VAISALA / APPLICATION NOTE

Mona Lisa Preserved by Vaisala

You probably know of the Mona Lisa, known as La Joconde in French, one of the most popular works of art in the world. You also know that it can be found in the world-renowned Louvre Museum in Paris. But what you may not know is that Vaisala helps preserve the Mona Lisa by measuring the stability of the humidity and temperature environment within its glass vitrine.

La Joconde

This 77 x 53 cm painted portrait of a woman called Mona Lisa was created by Leonardo da Vinci. The portrait is believed to have been painted at the beginning of the 16th century. Every year millions of people from all around the world visit Paris' Louvre Art Gallery to discover Mona Lisa's enigmatic smile.

In Le Louvre, the Joconde portrait is to be found in the "salle des Etats" dedicated to the Venetian Renaissance. It is in this exhibition hall that the giant "the Wedding at Cana" (6.6 x 9.9 m) painted in 1563 by Veronese faces the vitrine of La Joconde.

The HMT333 transmitter's compact probe is designed for remote applications.

"The HMT333 is usually used to monitor harsh industrial processes. To monitor the conditions of the vitrine, 50%RH and 21°C, is not what I would call 'harsh industrial' conditions – however, this is The Joconde, and nothing is good enough to take care of Mona Lisa. The demand for precision and accuracy is unparalleled and this is where Vaisala brings world class accuracy and reliable monitoring into the picture."

Jean-Francois Bore,
Application Sales Engineer, Vaisala

Safeguarding the Mona Lisa

Mr. Wilfried Gesbert is a climate engineer for Cofely Axima. He is in charge of the climate regulation in different areas of the museum and has been specially assigned to monitor the conditions in the glass vitrine. "As a normal Louvre visitor you cannot even imagine the complexity of the installation" Mr. Gesbert says. The vitrine has been custom made by the Italian company Goppion. Mona Lisa is illuminated by a LED lamp located in the wooden desk that was specially developed for this painting. Mr. Gesbert explains, "It minimizes ultraviolet radiations and helps enhance the colours of the painting". The glass of the vitrine is bullet proof and non-reflective. A state-of-the-art air treatment system enables air to circulate through the vitrine, in the surrounding walls and in the wooden desk to keep the desired relative humidity and temperature level. Because La Joconde is painted with oil on a poplar wood support, maintaining the humidity at an appropriate level is vital for its conservation. "Changes in humidity can cause the support to contract and expand. After 500 years, the wooden support does have signs of warping" Mr. Gesbert stresses.

And this is where Vaisala helps. Invisible to the public, there are two Vaisala HMT333 Humidity and Temperature Transmitters which operate inside the vitrine behind the painting. One is located near Mona Lisa's right hand and the other is located near her right eye. The relative humidity is constantly maintained at 50%RH and the temperature at 21°C. Two beds of silica gel located in the wooden desk also help compensate relative humidity fluctuations.

Once a year, the vitrine is opened, and all monitoring equipment and installed devices are carefully checked to ensure the Mona Lisa is being cared for. After this the Mona Lisa is returned to her vitrine, which is then re-sealed for another year.

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