motioneering

Experts in engineering motion...
because nothing stands still

Taipei 101

Taipei, Taiwan

Design, Fabrication, Installation, Commissioning and Monitoring
Height: 508 m / 1667 ft

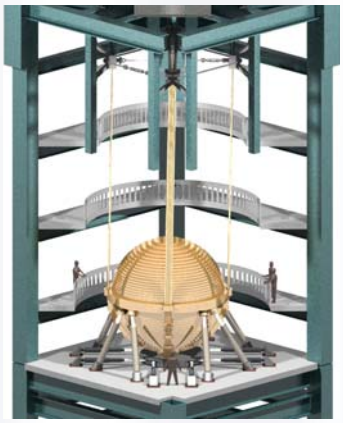
Taipei 101: World's Tallest Building

The Project

Motioneering Inc. was the nominated design/build contractor for the design, construction and installation of the Tuned Mass Dampers (TMD) for the new 101-storey Taipei101 Tower. The building TMD is the largest passive TMD in the world and it is also the first ever constructed as a key architectural and visual element in the building.

Building TMD

The mass of the building TMD is around 730 tons (660 tonnes) and it is shaped like a sphere. The TMD will be surrounded by a restaurant, bar and observation deck. The purpose of this TMD is to control wind-induced lateral building motions for occupant comfort.



Rendering of Taipei 101 Building TMD

Pinnacle TMDs

Motioneering designed two TMDs (4.5 tonnes each) for the 60m (197 ft) spire, or Pinnacle, that sits atop the building. These TMDs reduce cumulative fatigue damage to the structure due to wind-induced motion – a common issue for spire structures.

Monitoring System

A specially designed monitoring system is installed to provide ongoing health assessment of the structure and TMDs, and to record strong excitation events for subsequent performance validation.

Workers installing Pinnacle TMDs

Project Team

C.Y. Lee and Partners

Evergreen Consulting Engineers

Rowan Williams Davies & Irwin Inc.

Turner International

Thornton Tomasetti Group