



Santiago Bernabeu Stadium Madrid

CLIENT	Real Madrid FC
PROJECT DATE	2014
LOCATION	Madrid, Spain
FIELD OF ACTION	Construction project

INES will take part in the remodeling of the Santiago Bernabeu Stadium in Madrid. This project seeks to reestablish the arena as a worldwide sporting landmark.

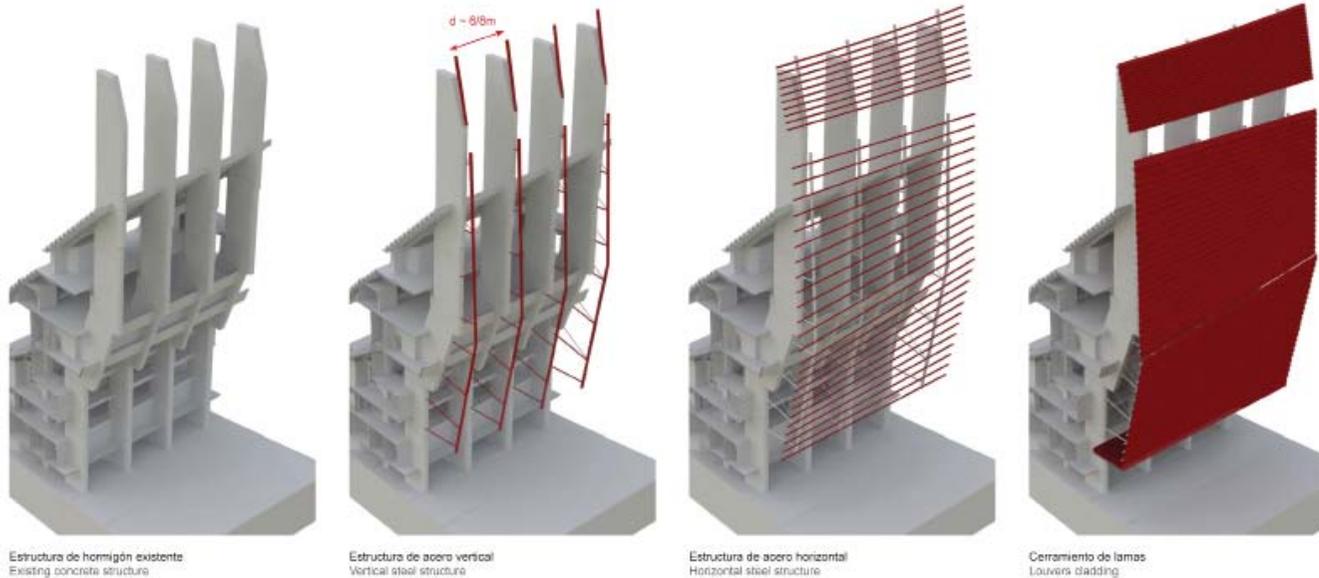
This new design includes the construction of curved asymmetric steel façades surrounding the old structure, a newly installed retractable roof, the enlargement of the stadium capacity, the construction of a shopping and leisure center, a hotel and an underground car park. All these interventions are fully integrated in the urban landscape.

A key factor in the construction management is to carry out all tasks without interfering in

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the current operational use of the stadium. As a result of optimizing the structure, the order of the elements has been changed, having first the vertical structure and then the horizontal elements. In both cases, the new layout allows to reduce the amount and the size of the structural elements.

The new mullions are aligned to the existing concrete ribs being the distance between them maximum 8m. The transoms will follow the geometry of the fins and each of them will support 2 louvers.



Estructura de hormigón existente
Existing concrete structure

Estructura de acero vertical
Vertical steel structure

Estructura de acero horizontal
Horizontal steel structure

Cerramiento de lamas
Louvers cladding



Estructura de hormigón existente
Existing concrete structure



Estructura de acero vertical
Vertical steel structure

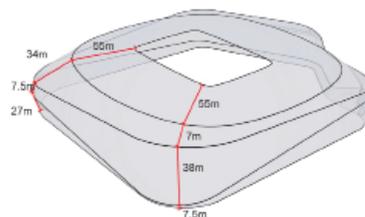


Estructura de acero horizontal
Horizontal steel structure

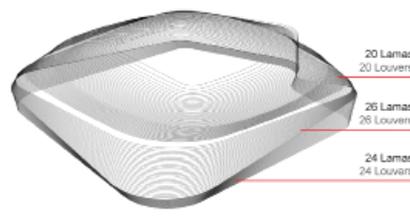


Cerramiento de lamas
Louvers cladding

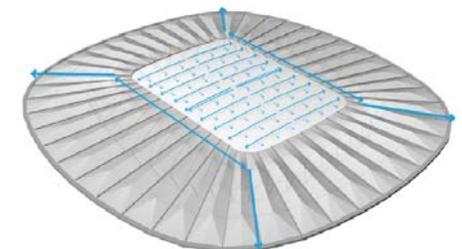
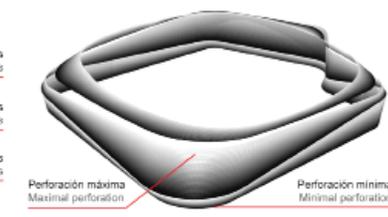
Volumetría general
General volume



División en lamas
Louvers division



Mapa de aperturas
Opening map

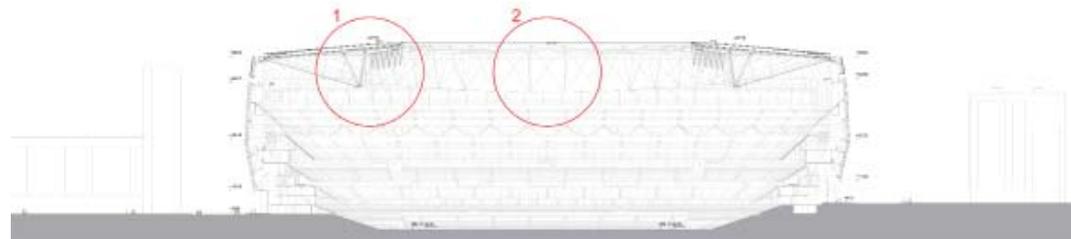


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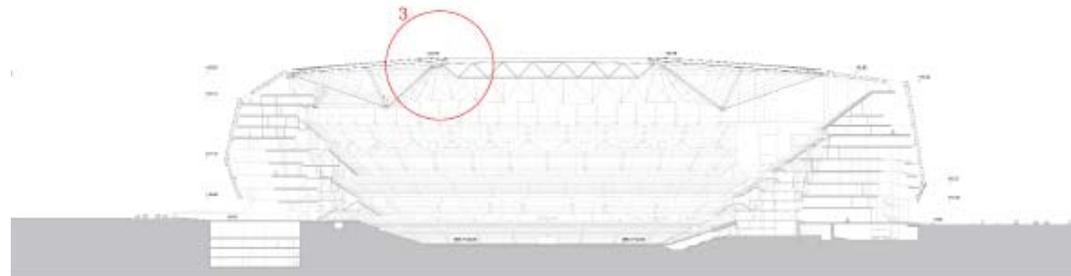
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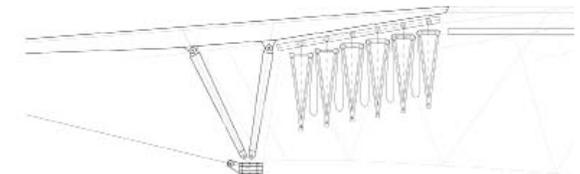
Sección longitudinal
Longitudinal section



Sección transversal
Cross section



Cubierta retráctil cerrada
Retractable roof closed



Cubierta retráctil abierta
Retractable roof opened

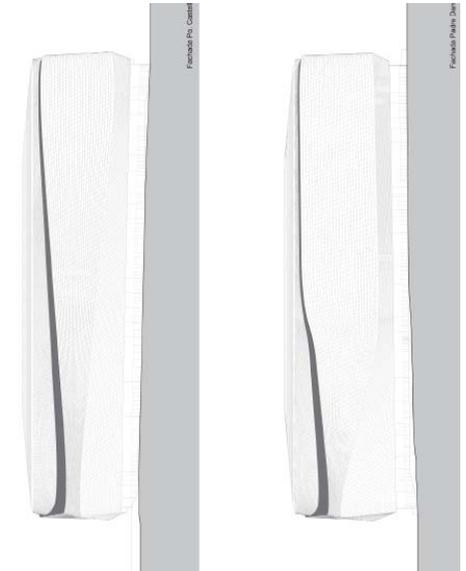
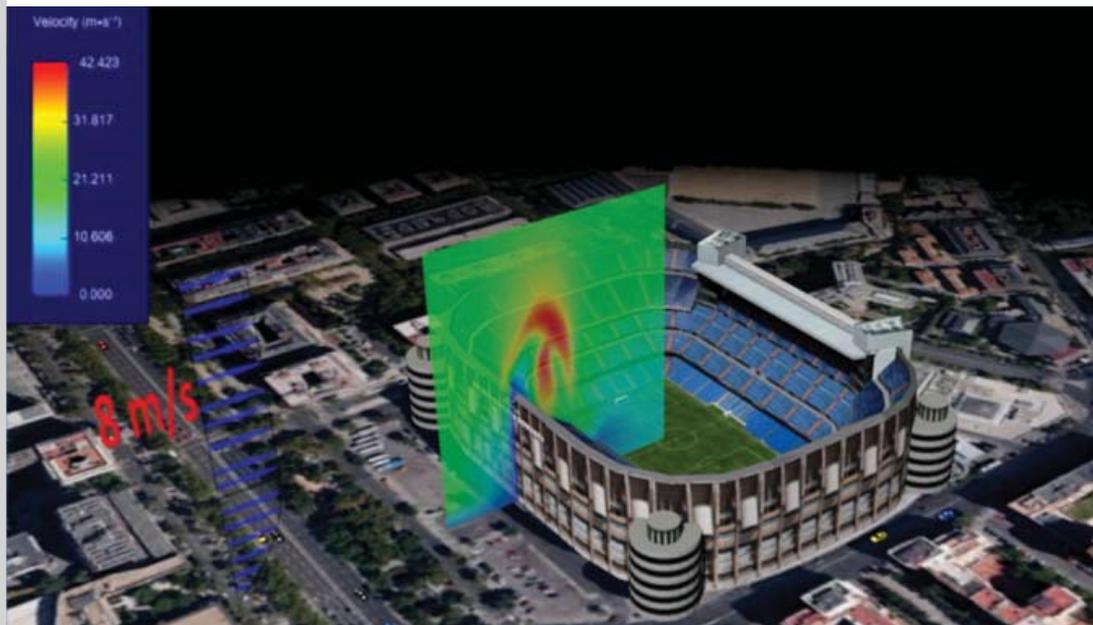
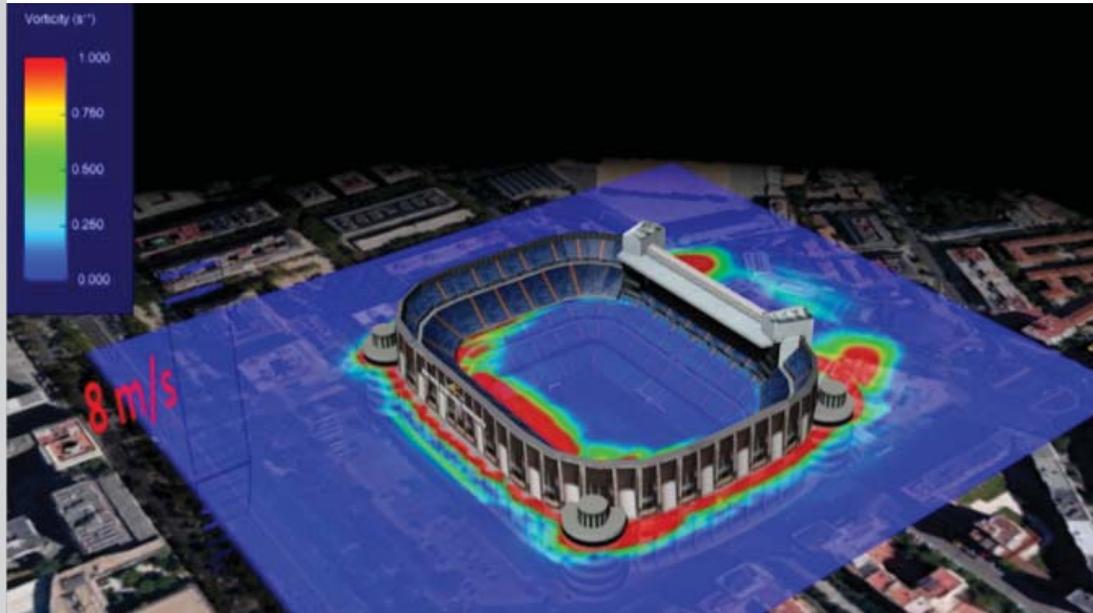


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Wind surveys have been carried out to analyze the aerodynamic performance of the existing structure. These surveys focused on the characterization of local winds and the generation of currents inside and within the surroundings of the stadium.

It is foreseen to develop a similar study upon the new geometry of the future Santiago Bernabeu, aiming to optimize the aerodynamic behavior in comparison to the existing structure.

This study will be more exhaustive including the analysis of aerodynamic effects upon newly designed structural elements such as the retracting roof.

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