

Software for Operational Modal Analysis

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Structural Health Monitoring of the Hong Kong Stonecutters Bridge using ARTeM

The Government of the Hong Kong Special Administrative Region (HK-SAR) has ordered a custom monitoring system for the prestigious Hong Kong Stonecutters Bridge. This is one of the longest cable-stayed bridges in the world, currently under construction (www.stonecuttersbridge.net).



Artist impression of the Hong Kong Stonecutters bridge.

The custom monitoring system will be part of the bridge's Wind and Structural Health Monitoring System (WASHMS) that monitors the response to wind loading, temperature loading, highway loading and seismic loading. Sensors collect information on the spot and transmit their signals back to central storage and analysis.

The software platform used is the [FEMtools Framework](#) produced by Dynamic Design Solutions, Belgium, and the delivery to the onsite bridge crew uses several licenses of [ARTeMIS Extractor Pro](#), and of the [FEMtools Model Updating](#), for real-time correlation of the bridge mode shapes with reference data from a validated and updated finite element model.

This order will be a major showcase for state-of-the-art structural health monitoring technology that uses operational modal testing and model identification applied on large scale civil engineering structures.

Related Information

Other companies involved in the Hong Kong Stonecutters Bridge project are:

[Highways Department, The Government of the Hong Kong Special Administrative Region](#)

[Dynamic Design Solutions](#)

[COWI Consult](#)

[Ove Arup](#)

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