



## Context

Disasters and climate risks have a major impact on the economy as well as on the security and well-being of citizens. Because of the increasing rates of higher concentration of high value assets and Critical Infrastructures in areas vulnerable to major disasters, society has become more vulnerable. Most disaster events relate to extreme geological and hidro-meteorological hazards and the impact on Europe has been significant (80,000 deaths and € 95 billion in economic losses over the last decade). Extreme events can cause severe disruption of national and regional economies with potential impacts capable of causing severe loss of function of Critical Infrastructures.

## Approach

A critical challenge for the protection of Critical Infrastructures in Europe is to increase their resilience. Critical Infrastructures are complex systems which require the assessment of the infrastructure from a holistic point of view.

The improvement of Critical Infrastructure risk assessment methodologies by incorporating resilience analysis with prevention, resistance to disturbance, and failure recovery measures has been recognized as a challenging goal for a harmonized framework in Europe in the near future. The development of stress tests approaches is central to contribute to the improvement of prevention and preparedness.

The EU-funded INFRARISK project focuses on the development of optimal stress testing techniques to contribute to the protection of European Critical Infrastructure. The INFRARISK approach focuses on potential impacts on the European Transportation network Ten-T (road and rail) of natural hazards such as earthquakes, flooding, and landslides.

## Current Results

- Development of a process to ensure that levels of infrastructure related risk due to natural hazards are acceptable. The process includes conducting stress tests.

- Validation through an application of case study
- INFRARISK Decision Support Tool (IDST) Ongoing development of integrated workflow processes for defining the risk due to natural hazards, their geospatial coverage and their likely impacts on critical infrastructure.

## Impact

The implementation on European Critical Infrastructures of a stress testing strategy such as that developed in INFRARISK will allow:

- To associate the severity of a hazard/disruptive event with the potential impact on a system by defining the operation limits and the vulnerabilities
- To support the work of managers, stakeholders and policy makers through providing insight of the impact of such events
- To assess the limits of their infrastructure and systems in such crisis involving the core part of the prevention and preparedness work (operators and sectoral associations).

For more information on this project: [www.infrarisk-fp7.eu](http://www.infrarisk-fp7.eu)

### At a glance:

Acronym: INFRARISK

Title: Novel Indicators for identifying critical INFRAstructure at RISK from natural hazards

EU-FP7 Colaborative project

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