

## Real-time monitoring for better maintenance of bridges



**TYPE OF TOOL**  
*Data and digital initiatives*



**MAIN SECTORS**  
*Transport*



**THEME**  
*Green;  
Resilience*



**INFRASTRUCTURE GOVERNANCE PILLARS**  
*Asset performance throughout its life*

### In a nutshell



**OBJECTIVE:** The digitisation of road infrastructure management is aimed at delivering better maintenance and user safety.



**Agency in charge**  
**Ministry of Transport, Mobility and Urban Agenda**



**Levels of government**  
**National**



**Year of implementation**  
**2019 (Tendering)**



**Current status**  
**Planning**

### Overview

Maintaining high-quality infrastructure is challenging for numerous reasons, including harsh weather, unexpected utilisation, and inconsistent wear and tear. Effective infrastructure maintenance is based on structural health monitoring reducing the cost for maintenance and extending the service life. Automation allows to reduce maintenance costs offering alternatives to traditional infrastructure maintenance and monitoring. For example, drones represent a cost-effective alternative to time consuming and high-risk tasks typically performed by humans.

Spain is developing a platform for real-time monitoring and analysis of bridges that are monitored on the State Road Network (Red de Carreteras del Estado (RCE)). This platform will function as a system for analysing structures in real time, allowing the different technical teams involved in their maintenance and operation to make decisions almost immediately, depending on the specific needs of each case, and without the need for on-site staff. The platform is aimed at anticipating risk situations, thus improving the safety and service conditions of the national roads. In addition, the inspection of the bridges will use drones to analyse the condition of bridges over 300 meters long. This will reduce costs and time spent inspecting bridges, allowing more efficient management of the road network. These initiatives are in line with the 2030 Safe, Sustainable and Connected Mobility Strategy that guides the Ministry of Transport, Mobility and Urban Agenda's actions in terms of mobility, infrastructures and transport in the next 10 years, as it represents a commitment to the digitisation of infrastructures that results not only in better maintenance also but in user safety.

#### REFERENCES:

- Ministerio de Transportes, Movilidad y Agenda Urbana (2021), *Mitma formaliza un contrato para el suministro de una plataforma de seguimiento y análisis en tiempo real de los puentes monitorizados*, <https://www.mitma.gob.es/el-ministerio/sala-de-prensa/noticias/vie-26022021-1138>
- Ministerio de Transportes, Movilidad y Agenda Urbana (2023), *Mitma licita por 8,8 millones de euros un contrato para la monitorización de puentes y taludes singulares en la Red de Carreteras del Estado*, <https://www.mitma.es/el-ministerio/sala-de-prensa/noticias/mar-23052023-1415>