

The TYPSA Group uses BIM to revolutionize Spanish railway and boost efficiency, quality, and control

The TYPSA Group has increased its competitive advantage and embraced technology to put it on the cutting edge of innovation across all phases of the railway project life cycle.

The challenge

While The TYPSA Group has worked on many high-profile projects, including the London-Birmingham high-speed rail line in the UK and transport systems in cities such as Stockholm, Madrid, Toronto and Sydney, they wanted to improve their planning and design processes for the expansion of Valencia Metro's Line 10.

The railway sector in Spain is also growing and changing, transitioning to digitization across all phases of the project life cycle.

The TYPSA Group embraced BIM for the railway expansion, making it the first project in Spain to incorporate the methodology in linear railway works.

They evaluated and utilized BIM to reduce errors and to combat the challenges of design quality and overall design time.

From the standpoint of quality assurance, the BIM methodology establishes a series of principles that substantially reduce the generation or propagation of errors during production of the works, thereby ensuring excellence-oriented projects.

José María Pastor Villanueva,
BIM Manager of the Valencia Territorial Office, The TYPSA Group

How they did it

The TYPSA Group turned to BIM for the planning of buildings, installations and tunnels as well as the development of linear works and track elements, and the coordination between the different models.

The right technologies and workflows were vital to the success of this project:

C AUTODESK Civil 3D

For developing the line and track elements

R AUTODESK Revit

For all the building elements, installations and tunnels

N AUTODESK Navisworks

For model coordination and clash detection

The results

Complete overhaul of information and communications infrastructure, as well as check and review systems, to adapt them to this type of production. It let The TYPSA Group become the first major engineering firm certified in ISO 19650

Greater control of projects → fewer errors → less rework → reduction in overall design time

Teams specializing in linear works, architecture, structures, and installations for railway projects utilized BIM to transform their working processes through improved collaboration and easier asset management

At FGV, we see BIM as an improvement opportunity for resolving many of the problems we were facing in our daily work as an infrastructure operator and manager, particularly in terms of asset management.

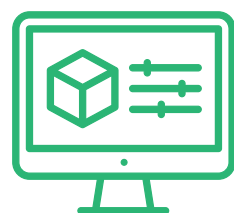
Marcos Roselló, BIM Champion at Ferrocarrils de la Generalitat Valenciana

The bottom line

The application of BIM technology helped The TYPSA Group to:



Save time by automating verification checks



Efficiently manage information, design, and project complexity



Reduce errors and overall design time



Improve collaboration



Benefit from 75% traceability of the estimated budget

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