

# MIZUTANI LAB.

## Transparentizing Infrastructure on a National Scale in Four Dimensions



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Real-Time Spatial Analysis

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<https://mizutanilab.iis.u-tokyo.ac.jp/>

Now that aging infrastructure is a global problem, including Japan, innovation in maintenance and management technology is essential. Mizutani Lab. uses such state-of-the-art devices as Radar and LiDAR for high-speed observation and fully automated processing to see through the three-dimensional shape of structure surfaces, internal structures and damages. Also, our new keyword is **"Four-Dimensional Transparentization"** focusing on time-varying information of infrastructures.

Point cloud data of construction sites using smartphones

High speed LiDAR

Large-scale point cloud data analysis for 2D diagnosis of infrastructure surfaces

### Visible Space

### Invisible Space

3D subsurface visualization of internal damage of bridges

Bridge deck

Rebar

Segregation

- Surfaces
- Rebar mesh
- Damage

### Quantitative evaluation of internal cracks in structures using handy radar

120mm

actual thickness = 120 mm, estimated thickness = 120 mm

120mm

クラック厚さ推定

