Resilient Infrastructure Systems and Environment

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Research Unit Identification

Full Name	Resilient Infrastructure Systems and Environment
Acronym	RISEn
Director	Elói João Faria Figueiredo
Funding Body	COFAC - Cooperativa de Formação e Animação Cultural, C.R.L.
Funding Period	01/09/2026 – 31/08/2026
Unit URL	rise.ulusofona.pt

Mission & Objectives

Abstract: RISE – Resilient Infrastructure, Systems and Environment is a research and development group at Universidade Lusófona dedicated to advancing the safety, resilience, and sustainability of the built environment. It combines expertise in engineering, monitoring technologies, modelling, and data analysis to address the challenges of ageing infrastructure, climate change, and natural resource management. RISE aims to promote, develop, coordinate, manage and disseminate high-quality scientific and technological research, contributing to the advancement of knowledge through theoretical and applied research projects. Its objectives include: providing research and innovation services to public and private entities at national and international levels; strengthening scientific expertise and critical mass through advanced training in innovative topics; fostering knowledge exchange and synergies between research and teaching within Universidade Lusófona; establishing and

consolidating national and international scientific partnerships and networks of excellence; attracting and retaining talented researchers; supporting the integration of doctoral and master's students into research activities; promoting collaboration with industry and other stakeholders to facilitate knowledge transfer and innovation; and organising scientific events, including conferences and seminars, to disseminate research findings, encourage interdisciplinary collaboration and explore emerging research trends.

Scientific Areas & Research Lines

Principal Scientific Areas

Resilience and Sustainability in Built and Natural Environments	**Structural Health Monitoring**	**Water Managament Solutions**	**Climate Change**

Research Lines

- **Resilience and Sustainability in Built and Natural Environments** — resilience enhancement, safety and sustainability of buildings, infrastructure and ecosystems
- **Structural health monitoring** – has been proposed for damage identification in infrastructure (e.g., bridges and dams) and road pavements, climate change adaptation, and more recently for risk-informed integrity management. Four main vectors have driven our research: system identification (e.g., dynamic field tests), machine learning, finite element modelling, and sensor node development.
- **Water Management Solutions** — advanced hydrological modelling, climate scenario analysis and intelligent decision-support systems to improve water resource planning and management
- **Climate Action** — climate change adaptation and mitigation in buildings and infrastructure

Identifiers & Citation Information

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Mandatory Acknowledgement Statement

Required in all scientific and institutional outputs (written in the appropriate language):

"This work is funded by private funds through COFAC – Cooperativa de Formação e Animação Cultural, C.R.L., under the project/support " COFAC/RISEn/2026-27".

Mandatory Application Scope

The acknowledgement statement above must appear in all of the following outputs:

- Scientific articles, posters, books, and journal papers;
- Monographs, brochures, and informational leaflets;
- Newsletters, announcements, and advertising materials;
- Cover pages (where applicable) and all printed applications;
- Digital typographic and other reproduction formats;

PowerPoint presentations and other digital presentations.