



## Bridge Monitoring Solution

Agencies responsible for monitoring bridges are facing a significant backlog of assets that need maintenance and rehabilitation. Prioritizing repairs based on the most critical needs is becoming increasingly important as maintenance and construction costs increase. A data-rich digital twin empowers professionals to allocate resources where they are needed by providing a more complete picture of a bridge's current state.

Bentley's bridge monitoring and inspection solution supports organizations and professionals that monitor, inspect, and repair bridges around the world. Using data captured from drones through iTwin<sup>®</sup> Capture, as well as real-time Internet of Things (IoT) sensor data through iTwin IoT, you can quickly create a 3D digital twin of your bridge to speed up the inspection process and improve decision-making. Using an open digital twin approach to gain operational insights into bridge infrastructure with iTwin Experience will help improve deliverables, promote safety, and increase efficiency.

### FEATURES AT-A-GLANCE

**iTwin Capture:** Capture reality as the digital context for design, build, and operations workflows.

- ◆ 3D photo mesh creation
- ◆ Infrared/thermal imagery
- ◆ Point clouds
- ◆ QR codes, April tags, and Chili tags: ground control points automation scalability
- ◆ Cloud processing

**iTwin Experience:** Connect engineering, spatial, and enterprise data to create immersive digital twins.

- ◆ Visualize and engage with your portfolio of projects and assets in full digital context
- ◆ Immersive visualization of BIM, reality data, and GIS in a single intuitive environment
- ◆ Augment your inspection process by leveraging reality data before, during, and after your field inspection
- ◆ Leverage iTwin Capture and iTwin IoT to extend the value of your digital twin
- ◆ Artificial intelligence defect detection

**iTwin IoT:** Gain performance insights to critical infrastructure with IoT health and condition monitoring.

- ◆ Remote sensor integration
- ◆ Time-series data analysis
- ◆ Visualize sensor location on 3D reality mesh and BIM models
- ◆ Alerting
- ◆ Reporting

### KEY BENEFITS

- ◆ **Centralize data:** From reality capture to BIM models and IoT sensors, you can pull information from multiple software vendors and systems into one environment.
- ◆ **Accelerate decisions:** When all data is in one place with structure, access, and permissions, you can make faster decisions.
- ◆ **Improve productivity:** Streamline collaboration, conduct more detailed inspections, increase stakeholder engagement, and reduce asset outages and impact to the public.
- ◆ **Promote safety:** Reduce risk for inspectors by reducing project risk and time on site, bringing all relevant data together in context.
- ◆ **Increase efficiency:** Improve the inspection process and streamline maintenance while also providing a total view of the asset's condition for future repair and design.

