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**Bellapart**  
construction



Ernst & Young, Luxembourg

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## DOME AT THE ERNST & YOUNG NEW HQ BUILDING, LUXEMBOURG

An impressive dome has been built in the heart of the most famous business Avenue in Luxembourg. The dome is the icing on the cake of the new Ernst&Young's HQ building, located in 37 Avenue J.F. Kennedy.

The Dome consists of a trapezoidal scale-trans grid shell, made from very thin steel profiles. The roof is almost invisible supported only by flying props, which rest on horizontal cables. The 24 lateral anchors, placed on the 5th floor of the building, more than 20 meters above street level, support the flying

props. The edge is composed of 4 arches, closing the dome at the same level along the perimeter. The most impressive is the front arch, spanning more than 40 meters.

The fabrication and installation on site was challenging, as the margin of error in achieving the final geometry was small. The angles of the dome perimeter are not equal and there are no lines of symmetry. Bellapart chose to manufacture 21 modules in their workshop in Les Presses, Spain. Segment sizes vary from, 3,3x8,2 meters up to 5x20

meters and following prefabrication were, transported to site to Luxembourg ready for installation. Both production and installation required continuous monitoring and surveying of the geometry.

In close collaboration with the consulting structural engineers, Schlaich Bergermann und Partner, the final geometry was achieved by stretching the cables to the required tension.

Finally, 568 bespoke solar control heat-strengthened laminated glass panes were

installed and waterproof sealed to complete this shallow, elegant and harmonious transparent shell.

**Owner**  
Ernst & Young

**Architect**  
Sauerbruch Hutton

**Structural design and supervision**  
Schlaich Bergermann & Partner

**Engineering and construction**  
Bellapart, s.a.u.