

Move it and fold it!

Christoph Paech*

* schlaich bergemann partner
Schwabstrasse 43, 70197 Stuttgart, Germany
e-mail: c.paech@sbp.de, web page: <http://www.sbp.de>

ABSTRACT

In a world of growing and changing demands on buildings and building envelopes, movable elements help to increase the possible usage of the buildings and spaces and to enhance the corresponding characteristics. Over the last decades, an increasing number of projects that include moveable components have been carried out successfully and even more will follow. Lightweight structures, where textile membranes or foils are implemented, are very suitable for any kind of movable architectural projects. Adaptive façades, retractable courtyard covers and deployable roofs for sport stadia are just a few examples for different kinds of system, which react actively to environmental demands or respond to a specific user request.

Various principles for the conceptual layout of retractable membrane structures are possible, however the motion planning has always to be considered at an early stage of design. Besides detailed knowledge on material behavior and structural systems, also a comprehensive design approach spanning from architecture, structure to mechanical and electrical engineering is mandatory. To showcase the concepts, some of the recent works by schlaich bergemann partner are presented.

