

BRIDGIN-IT

The best way to manage your bridge



From the meeting of two great realities: Industry and Research, a new tool is born that can define with high reliability both the critical state of infrastructures, such as bridges and viaducts belonging to a road network and the intervention priority index for each. The evaluation of the state of the art of transport infrastructures, in qualitative and quantitative terms, combines visual inspection techniques and defect analysis for each component of the work. The method is based on few empirical data and allows in a short time to obtain comparable information from which to organize maintenance or improvement action plans.

WHAT IS BRIDGIN-IT?

It is a fast procedure to assess the fact of condition of transport infrastructures. The proposed methodology leads to the definition of a risk index based on the vulnerability of the work (V), which in turn depends on the vulnerability of each component of the bridge (EV) such as piers, abutments, beams, etc., from exposure (E) and dangerousness (D).

The result is a multi-platform management system that supports the professional Engineer and the infrastructure manager and the Decision Makers, in the planning of maintenance activities with a clear indication of the resource allocation.



HOW DOES IT WORK?

The platform provides three levels of analysis according to the needs of the client, with the possibility of an additional fourth level (integrated sensors).

Level I: STRUCTURE ID

Procedure for obtaining a complete and comparable master database (archive, bridge geometries and traffic code compliance).

Level II: INSPECTION

Procedure based on more accurate analyses to be carried out in the presence of suitable structural information, allowing the creation of a defectological record, identifying the local and global vulnerabilities of the work (exposure, extension, intensity, location of each defect).

Level III: RISK and PRIORITY

A Risk Index is defined as a combination of danger, exposure and global vulnerability.
With respect to risk, the intervention priority index is defined.

Level IV: INTEGRATED SENSORS SYSTEM

The system/platform allows for the management of an integrates system of sensors which can constitute the basis for a long-term monitoring of the structure.

WHY IS BRIDGIN-IT THAT INNOVATIVE?



EFFECTIVE

Representative result of the de facto condition of the work and which allows to define an intervention priority.



RELIABLE

The result returned in terms of risk does not suffer from interpretation or misinterpretation.



PRIORITY

The risk index is flagged according to a priority scale from red to green which depends on: danger, vulnerability and exposure.



MAINTENANCE

The software allows to have a maintenance management and programming system able to effectively define intervention times and cost estimation.



VULNERABILITY

Starting from the vulnerability level of the single structural element, it is possible to determine where to intervene and with what level of urgency.



MONITORING

Based on the results of the procedure and on the installation of an integrated system of sensors, it is possible to define specific monitoring plans determine position of the sensor components from the program.



FAST OUTPUT

Data collection, quick analysis and final assessment report in 5 days.

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