CYPE 2025

cype

Software for
Architecture,
Engineering and
Construction

English edition

INDEX

ARCHITECTURE

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 **CYPE 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.
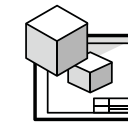
Open BIM **Site**
Defining the initial conditions of a project site including establishing the geographical location of models, managing different types of maps, and entering topographical surfaces, parcels and buildings, among others.
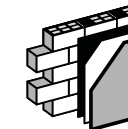
Open BIM **Model Checker**
Reviewing BIM projects and managing incidents.

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.
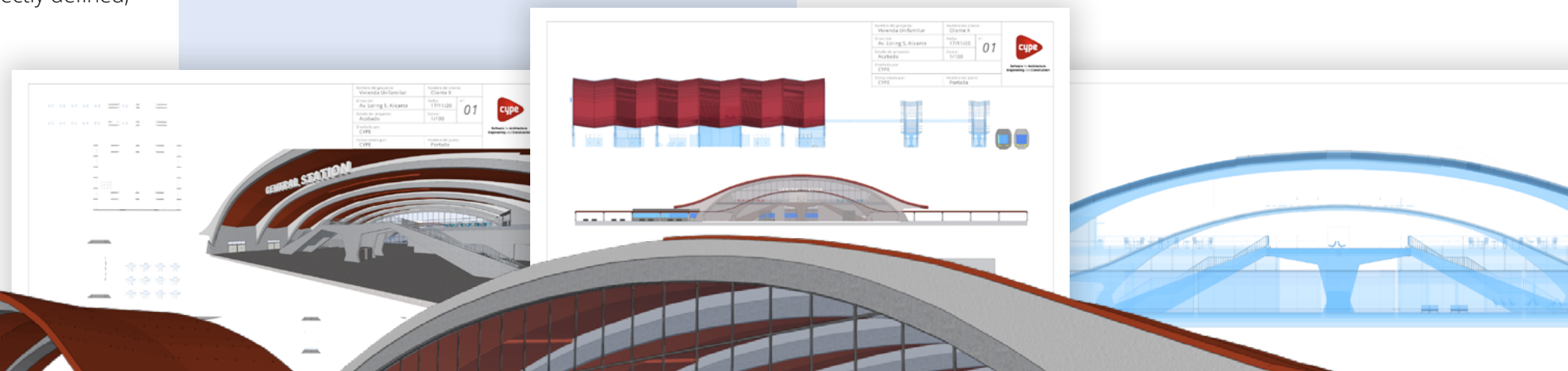
CYPE **Construction Systems**
Describing the construction systems that make up the building envelope and interior partitioning system.

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

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.**
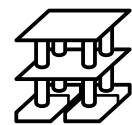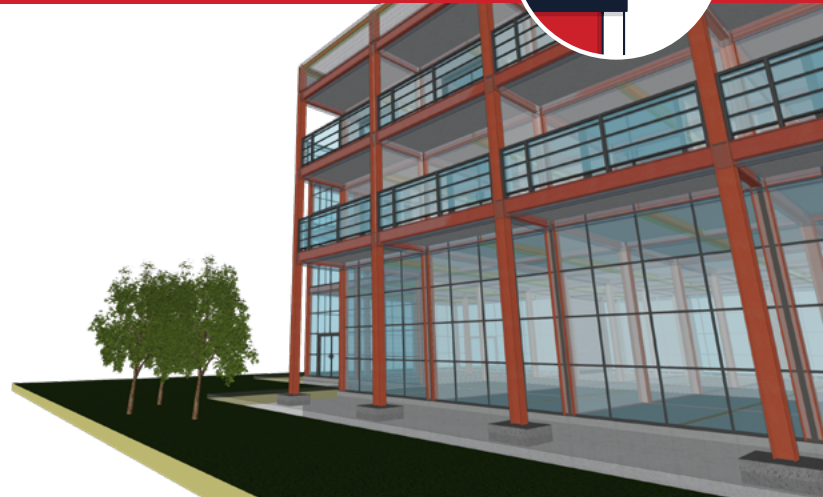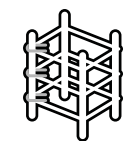
CYPECAD
Modelling, analysing and designing reinforced concrete, steel and composite structures as well as structural masonry elements.
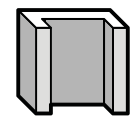
StruBIM Shear Walls
Designing reinforced concrete shear walls in accordance with codes ACI 318-11, ACI 318-14, NTC-RSEE 2017, Eurocode 2 and Eurocode 8.
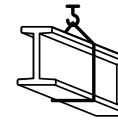
StruBIM Rebar
BIM modelling of reinforcement in reinforced concrete structural elements.

CYPE 3D
Modelling and design of steel, timber, aluminium or reinforced concrete trusses and structures.
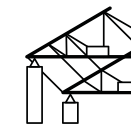
StruBIM Steel
Modelling steel structures including all the necessary elements (sections, plates, bolts, welds and anchors) to define their manufacturing. The program offers shop drawings in DSTV format as a result.
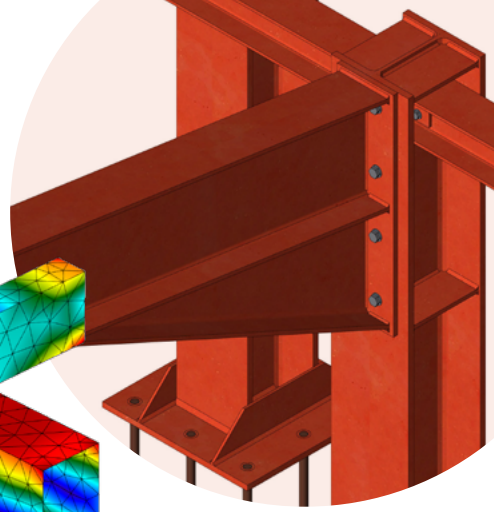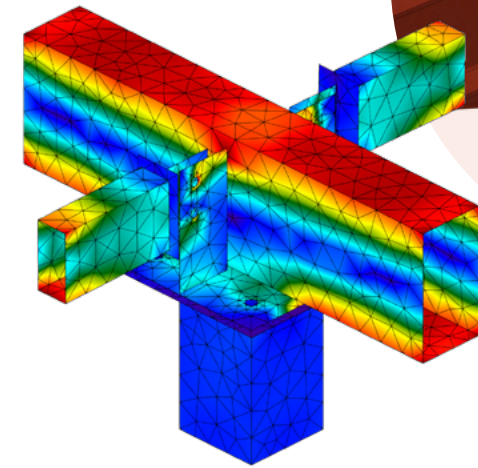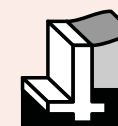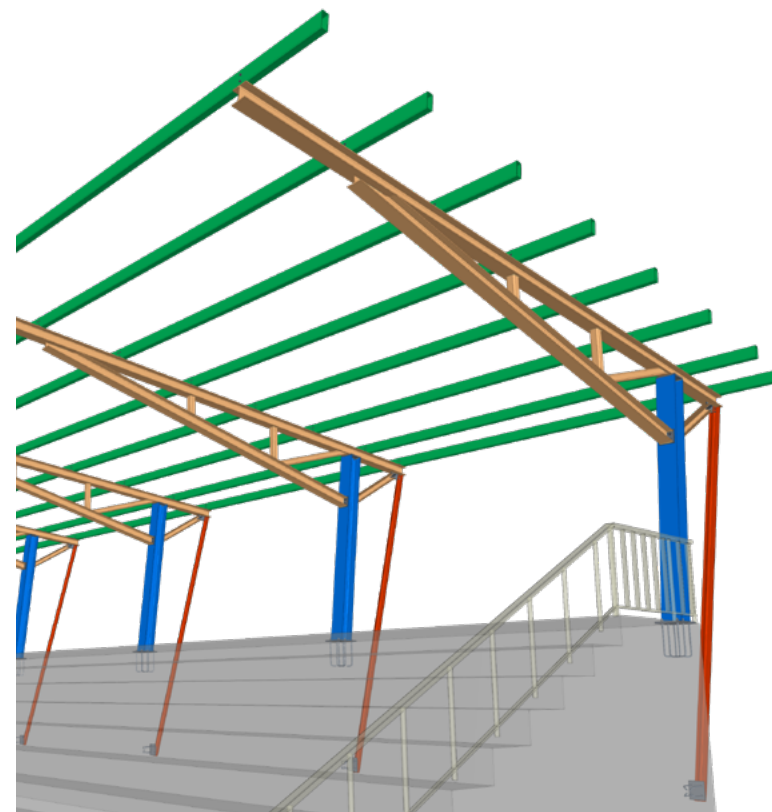
CYPE Connect
Modelling and analysis of connections in steel and timber structures using finite elements.

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.
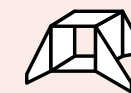
StruBIM Cantilever Walls
Designing and checking reinforced concrete walls, working with cantilever, for soil retention, both on strip footing and on capping beams.
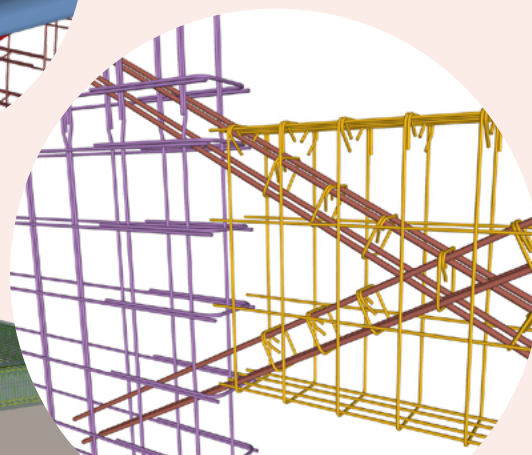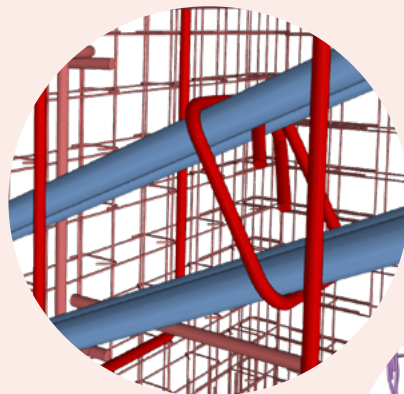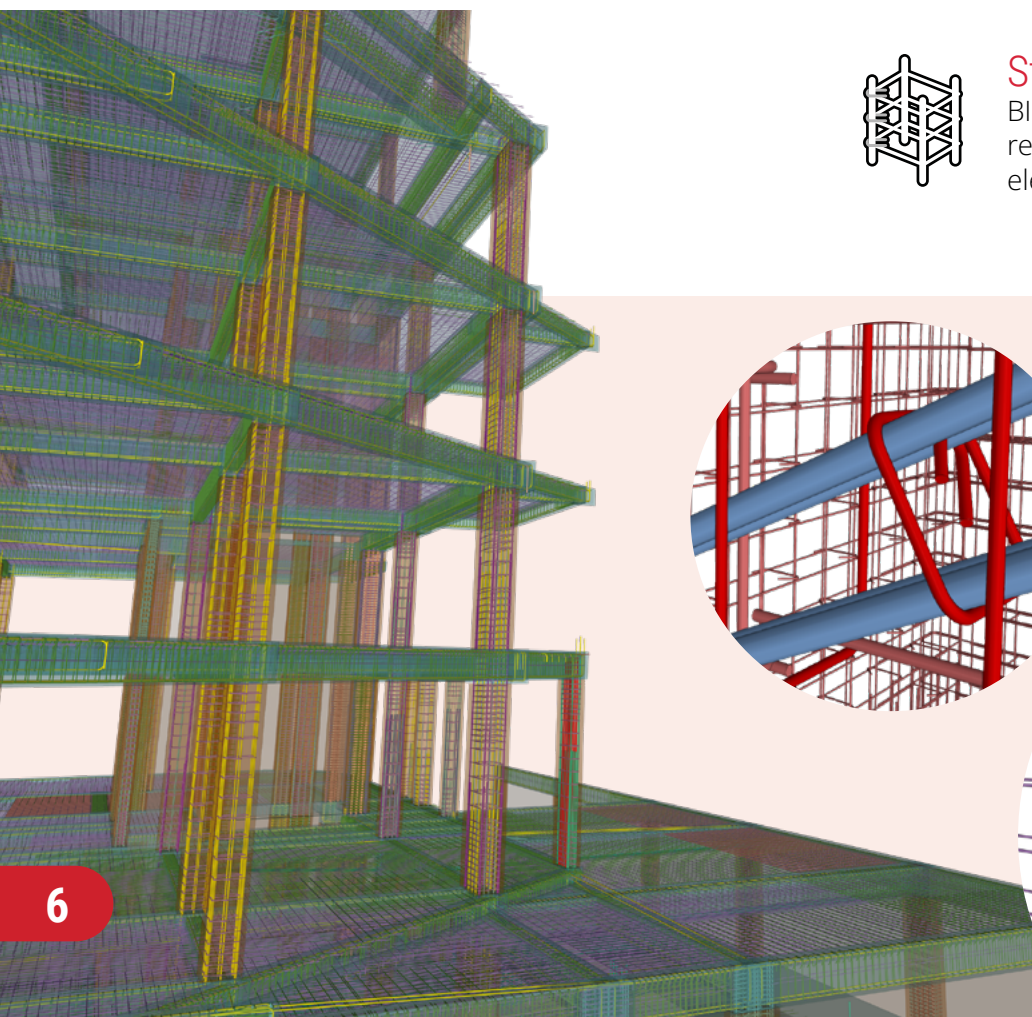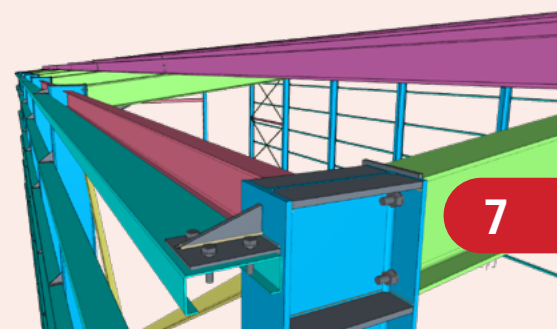
StruBIM Embedded Walls
Analysing, designing and reinforcing reinforced concrete walls, concrete piles, mini piles and metal sheet pile walls.

StruBIM 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.
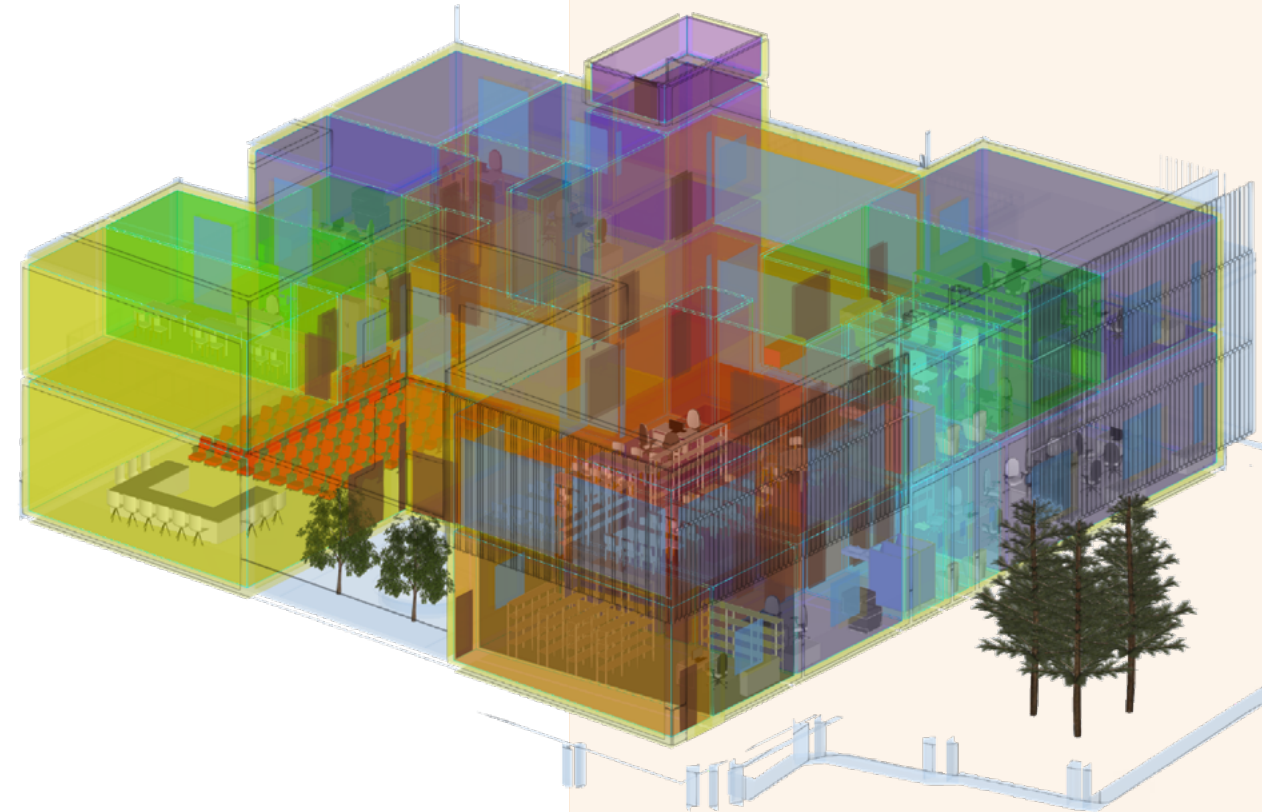
IFC **Builder**
Creating and maintaining exportable 3D models in IFC format.
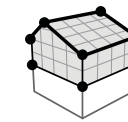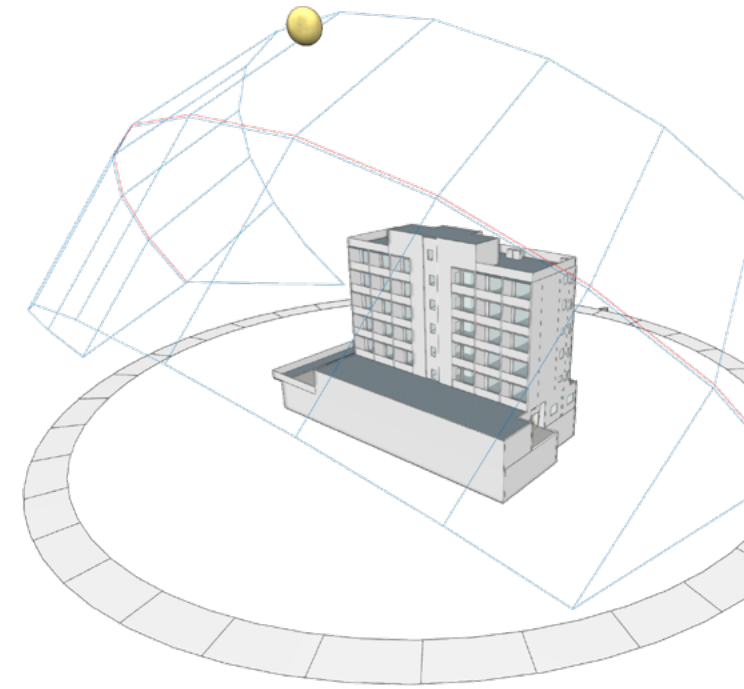
Open BIM **Analytical Model**
Generating geometric analytical models from architectural models in IFC format, used in thermal and acoustic analyses.

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

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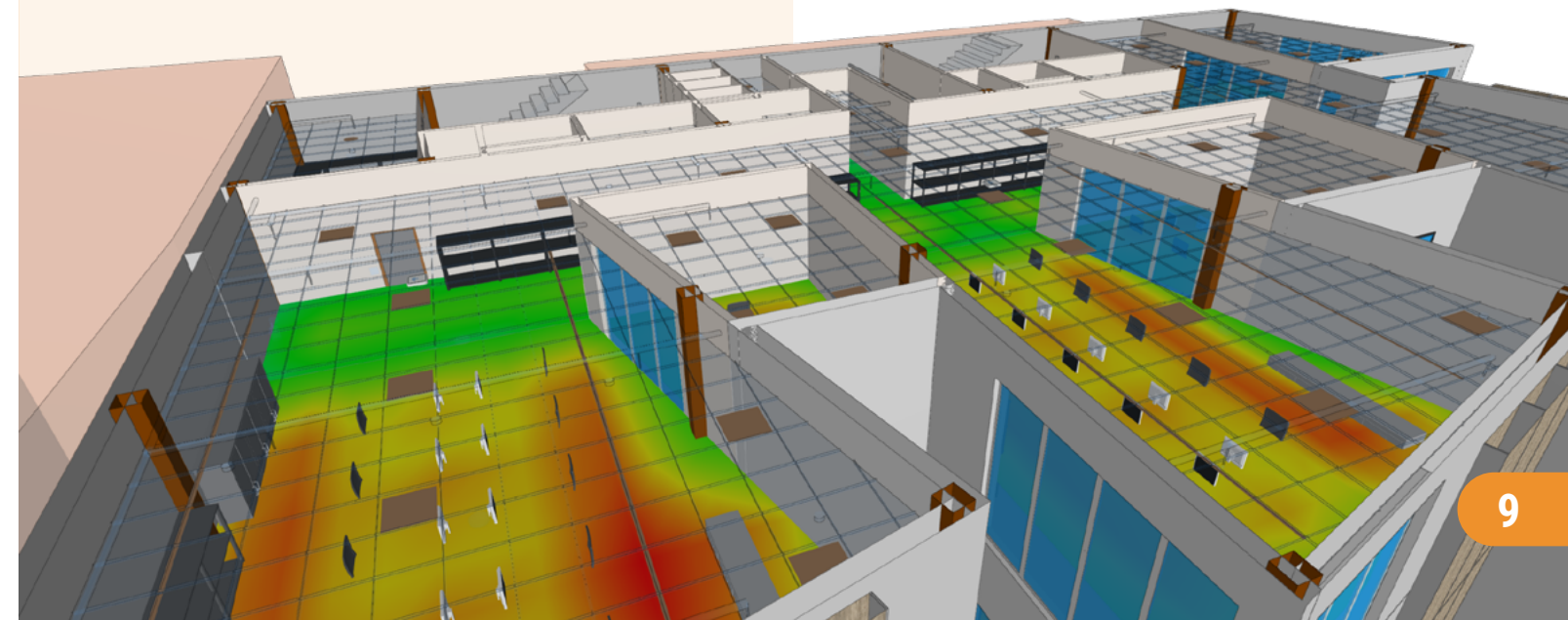
CYPETHERM **Improvements Plus**
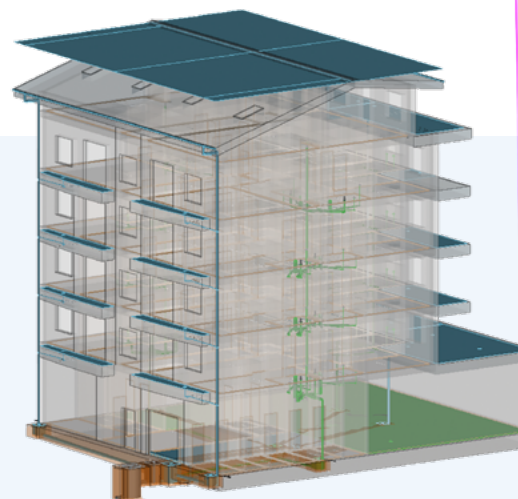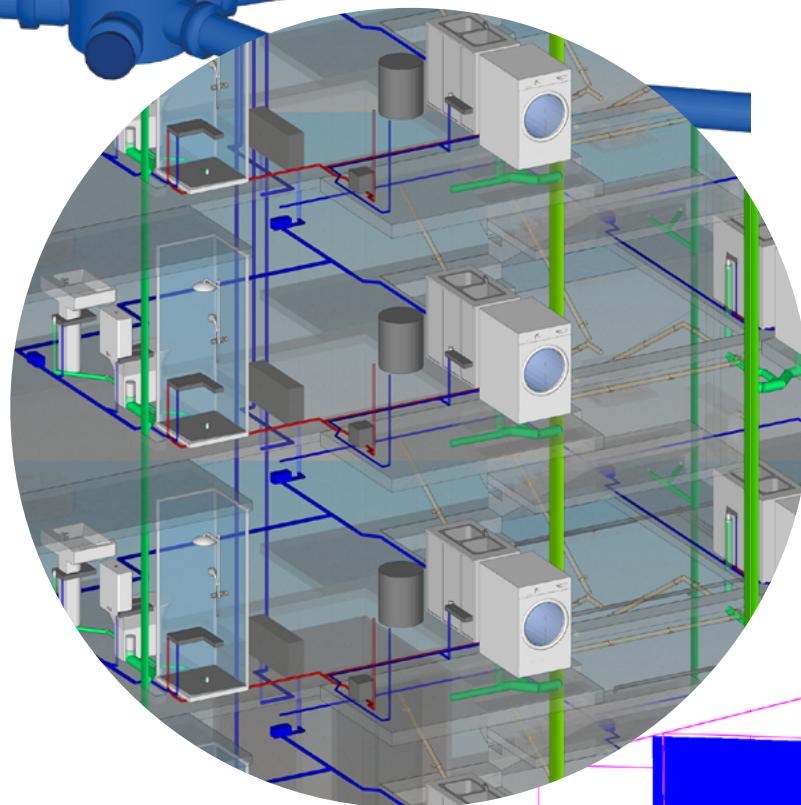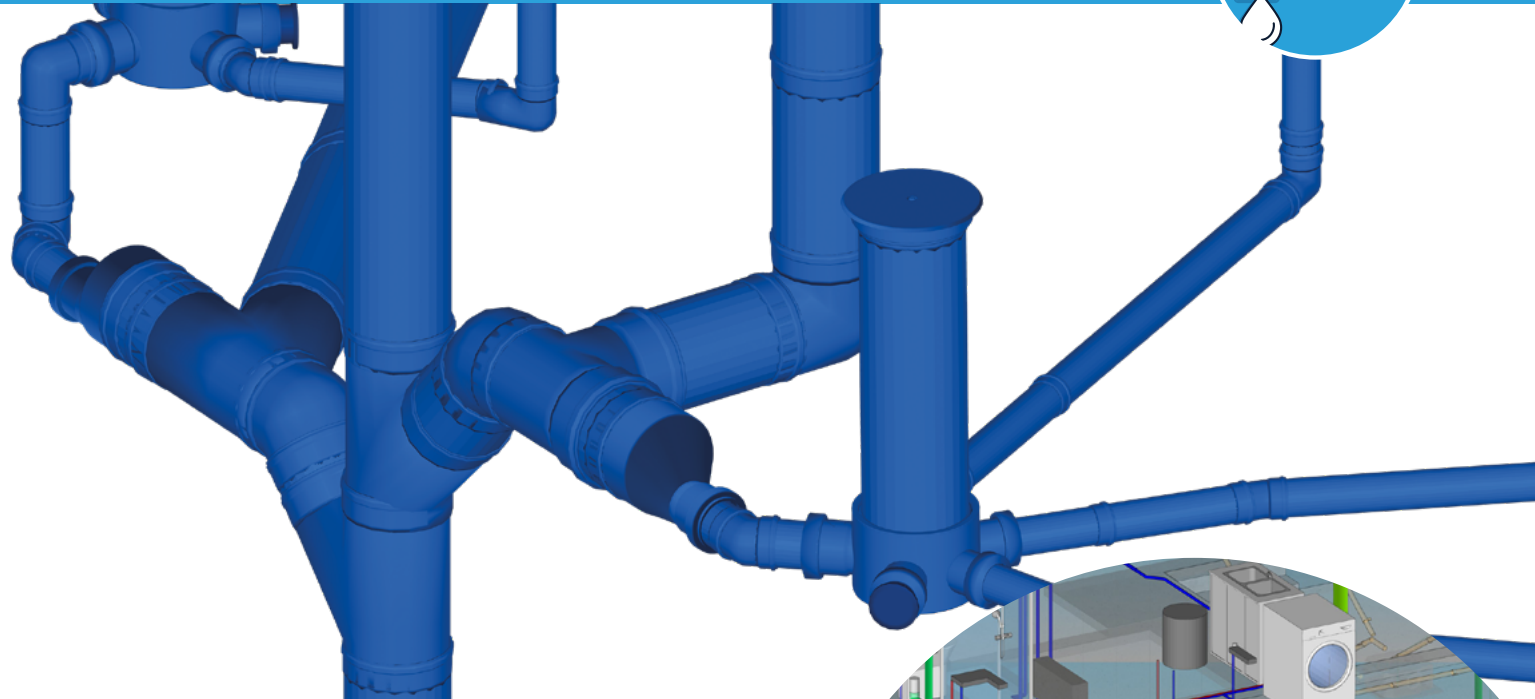Energy audit of the building and analysing possible improvement measures, with energy and economic analyses.

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

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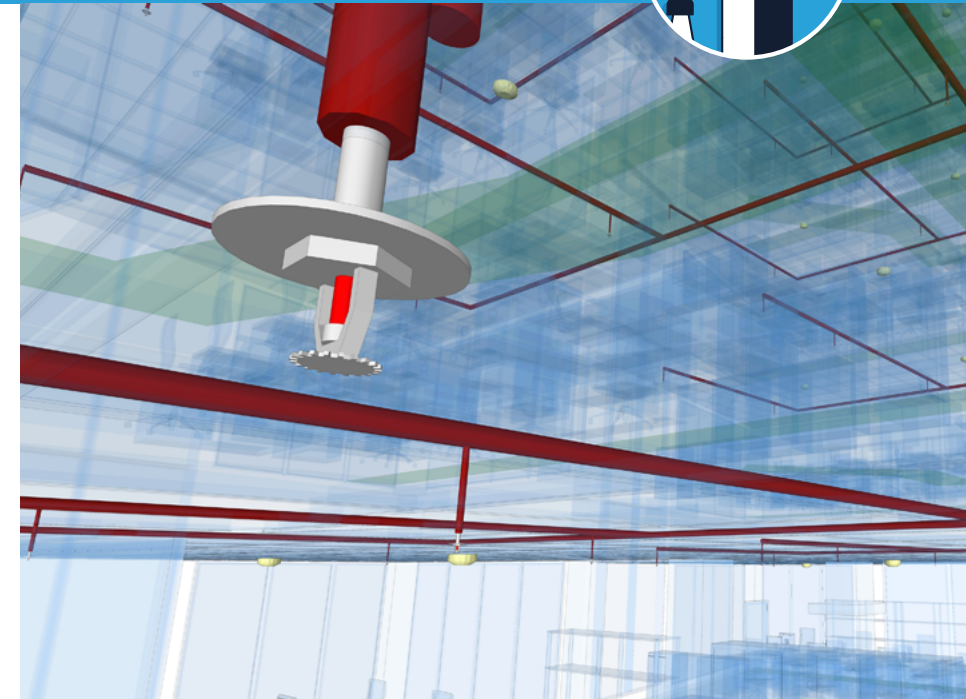
The compliance of a public building project with fire regulations has a major impact on the architectural design of the project. CYPEFIRE makes it easier for architects and specialised architectural firms to adapt their design in accordance with fire regulations at a very early stage.

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.
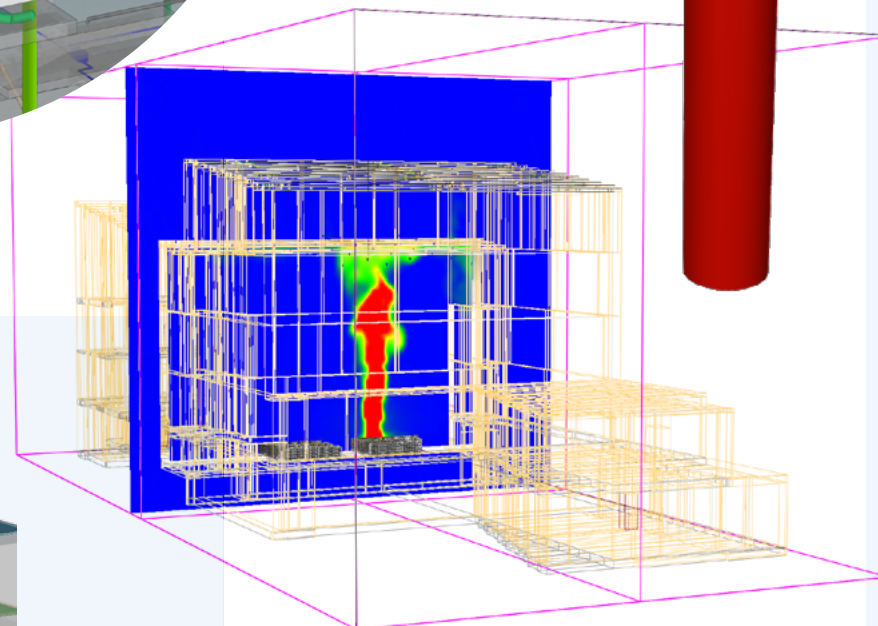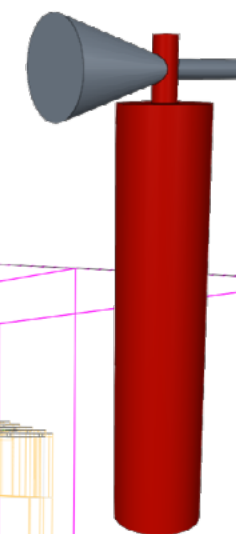
CYPEFIRE
Design of fire protection installations. Passive (compartmentation, propagation and evacuation routes) and active (protection installations) means of protection.
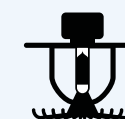
CYPEFIRE **Hydraulic Systems**
Design of hydraulic systems for fire extinguishing installations. Includes American software "EPANET 2".
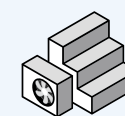
CYPEFIRE **Pressure Systems**
Design of pressure differential systems in accordance with the European EN 12101-6 code.

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

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 de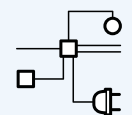sign operations** in an Open BIM collaborative workflow that allows a direct link to be established for interactive work between the technical offices on the digital model of the project.
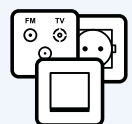
CYPELEC
Design of low voltage electrical installations.

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

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

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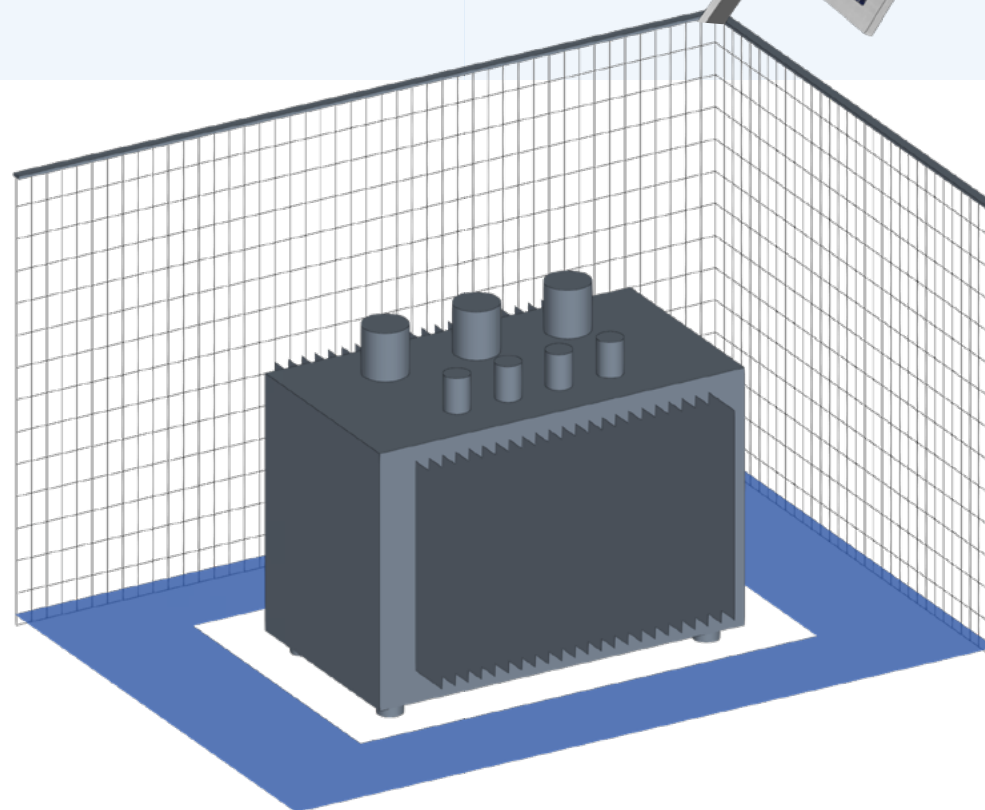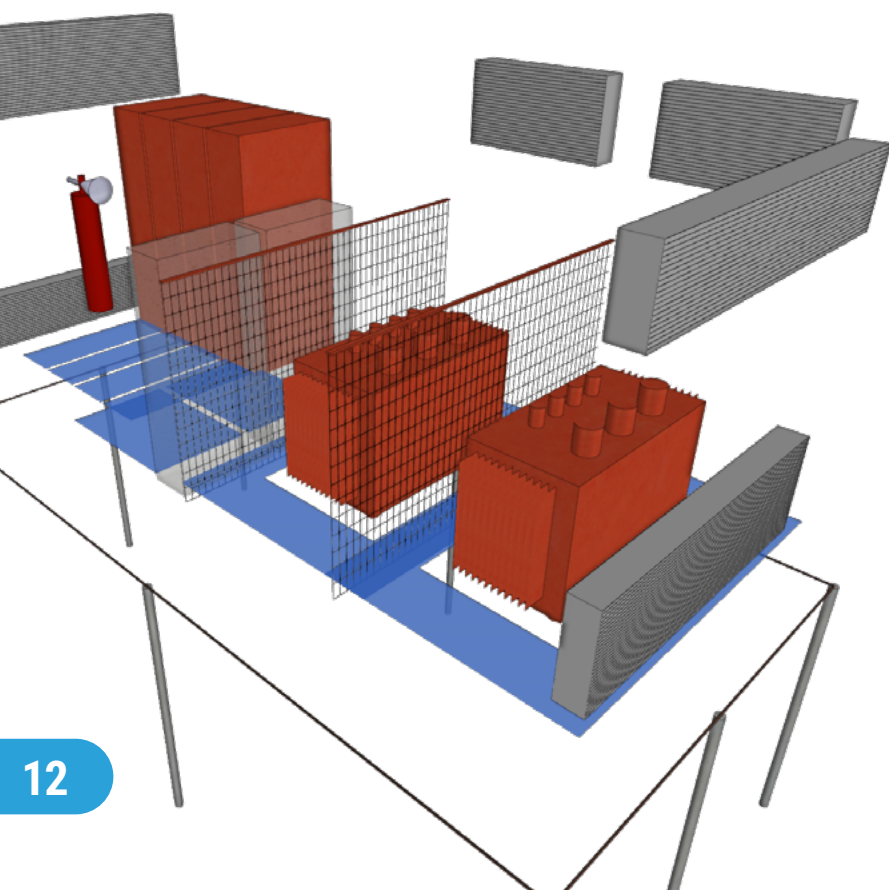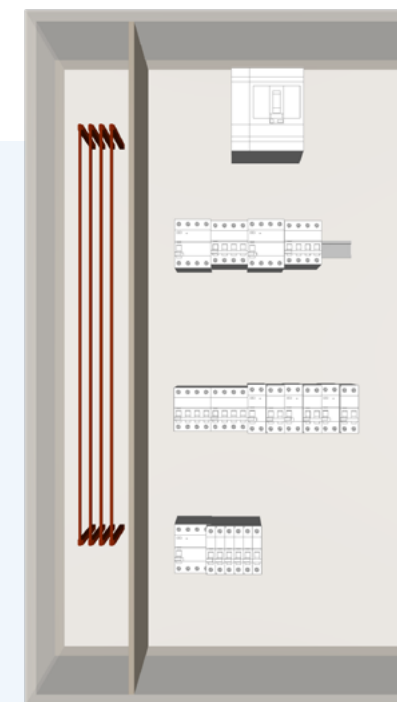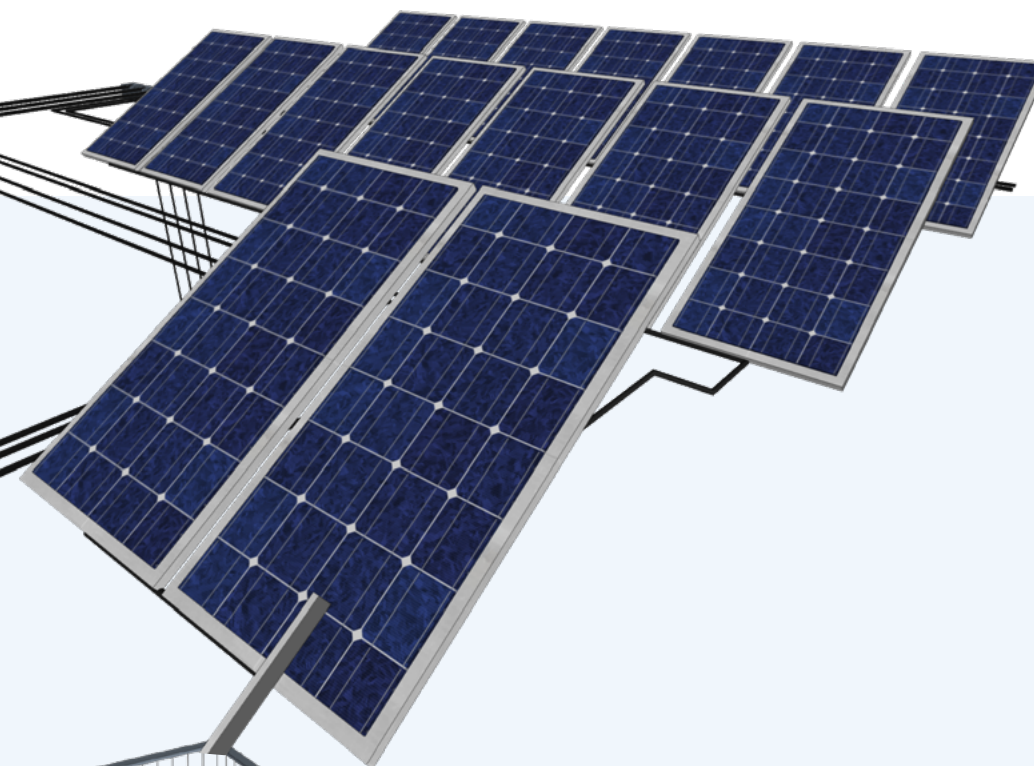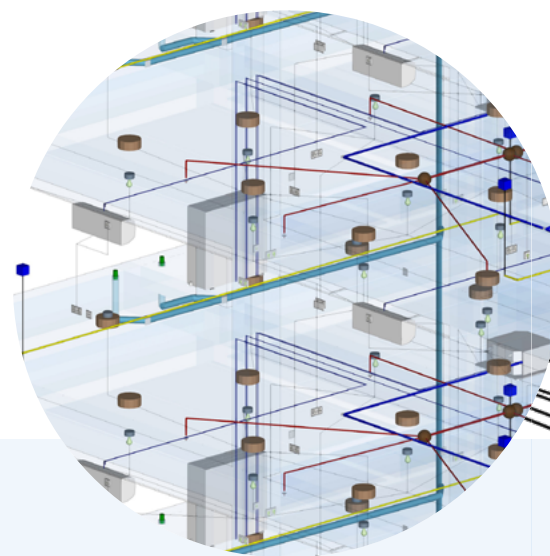
CYPELEC Multiline
Draws the multi-line diagram of an electrical installation.

Open BIM Switchboard
Design of distribution panels.
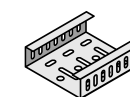
Open BIM Cable Routing
BIM modelling of cable routing systems, both electrical and telecommunications, from manufacturers' catalogues.

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.
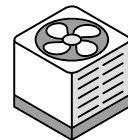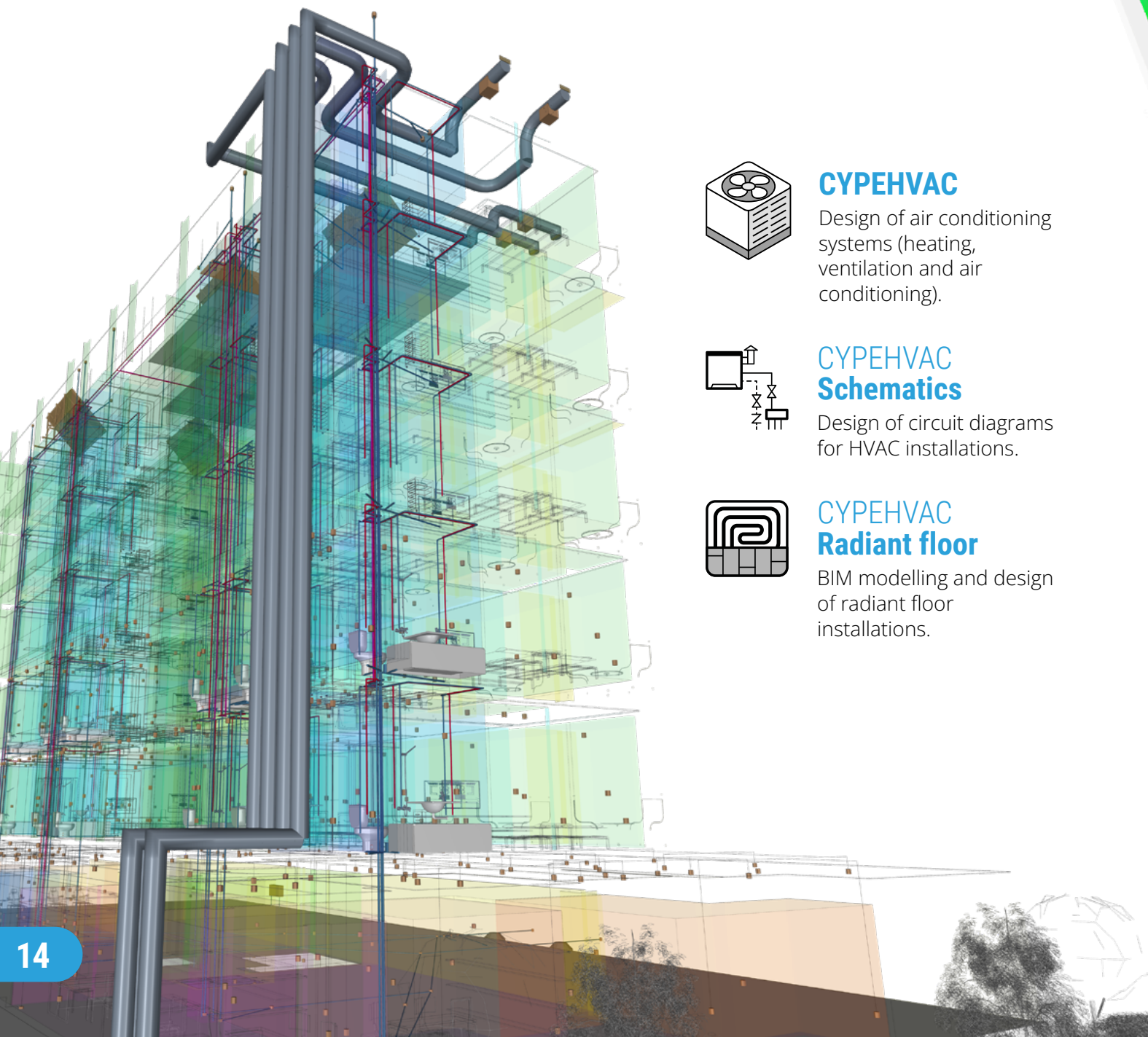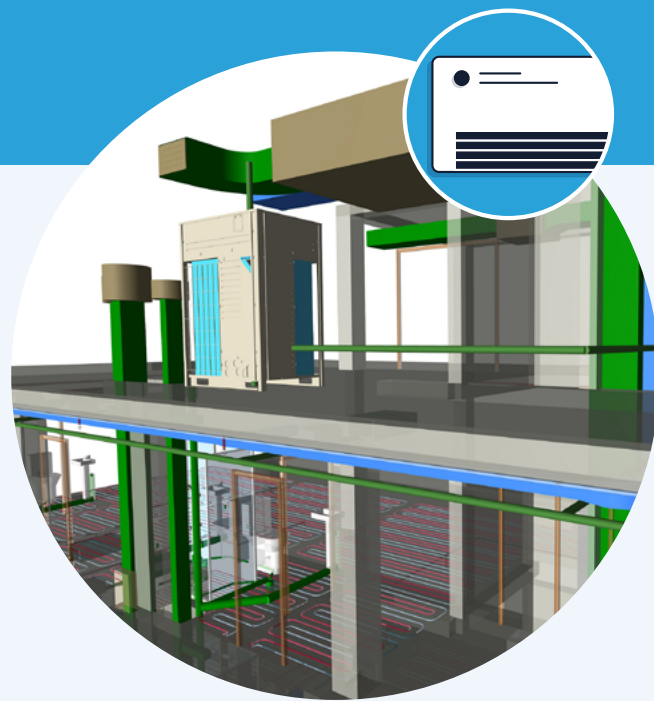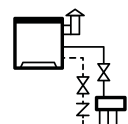
CYPEHVAC
Design of air conditioning systems (heating, ventilation and air conditioning).

CYPEHVAC Schematics
Design of circuit diagrams for HVAC installations.

CYPEHVAC Radiant floor
BIM modelling and design of radiant floor installations.

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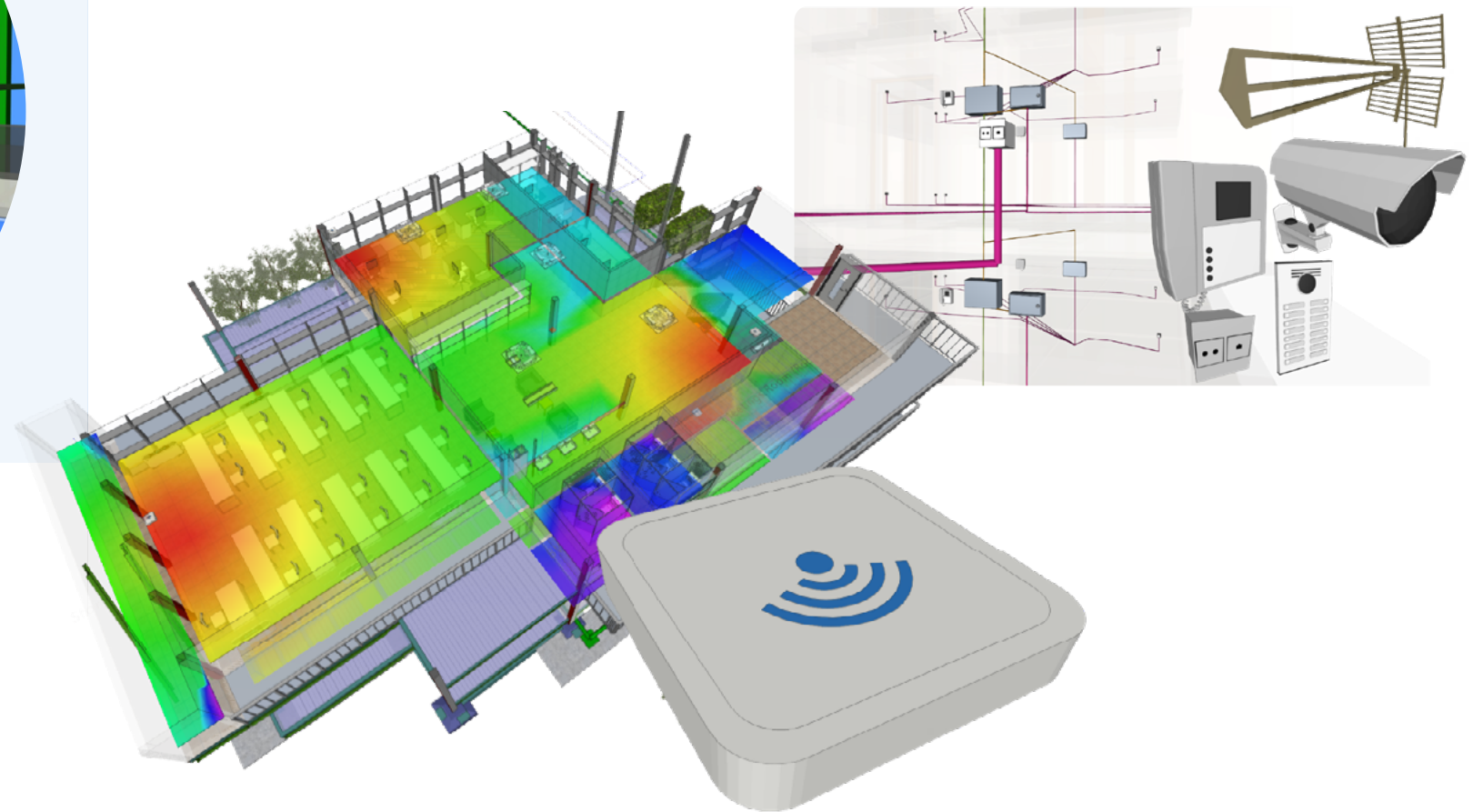
The BIM methodology is also available for telecommunications professionals. The **CYPETEL** software range helps these professionals in all project phases, from **modelling of installations to network calculations**, and even the generation of drawings, lists of materials and calculation report.

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.
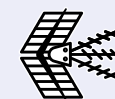
CYPETEL
Used for the design and analysis of telecommunications installations, and includes manufacturers' catalogues. The program allows users to configure infrastructure and network diagrams and create graphical compositions of installation details.

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 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 **CYPE 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 **CYPE Health and safety** it is possible to develop a BIM model with all these details.
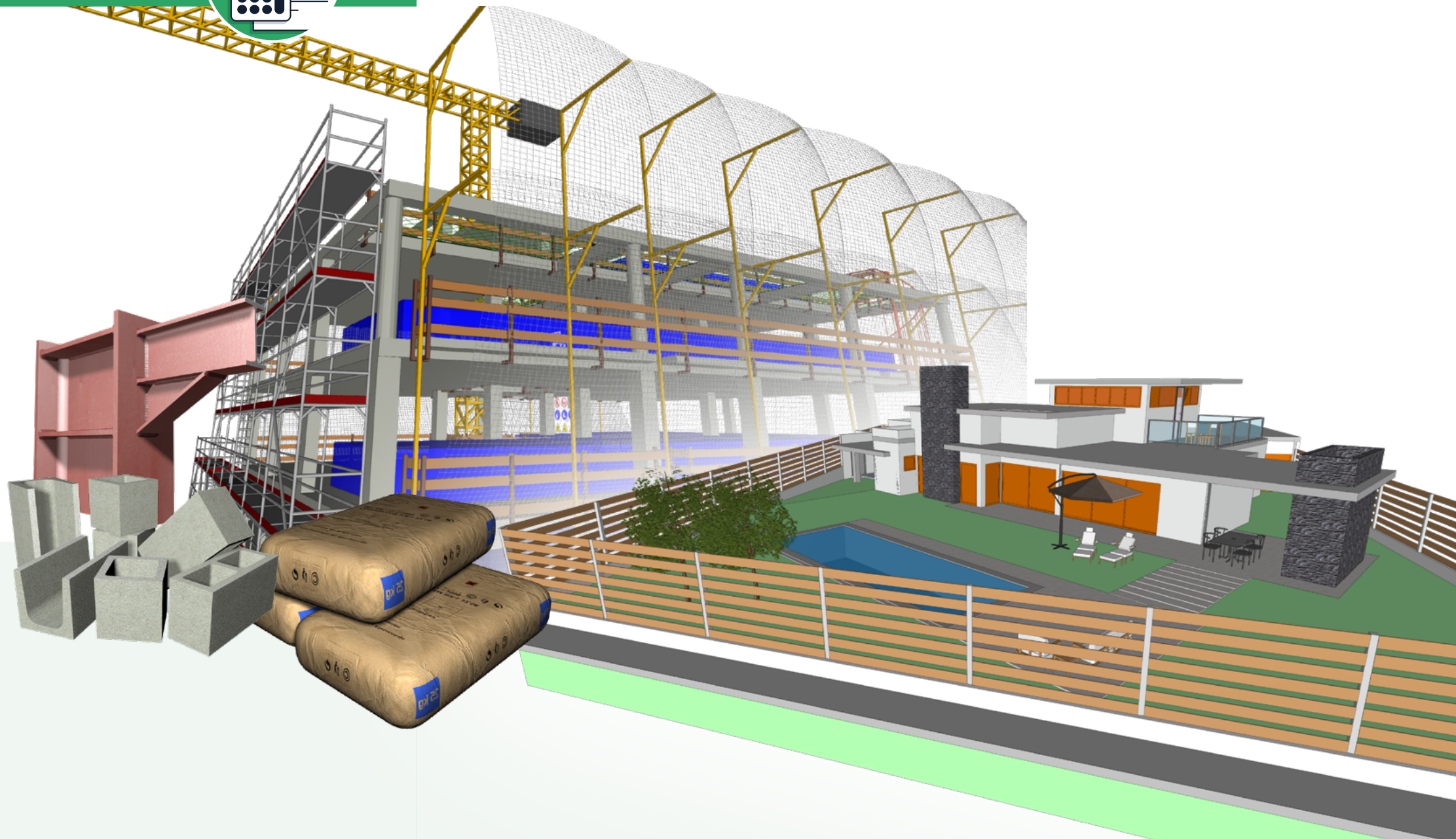
CYPE Cost Estimator
Automatic estimation of the total construction cost during the preliminary phases of the architectural project.

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.

CYPE 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

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 **170,000 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.
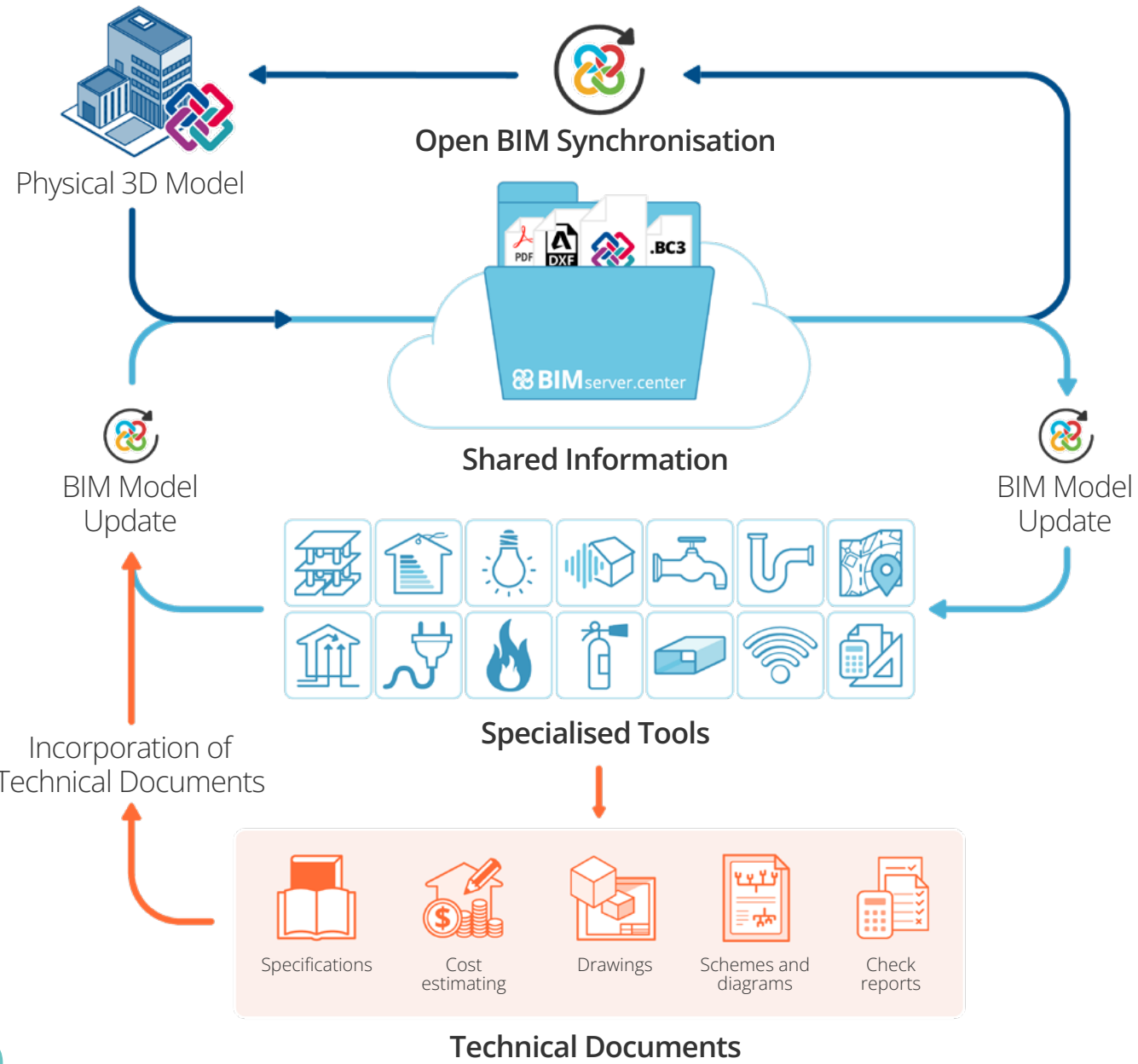
BIMserver.center **Web**
For consulting, visualising and managing the projects developed and stored in BIMserver.center.

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

BIMserver.center **Corporate**
Via BIMserver.center Corporate, companies and organisations of all types and sizes can now manage their teams and BIM projects in a better way.

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.

Open BIM Synchronisation

Physical 3D Model

Shared Information

BIM Model Update

BIM Model Update

Specialised Tools

Incorporation of Technical Documents

Specifications | Cost estimating | Drawings | Schemes and diagrams | Check reports

Technical Documents

Plugin Open BIM **Revit**™
Plug-in for integrating Revit into the Open BIM workflow via IFC 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

CYPE users have a complete team of architecture, engineering and construction experts at their disposal to answer all their queries on how to use our programs. **Our technical support service is exclusive to CYPE program users, free of charge and has international coverage.**

CYPE also offers users the chance to receive training through **thematic workshops, organising both webinars and on-site seminars.** This training can be focused on getting to know the program to adapt to new users' needs or it can focus on perfecting the skills of expert users.

CYPE software is developed by combining multiple national and international standards and codes from a wide range of related disciplines.

Thanks to the use of a BIM work methodology and the BIMserver.center platform, users can offer an added value and stay competitive in the export market by using internationally recognised and adapted software.

Additional information at **cype.com**

More information

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