

# **Cable Supported Bridges**

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Concept and Design, Third Edition

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# Preface to the Third Edition

The decision to prepare a manuscript for a book titled CABLE SUPPORTED BRIDGES was taken by Niels J. Gimsing in 1980 following his three year affiliation as an adviser on bridge technology to *Statsbroen Store Bælt*—the client organization established to design and construct a bridge across Storebælt (Great Belt) in Denmark. During the design period from 1976 to 1979, a large number of different designs for cable stayed bridges (with spans up to 850 m) and suspension bridges (with spans up to 1800 m) were thoroughly investigated and it was during that period the idea matured to write a book covering both cable stayed bridges and suspension bridges. The chance to prepare the manuscript came in 1979 when the Danish Government decided to postpone the construction of the Storebælt Bridge and to keep the design work at rest for a period of five years.

The manuscript for the First Edition was completed in 1982 and the book was published in 1983.

The decision to prepare a manuscript for a Second Edition was taken in 1994 when Niels J. Gimsing was involved in the design of both the 1624 m main span of the Storebælt East Suspension Bridge and the 490 m main span of the Øresund cable stayed bridge. Both bridges were under construction during the writing of the manuscript (from 1994–1996) and so useful information on construction issues could be collected.

The Second Edition was published in 1997; fourteen years after the First Edition appeared.

The Second Edition was sold out from the publisher after only 5 years on the market, so a Third Edition became desirable, and initially it was anticipated that this would be just a simple updating of the Second Edition. However, when digging deeper into the matter it became evident that a considerable evolution had taken place during the decennium following the publishing of the Second Edition. Very notable cable supported bridges had been constructed and a number of design issues related primarily to dynamic actions had gained in prominence.

It was, therefore, realized that the Third Edition had to be more than just a simple updating of the Second Edition. To emphasize the importance of issues pertaining to dynamic actions and health monitoring it was decided that two new chapters would be added. With his years of experience within the field, Christos T. Georgakis was entrusted with this task.

The Third Edition is published in 2011; fourteen years after the Second Edition appeared.

Besides revisions and additions in the text it was also decided to update the figures by preparing them in electronic versions that could be more easily edited to appear in a uniform manner throughout the publication. The financial support to cover the expenses for the figure updating came from the *COWI Foundation*. The figures were updated by Kristian Nikolaj Gimsing.

In the process of preparing the Third Edition, highly appreciated contributions came from Professor Yozo Fujino of the University of Tokyo, on matters relating to structural health monitoring and structural control, and from Professor Francesco Ricciardelli of the University of Reggio Calabria, on matters pertaining to bridge aerodynamics. PhD student Joan Hee Roldsgaard helped greatly with the preparation of elements of Chapters 8 and 9 and for the proof correcting of the book. Our great appreciation is also extended to all those who provided pictures, figures and copyright permissions. They are too many to mention here.

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