

METALWORKING INDUSTRIAL PLANT

2015–2016

Location

Ain Defla, Algeria

Client

Groupe Batimetal

Estimated Cost

35 million EUR

Stage

Detailed Design

Area

10 ha

This work is inserted in the context of the expansion and internationalisation of a major Portuguese company of the metal and mechanical industry to the Algerian market. This is a market that presents very promising indexes given the development of the country, particularly in the area of metallic constructions.

The project entailed the design of an industrial unit of heavy metalworking, to manufacture steel structures and hot dip galvanising, located approximately 100 km from the capital city, Algiers. This industrial unit has close to 100 000 m² and comprises the main production buildings and

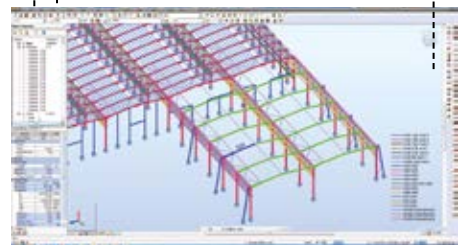
the necessary facilities for the respective labour process, namely shower rooms, a lunchroom, administration facilities, a waste water treatment plant, reservoirs, access roads, networks and all other ancillary works.

The two main buildings have an area of 21 200 m² and 16 000 m², containing a number of industrial equipment, such as overhead cranes for heavy tonnage operating simultaneously on various levels, hot dip galvanising kettle, and others. The project includes the design of all the buildings in the unit, as well as extensive refurbishing of pre-existing structures.

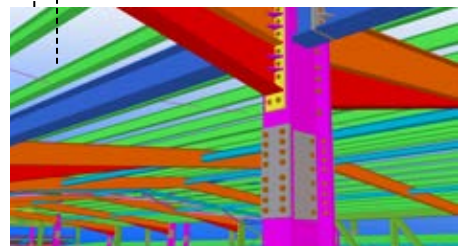
3D VIEW OF THE INTERIOR
OF THE STRUCTURE



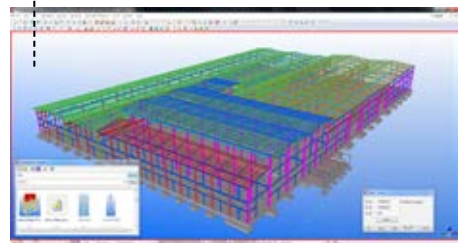
BIM STRUCTURAL MODEL
(TEKLA)



DETAIL OF A PORTAL FRAME



FINITE ELEMENT MODEL
OF THE STRUCTURE





OVERVIEW

ATV2 accompanied the client from the start, having developed all the stages of the project: APD - *avant Project Sommaire* (scheme design), detailed design, technical assistance and submission to the Algerian authorities.

ATV2 is responsible for all specialties, numbering 17, from architecture, structures, hydraulics, electricity, safety, compressed air, welding gas and natural gas networks and others.

When it comes to the major challenges presented by this project, we highlight the project management itself, with

the various specialties, work teams assigned to Portugal and Algeria, totaling over 40 technicians and thousands of documents and communications. Almost every team had to overcome technical challenges: the structural design of highly complex steel structures, the compatibility of the various networks, the particular innovation of hydraulics services, gas tanks, etc.

Finally, we emphasize the work methods and the use of the most recent softwares, being that the project was developed mostly in BIM, including the manufacturing models of the steel structures.

BIM STRUCTURAL MODEL (REVIT)

