

# Network Inspections

- c.9,000 Inspections executed in 2023 on tunnels, bridges, viaducts and overpasses in compliance with a risk-based approach set out in the new guidelines

## New guidelines<sup>(1)</sup>

- The guidelines propose a multi-level approach (from 0 to 4)
- To each level corresponds an increasing level of commitment, frequency of inspection and planning of maintenance activities



**595  
Tunnels**

Ordinary +  
advanced inspection

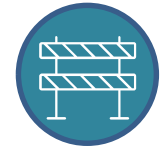
Frequency as per  
the new guidelines on tunnels  
issued in 2022



**1,979 Bridges and viaduct  
1,802 Overpasses  
605 infra with span 6-10m**

Ordinary +  
advanced inspection

Frequency as per  
the new guidelines on bridges  
issued in 2020



**9.834 km  
Safety barriers**

Inspections are  
carried out every  
2 years c. 5,000km  
in 2023

## ARGO

Digital Twin



- Complete digitalization of infrastructure assets (bridges, viaducts, overpasses and infrastructures with span >6m covered)
- Database for data management, governance, and control
- APP to support field inspection, IoT sensors for monitoring infrastructures and Artificial Intelligence algorithms to analyse and recognise defects

(1) Guidelines for risk's classification and management, safety assessment and monitoring of existing bridges issued by the Superior Council for Public Works and subsequently updated as well the additional guidelines included in the specific operational instructions.