fib BULLETIN 96 TITLE: GUIDELINES FOR SUBMERGED FLOATING TUBE BRIDGES.

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Abstract:
This bulletin is a guidelines document for "Submerged Floating Tube Bridges", that represents an innovation in Marine Concrete Structures. This theme is considered important for Commission 1 since in the future several applications are forecast in marine environments.

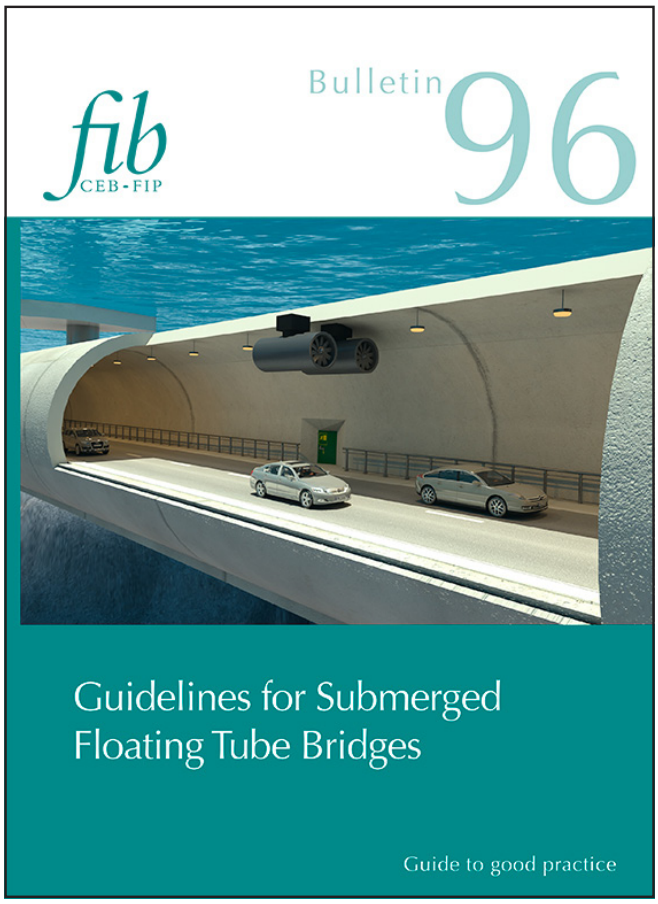
Submerged Floating Tube Bridges are a solution that can be proposed to solve different problems in passing water constrains as lakes and fiords, reducing the impact and allowing several economic advantages.

The guidelines certainly will boost the application of Submerged Floating Tube Bridges since the document is useful not only for designers but also for construction companies, owners and public administrations.

As guidelines, the bulletin gives wide information on the design, construction and management of these structures, allowing all the users to be confident in promoting the use of Submerged Floating Tube Bridges.

As Commission 1 Chair, I'm very grateful to Arianna Minoretti and to all members of WP 1.2.2 "Submerged Floating Tube Bridges", for having produced this document that I consider very interesting not only for the fib members but also for the concrete community.

Alberto Meda
Chair of Commission 1 Concrete Structures



fib BULLETIN 97 TITLE: EXTERNAL TENDONS FOR BRIDGES.

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Abstract:
The concept of post-tensioning has been recognized for over a century. Interestingly, early developments started with external tendons, but failed to be recognized as a major construction technique for two main reasons:

- Low tensile performance of early steels in combination with a poor knowledge of concrete creep and shrinkage properties,
- Lack of a durable corrosion protection.

With the technological progress, external tendons became increasingly popular in the 1980's, as a post-tensioning method enabling inspection and, if necessary, replacement of tendons without demolition of structural members. Towards the end of the last century, more than 50 bridges have been built with external tendons, first in France and soon gaining traction in other countries.

FIP published a state-of-the-art report in May 1996 to provide a review of the application of external tendons, describing specific material problems and methods for dealing with them. 25 years have passed and, while the engineering principles covered by the FIP report remain unchanged, the context has evolved:

- External tendons and construction methods have kept evolving with better materials, ever longer spans, and tighter schedules.
- Normalization frame in Europe changed,
- Severe durability issues have occurred in some countries from which the industry can extract good knowledge of the causes and how to avoid similar problems in the future.

This new fib bulletin has been prepared with the aim to reflect the current state of the art and encompass the knowledge amassed in the last quarter of century with chapters covering from the design and approval of systems and materials to installation, quality control and monitoring. The last chapter is a compilation of structures worldwide covering all sorts of materials, typologies and construction methods, which might be a source of inspiration for owners and designers alike.