

# INSPECTION AND RISK ASSESSMENT OF EXISTING INFRASTRUCTURE

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## Program:

Maintenance of existing transport infrastructure is a key issue for a proper asset management. Several hazards can affect structural reliability of infrastructure components resulting in premature failures. Hence it is crucial for a infrastructure owner to adopt infrastructure management systems able to collect field data and use them within the context of a periodical visual survey based on which outlining a priority ranking, and further proceed with a in-depth reliability and risk assessment. This course aims to illustrate main concepts underlying these best practices, with special emphasis to applications on existing bridges. After an introduction on infrastructure management systems, the course will introduce main criteria to be used when dealing with visual and NDT inspection, rating algorithms and a collection of possible degradation phenomena. The second part of the course will provide main concepts of risk assessment and criteria to be followed for a proper quantification of hazard, vulnerability and exposure to the different types of risk.



## References:

Hudson and Haas (1997) Infrastructure management: integrating design, construction, maintenance, rehabilitation and renovation. McGraw-Hill ISBN-13: 978-0070308954  
Balzer and Schorn (2015) Asset management for infrastructure systems. Springer, ISBN: 978-3-319-17879-0

## Examination and grading:

Course attendants will be asked to carry-out an inspection (real or virtual) on a real case-study and to carry out a risk assessment.

## Course details:

Mode of the course will be defined a some weeks before depending on the evolution of the health regulatory framework.