

# Development of a forecasting and managing system of critical infrastructures



**INFRACRIT**

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## Context

In 2008, the European Union published the Directive 2008/114/EC, of 8 December, which defines a global Critical Infrastructure Protection strategy. According to this Directive, responsibility for the protection of European Critical Infrastructure rests, in the first and last instance, with the Member States and the owners and/or operators of these infrastructures.

In Portugal, following this European Directive, Decree-Law No. 62/2011, of 9 May, was published, being established the procedures for identifying the various infrastructures considered essential for the maintenance of vital functions for society, and whose disruption or destruction (partial or total) would have a negative impact.

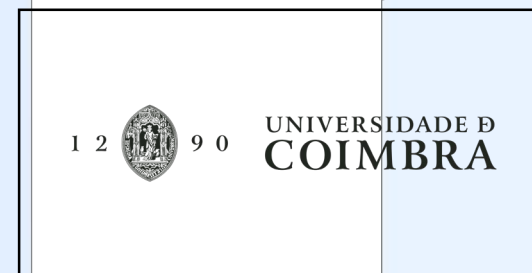
## InfraCrit: Consortium formation



- Experts in the development of geographic information systems



- Experts in forecasting, simulation and correlation models applied to critical infrastructures



- Experts in reliable and secure computing

I n f r a C r i t

## InfraCrit: Challenge

Development of a geographic information system capable of:

- map and manage Critical Infrastructures based on the determination of the respective criticality index
- predict the evolution over time of the criticality of an infrastructure
- simulate the occurrence of an event, as well as assess its impact

## SIGPIC: Concept

Geographic Information Systems Platform, **collaborative, modular** and **prepared to work with large volumes of data**.

Spatial data infrastructure supported by a set of features and services that allow to:

- manage the **critical infrastructures records**, namely insertion, editing and consultation
- obtain **criticality maps**, assuming the vulnerability of different infrastructures subject to different events
- monitor the **evolution of the criticality** of the infrastructures under analysis
- **determine the areas affected by an event** and its consequences

## SIGPIC: Characteristics

- **Access to SIGPIC** data and functionalities through a user authentication and authorization process
- **Web frontend** that allows customers to use SIGPIC features through a browser
- **Web backend** that allows customers to manage and parameterize SIGPIC through a browser

## SIGPIC: Modules

- Registration of Critical Infrastructures
- Determination of the Criticality Index
- Evolution over time of the criticality of a Critical Infrastructure
- Simulation of the occurrence of an event and its impact



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**Acronym:** InfraCrit

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