

Monitoring Critical Historical Artifacts

MicroStrain Sensors helped The Liberty Bell safely move

In 1751, the **Pennsylvania Assembly ordered a bell**. It cost 150 pounds, 13 shillings 8 pence, was delivered a year later by London's Whitechapel Foundry, and was summarily hung in Independence Hall.

There followed a long and tortuous history of ringing, cracking, repairs, and storied accounts of what happened at each step.

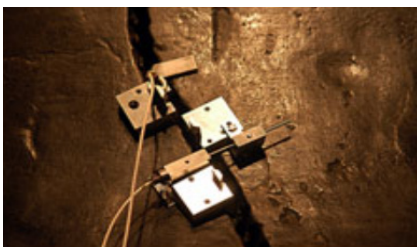
250 years later, it moved to a new home, and MicroStrain sensors monitored the ride.



The Liberty Bell moved from its longtime home in Independence Hall to a glass pavilion nearby in 1976. Then, in 2003, it travelled again. This time for a distance of 963 feet, to the newly constructed Liberty Bell Center. The 2080 pound bell was moved on a specially designed dolly. The bell was carefully monitored to make sure the crack wouldn't increase.



MicroStrain's Sensor Solution involved deployment of two tiny wireless sensors, NANO-DVRT. These displacement sensors are capable of measuring to millionths of a meter. So even tiny vibrations would be detected.



MicroStrain Application Note: Structural Monitoring

MicroStrain's Nano-DVRT displacement sensors were linked to a wireless node placed inside the bell. In turn, that data was remotely captured and monitored.



National Park Service and MicroStrain personnel attach sensors to the bell



M-LVDT Robust and highly accurate displacement sensor with sub-micron resolution and large stroke-body length ratio



MG-LVDT Robust and highly accurate displacement sensor with sub-micron resolution and large stroke-body length ratio



LS-LVDT Robust and highly accurate displacement sensor with sub-micron resolution and revolutionary stroke-body length ratio

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