

N80 Building in Les Mureaux

A building with very sensitive rafts

2016 - 2018



FRANCE

Client

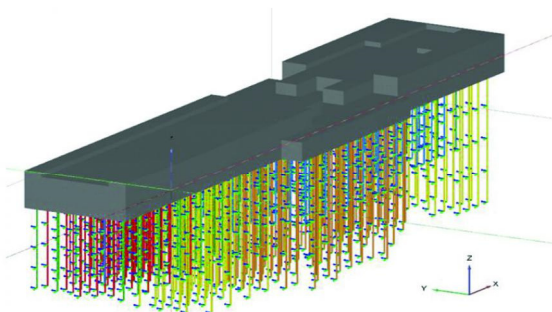
AIRBUS FRANCE

Terrasol fees

150 000 €

Highlights

Differential settlements to be limited to a few dozen microns



The Project

For the construction of the assembly facilities for the future Ariane 6 launch vehicle, TERRASOL joined forces with VINCI CONSTRUCTION FRANCE on a co-design project for ARIANEGROUP, to take on an extraordinary challenge.

The N80 building, which is located on the southern banks of the River Seine in Les Mureaux, will be dedicated to the manufacturing of the oxygen and liquid hydrogen tanks for the future launch vehicle.

The heavy equipment to mill and weld the tank components requires foundations that limit differential settlements to a few dozen microns! This exceptional requirement will enable processes to be automated, thereby drastically reducing costs and increasing current launch frequencies.

Our Services

TERRASOL has produced several 3D finite element models (with PLAXIS), with a very high level of accuracy, to study foundation solutions.

The final solution involved piled rafts to comply with the operational requirements: the first raft measuring 53 m x 12 m x 4 m is founded on 315 piles, whereas the second raft measuring 11 m x 4 m x 2 m is supported by 14 piles.

In June 2018, acceptance testing is in progress and the first measurements are consistent with the expected results.

This immense technical challenge was made possible through the collective work of all the disciplines involved, managed by ARIANEGROUP.

Key features

- Several 3D finite element models (with PLAXIS) to study foundation solutions

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