

Image Analysis for Concrete Crack t.WAVE

Taisei Corporation

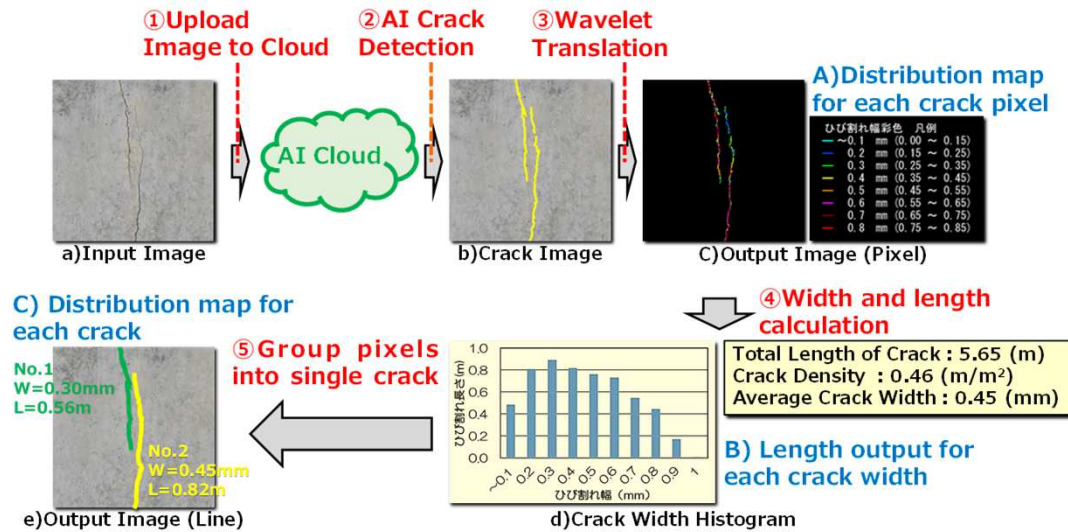
Abstract

This technology is a system that uses AI to automatically detect cracks from images and quantitatively evaluates crack width and length by wavelet transforming the crack images.

AI automatic crack detection technology
AI can automatically detect cracks from images taken with a drone or tripod. The time required to detect cracks can be reduced to 1/15 compared to when a person traces the image. In addition, the crack detection rate is highly accurate, at around 70-90%.

Quantitative evaluation technology for crack width and length using wavelet transform

This technology is the first in Japan to use wavelet transform in crack image analysis. Wavelet transform is an image analysis technology that is suitable for evaluating linear features in an image, and t.WAVE can calculate the width and length of a crack for each pixel in the image.



Crack image analysis procedure

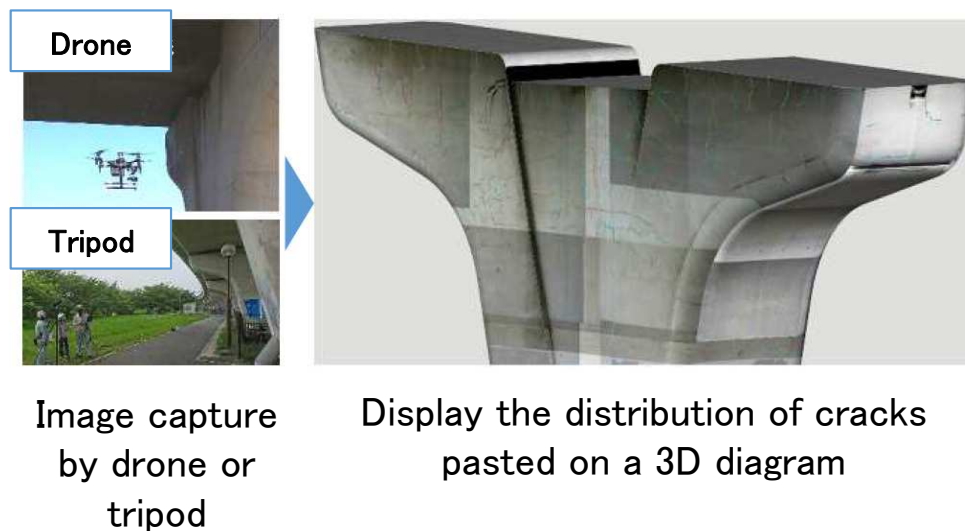


Image capture by drone or tripod

Display the distribution of cracks pasted on a 3D diagram