

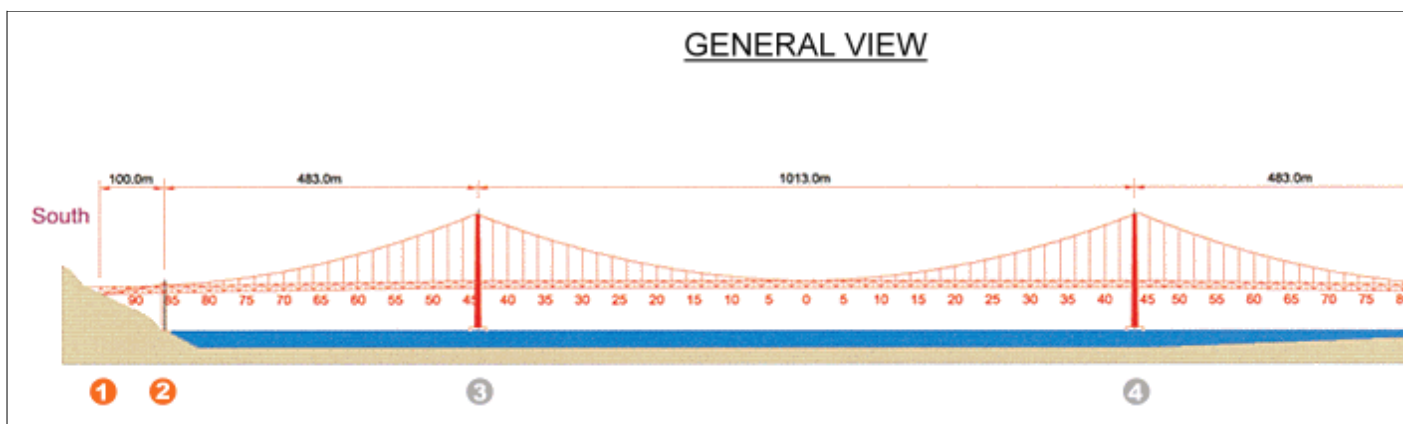


Maurer Söhne Monitoring System Ponte 25 de Abril (Lisbon)



Maurer Söhne Monitoring System at the Ponte 25 de Abril (Tagus Bridge) in Lisbon

The Tagus Bridge is a suspension bridge with a total length of around 2 280 metres. The central span measures 1 013 metres, with two lateral spans of 483 metres each. There are two backstay spans on the north bank and one on the south bank, each measuring around 100 metres. It has one of the longest trusses in the world, with the two main towers rising some 190 metres above the water, giving a navigable height of 70 metres which allows large ships access to the port of Lisbon.

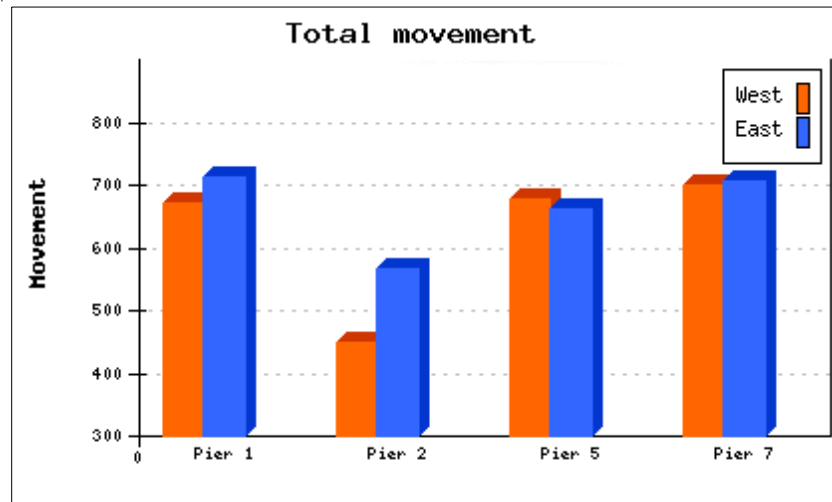
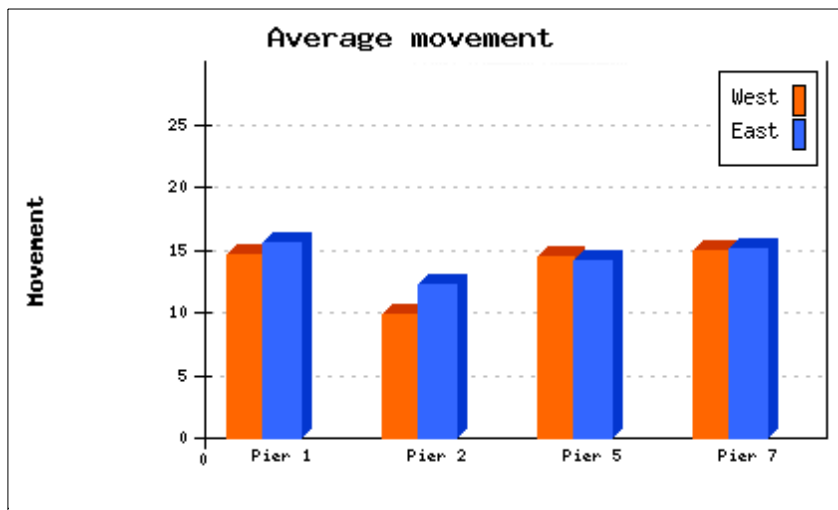


To make a horizontal movement possible, the bridge is mounted on bearings. The two rolling bearings on each of the piers one, two, five and seven (from south to north) were replaced by sliding bearings from Maurer Söhne in 2004. All the new bearings have a Maurer Monitoring System installed, which measures the displacement fast enough even for analysing rapid movements, e. g. earthquakes. The total movement of the bearings is calculated and stored on the devices every minute. All the data can be downloaded via internet.

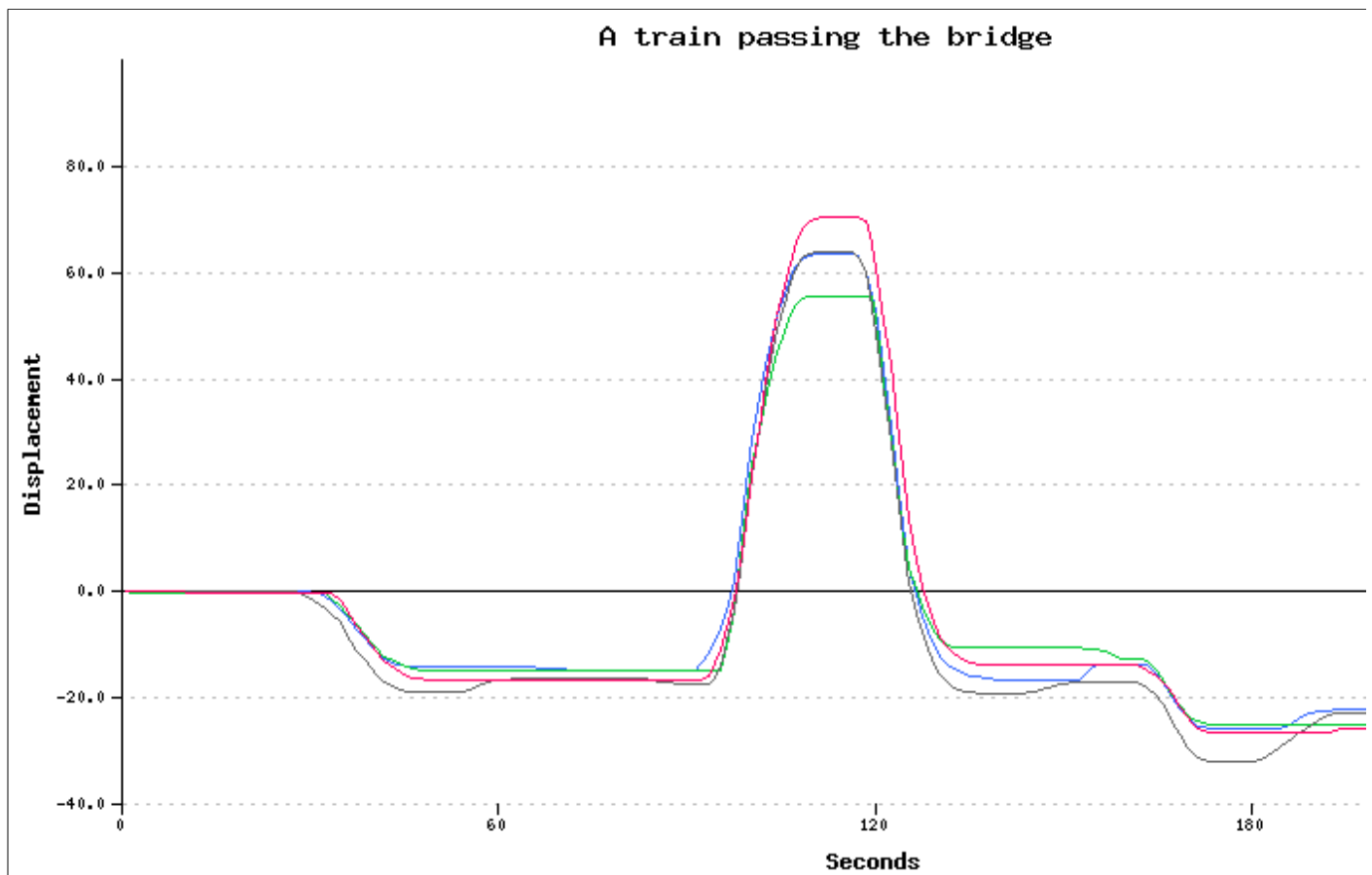
Diagram examples

Inside the password protected area of this web interface you can get the current data of all the measuring devices such as service date, uptime, summarized movement, displacement and the greatest displacement value within 24 hours, and even the temperature. For a quick overview, here are some graphical diagrams.

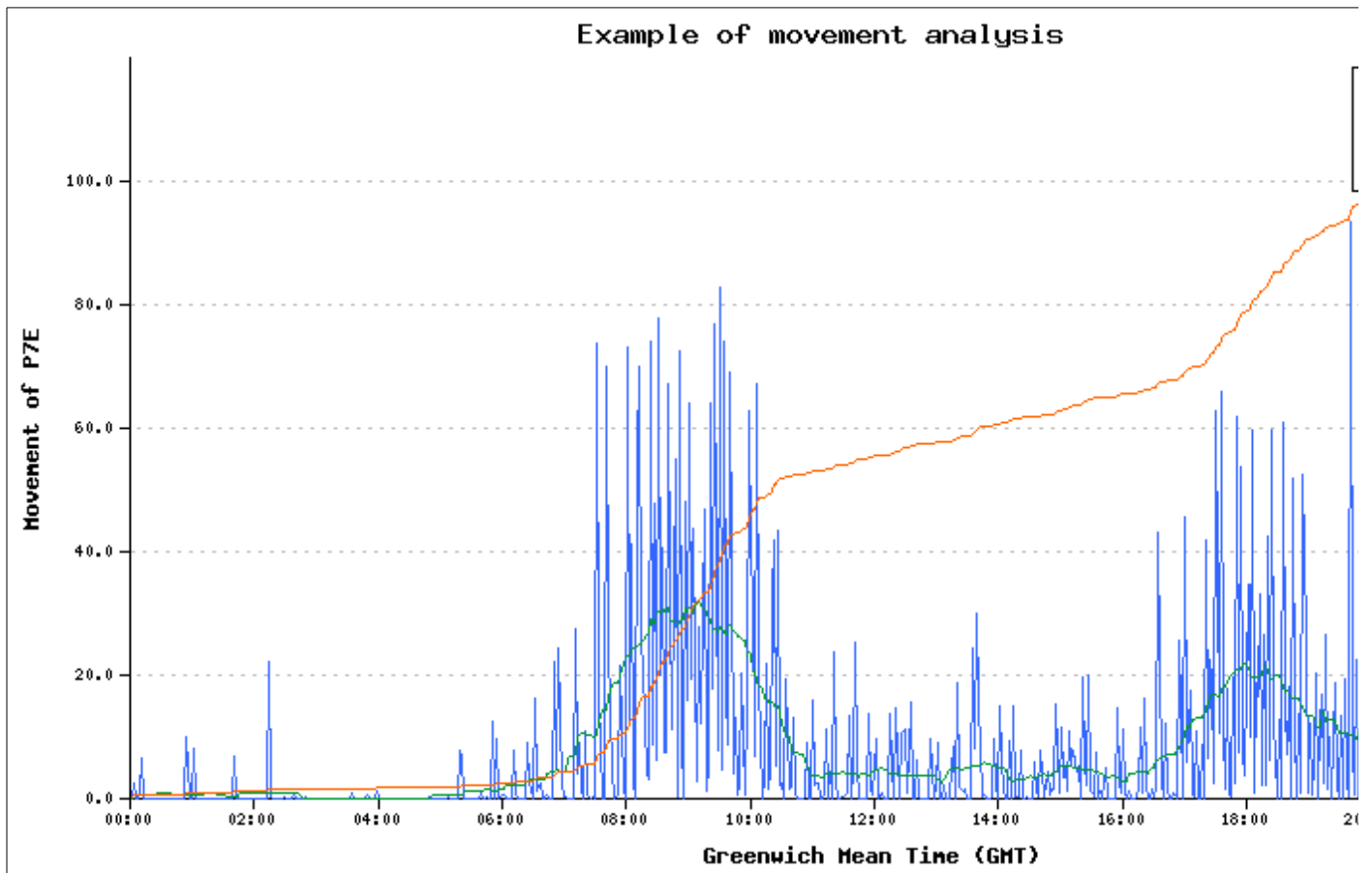
The two following diagrams have been created using "Status Files" data. "Status Files" are sent to the web server automatically once each day and can be ordered manually at every time.



The next graph shows the displacement when a train is passing the bridge. The graph has been created using real measuring data, which can be ordered manually via web interface.



The following diagram shows some additional calculations made using real measuring data again. "Movement Data Files" with one value per minute are sent to the web server once per day and can be ordered instantly.



The diagrams you see on this page are only for illustration and do not contain actual data.

Credits



ProFemto GmbH&Co. KG, Germany:
Hardware Development (Measuring Devices
of Monitoring System)

Sebastian Praßl

Sebastian Praßl, Germany:
Software Development (Measuring Devices
of Monitoring System)



econosite, Germany:
Website for Monitoring System and Server
Side scripting



Maurer Söhne, Germany:
Development and manufacturing of sliding
bearings



KOCH:
Installation of new sliding bearings.



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