



## Sutong Bridge-A Cable-stayed Bridge with Main Span of 1088 Meters

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## Summary

Sutong Bridge is the longest cable-stayed bridge in the world with a main span of 1088 meters. In this paper, design and construction concepts are briefly presented. Furthermore, key technologies and innovative achievements are summarized mainly on piled foundation bearing capacity analysis, river bed scour protection and monitoring, superstructure wind-resistance study, mid-span closure method as well as long cantilever structure construction control.

**Keywords:** cable-stayed bridge, foundation, pylon, steel box girder, cable stay, construction control.

## 1 . Introduction

Sutong Bridge crosses the Yangtze River approximately 100km upstream from Shanghai, China, connecting the cities Suzhou and Nantong located on the southern and northern banks respectively. It is a key project for coastal highway in China. The bridge is a seven span double pylon and double cable plane steel box girder cabled-stayed bridge, which has a span arrangement of  $100+100+300+1088+300+100+100=2088$  (see Fig. 1). Upon completion, Sutong Bridge sets the record of being the longest cable-stayed bridge in the world.

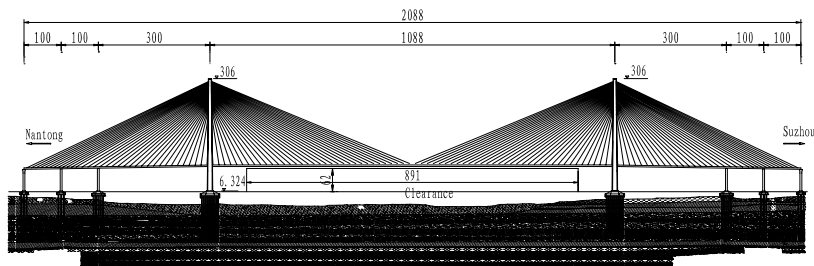


Fig. 1: Span Arrangement of the Main Bridge (Unit: m)

A proposal to build the Sutong Bridge could be dated as early as 1991. Reforming and opening up to outside policy as well as strategic development of Pudong in Shanghai began in 1980s, which has