



Building monitoring and structural analysis with WaveCam: making vibrations visible

For the Day of Architecture on June 30, gfai tech presents the vibration analysis software WaveCam. This advanced software supports architects, engineers and construction professionals in the precise and efficient monitoring of buildings and structures - both during the construction phase and throughout their entire service life. WaveCam helps to monitor and continuously improve the structural integrity and safety of construction projects worldwide.

WaveCam analysis software uses state-of-the-art technologies to perform detailed and highly accurate vibration analysis in real time. By using advanced, AI-powered image processing techniques, WaveCam makes even the smallest movements visible that remain invisible to the human eye. This capability makes it possible to identify minimal vibrations and deformations that could potentially cause structural problems. Thanks to this early detection, structural problems can be rectified before they develop into serious safety risks.

Instead of requiring complex and expensive measurement setups, WaveCam is based on the analysis of video recordings of the object under investigation. These videos can be recorded with simple smartphones or sophisticated high-speed cameras. Importing the recordings into WaveCam is uncomplicated and fast. Its use is particularly valuable in the construction of high-rise buildings or bridges, where any small error can have serious consequences.

Bridges are continuously exposed to dynamic loads from traffic and extreme weather conditions, which can lead to vibrations and movements. These long-term stresses and material fatigue can compromise the structural integrity of bridges over time. WaveCam helps engineers monitor these ageing processes and plan preventive maintenance measures in time to extend the life of bridge infrastructure.

You can see what a vibration analysis of a scale model of a bridge with WaveCam looks like in [this video](#). Our technology is not only used in building and bridge construction, but is also successfully used in the monitoring and analysis of industrial plants and wind turbines. Here, WaveCam helps to monitor vibrations and identify weak points or faults.





About gfai tech

gfai tech GmbH is a German company specializing in innovative sound and vibration measurement and analysis solutions. We offer advanced Acoustic Cameras, comprehensive analysis software, and cutting-edge structural dynamics solutions. Our expertise spans various industries, helping customers achieve noise reduction, false detection, sound design improvement, and precise vibration monitoring. As a subsidiary of GFal e.V., we provide unique hardware, software, and customized customer solutions backed by global support.

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High resolution images can be provided upon request.

