REFERENT PROJECT

Analysis of the risk of scouring of the bridges of the ASF network



PURPOSE OF THE INITIATIVE

Assessment and risk analysis of the scouring process on more than 250 structures of the Vinci-ASF Vinci-ASF motorway network.
(The phenomenon of scouring is expressed by the digging under the action of the current, of the materials of the river bed, especially during flood periods, and more particularly the river supports of the bridges, because of the local increase of the flow speeds).

CLIENT/PARTNER NEEDS

Of the more than 4,000 engineering structures on the Vinci-ASF motorway network, 252 cross rivers and are therefore potentially concerned by the scouring problem, in particular the structures in the South of France (where the flooding regime of rivers is stronglyinfluenced by the Mediterranean episodes).
Vinci-ASF's wish to conduct a specific risk analysis approach for "scouring "to establish a first sorting among these structures to :

- Identify those most at at risk
- Define an appropriate management strategy integrating, if necessary, the foreseeable effects of climate change (specific monitoring for early detection of scouring phenomena, carrying out detailed diagnoses, programming and of maintenance and/or reinforcement of foundations...).

CEREMA'S SOLUTION

- Approach based on on the methodology developed in the guide "Risk analysis of bridges in scourable sites published in 2019.

CONTACT

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RELATED ACTIVITIES

- Management of engineering structure assets

- 1st scoping phase aimed at testing the method of the guide on 10 structures of the Vinci-ASF network, then to propose some adjustments to adapt it to the specificities of motorway structures (level of of stakes generally higher and a better knowledge of the structures overall than on the rest of the network);
- 2nd operational phase of deployment on the 252 structures: evaluation by semi-automated analysis grids, based on data transmitted by management services, as well as additional information from internet searches (river flooding, soil data, travel time of the itineraries, etc.).

Work in project mode involving several of Cerema's territorial departments of Cerema.



CLIENT

Vinci Autoroute - ASF Network / Management of the Project Management

- **Technical Department of Infrastructure**
- **Operational Direction Infrastructure West**
- **Infrastructure Operations Department East**

PROJECT PILOT

Denis DAVI (Cerema Méditerranée/DMOB/GECOA)

SCHEDULE

December 2019 to 2022