

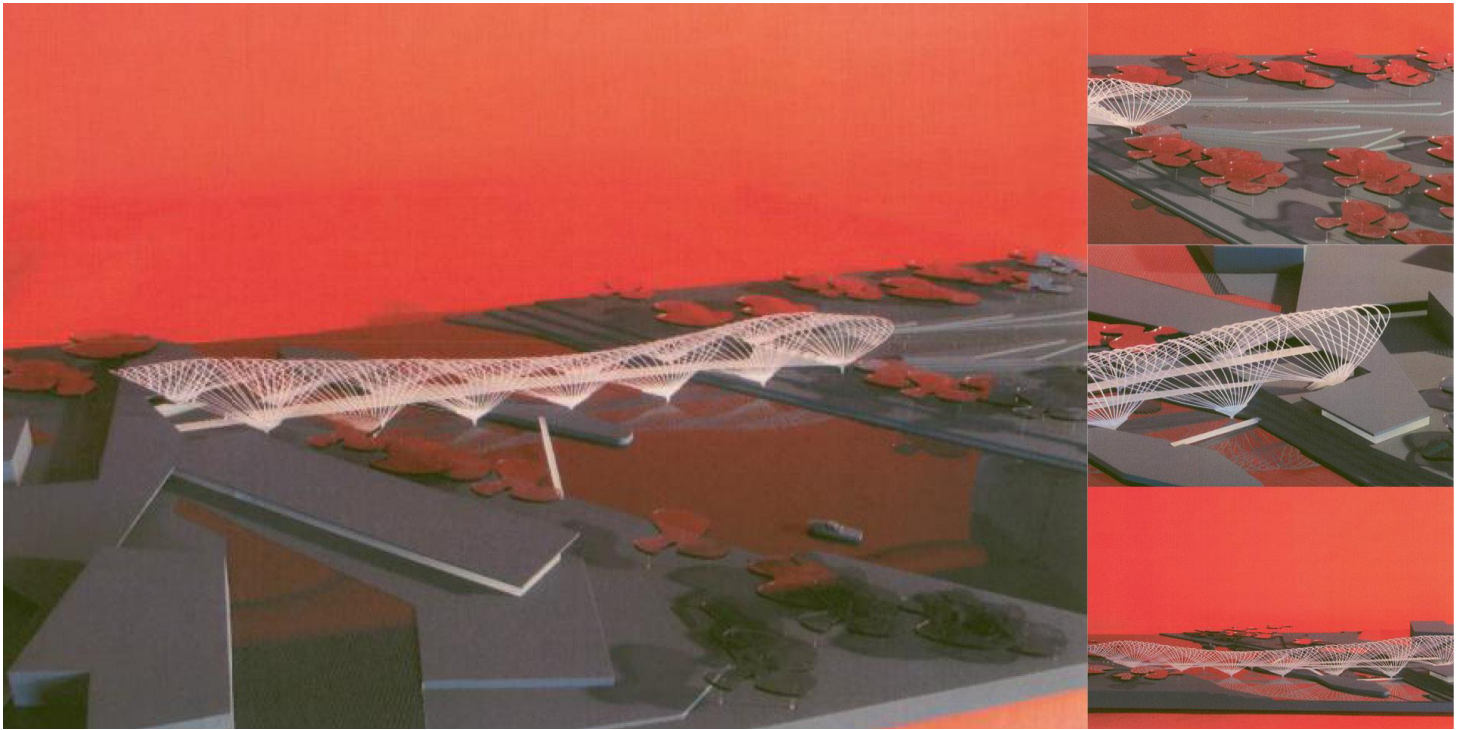


Preliminary drafts contest for Bridge Pavilion

Zaragoza, Spain / 2005

Owner
Scope
Architect

Ayuntamiento de Zaragoza
tender design
richard rogers partnership y vida y asociados arquitectos



The structural functioning of the chosen solution is that of a reticulated multi-span vault. It is well known that the behaviour of vaults is highly adequate to solve the problem of great spans versus distributed loads.

In consequence, the structural proposal for this bridge is to hang it from a multi-span vault, consisting of a structure with a single reticular layer. The vault is composed of a first level of tubular elements of variable trapezoidal shapes, joined at the knots. Although invisible, there is another level immediately below which is made up of pre-tensioned cables placed in the diagonals of the trapezoids of the first level.

At both sides, the vault rests on piers set inside the riverbed parallel to its flow. The proposed solution includes arches of moderate spans of approximately 50.00 m and a minor number of piers than the ones of the antique bridges of the city.

The bridge at the entrance is placed below this big vault and runs in harmony with the river, on plan. The pedestrian footbridge is suspended from the vault, hanging from many different knots. In order to distribute the load of the bridge, the hangers are inclined differently which allows horizontal bracing.

The selected material is a composite made of a mould of epoxy resin and glass fibre. These materials are characterized by outstanding structural efficiency due to their small weight, great load-bearing capacity and durability which will certainly convert them into the most adequate structural materials of the future.

This is a pioneering solution involving futuristic tendencies which raise from a perspective submitted to impeccable structural order.



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