

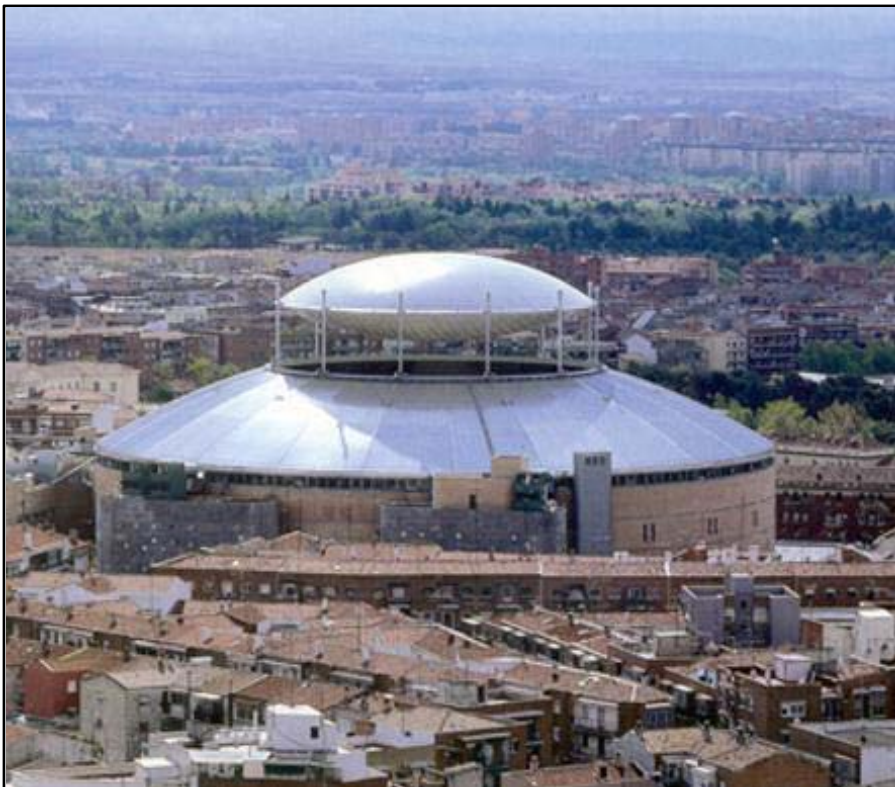
## Roof Structure for the Vista Alegre Facilities

The fixed roof of the Vista Alegre Facilities is a Schwelder-type dome, composed of steel parallels, meridians and diagonals, with a 1/8 rise-span ratio. It is supported on concrete pillars at its perimeter.

The fixed roof consists of a single layer comprised of commercial steel profiles (IPE). At the central part of the roof, there is a steel compression ring which is 50.0m in diameter. On this ring, 12 steel masts are placed which support the moveable section of the roof when it is raised.

This moveable roof-section consists of a 12.0m deep pneumatic lens-shaped cover, held together by a perimetrical steel ring 50.0m in diameter. Its upper membrane is made of PVC polyester; its lower one is a transparent Velaglass-sheet, sustained by a cable mesh 1.50m x 1.50 m<sup>2</sup>.

This moveable section of the roof can be raised 10.0m above the fixed part of the roof, hanging from the 12 masts which are supported on the main roof area.



### Spain /1999 Project data

Structural type:  
Single-layer dome-shaped roof 100.0m  
in span, with a moveable central  
section 50.0m in diameter

Location:  
Madrid

Main Contractor:  
Ferrovial-Agromán.  
Steel structure: URSSA

Design:  
Schlaich, Bergemann and Partners;  
FHECOR Consulting Engineers

Scope of Works:  
Construction Project for fixed roof and  
Technical Assistance  
for Construction Works