**The Millau Viaduct, France**

Millau Viaduct is cable-stayed [bridge](http://www.bridgesdb.com/bridge-history-facts/construction-and-types-of-bridges/) in France over a valley of the River Tarn near Millau. It is the tallest bridge in the world with one of its masts as tall as 343 meters. Its designers are the French structural engineer Michel Virlogeux and British architect Norman Foster.

Every year, traffic that passes from Paris to Spain near the town of Millau becomes jammed with cars that drive people to and from their holidays. First ideas for solving the problem were discussed in 1987 and in 1991, it was decided for a bridge to be built over a valley of Tarn river. From 1993 to 2001, government of France held consultations with architects and engineers, made definition studies and held design competitions until they found appropriate design and the building began. In 1996 Sogelerg consortium proposed cable stayed-bridge that was designed by Michel Virlogeux and Norman Foster. That design was approved for realization. Construction began on 16th of October 2001. First piers were started in January 2002 and finished in November 2003. Roadways were finished on May 2004, pylons and shrouds in the second half of the 2004 and the viaduct was opened on 16 December 2004 - 25 days ahead of schedule. President Jacques Chirac opened the bridge during the opening ceremony.

This bridge broke several records. It has the highest pylons in the world (245 meters and 221 meters), the highest bridge tower in the world (343 meters) and the highest road bridge deck in Europe (270 meters).

Metallic deck has a total mass of around 36,000 tonnes, length of 2.460 meters and width of 32 meters. Six central spans have length of 342 meters while two outer spans are 204 meters. There are seven masts, each 87 meters high and weighting 700 tonnes each. Each of them has eleven anchored cables (stays) that support road deck. Each stay is made from 55 to 91 high tensile steel strands, depending of length. Each strand is made of seven steel cables that are triple protected against corrosion. Metal deck is covered with modified bitumen, which is flexible but strong so it can adapt to deformations which appear under traffic and, at the same time, is strong enough so it can resist road conditions. Ideal formula was discovered after two years of experimenting. Electrical installations of the viaduct consist of: 30km of cables for high current; 20km of fiber-optics; 10 km of cable for low current and 357 telephone sockets so workers can communicate with each other or with command post. Many instruments are installed on masts, deck, pylons and stays that monitor states and detect changes and resistance of the viaduct to wear and tear. All information gathered from instruments is analyzed and sent to toll plaza. Toll plaza is placed 4 km north of viaduct. Bridge tollbooths and technical and commercial management is placed there. Toll plaza has sixteen lanes of traffic, eight in each direction. If the traffic is low, central booth can service both directions at once.

For more about this bridge click this link

[https://en.wikipedia.org/wiki/Millau\_Viaduct#:~:text=The%20Millau%20Viaduct%20is%20part,days%20later%20on%2016%20December.](https://en.wikipedia.org/wiki/Millau_Viaduct" \l ":~:text=The%20Millau%20Viaduct%20is%20part,days%20later%20on%2016%20December.)