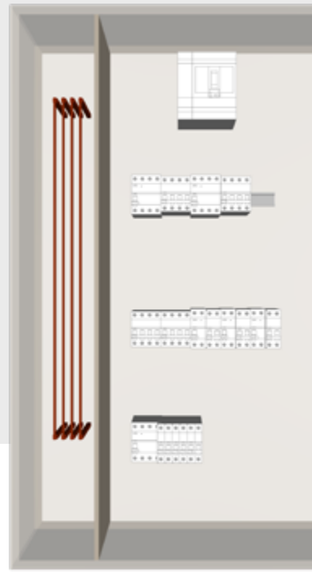
The CYPE software suite for electrical systems, **CYPELEC**, simplifies the execution of all **layout, path, analysis and design operations** in an Open BIM collaborative workflow that allows a direct link to be established for interactive work between the technical offices on the digital model of the project.

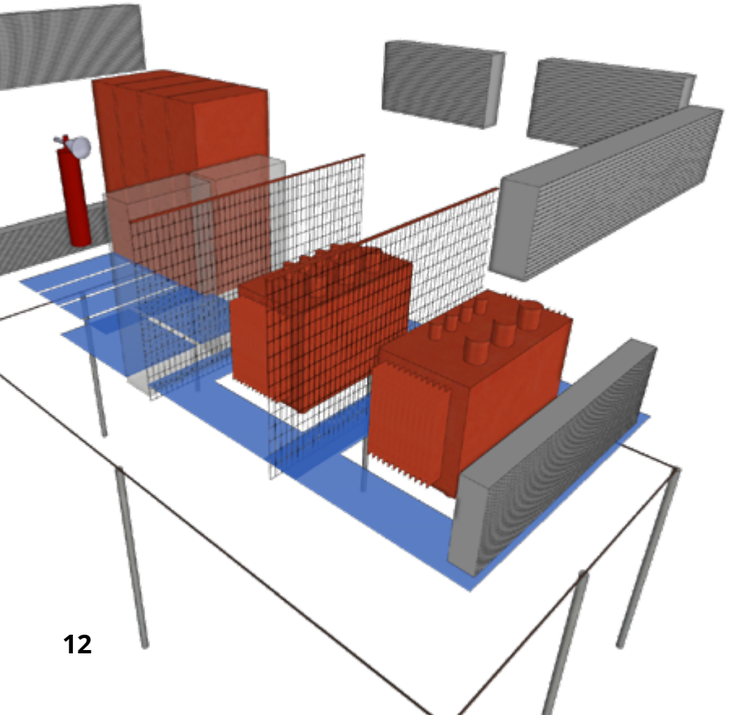
CYPELEC **Electrical Mechanisms**
Layout of the terminal electrical and telecommunications mechanisms based on an architectural model hosted in BIMserver.center.

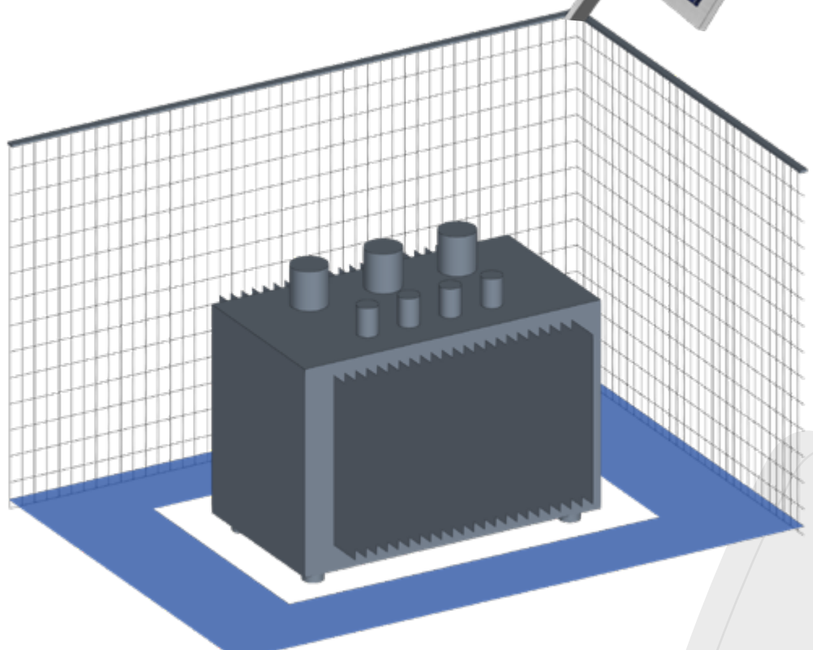
CYPELEC **Distribution**
3D implantation of the distribution of circuits and loads for electrical installation projects.

CYPELEC **Core**
Design of low voltage electrical installations in accordance with international IEC standards.









Open BIM **Lightning**
BIM modelling of safety installations against lightning risks using lightning rods with early streamer emission (ESE).

CYPELEC PV **Systems**
Design of photovoltaic systems.

CYPELEC **Networks**
Electrical power systems analysis. Charge flow and short circuit in high, medium and low voltage installations.

CYPELEC **Multiline**
Draws the multi-line diagram of an electrical installation.

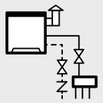
CYPELEC **Switchboard**
Design of distribution panels.

CYPELEC **Grounding IEC**
Design of grounding installations in accordance with the IEC 60364-5-54 code.

HVAC SYSTEMS

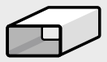
The correct implementation, layout and optimal design of an HVAC system actively contributes to the energy efficiency of the building as well as the comfort of the occupants, thus promoting the economical maintenance of the systems.

With CYPE, the technician in charge of **air conditioning projects** has access to accurate thermal load analyses (EN 12831 and ASHRAE method), designs the hydraulic, ventilation or cooling distribution systems, and prepares the plans and diagrams and the calculation report for their projects.



CYPEHVAC **Schematics**

Design of circuit diagrams for HVAC installations.



CYPEHVAC **Ductwork**

Project for designing and analysing ductwork.

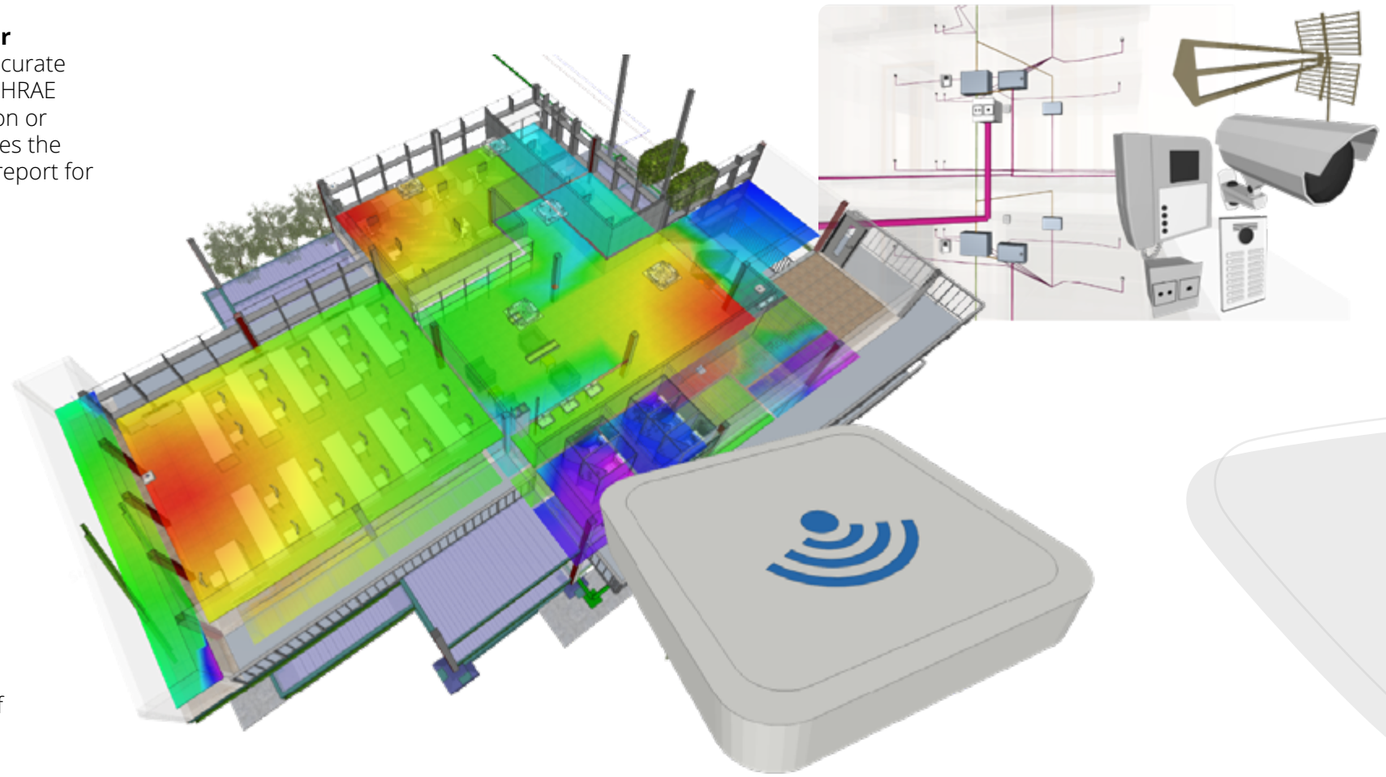
CYPEHVAC **Hydronics**

Design of water distribution installations for HVAC.

CYPEHVAC **Radiant floor**

BIM modelling and design of radiant floor installations.

TELECOMMUNICATIONS



The BIM methodology is also available for telecommunications professionals. The **CYPETEL** software range helps these professionals in all project phases, from **modelling of installations to network calculations**, and even the generation of drawings, lists of materials and calculation report.

For wireless installations, **CYPETEL Wireless** provides an innovative use for BIM models, allowing users to carry out a **visual analysis of the strength of the network signal** to be implemented in their project.

CYPETEL **Wireless**

Open BIM tool that allows architectural models to be imported into IFC format in order to carry out signal coverage studies of wireless telecommunications installations such as Wi-Fi and Bluetooth networks.

CYPETEL **Schematics**

Analysing and designing telecommunications system diagrams.

CYPETEL **Systems**

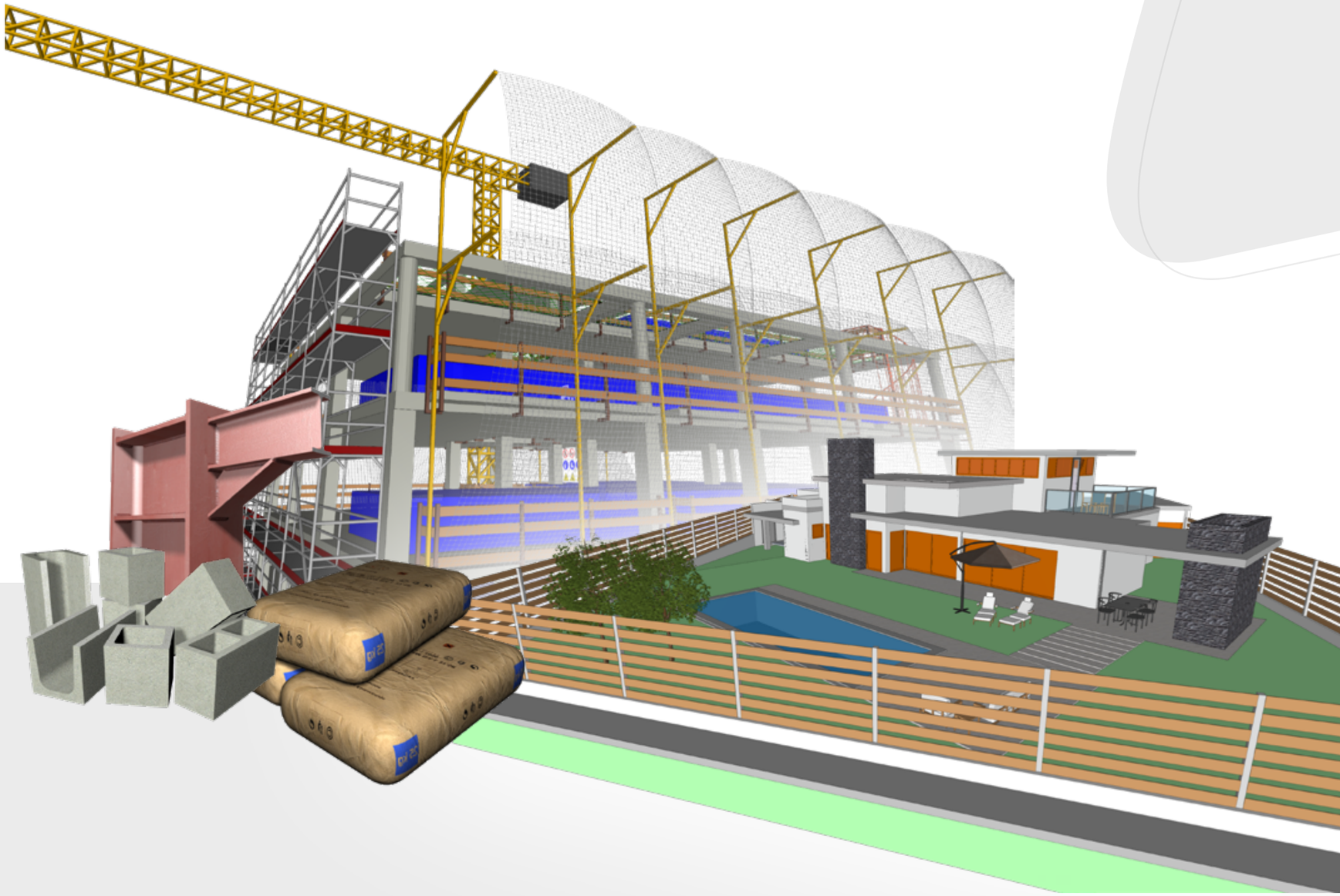
BIM modelling of the infrastructure of telecommunications systems.

PROJECT MANAGEMENT

A project at its most advanced stage will consist of several layers of information and several BIM models. Ensuring the quality of the models and making sure everything is in the right place can be a complex task and **Open BIM Model Checker is the ideal tool for inspecting models, creating issues and detecting geometric collisions.**

With **Open BIM Cost Estimator**, the **cost of the project** can be estimated in just a few minutes, and with **Open BIM Quantities, all quantities can be extracted from the BIM model of the project** and a complete bill of quantities can be created. Arquimedes is a multi-featured program, ideal for establishing customised cost databases, calculating quantity details and accurately breaking down the cost of construction projects.

With the design already completed, it is now time for the construction phase, where proper **planning of collective protection equipment and signs** is essential for the workers' health and safety. With **Open BIM Health and Safety** it is possible to develop a BIM model with all these details.



Open BIM **Cost Estimator**

Automatic estimation of the total construction cost during the preliminary phases of the architectural project.

Open BIM **Quantities**

Generating the quantities and cost estimations of BIM models defined in the BIMserver.center platform.

Open BIM **Model Checker**

BIM project review and incident management.

Open BIM **Health and Safety**

Creating drawings in which the graphics and diagrams required for defining the preventive measures adopted in the Health and Safety Plan are developed. Also, generating exportable quantities of those health and safety elements or units established in said Plan.

Arquimedes

The most complete tool for quantities, bills of quantities, certifications, specifications, and user and maintenance manuals for the building.

INTEROPERABILITY

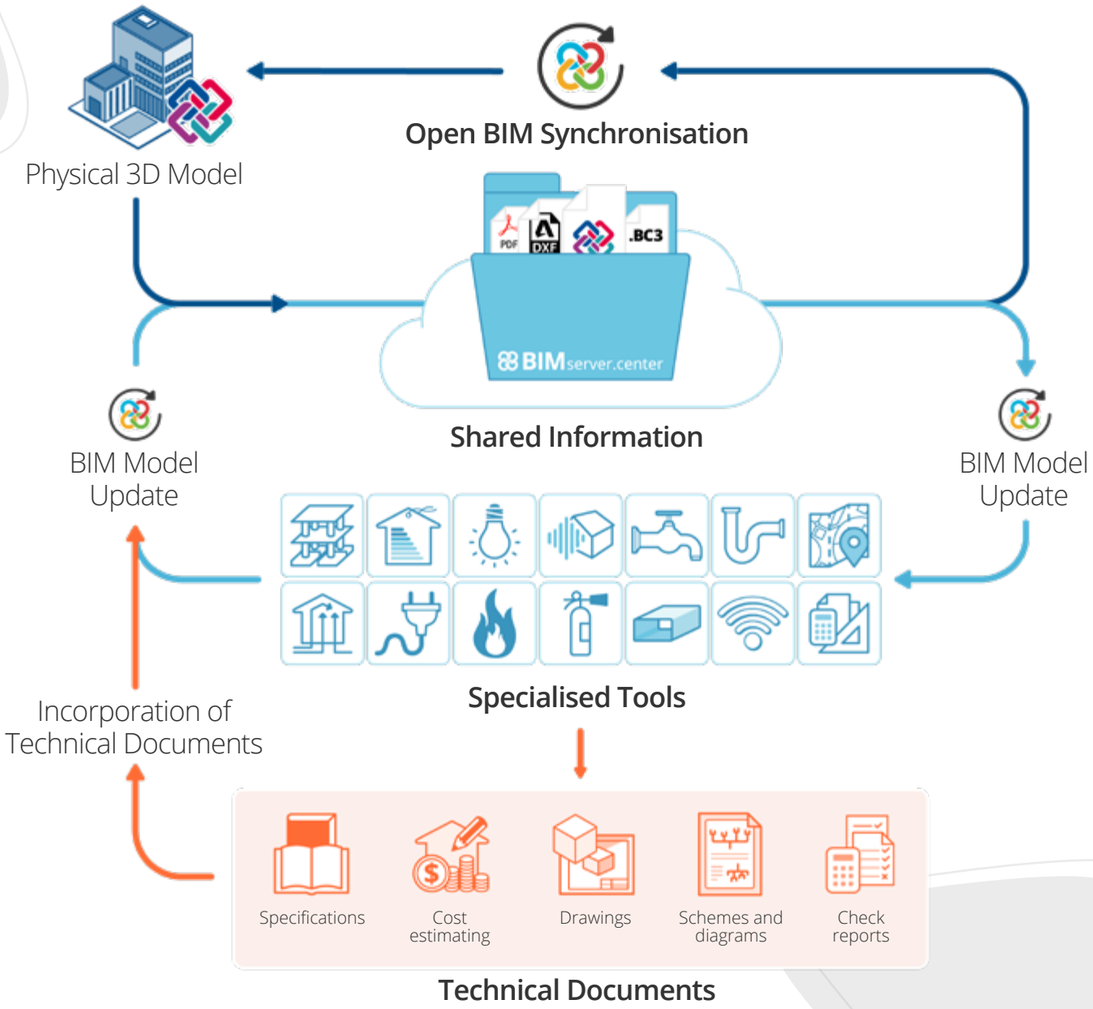
Come to BIMserver.center

Register on the platform for free and start your collaborative BIM project today using the applications available on the BIMserver.center Store.

The **Open BIM working methodology** allows all the agents involved in the development of the project, in its execution and even its subsequent maintenance, to be able to consult and immediately work on the project, to optimise the technical options in an interactive way between each discipline, being able to control and exploit the project data, respecting the scope and responsibility of each of the agents at all times.

CYPE's Open BIM technology provides more and more **possibilities for collaborative work between the different disciplines of the project**, between each application of each discipline and finally between the project agents themselves: developers, architects, engineers, control bodies, manufacturers, etc.

With more than **110,000 users**, BIMserver.center is undisputedly the **perfect platform to host a BIM project**, set up a team, collaborate, review and visualise the BIM model on the web, or with augmented reality and virtual reality applications.



BIMserver.center **Web**

For consulting, visualising and managing the projects developed and stored in BIMserver.center.

BIMserver.center **Education**

The platform for exclusive educational use that uses the integrated Open BIM workflow via the professional platform BIMserver.center.

Augmented Reality

For the immersive experience of visualising your projects in augmented reality, exploring inside the models.

Virtual Reality

For managing and inspecting projects hosted in BIMserver.center, within a virtual environment.

BIMserver.center **Mobile**

For consulting, visualising and managing projects developed and stored in BIMserver.center.

*Any BIM model can be hosted, visualised and shared in augmented or virtual reality, completely free of charge from **BIMserver.center.***

Open BIM **Revit™** Plugin

Plug-in for integrating Revit into the Open BIM workflow via IFC files.

IFC Uploader

For attaching IFC files to BIMserver.center projects, generating the glTF 3D visualisation files.

StruBIM Uploader

Application for incorporating structural models produced with different structural analysis applications, including analysis results, into Open BIM projects hosted on the BIMserver.center platform.

The most professional technical support

A complete team of experts in Architecture, Engineering and Construction is available to CYPE Software users for answering queries on how to use our programs. The **technical support service is exclusive and free of charge for CYPE software users and is available worldwide.**

CYPE also offers its users the option of being trained by means of **thematic seminars, both through webinars and face-to-face training.** This training is adapted to the needs of new users, if the training is targeted on getting to know the program, and to expert users, when the training is aimed at perfecting skills.

CYPE software is developed by integrating numerous national and international standards and regulations in all related disciplines.

Using a BIM working methodology and the BIMserver.center platform allows users to offer additional value and remain competitive in the export market by using software that is adapted and internationally recognised.

Prices and additional information at
www.cypе.com

More information

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