

CERIS - CIVIL ENGINEERING RESEARCH AND INNOVATION FOR SUSTAINABILITY

Scientific Report 2025
Planned Research for 2026

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António Tadeu | CERIS Vice President
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CERIS : Civil Engineering Research and Innovation for Sustainability





















Av. Rovisco Pais 1049-001 Lisboa – Portugal (+351) 218 418 238 ceris@tecnico.ulisboa.pt

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SUMMARY

CERIS is a research unit of Instituto Superior Técnico (IST), University of Lisbon (ULisboa), hosted by the Department of Civil Engineering, Architecture and Environment (DECivil), and integrated into IST-ID – Associação do Instituto Superior Técnico para a Investigação e Desenvolvimento. Since its formal establishment in 2015, CERIS has progressively expanded its national footprint by integrating new hubs at NOVA School of Science and Technology and Coimbra (Itecons) in 2022, and Aveiro (RISCO – University of Aveiro) in 2025, reinforcing its collaborative network and scientific ecosystem. At the end of 2025, CERIS comprised **150 PhD members, 35 PhD collaborators, and 269 non-PhD collaborators**, covering a broad range of scientific domains, including Construction, Environment, Geotechnics, Hydraulics, Regional and Urban Planning, Structures, Systems and Management, Transportation Systems, and Water Resources.

CERIS originated from the integration of three former research centres of DECivil – CEHIDRO, CESUR and ICIST – and this report constitutes the tenth annual report on scientific activity and the sixth following the 2017–2018 FCT evaluation, where CERIS was recognised as one of the leading civil engineering research units in Portugal. The report provides an updated picture of CERIS' scientific profile and institutional evolution, positioning the unit within the national and international research landscape, while presenting the main performance indicators for 2025.

The report is organised into four main sections. The first presents the unit description, including its governance structure, research staff, technical and administrative support, and laboratory facilities. The second focuses on the institutional and scientific objectives, describing the four Thematic Strands and the six Research Groups. The third section presents and analyses the main achievements of 2025, including indicators related to doctoral training, scientific production, international visibility, and research and consultancy funding. The final section outlines the planned activities for 2026, highlighting future strategic directions and research priorities

The progressive integration of research centres and hubs, each with distinct organisational cultures and operational practices, has posed significant challenges in governance and coordination. However, these challenges have been largely overcome, and CERIS now operates as a consolidated multidisciplinary research unit aligned with its strategic mission. The recruitment of a dedicated Science and Technology Manager in 2021, together with the reinforcement of thematic strand support between 2022 and 2024, played a decisive role in strengthening internal articulation, increasing responsiveness to funding opportunities, and improving the dissemination of CERIS scientific outputs.

CERIS demonstrated very strong scientific productivity and international visibility in 2025. The main highlights include:

- **Theses:** 40 PhD theses were concluded and 269 remained ongoing beyond 2025, confirming CERIS' strong capacity for advanced research training. In addition, 120 MSc dissertations were completed. The ratio of completed PhD theses per PhD researcher was 0.21.
- **Publications:** 439 papers were published in WoS or Scopus-indexed journals. The ratio of WoS/Scopus publications per PhD researcher reached a high value of 2.5 in 2025. 275 papers were published in international conference proceedings.
- **International visibility:** Members held positions as Associate Editors in 22 WoS or Scopus-indexed journals and served on 146 editorial boards. Participation in technical committees for drafting codes and standards (i.e., 74 national and 82 international). They also participated in 70 international scientific committees. In addition, CERIS researchers received 40 international and 12 national awards, demonstrating strong scientific recognition and leadership.
- **Funding**: 2025 was a financially robust year for CERIS, marked by a strong capacity to secure competitive research and consultancy activities. During the year, CERIS launched 14 international and 42 national new research projects, while maintaining 60 active international and 84 active national projects. In addition, 9 new competitive individual grants were awarded, with a total of 72 active individual grants in 2025, confirming the unit's sustained ability to attract funding at both institutional and individual levels. Consultancy activity also remained highly significant, with 68 consultancy projects concluded during the year, reinforcing CERIS' strong engagement with industry, public authorities, and knowledge transfer activities. Overall, these indicators reflect the consolidation of CERIS as a highly competitive and financially dynamic research unit, with a broad and diversified funding portfolio

The planned activities for 2026 represent a natural continuation of the research carried out in 2025, structured around the four established Thematic Strands and six Research Groups. A central objective remains the strengthening of internal cooperation across groups and hubs, as well as the expansion of international collaboration networks. The integration of the Aveiro hub in 2025 is expected to further enhance CERIS' multidisciplinary capacity and territorial reach. Strategic priorities for 2026 include increasing participation in European-funded projects, reinforcing links with industry and public authorities, advancing research in the Digital Built Environment and Twin Transition (digital and climate), and consolidating the use of Digital Twins in asset management, water systems, hydropower, and hydrogeology..

Key strategic objectives for 2026 include:

- Actively seeking greater participation in research projects funded by the European Union.
- Increasing the internationalisation of the research groups and strengthening links to industry through funding calls, standardisation, academic events, teaching, consultancy, and direct partnerships.
- Significant effort is directed towards the Digital Built Environment and the Twin Transition (Digital and Climate), and the application of Digital Twins in Asset Management and other systems (water networks, hydropower, hydrogeology).

Overall, the planned activities for 2026 aim to build upon the significant achievements of 2025, reinforcing CERIS mission in creating and disseminating knowledge and fostering innovation for sustainability in the Built and Natural Environment.

1. 1. UNIT DESCRIPTION

1.1 General description

CERIS – Civil Engineering Research and Innovation for Sustainability is a research unit of Instituto Superior Técnico (IST), part of the University of Lisbon (ULisboa), hosted by the Department of Civil Engineering, Architecture and Environment (DECivil) and integrated into IST-ID, Association of Instituto Superior Técnico for Research and Development. IST-ID is a private non-profit institution dedicated to advancing science and technology, fostering knowledge transfer, and promoting the participation of national and international researchers in research, development, and innovation (RD&I) activities.

Although formally established in 2015 through government dispatches 7822/2015 and 12360/2015, CERIS originated from the merger of three long-standing DECivil research centres: CEHIDRO, CESUR, and ICIST, following the 2008–2012 evaluation of the Portuguese National Science and Technology System. Initially registered with the Fundação para a Ciência e a Tecnologia (FCT) under reference 04625, CERIS consolidated the scientific expertise of these centres into a single multidisciplinary unit, significantly strengthening its thematic breadth, critical mass, and research capacity.

In 2022, CERIS expanded its organisational and geographical scope through the creation of two additional hubs: CERIS NOVA, hosted at the NOVA School of Science and Technology, and CERIS Coimbra, hosted at Instituto de Investigação e Desenvolvimento Tecnológico para a Construção, Energia, Ambiente e Sustentabilidade, reinforcing its collaborative network and multidisciplinary capacity at the national level.

The engagement of a dedicated Science and Technology Manager in 2021, together with the recruitment of four researchers to support the Thematic Strands between 2022 and 2024, provided a decisive boost to CERIS by strengthening the articulation between its installed expertise, emerging funding opportunities, and new channels for disseminating CERIS outputs through social networks and specialised platforms.

Following the 2023/2024 national evaluation of research units conducted by FCT, CERIS further strengthened its institutional and scientific structure in 2025 by integrating a new hub in Aveiro, hosted by the University of Aveiro through RISCO – Department of Civil Engineering. This expansion broadened CERIS' territorial reach and scientific ecosystem. As a result of this growth and institutional reorganisation, CERIS was assigned the new FCT reference 06438, marking a new phase in its consolidation as a national research unit of excellence.

By the end of 2025, CERIS brought together 150 integrated PhD members, 35 PhD collaborators, and around 250 non-PhD collaborators, reflecting a critical mass and diversity of expertise unmatched in the Portuguese civil engineering research landscape. In terms of both scale and scientific breadth, CERIS occupies a unique position nationally, with the profile and capacity required to sustain a strong and competitive international presence.

The establishment of CERIS was driven by a broader strategic vision for the national research system, emerging from discussions initiated in 2010 on the future of civil engineering research at both national and international levels. This vision was strongly inspired by the American Society of Civil Engineers (ASCE) report *The Vision for Civil Engineering in 2025* and framed by major strategic policy documents, namely *Europe 2020*, *Horizon 2020*, and *Portugal 2020*, which collectively shaped its scientific orientation towards sustainability, innovation, and societal impact.

CERIS' mission, objectives, and policy guidelines are designed to address the pressing needs of the civil engineering sector in both research and knowledge transfer. Its guiding principle is to anchor scientific and technological development in advanced doctoral training while leveraging the diversity of expertise across its members. This diversity supports multiple forms of knowledge transfer, ranging from advanced training and capacity building to direct technical support for public authorities, industry, and service providers. Recent membership policies and organisational reforms have further consolidated the integration of the founding centres, restructured research activities into thematic strands aligned with national and European priorities, and reinforced CERIS capacity to respond to societal challenges through mathematical modelling, experimental research, and field-based investigation.

1.2 Organization

The organisational structure of CERIS is aligned with the governance and management recommendations established by IST and FCT. It comprises the President, the Executive Board, the Scientific Council, the External Advisory Committee, the Coordinating Committee, the Research Groups (RGs), the Thematic Strands (TSs), and its four hubs, as illustrated in Figure 1.

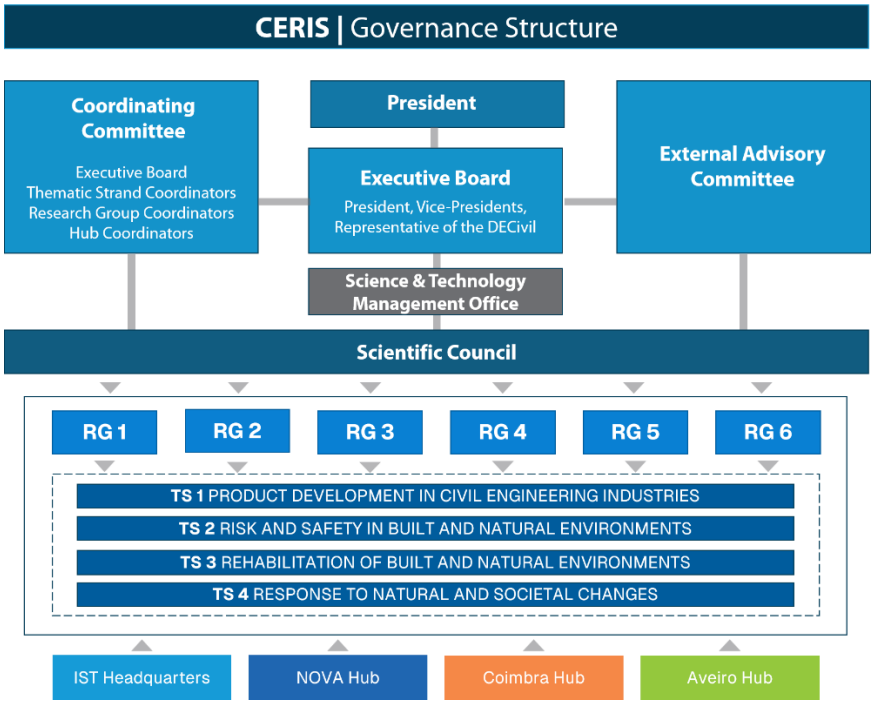


Figure 1 | Structure of Governance in 2025

The President of CERIS is responsible for its overall strategic and operational management. In carrying out these functions, the President is supported by the Executive Board and, whenever necessary, by the Advisory Board of the Scientific Council. The President also chairs the meetings of the Executive Board, the Plenary of the Scientific Council, and the Advisory Board.

The Executive Board is the main body responsible for supporting, assessing, and promoting CERIS's policies, particularly in fostering cooperation and ensuring effective coordination across its scientific areas. It is composed of five members: the President of CERIS, Vice-Presidents representing different Research Groups, and a member of DECivil's Executive Board. Since 2025, the Executive Board has also included representatives from the CERIS hubs, further strengthening institutional integration and coordination across its distributed structure. In the current Executive Board (Table 1), João Gomes Ferreira (RG5), the President, is responsible for administrative, financial, and project management matters. João Ramôa Correia (RG5), also a member of the Executive Board of DECivil, oversees scientific affairs; Filipa Ferreira (RG2) is responsible for the Science and Technology Management Office; José Neves (RG4) is responsible for financial matters; and Rui Carrilho Gomes (RG6) is responsible for human resources. Rodrigo Gonçalves, António Tadeu and Romeu Vicente represent the Hubs CERIS NOVA, CERIS Coimbra and CERIS Aveiro, respectively.

The previous Executive Board, which directed CERIS in 2023-2024, was formed by the president Dídia Covas (RG1) and the following vice presidents: Inês Flores-Colen (RG5), Rafaela Cardoso (RG6), João Abreu e Silva (RG4), Filipa Ferreira (RG2) and João Ferreira (RG5).

The Scientific Council comprises researchers who meet the curricular selection criteria based on scientific productivity and academic merit. Annually, it is responsible for approving CERIS scientific activity reports and plans, as well as its financial reports and budget. While it may delegate specific competencies to the Advisory Board and the Executive Board, the Scientific Council remains the highest decision-making body on all scientific matters relevant to CERIS.

The Coordinating Committee is composed of the members of the Executive Board, the Coordinators of the four Thematic Strands, the Coordinators of the six Research Groups, and the Coordinators of the CERIS hubs. Its main role is to design, monitor, and supervise the strategic programme of CERIS, ensuring alignment between scientific activities, institutional priorities, and long-term objectives.

The scientific activity of CERIS is structured around four Thematic Strands, which provide an overarching framework for the work of its six Research Groups. This structure promotes interdisciplinarity, strategic alignment, and the integration of complementary expertise across the unit. The coordinators of the Thematic Strands and Research Groups for 2023, 2024, 2025 and 2026 are identified in Tables 2 and 3.

Table 1 | Executive Boards

Position	Previous (2023-2024)	Present (2025-2026)
CERIS President	Dídia Covas	João Gomes Ferreira
CERIS Vice Presidents	Filipa Ferreira	Filipa Ferreira

	Inês Flores-Colen	José Neves
	João Abreu e Silva	Rui Carrilho Gomes
	João Ferreira	João Ramôa Correia
	Rafaela Cardoso	Rodrigo Gonçalves
	-	António Tadeu
	-	Romeu Vicente

Table 2 | Thematic Strands and Coordinators

Domain	Previous (2024)	Present (2025)
Product Development in Civil Engineering Industries	Jorge de Brito	Nuno Simões
Risk and Safety in Built and Natural Environments	Filipe Moura	Vítor Silva
Rehabilitation of Built and Natural Environments	Maria da Glória Gomes	Paulina Faria
Response to Natural and Societal Changes	Manuel Pinheiro	Manuel Pinheiro

Table 3 | Research Groups and Coordinators

Group	Designation	Previous (2024)	Present (2025)
RG1	Hydraulics	António Pinheiro	Helena Ramos
RG2	Environment and Water Resources	José Saldanha Matos	Maria Manuela Portela
RG3	Systems and Management	António Aguiar Costa	António Aguiar Costa
RG4	Transportation Systems	Luis Picado Santos	Luis Picado Santos
RG5	Studies on Construction	João Ramôa Correia	Jorge de Brito
RG6	Structures and Geotechnics	Eduardo Júlio	Rafaela Cardoso

The External Advisory Committee of CERIS comprises distinguished scientists and industry representatives with recognised expertise and extensive experience in addressing the challenges faced by institutions with similar missions and objectives. Its role is not only to provide strategic guidance and advice on long-term perspectives, but also to conduct periodic, independent assessments of CERIS scientific activity and institutional performance.

In particular, the Committee evaluates the quality, relevance, and impact of CERIS research, the adequacy of its organisational structure, the quality of its scientific environment, the degree of internationalisation of its activities, and its effectiveness in knowledge transfer, technology transfer, and scientific dissemination. The composition of the External Advisory Committee in 2025 is presented in Table 4.

The External Advisory Committee of CERIS consists of well-known scientists and representatives from the industry with recognised knowledge and experience on the challenges faced by institutions with similar missions and objectives. Besides advising on strategic planning and long-term perspectives, its main competence is to periodically assess the quality and the relevance of the scientific activity of CERIS, the adequacy of its organisation, the quality of the scientific environment, the level of internationalization of its activities and its performance in the transfer of knowledge, technology, and dissemination. The composition of the External Advisory Committee in 2024 is defined in Table 4.

Table 4 | External Advisory Committee

Advisor	Institution
Anton Schleiss	École Polytechnique Fédérale de Lausanne | Switzerland
José Manuel Vassallo	Universidad Politécnica de Madrid | Spain
Michael Lacasse	National Research Council Canada | Canada
Luc Taerwe	Ghent University | Belgium
José Príncipe	University of Florida | United States of America

1.3 Research staff

According to CERIS rules and regulations, researchers are classified as *members* and *collaborators* (Table 5). *Members* are PhD researchers who meet the productivity criteria set by the Scientific Council of CERIS. *Collaborators* are typically PhD students and specialists employed by firms, public services, and agencies. The PhD researchers who do not meet the productivity criteria set by the Scientific Council each year are *collaborators*. As FCT requested in 2013, there was a need to add the classification of *Integrated members,* selected from the members to identify the unit's core team.

The productivity criteria are based on the research component of the academic evaluation system set by IST for every three years of evaluation, which values the publication of papers and the number of citations, supervision of PhD theses, coordination and participation in concluded competitive research projects, and knowledge transfer. In 2015, the Scientific Council of CERIS set the minimum requirement to be proportional to the grade of Excellent in the IST evaluation system.

In this report, members of the Scientific Council are referred to as 'Members'. They all hold a PhD. The terms 'PhD researchers' or the synonym 'Researchers with PhD' combine members and collaborators with a PhD. The PhD researchers may be permanent staff in their institutions, hired as researchers under DL57, or hold post-doctoral scholarships.

The term 'non-PhD collaborator' includes all collaborators who do not hold a PhD degree. The term 'PhD students' combines PhD students registered at IST-UL (i.e. CERIS-IST PhD students) with PhD students registered at other institutions (i.e. External PhD Students). Note that 'PhD students' is not a subgroup of 'non-PhD collaborator'. There are PhD students who are not non-PhD collaborators; they may be

collaborators in other research centres or state laboratories.

The 2024 distribution of researchers is summarized in Table 5. They include IST and Hubs academic staff and fourteen other universities and polytechnics[1], besides private companies and foundations.

Table 5 | Profile of research staff

Type	Permanent	Non-permanent		Total
		Contract	Scholarship	
Members	138	12		**150**
Collaborators with PhD	22	13	0	**35**
Collaborators without PhD	0	0	268	**268**

1.4 Administrative and technical staff

In 2025, CERIS continued to share with CITUA the support of the administrative staff of DECivil, namely accounting, secretariat, and technical staff assigned to computational and experimental laboratories.

Accounting services are provided by IST's central services. CERIS has one administrative staff member (Ana Soares Ramos, employed by IST) dedicated to supporting the Executive Board, as well as 7 administrative staff supporting the activities of the Research Groups. These staff members are employed by IST.

Informatics services, including support for the Laboratory of Computational Mechanics, are provided by an informatics technician (Filipe Aparício), who also supports CERIS. The technical staff assigned to CERIS laboratories, as detailed in Table 6, comprised three technicians in 2025, all of whom were hired by IST. To strengthen this capacity, CERIS recruited an additional laboratory technician on 1 January 2026, thereby reinforcing technical support for the experimental laboratories and improving operational continuity and technical expertise.

The recruitment process for the Science and Technology Manager was completed in 2021, strengthening support for researchers seeking competitive international funding and fostering greater interaction among research groups. In parallel, the recruitment of four researchers per thematic strand, initiated in 2021, was completed in 2022. However, by the end of 2024, the Science Management team faced a significant setback when three researchers associated with the thematic strands departed, affecting the continuity and development of some ongoing research initiatives. To reinforce the Science Management team, a

[1] Academia Militar, Instituto Politécnico de Leiria, Instituto Politécnico de Setúbal, Instituto Superior de Agronomia, Instituto Superior de Engenharia de Coimbra, Instituto Superior de Engenharia de Lisboa, Universidade da Madeira, Universidade do Algarve, Universidade do Minho, Universidade Lusíada, Universidade Lusófona, Universidade da Integração Internacional da Lusofonia Afro-Brasileira (Brazil), Universidade Estadual de Goiás (Brazil), Universidade Federal do Ceará (Brazil).

postdoctoral fellow was recruited in April 2026, with a primary focus on science communication, thereby contributing to the dissemination and communication of CERIS research activities.

The number of technical staff assigned to operate the computational and experimental laboratories remains limited, and this remains a structural challenge, largely due to a long-standing hiring freeze. This team is complemented by the DECivil Laboratories Coordinator and a joint supervisor responsible for the Structures, Construction, and Geotechnics laboratories (LERM, LC, and LG). A substantial part of the daily operation of these laboratories relies on PhD researchers and students. While this provides valuable technical training opportunities, it also limits the continuity of expertise and long-term knowledge transfer, as their involvement is often restricted to the duration of their theses.

Table 6 | Laboratories and technical staff

Laboratory	Staff (no.)
Laboratory of Computational Mechanics (LMC)	1
Laboratory of Construction (LC) RG5	0.4+0.5+0.5
Laboratory of Geotechnics (LG) RG6	0.2
Laboratory of Hydraulics, Water Resources and Environment (LHRHA) RG1, RG2	0.5
Laboratory of Structures and Strength of Materials (LERM) RG6	1+0.4+0.5
Laboratory of Transport Infrastructures (LVCT) RG4	0

1.5 Facilities

The research methods adopted by CERIS combine mathematical and numerical modelling, laboratory experimentation, and *in situ* studies, supported by up-to-date hardware and software and well-equipped experimental facilities. Despite this strong infrastructure, significant challenges remain in the procurement, acquisition, renovation, and maintenance and calibration of equipment, mainly due to the administrative constraints imposed by public procurement procedures.

CERIS-IST operates five experimental laboratories — Hydraulics, Construction, Structures and Strength of Materials, Geotechnics, and Transport Infrastructures — together with one IT laboratory dedicated to Computational Mechanics. In addition, each CERIS hub (NOVA and Coimbra) has several experimental laboratories covering areas such as Structures, Construction, Geotechnics, and Pavements, as well as IT facilities. The CERIS-Coimbra laboratories also include specialised equipment for electrical testing and chemical analysis of materials.

Across its hubs, CERIS laboratories are equipped with a broad range of advanced instrumentation and testing facilities, enabling experimental research at multiple scales, from micro-scale material

characterisation to full-scale structural and infrastructure testing. These facilities play a central role in supporting both research activities and PhD projects.

In addition, CERIS researchers frequently benefit from complementary facilities at the Laboratório Nacional de Engenharia Civil (LNEC), located approximately 3 km from IST, as well as from collaborative access to infrastructure at Instituto Superior Técnico, IST-ID, Universidade NOVA, and INESC, under established institutional protocols. This exchange of infrastructure is reciprocal, further strengthening collaboration and optimising the use of available scientific resources.

1.6 Instruments for Transfer of Knowledge

CERIS promotes knowledge transfer mainly through two complementary channels: specialised consultancy and advanced training. These activities play a central role in strengthening the connection between research, industry, and society and in ensuring the practical application of scientific knowledge.

CERIS members offer a broad and diversified portfolio of specialised training courses via FUNDEC, the advanced training platform of DECivil. Established in 1995 as a private partnership with leading companies in the civil engineering sector, FUNDEC has become an important instrument for professional qualification and continuous education.

Consultancy activities are conducted under clear regulations to prevent conflicts of interest and unfair competition, and may be contracted directly with CERIS, through FUNDEC, or via Instituto Superior Técnico. In addition, the CERIS hubs maintain specialised branches dedicated to consultancy and advanced training, further strengthening the unit's capacity for knowledge transfer and engagement with external stakeholders.

1.7 Analysis of the scientific activity

The analysis of the scientific activity carried out in 2025, presented in this report, is framed by the statutory objectives of CERIS and focuses on three main dimensions: research content, research organisation, and the evolution of scientific productivity indicators.

The research content is presented in Section 2, where the thematic strands that structure CERIS research activities and their main areas of focus are defined. The activities developed by the Research Groups (RGs) in 2025 are also summarised to support the analysis of three key aspects: the research profiles of the groups, their organisational structure, and the current and planned forms of internal cooperation. Identifying these aspects is intended to support internal policies on membership and funding mechanisms aimed at fostering collaboration and reinforcing the strategic research focus.

Section 3 presents a broad set of indicators of research activity, including doctoral theses, scientific publications, visibility and scientific recognition, as well as research and consultancy contracts. The analysis of the 2025 results is based on their evolution over time, namely since 2013, and considers the

number of researchers, the capacity to attract research and consultancy funding, the completion of PhD theses, and the publication of papers in WoS/Scopus-indexed journals.

The performance of research units is commonly assessed through production rates per team member, which requires a clear definition of the research team composition, including both Members and PhD researchers. In this report, production rates are therefore presented mainly in relation to Members and, in some cases, also to PhD researchers, highlighting the relevance of CERIS internal membership policies. These indicators are analysed at both the overall unit level and the individual RG level.

The detailed information for each Research Group is provided in Annex C.

2. RESEARCH OBJECTIVES

2.1 Institutional objectives

The research objectives of CERIS are set out in line with its statutory mission: "*To create and disseminate scientific knowledge and to promote innovation in the Built and Natural Environment through active involvement in fundamental and applied research, at both national and international levels, while enhancing higher education and advanced research training*." To fulfil this mission, CERIS organises its activities around thematic strands aligned with national and European strategic policy priorities.

Under a common host institution, CERIS brings together knowledge and expertise across a broad range of topics related to the Built and Natural Environment, pursuing three main objectives: (i) to promote high-quality research strongly supported by PhD programmes; (ii) to transfer scientific and technical expertise through specialised training, consultancy, and advanced services; and (iii) to ensure the broad dissemination of research results.

To achieve its first objective, CERIS promotes the development of PhD programmes within national and international networks and consortia and encourages the integration of doctoral research into competitively funded projects. CERIS also benefits from the active participation of Instituto Superior Técnico, Universidade NOVA, Itecons and Universidade de Aveiro in international networks and mobility programmes that foster the exchange of students and researchers.

At the level of knowledge transfer and external engagement, CERIS actively participates in international initiatives promoted by Instituto Superior Técnico, Universidade NOVA, Itecons and Universidade de Aveiro, and collaborates with national professional associations on specialised training activities. To strengthen mutually beneficial relationships with industry, engineering firms, public administration, and government agencies, CERIS contributes to the formulation of public and private policies and to innovation programmes addressing sector-specific challenges, namely through the Portuguese Technological Platform for Construction, the Portuguese Water Partnership, and the Sustainable Habitat Cluster.

CERIS values the dissemination of scientific results through high-impact journals and leading international conferences, recognising their decisive role in strengthening scientific visibility, international recognition, and the capacity to attract competitive research funding and recruit young researchers. The strategic partnerships established by CERIS further reinforce knowledge transfer, fostering closer and more effective interaction with both public and private stakeholders.

2.2 Research Groups (RG)

The research groups in 2025 are numbered as shown in Table 7.

Table 7 | Research Groups (RG)

RG	Designation
RG1	Hydraulics
RG2	Environment and Water Resources
RG3	Systems and Management
RG4	Transportation Systems
RG5	Studies on Construction
RG6	Structures and Geotechnics

2.3 Thematic strands (TS)

The thematic strands of CERIS were defined to provide a comprehensive and strategic framework for its research activities, covering priority scientific and technological areas aligned with societal needs and policy priorities. Their relevance, both in scientific content and in internal expertise, should guide the progressive alignment of research group activities through periodic reassessment of strategic and operational objectives, as well as through internal seed-funding mechanisms designed to promote collaboration and innovation.

The interdisciplinary knowledge developed within CERIS in the Built and Natural Environments addresses a broad range of challenges in the construction industry, including structural rehabilitation, safety and resilience, and innovation in eco-efficient materials, systems, and technologies. It also encompasses urban and regional planning and management, the mobility of people and goods, environmental and water resources planning and policy, and water services, including drinking water supply, wastewater treatment, hydraulic infrastructure, and renewable energy systems.

In addition, CERIS research integrates cross-cutting dimensions that connect multiple scientific domains, including strategic environmental assessment, systems modelling and optimisation, decision-support processes, public policy development, and governance frameworks.

In this context, and in line with national and European strategic policy guidelines, four thematic strands were established in 2013 to structure CERIS's research activities:

- TS1 - Product Development in Civil Engineering Industries;
- TS2 - Risk and Safety in Built and Natural Environments;
- TS3 - Rehabilitation of Built and Natural Environments;
- TS4 - Response to Natural and Societal Changes.

TS1 – Product Development in Civil Engineering Industries embraces research activities whose main purpose is to enhance the competitiveness of civil engineering industries by developing innovative products and procedures and improving the efficiency of existing ones. Applied research focuses on projects with a strong emphasis on "idea to business", involving industrial partners robustly and leveraging the interdisciplinary nature of CERIS. Deepening existing industry collaborations is encouraged. The Portuguese Technological Platform for Construction (PTPC), whose university-industry working groups are already developing proposals for new projects, is an important partner in this context.

TS2 – Risk and Safety in Built and Natural Environments focus on the reduction of risk to people, the environment, and natural and built heritage that may be affected by extreme events, whether natural, such as floods, droughts, earthquakes, windstorms, and tsunamis, or due to human activities, such as accidental pollution, deficient structures and infrastructure, blasts, and fires. Environmental and man-made hazards may devastate the built and natural environment, including natural resources. Hazard and risk assessment, and the development of structural and non-structural safety measures, are major societal challenges in a rapidly changing world, with people concentrated in large urban areas and the growing exploitation of limited natural resources.

TS3 – Rehabilitation of Built and Natural Environments stands out as a new paradigm for the construction sector and for environmental preservation. New knowledge and skills, gathered through interdisciplinary activity, are needed to respond to current demands. The main goals include reducing risks, ensuring safety, and promoting more efficient and sustainable life-cycle management of energy and natural resources to foster urban cohesion and protect natural and cultural heritage. This thematic strand seeks to mobilise activity within the CERIS research groups in rehabilitation and restoration and to promote synergies to carry out research at the forefront of existing knowledge.

TS4 – Response to Natural and Societal Changes addresses issues related to the characterisation, mitigation, and adaptation to natural and societal changes, which induce stress or even ruptures in the “business as usual” approach to the built and natural environment, especially in relation to the relevant policies, procedures, and the design and operation of infrastructure for a sustainable interaction between man and nature. Climate change is of immense importance as a driver, forcing adaptation measures across all areas of economic activity and social life and aggravating all the pre-existing problems caused by social and economic changes.

2.4 Research areas

The principal areas of work selected in each Thematic Strand are the following, as defined by their coordinators:

TS1 – Product Development in Civil Engineering Industries

Within this framework, the R&D activities developed under TS1 focus on transferring knowledge to society, in line with CERIS Strategic Objective 3, and directly contribute to several United Nations Sustainable Development Goals (SDGs), namely SDG 1 (No Poverty), SDG 9 (Industry, Innovation and Infrastructure),

SDG 11 (Sustainable Cities and Communities), SDG 13 (Climate Action), and SDG 17 (Partnerships for the Goals).

The main research and innovation lines within TS1 can be summarised as follows:

(i) Development of eco-efficient, high-performance, and durable cementitious materials and products for new construction and rehabilitation, including sustainable and circular-economy solutions;
(ii) Development and application of advanced composite materials and innovative products for structural strengthening, rehabilitation, and improved civil engineering performance;
(iii) Development of components, devices, and software solutions to improve the seismic performance, resilience, and safety of civil infrastructure;
(iv) Sensors, intelligent systems, and knowledge-based infrastructure management tools to improve safety, maintenance, monitoring, and operational efficiency;
(v) Improvement of product and project efficiency through life-cycle analysis, conflict management, negotiation processes, and the use of digital platforms such as e-business and e-procurement;
(vi) Development of integrated management models for sustainable tourism destinations, including the LiderA Destinations framework, to enhance sustainability and performance;
(vii) Improvement of natural treatment systems through pilot-scale experimental facilities to optimise operational procedures, address seasonal interruptions, and determine maximum load capacities.

TS2 – Risk and Safety in Built and Natural Environments

Within this framework, the R&D activities developed under TS2 address cross-cutting risk and safety challenges in built and natural environments, directly contributing to major societal challenges and the SDGs, particularly SDG 11 (Sustainable Cities and Communities) and SDG 13 (Climate Action).

The main research and innovation lines within TS2 can be summarised as follows:

(i) Risk assessment of natural and man-made hazards, including earthquakes, floods, droughts, landslides, fires, pollution, and infrastructure failures, to support decision-making and the prioritisation of resources for safety improvement measures;
(ii) Development of engineering solutions and technical expertise to improve the safety, robustness, resilience, and sustainability of infrastructure, including structural protection, strengthening, rehabilitation, and innovative safety-enhancing systems;
(iii) Development of prevention, preparedness, and risk management strategies considering natural hazards and climate change scenarios, including non-structural measures, risk prevention plans, emergency preparedness, operational procedures, and management frameworks.

TS3 – Rehabilitation of Built and Natural Environments

Within this framework, the R&D activities developed under TS3 address the major challenges of rehabilitating built and natural environments, directly contributing to several SDGs, particularly SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), SDG 9 (Industry, Innovation and

Infrastructure), SDG 11 (Sustainable Cities and Communities), SDG 13 (Climate Action), and SDG 15 (Life on Land).

The main research and innovation lines within TS3 can be summarised as follows:

(i) Enhancement of the spatial functionality, energy efficiency, and structural performance of civil infrastructures, including the improvement of seismic and fire resistance, thermal retrofitting, and sustainability-oriented rehabilitation solutions;
(ii) Study of deterioration mechanisms and development of advanced inspection, diagnosis, and monitoring techniques aimed at increasing the durability, safety, and service life of civil infrastructures and heritage assets;
(iii) Development of urban management models and decision-support systems to improve financing mechanisms for urban rehabilitation and public investment, as well as to enhance the flexibility, efficiency, and resilience of transport infrastructures and their management;
(iv) Rehabilitation and restoration of natural and transformed water bodies, including rivers, lakes, reservoirs, and aquifers, together with the improvement of the flexibility, efficiency, and sustainability of existing water infrastructures and management systems, particularly in water supply and wastewater services.

TS4 – Response to Natural and Societal Changes

Within this framework, the R&D activities developed under TS4 address the challenges arising from natural and societal changes, contributing directly to several SDGs, particularly SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), SDG 9 (Industry, Innovation and Infrastructure), SDG 11 (Sustainable Cities and Communities), SDG 13 (Climate Action), and SDG 15 (Life on Land).

The main research and innovation lines within TS4 can be summarised as follows:

(i) Understanding the complexity of natural and societal changes, focusing on adaptation and resilience processes, mitigation strategies, path dependence, emergence, self-organisation, and metabolic mechanisms shaping built and natural environments;
(ii) Improving governance through better integration of policies and the development of flexible planning and management tools, promoting efficiency, economic viability, and equity in the use of energy, resources, and construction materials;
(iii) Enhancing adaptive response tools through the integration of information and communication technologies, computational methods, and network systems, enabling the design of more intelligent, interconnected, and resilient buildings, infrastructures, and services.

The principal areas of activity within each Thematic Strand reflect the contribution of the different Research Groups to both core and complementary research topics, as summarised in Table 8. This distribution highlights the multidisciplinary nature of CERIS and the strong interconnection between research domains across the unit.

The information presented in Table 8 is further complemented in the following section by an overview of the existing and planned forms of cooperation at the Research Group level, providing a clearer picture of the collaborative dynamics that support CERIS research activities.

Table 8 | Groups participating in Thematic Strands

Thematic strand	RG1	RG2	RG3	RG4	RG5	RG6
TS1 - Product Development in Civil Engineering Industries	✓		✓	✓	✓	✓
TS2 - Risk and Safety in Built and Natural Environments	✓	✓	✓	✓		✓
TS3 - Rehabilitation of Built and Natural Environments	✓	✓	✓	✓	✓	✓
TS4 - Response to Natural and Societal Changes	✓	✓	✓	✓		

2.5 Activity of Research Groups

The following sections present the principal research areas and related topics addressed by each Research Group (RG) in 2025, as defined by their respective coordinators. This overview provides a structured perspective on the scientific focus and scope of each group within the overall CERIS research framework.

The main achievements and key outputs of each Research Group are detailed in Annex C.

RG1 | Hydraulics

13 PhD members | 6 PhD collaborators | 23 non-PhD collaborators

The activity of RG1 was organised into the following major topics:

a) Pressurised water systems. Numerical and experimental analysis of hydraulic transients in pressurized pipes (RS); Condition assessment of water and wastewater assets (RS); Water mixing and renewal processes in water storage tanks (RS); Water-use and energy efficiency in urban water systems (RS); Energy recovery in water services and the use of pumps as turbines (PD). Digital twin in water distribution networks. New tools, technologies, and algorithms using the Internet of Things, artificial intelligence, and machine learning for the digital transition in the water sector.

b) Hydropower solutions based on new energy converter devices, hybrid energy schemes, and pumped-storage hydropower for the energy transition, allowing the integration of other renewable sources (i.e., wind and solar PV).

c) Fluvial hydraulic structures. Development of mitigation strategies and pre-cast shelters for fish downstream of powerhouses with the hydropeaking operation (RS); Numerical and experimental modeling of different flood release and related hydraulic structures (RS; RNBE); Study of the hydraulics of PKW weirs combined with spillways (RS, RNBE); Study of the pressure field and

slab stability in a plunge pool lined with concrete slabs (RS). Sluice gate hydraulic performance improvements, Pumped storage hydropower, Investigation of hydraulic properties of vertical drop

d) River restoration and management. Monitoring tools, based on physically based computational models, for water and sediment quality in rivers and estuaries (RNBE); Risk management in the valleys downstream of dams (RS; RNSC); Environmental flows determination procedures and hydropower station operation rules to reduce ecological risk downstream of dams (RS, RNBE); River restoration and development of fish passes for low height river obstacles to improve ecological connection along regulated rivers (PD; RNBE; RNSC).

e) Environmental fluid mechanics. Laboratory investigation of rough-wall open-channel turbulence (RNBE); CFD simulation of solid-fluid interactions in turbulent flows (RNBE); Laboratory investigation and mathematical simulation of transport of dissolved substances (RS, RNBE); Heat and mass transport in wetlands (RNBE).

f) Sediment transport and river morphodynamics: Hydrodynamics of river diversions in equilibrium (RS; RNBE). Desilting efficiency of vane fields in channel bifurcations. Local scour at transversally inclined sand bed channels. Application to long-term channel morphology evolution, dam-breaching, dam-break flows, and overland tsunami propagation (RS); Mathematical simulation (Eulerian and Lagrangian) of transport processes (RS). Application to long-term channel morphology evolution, dam-breaching, dam-break flows, and overland tsunami propagation (RS); Application of machine learning in stage-discharge prediction.

g) Coastal morphodynamics and coastal and port structures. Assessment of the vulnerability to flooding of the built environments on low-lying areas of estuaries due to extreme ocean storm surge events and climate action (RNBE; RNSC); Modular port facilities in rivers for bulk cargo; (RNBE); Morphological modeling of beach morphology in the presence of coastal structures. (RS); Tidal energy in estuaries; (RNBE).

RG2 | Environment and Water Resources

17 PhD members | 2 PhD collaborators | 33 non-PhD collaborators

The E&WR group (RG2) develops research in the following areas: 1 - Water resources modelling and integrated water resources management and planning; 2 - Water and wastewater/stormwater systems and services; 3 - Groundwater and environment; and 4 - Sustainability assessment and management.

RG2 is involved in the four thematic strands of CERIS and has the following main objectives:

- To promote effective water resources management through policy formulation and governance;
- To promote integrated water resources management, including the development of advanced knowledge of hydrological processes and groundwater assessment tools and modelling;
- To promote the application of new technologies (AI) to water resources modelling;

- To promote the circular economy and resilience of urban water services, including the valorisation of by-products and the promotion of nature-based solutions;
- To promote sustainable water supply and dry sanitation approaches and solutions for the urban poor in developing countries;
- To develop an environmentally sustainable assessment of the built environment (LiderA system) and new approaches to sustainable management;
- To develop methodologies for the identification of groundwater-dependent ecosystems and effective methods for risk-based environmental decision-making;
- To develop advanced potentialities in hydrogeology and groundwater research;
- To develop a digital twin framework to support the monitoring, simulation, and optimisation of groundwater systems, thereby improving resilience to environmental and anthropogenic stressors.

RG3 | Systems and Management

8 PhD members | 3 PhD collaborators | 24 non-PhD collaborators

RG3 develops research in the following general domains:

1. Decision support systems, operations and project management;
2. Information modelling and digital technologies;
3. Asset management and digital representation of the built environment.

RG3 is primarily involved in these three thematic strands and has the following main objectives:

- To develop and apply methods for simulation, optimisation, and assessment to improve process efficiency and the effectiveness of decision support systems;
- To investigate the causes of inefficiencies in project management and support the development of delay-mitigation strategies informed by professional feedback;
- To study strategic challenges in construction operations, including modular construction, lean approaches, reverse logistics, and procurement planning;
- To advance the use of information modelling in the built environment, including the development of digital workflows and the integration of real-time data to support asset management and emergency planning;
- To explore and apply GIS-based analysis for spatial planning, environmental monitoring, and risk assessment, incorporating long-term sustainability indicators and future climate scenarios;
- To promote the digital transformation of the construction sector by contributing to the development of tools, methodologies, and standards that foster interoperability and support circular and sustainable practices;

- To support the integration of digital representations of physical assets and infrastructure, enabling lifecycle-based management supported by data-driven insights and real-time monitoring.

The S&M group has a long tradition of engagement in applied research and in providing innovative services to private and public organisations, and we intend to reinforce these industrial links. It is also our objective to consolidate our reputation as one of the leading groups in Operational Research and in Engineering Systems and Information within the Civil Engineering field in Portugal and abroad, particularly in specific areas, with a view to strengthening our international collaborative ties and recognition. Contributing to the literature and increasing the number of published papers in leading international journals, alongside active participation in international forums and projects, is also a means to promote international visibility and recognition.

The research development strategy is built on three fundamental pillars:

- Existing skills and capacity to capture the essence of each problem and to devise appropriate frameworks that fit the decision context;
- Societal and industrial relevance of the issues to be addressed and the capability to attract and engage partners who provide case studies and funding;
- Internationalisation and networking of their members, the ability to attract young researchers, and involvement in international project teams.

RG4 | Transportation Systems

12 PhD members | 2 PhD collaborators | 29 non-PhD collaborators

The group has five main objectives for the next four to five years:

To use the best framework to support sustainable policies (regulatory, pricing, and evaluation) for transport systems

To integrate public and private transport modes and services, using improved demand characterisation and considering new types of business models

To enhance innovation and technology in infrastructure planning, design, and maintenance, guaranteeing accessibility and support for mobility

To improve infrastructure systems development and management under new challenges, such as automated mobility for cargo and passengers.

To develop and sustain participation in international professional and academic networks, thereby increasing formal support for I&D and research, and to enhance the international PhD programmes (in association with UC and UP) and their recognition on a broad international level.

This is happening in close coordination with the general orientations of the CERIS thematic strands. This group has connections and will include contributions and achievements that may be closely linked to the

objectives of all the thematic strands, but mainly to “Response to natural and societal changes” and “Rehabilitation of natural and built environments”.

Under the thematic strand “Response to natural and societal changes,” certain developments are underway, such as “New types of integration of public and private transportation modes and services (within each type and across types), including the modelling and testing of demand-responsive transport, multimodal systems, bike-sharing, and freight services supported by new types of business models and by the development of appropriate ITS tools.”

Under the thematic strand “Rehabilitation of natural and built environments,” the following aspects are addressed: “Methodologies and models to predict degradation and improve maintenance, renewal and investment decisions within the different transport infrastructure systems and across them (integrated asset management)” and “Retrofitting transport systems: changing and adapting “old to like-new” transport systems to meet new performance standards while extending the existing ones.”

Nevertheless, many other subjects are ongoing or are predicted to be developed soon, which could be included in other thematic strands or even in the two main thematic strands, where the group feels more able to establish its work base. These subjects are “the application of nanotechnology and development of low energy asphalt concrete incorporating industrial by-products, having the same structural efficiency as traditional ones”, “new concepts for railway infrastructure design to enhance reliability, availability, maintainability and resilience to natural events”, “tools and indicators to infrastructure planning and design and technology development to foster sustainable modes in urban environments (for vulnerable users like pedestrians and cyclists)”, “adaptable networks through dynamic regulatory schemes managed by advanced ICT technologies and implemented by ITS innovative solutions for infrastructure”, “microscopic and other type of simulation modelling for the estimate of network safety performance for vehicles, freight and vulnerable users”, “new life cycle assessment for transportation infrastructures in a low life cycle cost perspective, incorporating material, risk and flexibility and environmental concerns through the use of innovative techniques to survey the necessary indicators and to establish decisions”, “to redesign global logistics processes, including the last mile component of the logistics chain, towards enhanced efficiency, reduction of CO2 emissions and enhancement of accessibility”, “optimization and simulation of public transport operations under a huge uncertainty for demand and risk analysis to support decision-making in transport system investments”.

RG5 | Studies on Construction

58 PhD members | 9 PhD collaborators | 112 non-PhD collaborators

The research activities focus on the development of projects within the following domains:

- **Construction Materials, Technology, and Management Innovation**: advanced materials (e.g., GFRP, CFRP); waterproofing systems; concrete and mortar technology; quality, safety, environmental, and health management in construction; and virtual reality applications in construction;

- **Sustainable Construction**: sustainability and deconstruction strategies; sustainable traditional materials; demolition and recycling; recycled aggregates; building physics and passive design; building acclimatization and mechanical systems;
- **Monitoring, Rehabilitation, and Conservation of the Built Heritage**: inspection, diagnosis, maintenance, and rehabilitation systems; maintenance of buildings envelope; conservation of historical building heritage; sensors, technological innovation, and structural assessment;
- **Fire Design**: fire resistance and risk assessment of cultural heritage.

Other objectives include:

1. To participate in national and international technical and scientific committees;
2. To participate/organize national and international conferences;
3. To teach in Graduation and Post-Graduation courses in the field of construction and participate in academic events;
4. To provide consultancy services to support research funding and promote the practical applications of research outcomes.

RG6 | Structures and Geotechnics

42 PhD members | 12 PhD collaborators | 112 non-PhD collaborators

The research activities of RG6 are organised around six major research areas:

1. Mechanics, Modelling, and Analysis of Structures;
2. Earthquake Engineering and Seismology;
3. Structural Concrete;
4. Steel and Composite Structures;
5. Bridge Design;
6. Geotechnics.

Across these areas, the group pursues a set of transversal objectives, namely:

- Develop new products with enhanced performance, durability, and eco-efficiency;
- Reduce risk and improve infrastructure safety, particularly through seismic hazard characterisation and seismic vulnerability assessment;
- Increase the efficiency of structural systems and the use of innovative materials and devices;
- Develop more powerful and user-friendly models for structural and geotechnical analysis, directly linked to design codes and standards;
- Develop alternative solutions for the rehabilitation of existing structures, particularly historical buildings;

- Address broader societal challenges by applying the above research outcomes.

Within the research area of Mechanics, Modelling, and Analysis of Structures, the group's activity has focused on the analysis of nonlinear and coupled structural problems using conventional and hybrid finite element formulations. The main topics addressed include:

1. Dynamic instabilities and algorithms for the numerical analysis of the mechanical behaviour of non-smooth structures with frictional or elastoplastic components;
2. Modelling of moving loads on beams on nonlinear foundations;
3. Numerical simulation of wildfire effects in dwellings in forest areas using computational fluid dynamics to solve the Navier-Stokes equations for low-speed, thermally driven flows, including smoke and heat transport from fires;
4. Development of hybrid-Trefftz stress plate elements for Reissner-Mindlin plates with an exact Kirchhoff limit;
5. Development and application of finite element formulations for limit analysis;
6. Numerical modelling of old stone masonry walls using particle-based models;
7. Feasibility study of automatic generation of structural meshes and the effects of explosions.

Within the research area of Earthquake Engineering and Seismology, the group's work has remained focused on the following topics:

1. History of construction, structural behaviour, and construction techniques of traditional masonry tile vaults;
2. Assessment of existing structures (e.g., dynamic characterisation, seismic vulnerability, and seismic risk assessment);
3. Update and improve a model for the rapid evaluation of the potential seismic performance of masonry and reinforced concrete buildings, based on its application to existing buildings;
4. Structural rehabilitation (e.g., seismic strengthening techniques, and passive protection systems);
5. Development of tools to improve preparedness and community resilience, aiming to reduce seismic risk through non-structural elements;
6. Seismic design of new masonry constructions.

Within the research area of Structural Concrete, the group's activity aimed to consolidate and further develop the work carried out in previous years, focusing on the following topics:

1. Advanced cementitious materials;
2. High-performance ordinary and prestressed reinforcement;
3. Enhanced durability of concrete structures;

4. Sustainable and eco-efficient solutions;
5. Modelling and design models (e.g., stress-field models, FEM-based software with strongly embedded discontinuities, and fibre-reinforced concrete systems);
6. Assessment of existing structures (e.g., reliability, structural robustness, monitoring, and seismic vulnerability);
7. Structural rehabilitation (e.g., repairing and strengthening techniques, seismic strengthening, passive protection);
8. Study on the use of recycled aggregate concrete in slab-column connections subjected to centred vertical loads;
9. Study of anchorage zones for prestressing cables;
10. Prefabrication and innovation.

Within the research area of Steel and Composite Structures, the group's activity has been directed towards developing in-house expertise in the following topics:

1. GBT formulations to perform buckling, post-buckling, and vibration analyses of isolated members and structural systems (e.g., continuous beams or simple frames) prone to local, distortional, and global deformations;
2. In-depth investigations into the non-linear behaviour, ultimate strength, and design of cold-formed steel open-section and tubular members experiencing coupling phenomena involving local and/or distortional buckling;
3. Novel rational approaches for the design of cold-formed and hot-rolled steel angle columns;
4. Development and implementation of (a) a displacement-based finite element for the linear analysis of curved members (circular axis), (b) a finite element formulation for the bifurcation analysis of composite steel-concrete beams;
5. In-depth investigations on steel sub-assemblages with bolted and welded dissipative fuses;
6. Proposal of design rules for composite structural members and parts;
7. Applications to steel and composite bridges;
8. Development of formulations of the Generalised Beam Theory for polygonal tubes of variable cross-section;
9. Study of the resistance to lateral buckling of steel profiles subjected to deviated bending.

In the field of Bridge Design, the activity was planned to deepen the work developed in previous years, focusing mainly on the following:

1. Buckling resistance of steel-plated girders considering M-V interaction with high compression forces (application to cable-stayed bridges);

2. Curved steel plates on bridge deck beams: post-buckling behaviour and ultimate strength;
3. The use of high-strength steels in bridge decks;
4. Fatigue assessment of composite steel-concrete cable-stayed bridge decks;
5. Higher order beam theory (developments and applications to steel structures and bridges analysis);
6. Analysis of the distortion effect on the dynamic behaviour of high-speed railway bridges;
7. Analysis of offshore wind turbines substructures.

In the field of Geotechnics, the group focused mainly on the following topics:

1. Dynamic characterisation of soils from small to large strains, including liquefaction;
2. Studies of elastic response measured in resonant columns and using bender elements;
3. Characterisation of the chemo-hydro-mechanical behaviour of clayey and treated soils, considering their structure and degree of saturation;
4. Characterisation of soils treated with lime, cement, and bacteria;
5. Numerical analysis of geotechnical structures involving strong soil structure interaction (e.g., tunnels, retaining structures, piles, and thermoactivated structures);
6. Studies on soil decontamination techniques (e.g., electro-osmosis);
7. Study and development of failure criteria for rock materials;
8. Reliability analysis of geotechnical structures under undrained conditions - development of techniques for determining collapse loads with the introduction of spatial variability of soils;
9. Numerical simulation of gas migration, temperature and solute transport in soils.

3. MAIN ACHIEVEMENTS

3.1 Doctoral programmes

In addition to its involvement in four Master's programmes promoted by Instituto Superior Técnico (IST), two by NOVA School of Science and Technology (NOVA-FCT), three by the Faculty of Sciences and Technology of the University of Coimbra (FCTUC), and two by the University of Aveiro (UA), CERIS researchers are currently engaged in PhD education, leading to four doctoral degrees at IST, one at NOVA-FCT, two at FCTUC, and one at UA.

Doctoral candidates and their supervisors may choose between structured thematic PhD programmes or tailor an individual pathway by combining doctoral-level courses from IST, other schools of the University of Lisbon (ULisboa), or partner universities under formal cooperation agreements. The doctoral degrees and structured PhD programmes in which CERIS is actively involved are presented in Table 9, along with their respective coordinators. Among these, one programme is developed under international cooperation protocols, another is jointly organised across IST departments, and a third is promoted collaboratively by several ULisboa schools.

The range of programmes reflects CERIS strong commitment to advanced training in civil engineering, environmental sustainability, transport systems, territorial planning, and fire safety, and reinforces its interdisciplinary and interinstitutional research capacity.

Table 9 | Participation in doctoral programmes

Doctoral Degree	Observations
Civil Engineering (Jorge de Brito) (1) - IST	
Civil Engineering (Rodrigo Gonçalves) (1) - NOVA-FCT	
Civil Engineering (Paulo Coelho) - FCTUC	
Environmental Engineering (Maria do Rosário Partidário)	
Climate Change and Sustainable Development Policies (Rodrigo Proença de Oliveira) (1)	Consortium of 3 universities (involving seven schools)
River Restoration and Management (António Pinheiro) (1)	Involves 4 UL schools
Transportation Systems (Luís Picado Santos) (1)	Consortium of 3 universities (involving three schools)
Territorial Engineering (Maria do Rosário Macário)	
Sustainability Science (Amélia Branco)	Consortium of 17 faculties and institutes UL
Fire Safety Engineering (João Paulo Rodrigues) (1) - FCTUC	

Civil Engineering (Paulo Vila Real) [1] - UA	
Energy Systems and Climate Change (Margarita Robaina) - UA	

[1] Coordinated by CERIS members.

3.2 Evolution in the Number of Researchers

The evolution in the number of Members and PhD researchers is presented in Figure 2. Between 2013 and 2015, the number of Members increased gradually, while the number of collaborators remained relatively stable. A marked increase occurred in 2016 and 2017, reflecting the integration of the academic staff of NOVA-FCT and the internal reclassification of PhD members and collaborators. In 2017, the rise in the internal numerical criterion for selecting Members led to a redistribution, reducing the number of Members and increasing the number of collaborators. In 2018, both categories fell sharply, largely because Architecture and Urban Planning researchers left to establish a new research centre. After a relatively stable period between 2019 and 2021, the total number of PhD researchers peaked in 2022 (228), with 164 Members and 64 collaborators. A substantial reduction followed in 2023, particularly among collaborators, and this trend continued in 2024. In 2025, the number of Members recovered slightly to 153, while collaborators remained at 37. Preliminary figures for 2026 indicate stabilisation, with 150 Members and 35 collaborators.

The evolution of the total number of researchers, combining Members, PhD collaborators, and non-PhD researchers (i.e. PhD students and scholars) is presented in Figure 3. The overall numbers show two distinct phases. Between 2013 and 2015, the total number of researchers remained relatively stable, ranging from 369 to 387. A strong increase occurred between 2016 and 2018, reaching a peak of 552 in 2017, driven by three main factors: (i) the fulfilment of the final calls of several FCT-funded doctoral programmes, many coordinated by CERIS; (ii) an increase in international PhD students, particularly from Brazil; and (iii) improved data collection on PhD supervision by CERIS researchers, including external students. After this peak, the total number fell sharply to 375 in 2019 and 360 in 2020, largely reflecting the departure of researchers from Architecture and Urban Planning and a reduction in non-PhD collaborators. From 2021 onwards, the numbers recovered and stabilised, rising from 370 in 2022 to 440 in 2025. The preliminary value for 2026 (435) suggests that this level of activity and human resource capacity is being maintained.

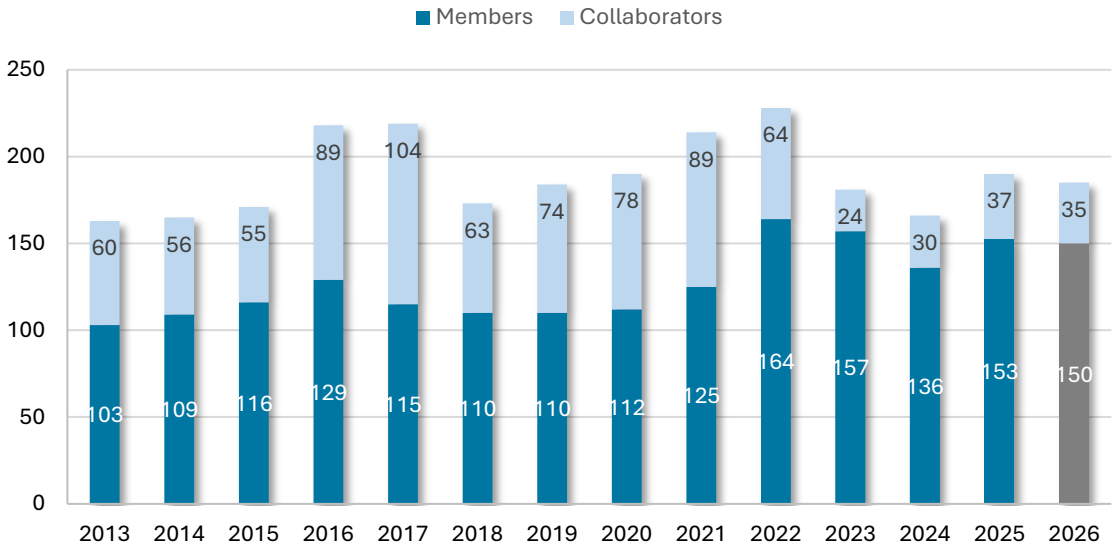


Figure 2 | Evolution of Members and PhD Collaborators

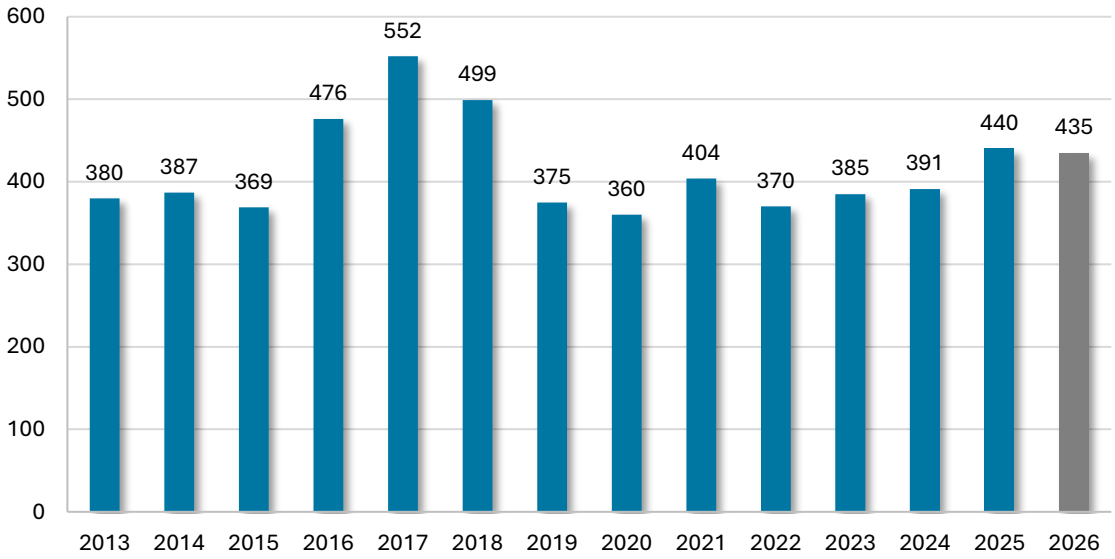


Figure 3 | Evolution of the Researchers

3.3 Activity indicators

The main scientific outputs of CERIS in 2025 are summarised in Table 10. They include:

(i) 40 concluded PhD theses and 187 ongoing PhD theses expected to be completed after 2025;

(ii) 107 concluded MSc dissertations;

(iii) 4 authored books, 9 edited books, and 46 book chapters;

(iv) 439 papers published in international peer-reviewed journals indexed in WoS and Scopus, plus 39 papers published in other peer-reviewed journals (18 in non-WoS or non-Scopus journals and 21 in journals indexed in neither WoS nor Scopus);
(v) 281 papers published in international conference proceedings;
(vi) 64 papers published in national conference proceedings;
(vii) 31 scientific reports and 39 consultancy or technical reports.

The list of PhD theses published in 2025 is provided in Annexe A. The list of papers published in 2025 is provided in Annexe B.

Table 10 | 2025 activity indicators: theses and publications

ACTIVITIES			RG1	RG2	RG3	RG4	RG5	RG6	CERIS
MSc Dissertations concluded in 2025			10	10	6	12	47	35	**120**
PhD Theses		Concluded in 2025	3	3	3	3	21	12	**40**
		Ongoing (to be concluded after 2025)	23	33	24	29	110	80	**269**
Publications	Papers in peer-reviewed journals	International peer-reviewed journals (WoS AND Scopus)	99	31	28	36	168	146	**439**
		Peer-reviewed journals (non-WOS OR non-Scopus)	2	0	0	5	8	3	**18**
		Peer-reviewed journals (non-WOS AND non-Scopus)	0	5	1	0	11	7	**21**
	Papers in proceedings	International	12	19	13	11	91	61	**275**
		National	10	4	1	12	5	18	**63**
	Books	Entire	2	0	0	0	1	2	**4**
		Chapters	11	2	3	7	17	19	**46**
		As editor	3	0	1	0	2	3	**9**
Reports		Scientific	0	0	0	2	31	4	**36**
		Consultancy/others	0	4	1	6	19	9	**39**

The indicators frequently used to assess national and international visibility are summarized in Table 11, namely:

(i) 19 Associate Editor positions in WoS or Scopus-indexed journals;
(ii) 141 memberships in editorial boards of WoS or Scopus-indexed journals, including Guest Editors and Issue Editors;
(iii) 57 memberships in international scientific committees;
(iv) 69 contributions to the drafting of international codes and recommendations, and 63 contributions at the national level;
(v) 26 participations in the organisation of international scientific events.

Other indicators reflecting the visibility, recognition, and scientific leadership of CERIS members include:

(i) 2 keynote lectures at international conferences;

(ii) 40 international awards and 12 national awards;

(iii) 1 Editor-in-Chief position in non-indexed journals;

(iv) 21 editorial roles in journals outside WoS/Scopus (Associate Editor, editorial boards, or guest editor roles).

Table 11 | 2025 activity indicators: visibility and recognition of the research

ACTIVITIES			RG1	RG2	RG3	RG4	RG5	RG6	TOTAL
Collective guidance in scientific work	Editor-in-Chief	WoS/Scopus-indexed Journals	0	0	0	0	0	0	**0**
		Other journals	0	0	1	0	0	0	**1**
	Associate Editor	WoS/Scopus-indexed Journals	4	0	0	0	6	12	**22**
		Other journals	0	0	0	0	0	0	**0**
	Issue Editor/Guest editor/Membership in Editorial Boards	WoS/Scopus-indexed Journals	10	13	4	11	61	47	**146**
		Other journals	0	0	0	0	1	1	**2**
	Membership in Scientific Committees	International	0	1	0	0	34	35	**70**
		National	1	0	0	0	1	3	**5**
	Drafting of codes, Recommendations	International	0	5	1	2	24	50	**82**
		National	1	0	4	13	24	32	**74**
Organization of scientific events		International	0	0	0	0	17	9	**26**
		National	0	0	0	0	0	0	**0**
Awards		International	7	1	0	1	14	17	**40**
		National	2	2	0	0	3	5	**12**
Refereeing for funding agencies		International	0	0	0	0	0	0	**0**
		National	0	0	0	0	0	0	**0**
Invited lectures		Keynote lectures at international conferences	1	0	0	1	2	2	**6**
		Other	0	0	0	0	0	0	**0**

While these numbers confirm that CERIS maintains a strong international projection and a significant level of scientific leadership, some indicators remain below the unit's full potential. Notably, no Editor-in-Chief positions were held in WoS- or Scopus-indexed journals in 2025, and the number of Associate Editor roles in indexed journals (19) remains relatively modest, given the size and scientific output of the research unit. Additionally, no refereeing activity for funding agencies was reported during the year. These aspects highlight areas where CERIS can further strengthen its international scientific influence and institutional recognition.

Table 12 summarises the 2025 initiatives to secure funding through competitive research and consultancy activities. In total, CERIS started 14 international and 42 national research projects in 2025, while maintaining 60 active international and 84 active national research projects throughout the year. Additionally, 10 new competitive individual research grants were awarded in 2025, and 69 individual grants remained active, confirming the strong capacity of CERIS researchers to attract competitive funding at both collective and individual levels. Consultancy activity also remained significant, with 58 consultancy

projects finalised in 2025, demonstrating the unit's strong connection to professional practice and knowledge transfer.

Concerning the indicators presented in Table 13 (Other Initiatives), no models, software applications, pilot plants, or prototypes were developed in 2025. However, CERIS registered three patents, including two international patents and one national patent, reflecting some innovation and valorisation activity.

The number of outreach and dissemination initiatives addressed to a broad audience is summarised in Table 14, with 20 actions reported in 2025, including scientific dissemination activities and communication through social media and other public engagement formats.

The databases in Tables 10-14 will be embedded on the CERIS website.

Table 12 | 2025 activity indicators: research and consultancy contracts

ACTIVITIES			RG1	RG2	RG3	RG4	RG5	RG6	TOTAL
Competitive research projects	International research grants	Started in 2025	2	6	1	3	4	1	**14**
		Active in 2025	5	7	6	14	26	18	**60**
	National research grants	Started in 2025	6	6	2	5	25	7	**42**
		Active in 2025	6	11	5	11	46	25	**84**
Competitive individual research grants (PhD, Post-doc, sabbatical, etc.)		Started in 2025	1	2	0	3	1	2	**9**
		Active in 2025	3	4	8	9	23	25	**72**
Consultancy projects finalised in 2025			6	4	0	8	24	26	**68**

Table 13 | 2025 activity indicators: other initiatives

ACTIVITIES		RG1	RG2	RG3	RG4	RG5	RG6	TOTAL
Models		0	0	0	0	1	0	**1**
Software applications		0	0	0	0	0	1	**1**
Pilot plants		0	0	0	0	0	0	**0**
Prototypes		0	0	0	0	0	0	**0**
Patents	International	1	0	0	0	1	0	**2**
	National	1	0	0	0	0	0	**1**

Table 14 | 2025 Dissemination to a broad audience and Outreach

ACTIVITIES	RG1	RG2	RG3	RG4	RG5	RG6	TOTAL
Other actions (e.g., scientific dissemination to a broad audience, social media)	4	5	0	4	13	1	**27**

3.3.1 Evolution of the main activity indicators

The number (120) of MSc dissertations concluded in 2025 is lower than the number (121) reached in 2024. This may represent a slight recovery in the number of students in Civil Engineering. The number of completed PhD theses in 2025 rose to 40, up from 31 in 2024 and 33 in 2023, reaching one of the highest levels in the last decade, as shown in Figure 4. This confirms a slight recovery in doctoral completions

after the lower figures recorded in 2023 and 2024. Among these theses, 24 were concluded within IST-UL doctoral programmes, 2 in NOVA-FCT, 3 at the University of Coimbra, and 3 at the University of Aveiro. The number of supervised doctoral students whose theses are expected to be concluded after 2025 is 185, including 121 registered at IST-UL, 12 at NOVA-FCT, and 12 at the University of Coimbra. The distribution of PhD students remains heterogeneous across scientific areas and supervisors, reflecting the diversity and breadth of CERIS research activity.

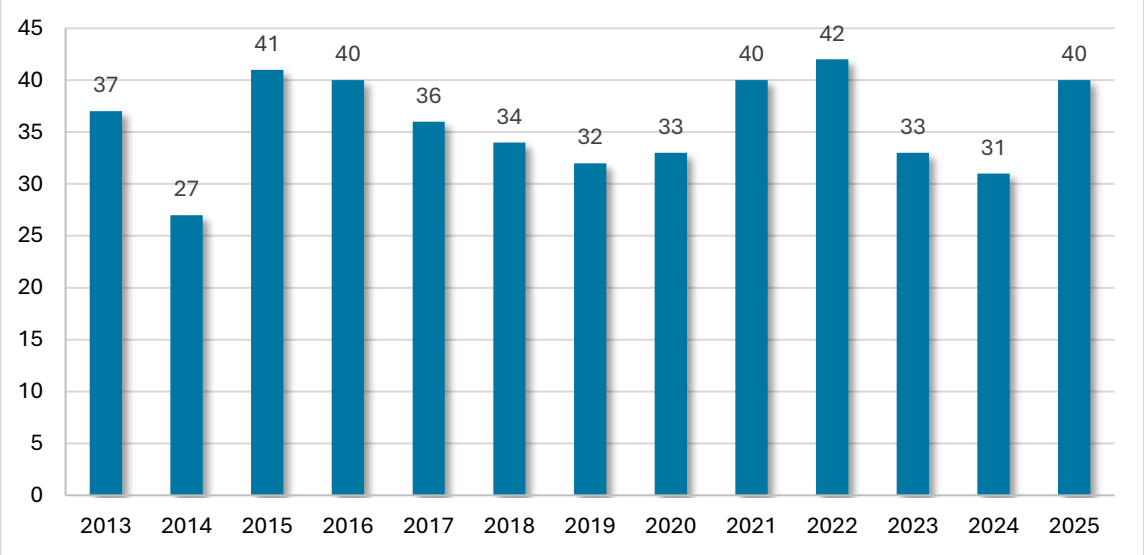


Figure 4 | Concluded PhD theses

The ratio of PhD theses concluded per PhD researcher also increased significantly in 2025, reaching 0.21, compared with 0.19 in 2024, 0.18 in 2023, and 0.18 in 2022, as shown in Figure 5. And the ratio of ongoing doctoral theses has decreased (from 1.51 in 2024 to 0.98 in 2025, considering supervised or co-supervised active doctoral theses).

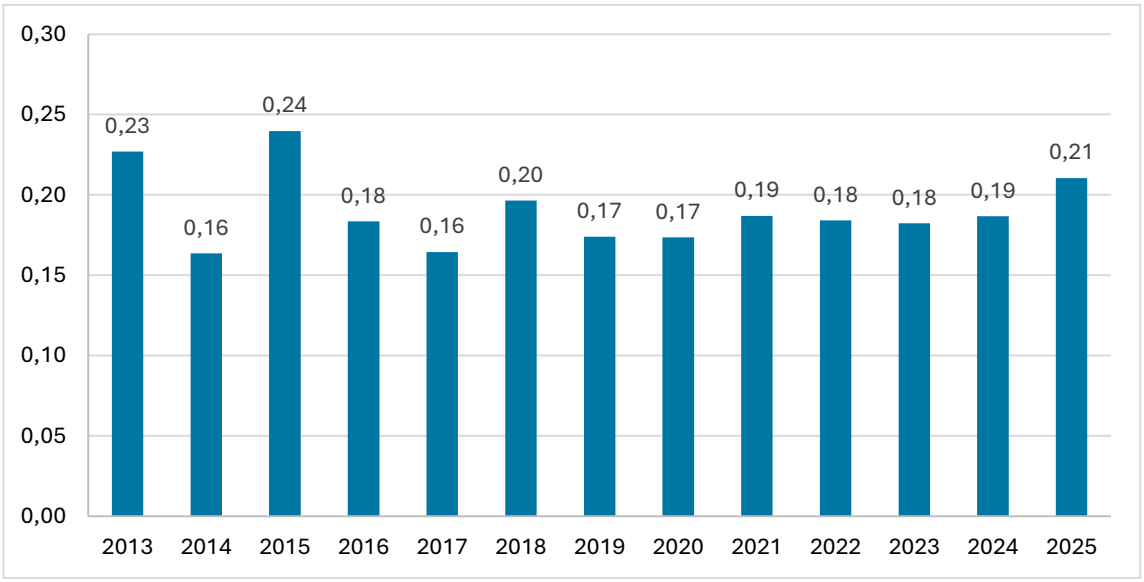


Figure 5 | Concluded PhD theses per PhD researcher

Overall, these indicators reinforce the relevance and attractiveness of the PhD programmes coordinated by CERIS researchers. The fluctuations observed over the years continue to reflect the competitiveness of PhD scholarship calls and labour market dynamics in the Architecture, Engineering and Construction sector, where demand for Civil Engineers remains high. In addition, the reduced availability of FCT-funded PhD programme calls after 2021 has also influenced the variability observed in doctoral enrolments and completions.

In 2025, the number of papers published in international conference proceedings fell to 281, down from 355 in 2024. Although this value is below the peak of 366 papers reached in 2021, it confirms that international conference dissemination remains consistently high, stabilising above pre-pandemic levels. In 2025, the number of international conference papers per researcher with a PhD was 1.48 (lower than in 2024).

The number of papers published in international WoS- or Scopus-indexed journals increased from 421 in 2024 to 457 in 2025 (see Figure 6). This confirms a strong recovery in scientific publication after the slight fluctuations observed between 2022 and 2024.

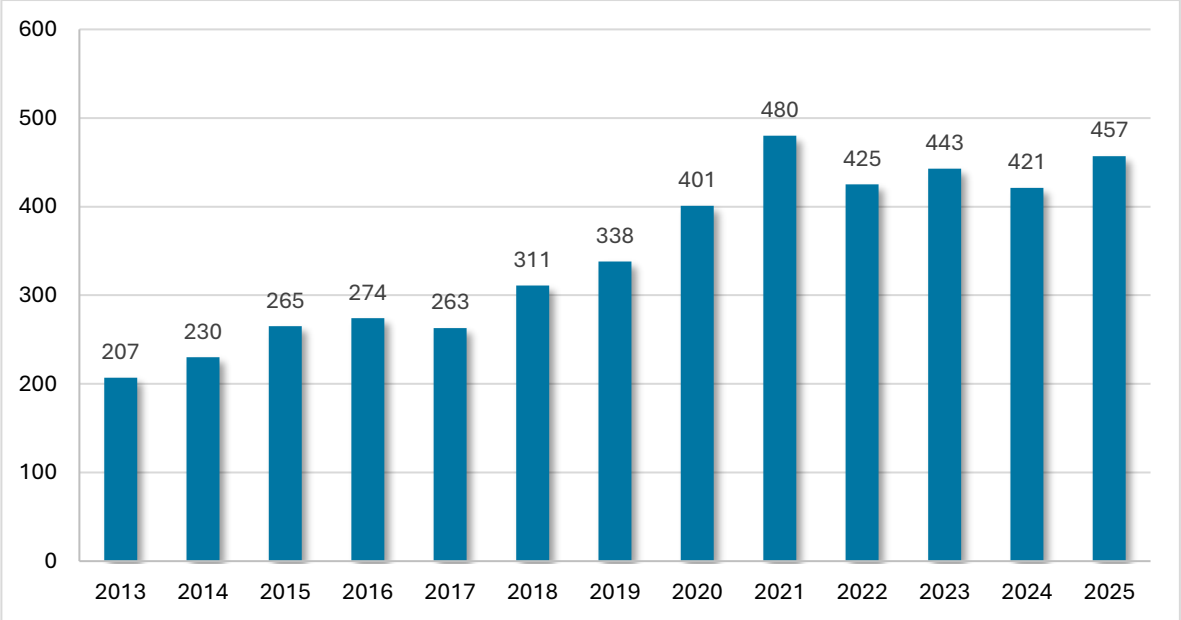


Figure 6 | Papers published in international journals (WoS and/or Scopus)

As in previous years, the number of papers published in WoS- or Scopus-indexed journals remained considerably higher than those published in international conference proceedings, reinforcing the publication strategy focused on high-impact scientific journals. The evolution of journal publications from 2013 to 2025 shows a sustained upward trend, with an initial stabilisation period between 2015 and 2017, followed by marked growth from 2018 onwards. This growth became particularly evident between 2020 and 2021, when the number of indexed papers increased sharply.

After a decline in 2022 and fluctuations in 2023 and 2024, the increase in 2025 suggests a renewed consolidation of scientific productivity, reflecting both the maturation of ongoing research projects and the

contributions of doctoral and post-doctoral researchers to CERIS's publication output. However, the number of papers in Q1 and Q2 WoS journals fell from 2024 to 2025.

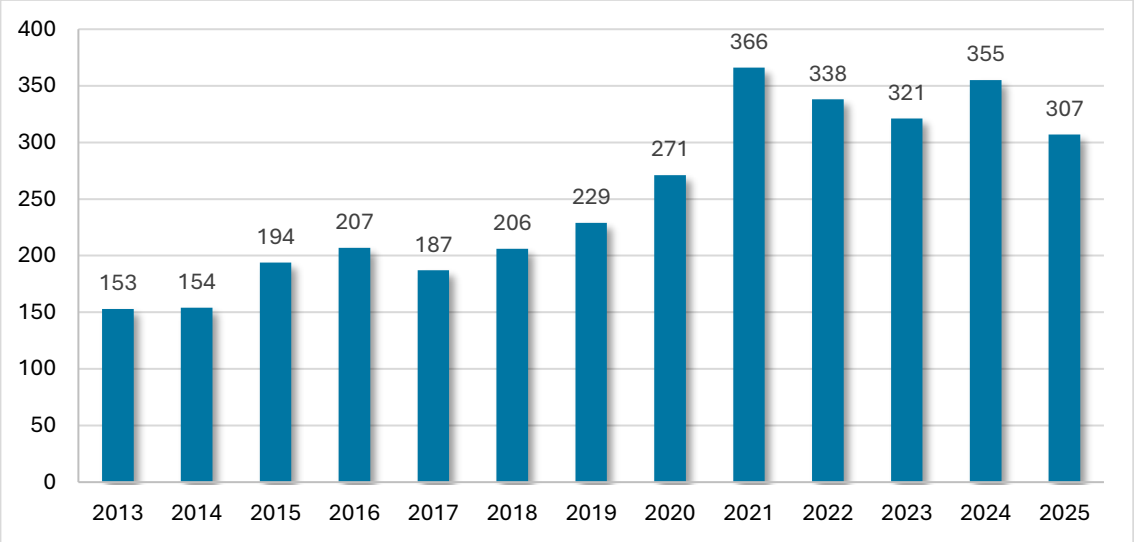


Figure 7 | Papers published in international Q1 or Q2 WoS journals

The publication ratios per member and per PhD researcher are shown in Figures 8 and 9, respectively. In 2025, the average number of WoS/Scopus-indexed papers published per CERIS member reached 3.1, remaining at the same level as in 2024 and confirming the recovery observed after the 2022 decline. This value is still below the historical peak of 3.8 in 2021, but is clearly above the levels recorded before 2018.

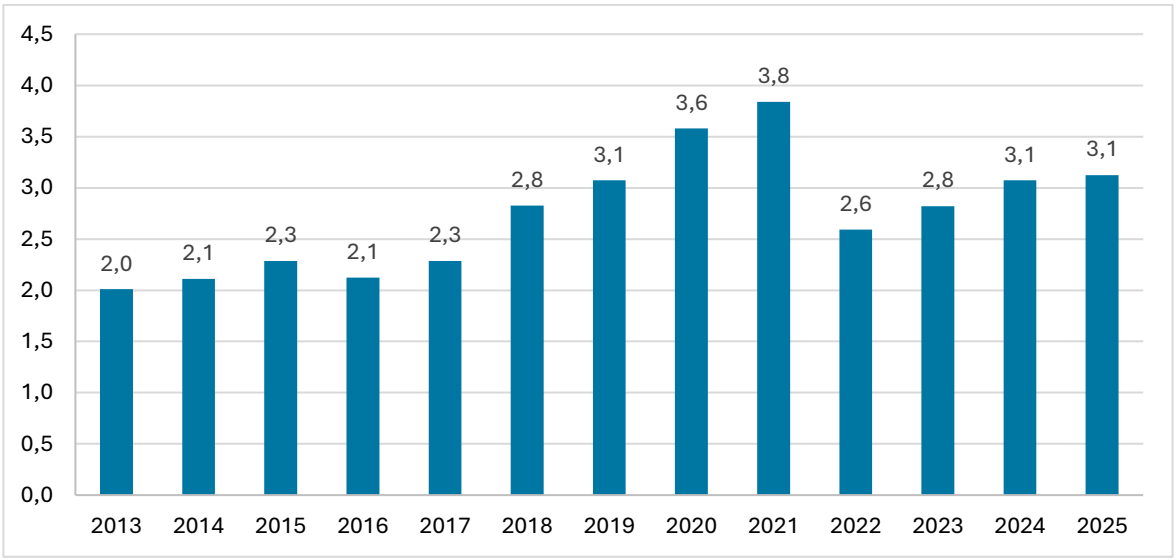


Figure 8 | Publication in WoS/Scopus journals per member

Regarding the ratio per PhD researcher, the number reached 2.5 in 2025, maintaining the highest level recorded since 2013, equal to that of 2024. After the decrease observed in 2022 (1.9), the indicator recovered strongly in 2023 and continued to improve in 2024, stabilising in 2025.

Overall, the evolution of both indicators shows a clear structural improvement when comparing the 2013–2017 period with the 2018–2025 period. While the earlier years were characterised by lower, more stable

publication ratios, the period after 2018 shows a significant increase in scientific productivity, particularly in indexed journal publications, confirming the consolidation of CERIS's research capacity and international scientific visibility.

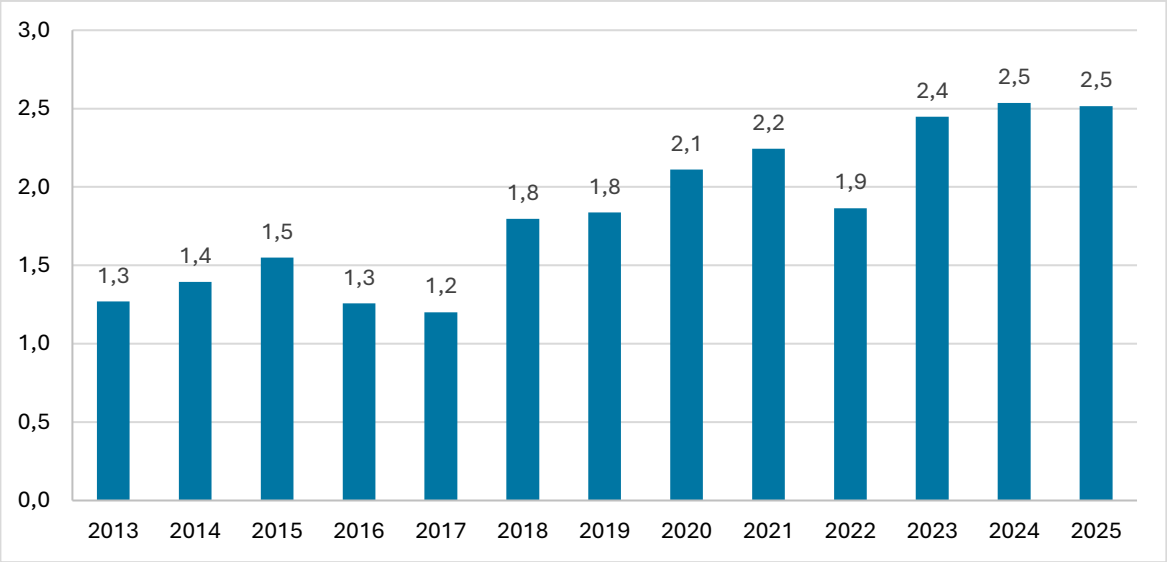


Figure 9 | Publication in WoS/Scopus journals per PhD researcher

The number of Q1 and Q2 WoS-indexed papers per researcher with a PhD decreased slightly from 1.77 in 2023 to 1.62 in 2025 (Figure 10), after reaching its highest value of 2.14 in 2024. Despite this reduction, the 2025 ratio remains significantly above the levels observed before 2020, confirming the sustained emphasis on publication in higher-impact journals.

When considering the per-member ratio, the number of Q1 and Q2 WoS-indexed papers also decreased from 2.04 in 2023 to 2.01 in 2025, after peaking at 2.59 in 2024. This suggests a slight adjustment in output while maintaining a strong level of high-impact scientific production.

On the other hand, the ratio of papers published in lower-impact WoS/Scopus-indexed journals (Q3, Q4 and Scopus-only journals) per researcher with a PhD decreased from 0.67 in 2023 to 0.63 in 2025 (Figure 11), despite a temporary reduction to 0.40 in 2024. Although the 2025 value is above the minimum recorded in 2024, it remains below the levels observed in 2018 and 2019, reinforcing the trend towards concentration in higher-impact journals.

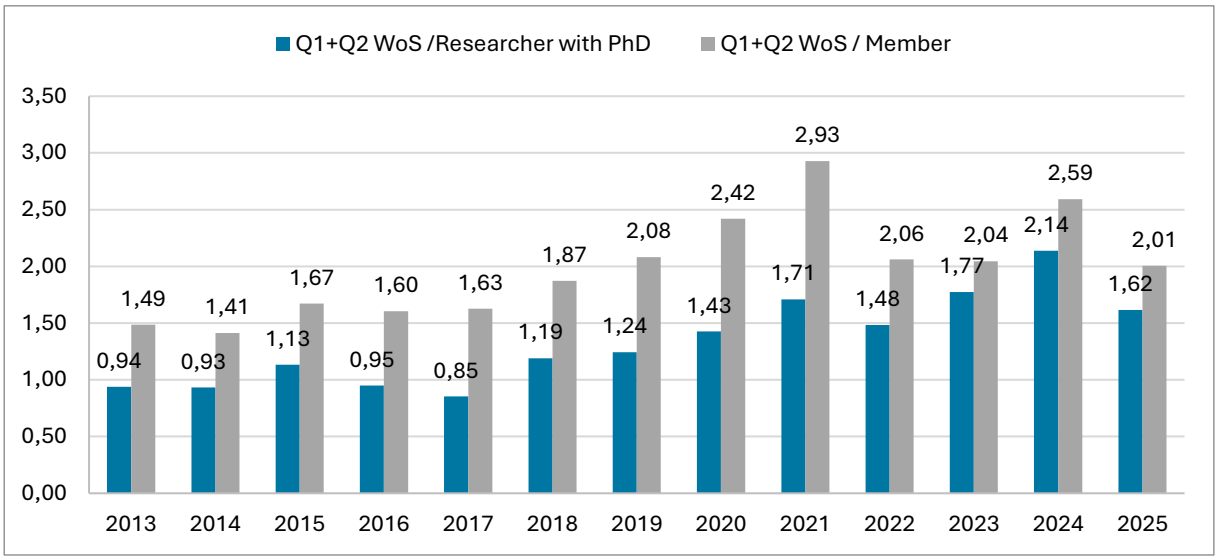


Figure 10 | Publication in Q1 or Q2 WOS journals per PhD researcher and per member

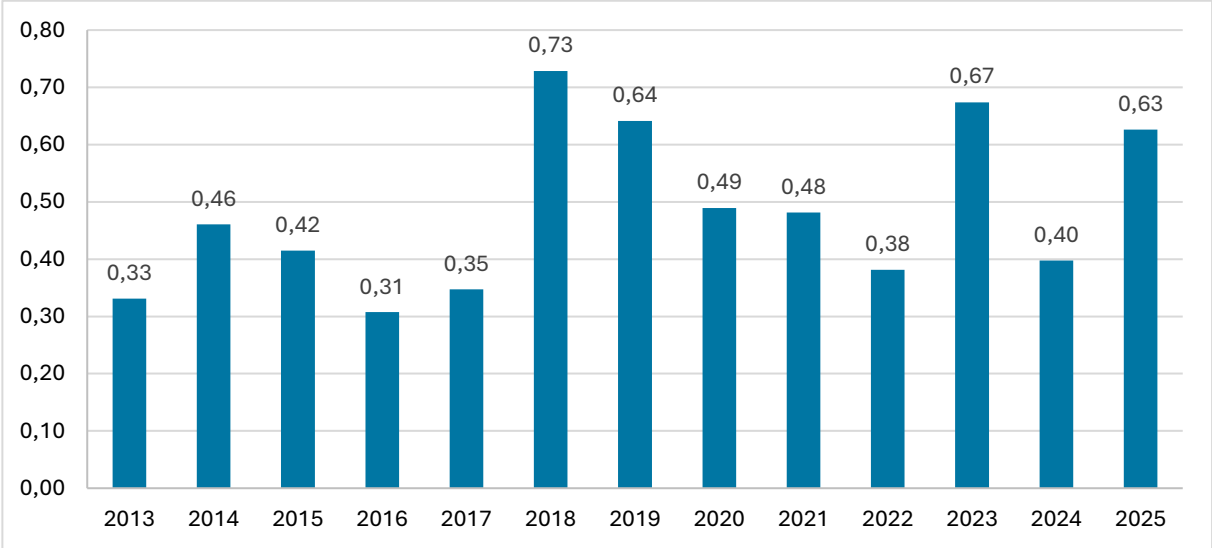


Figure 11 | Publication in other (non-Q1 and non-Q2) WoS or Scopus journals per PhD researcher

The distribution of papers published in WoS journals per impact factor quartiles is shown in Figure 12. Between 2013 and 2017, the proportion of papers published in Q1 journals remained relatively stable, ranging from 49% to 55%, confirming a consistent focus on higher-impact scientific outlets during that period.

From 2018 onwards, although the absolute number of publications increased significantly, the share of Q1 papers fluctuated. In 2019, Q1 papers represented about 48% of the total, fell slightly to 40% in 2020, and then rose to a peak of 42% in 2021, the year with the highest overall scientific production.

A decline was observed in 2022 (35%) and 2023 (28%), reflecting a temporary diversification of publication outlets. However, this trend reversed in 2024, when the proportion of Q1 papers rose sharply to 50%, and remained strong in 2025, with 164 Q1 papers, representing approximately 39% of the total WoS/Scopus-indexed publications.

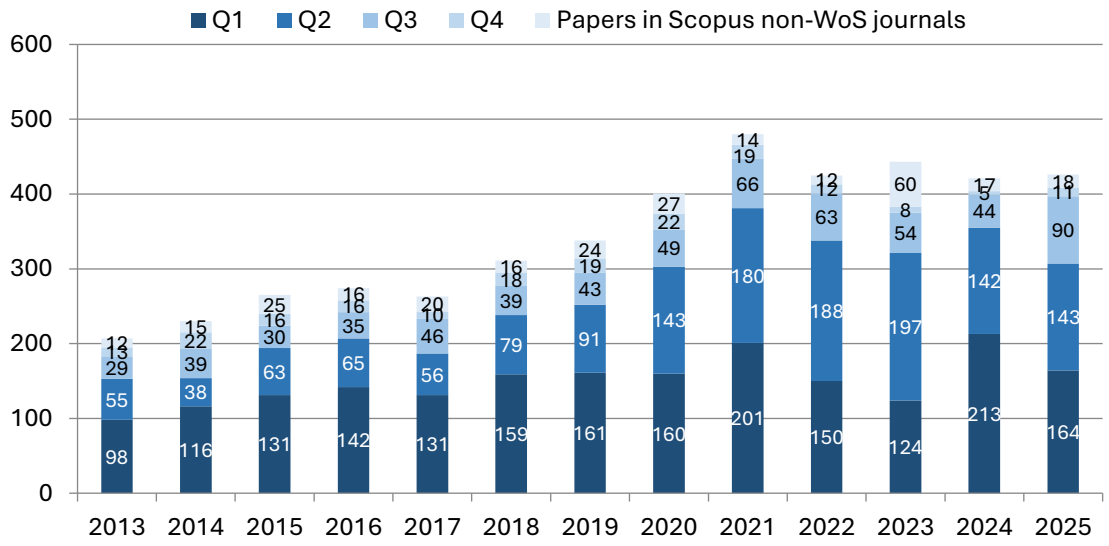


Figure 12 | Distribution of papers published in WOS journals per quartile (Q1 to Q4) of impact factor

When Q1 and Q2 journals are considered together, they represented around 73% of the total in 2025 (164 + 143 papers), confirming that the majority of CERIS scientific output remains concentrated in higher-impact journals. At the same time, the increase in Q3 papers (90) in 2025 indicates a broader distribution across indexed journals compared with the previous year.

Figure 13 shows the number of papers published in WoS/Scopus-indexed journals per CERIS member, grouped by impact factor (Q1 and Q2 versus other quartiles). In 2025, each CERIS member published, on average, 2.01 papers in Q1 or Q2 journals, a slight decrease compared to 2.59 in 2024, but still above the values recorded in 2022 and 2023.

When considering publications in other WoS/Scopus journals (Q3, Q4 and Scopus-only journals), the average remained stable at 0.78 papers per member in 2025, matching the 2023 figure and exceeding the 0.48 recorded in 2024.

Overall, the data confirm that the largest share of scientific production per member continues to be concentrated in higher-impact journals (Q1 and Q2), despite some fluctuations over the last three years. The exceptional peak reached in 2021 (2.93 Q1/Q2 papers per member) remains the highest value of the series, while the 2025 results indicate a return to a more balanced distribution across impact quartiles.

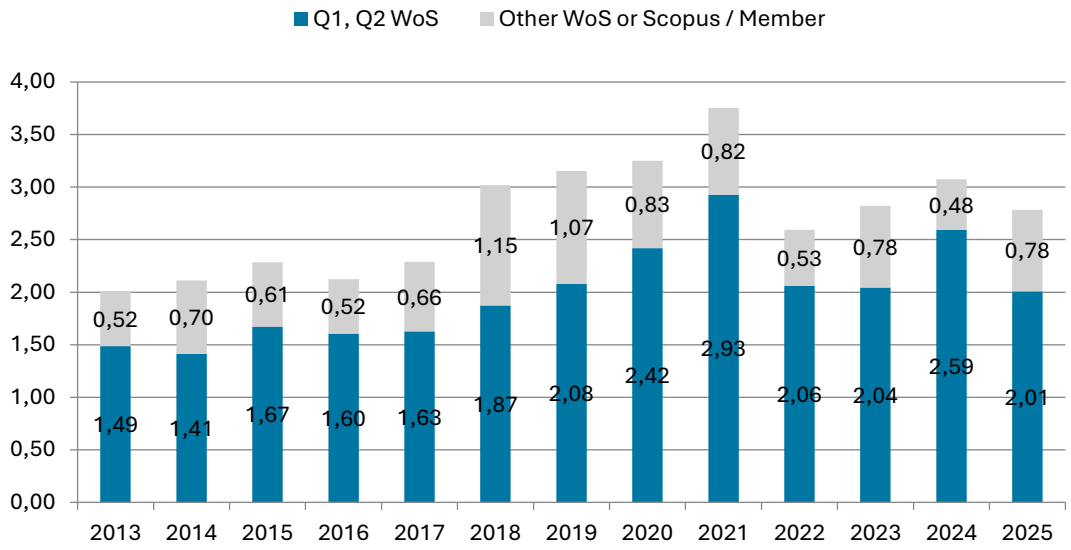


Figure 13 | Distribution of papers per member published in WoS or Scopus journals, considering WoS quartiles Q1 and Q2 and other journals indexed in Scopus or WoS.

The analysis of these data suggests the following comments:

(i) In 2025, the number of papers published in international conference proceedings (281) decreased compared to 2024 (355), but remained above the levels recorded before the pandemic, confirming that international conference dissemination continues to play an important role in CERIS's scientific activity.

(ii) At the same time, the number of publications in higher-impact WoS-indexed journals (Q1 and Q2) remained dominant, accounting for around 73% of the total indexed output. The number of Q1 publications decreased, from 213 in 2024 to 164 in 2025. In contrast, the number of Q2 publications decreased, from 197 in 2023 to 143 in 2025, while Q3 publications increased substantially, from 54 in 2023 to 90 in 2025, reflecting a broader distribution across indexed outlets.

The number of completed PhD theses increased significantly in 2025, reaching 40, the highest figure since 2021. The ratio of concluded theses per PhD researcher also rose to 0.21, reinforcing CERIS's capacity for advanced research training and knowledge generation.

The publication indicators per member and per PhD researcher remained at historically high levels, confirming the consolidation of scientific productivity. In particular, the average number of WoS/Scopus-indexed papers per member remained stable at 3.1, while the ratio per PhD researcher remained at 2.5, the highest level in the series.

Outreach and dissemination activities for broader audiences remained highly relevant in 2025, continuing the strong growth observed in recent years. These activities are increasingly important for strengthening CERIS visibility, enhancing societal impact, expanding collaboration opportunities, and attracting high-quality doctoral candidates.

However, the number of Editors-in-Chief and Associate Editors in high-impact journals (Q1 and Q2 WoS-

indexed journals), as well as the number of keynote lectures in international conferences, still appears below CERIS's scientific potential and international standing.

Finally, regarding the indicators classified as other initiatives, in 2025:

(i) models are typically laboratory test-rigs, and no new models were developed, as in previous years;
(ii) the software applications listed are limited to those made publicly available online, and no new public software applications were released in 2025;
(iii) researchers generally prioritise national patent registration before international submission, and in 2025,1 national and 2 international patents were registered.

3.3.2 Evolution of research and consultancy funding

Figure 14 shows the evolution of total CERIS funding between 2013 and 2025, combining R&D and consultancy activities. Between 2013 and 2018, total funding remained relatively stable, fluctuating between 2.5 M€ and 3.1 M€, despite year-to-year variations. In 2019, total funding fell sharply to 1.7 M€, reflecting simultaneous decreases in both R&D and consultancy funding (Figures 15 and 16).

From 2020 onwards, a gradual recovery took place. Total funding increased moderately in 2020 and 2021, followed by stronger growth in 2022. A major turning point occurred in 2023, when total funding reached 8.5 M€, the highest level in the period under analysis. This exceptional result was driven mainly by a sharp rise in R&D funding, which reached 7.5 M€, reflecting the success of CERIS researchers in securing large national and international competitive projects. Although both total and R&D funding decreased in 2024 and 2025, they remained at historically high levels compared with the pre-2023 period.

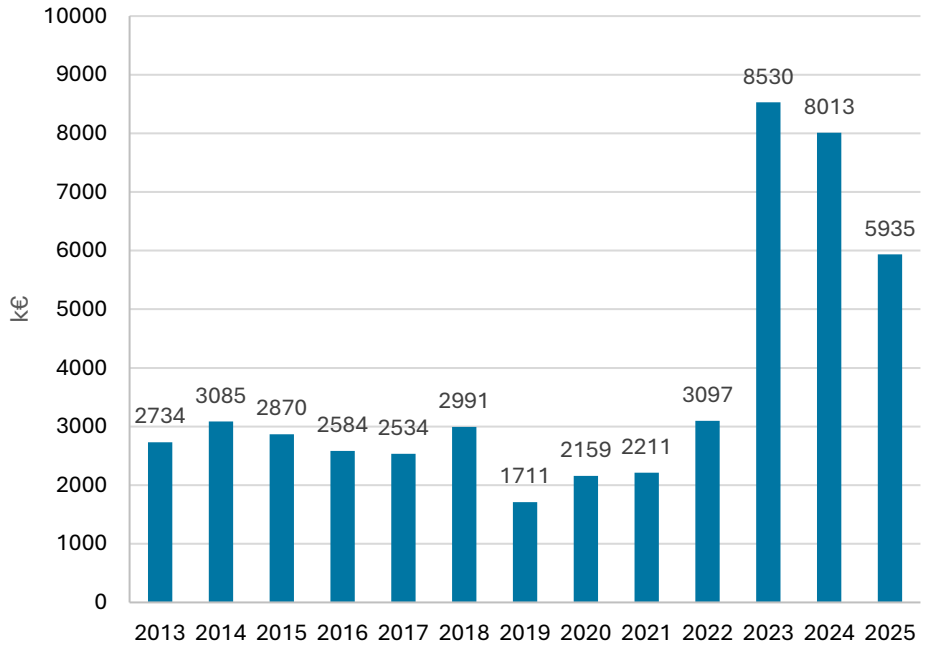


Figure 14 | Total annual CERIS funding (research and consultancy).

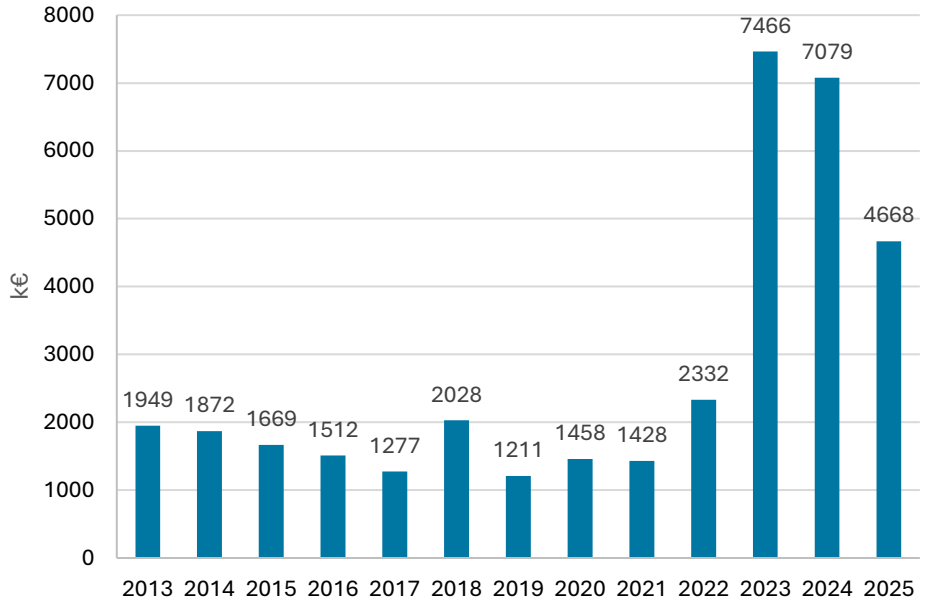


Figure 15 | R&D annual CERIS funding.

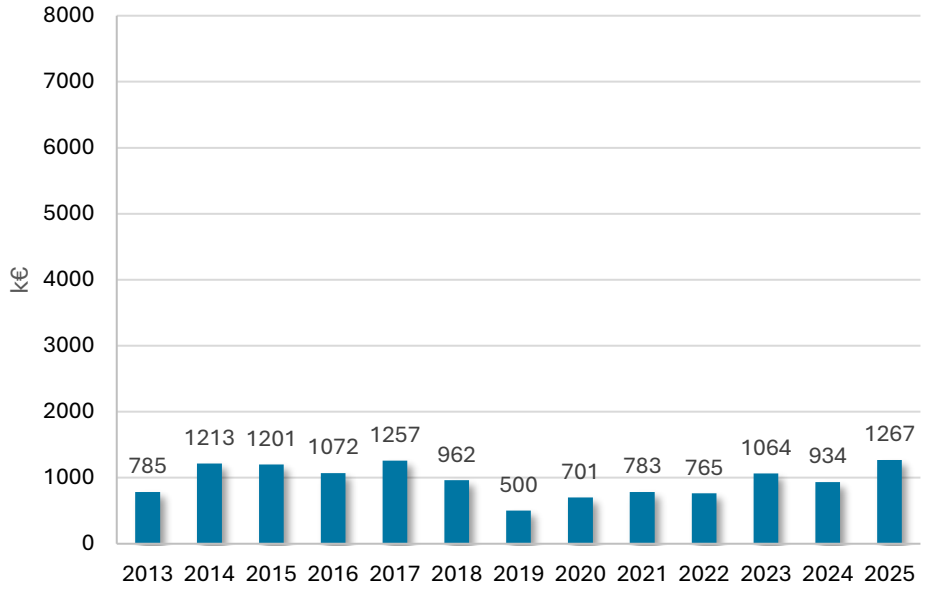


Figure 16 | Consultancy annual CERIS funding.

The marked increase in R&D funding from 2023 onwards reflects not only an improved capacity to secure competitive research funding, particularly from European programmes, but also the broader institutional coverage of CERIS. From 2023 onwards, the funding data started to include the CERIS hubs established in 2022, namely CERIS NOVA and CERIS Coimbra, which had not been considered in previous reports. This institutional expansion was further reinforced in 2025 with the creation of the CERIS Aveiro hub, whose funding is also included in the 2025 values. After reaching a low point of 1.2 M€ in 2019, R&D funding recovered progressively to 2.3 M€ in 2022, followed by an exceptional rise in 2023. Although it

decreased to 7.1 M€ in 2024 and 4.7 M€ in 2025, the levels remain historically high and demonstrate the growing relevance of competitive R&D funding in CERIS's financial structure.

Consultancy funding followed a different pattern. After a low of 500 k€ in 2019, it recovered steadily, reaching 1.3 M€ in 2025, the highest level since 2017. This suggests a clear revival of consultancy activity and stronger engagement with industry and external stakeholders, complementing the growth in competitive R&D funding. Overall, the data reveal a significant strengthening of CERIS's funding capacity in recent years, supported by both scientific competitiveness and market-based consultancy activity.

Consultancy funding recovered steadily after the significant 2019 drop, which marked the period's lowest level (500 k€). Since then, a gradual upward trend has been observed, rising from 701 k€ in 2020 to 783 k€ in 2021 and 765 k€ in 2022, followed by a stronger recovery in 2023 (1064 k€). Although there was a slight decrease in 2024 (934 k€), consultancy funding reached 1265 k€ in 2025, the highest value recorded since 2017 (Figures 14 and 16). This evolution suggests a clear recovery in consultancy activity and a renewed capacity to attract industry contracts, indicating that the previous contraction may have been driven more by temporary market conditions than by a structural decline in demand.

The balance between R&D and consultancy funding has remained markedly uneven over the period analysed, with pronounced fluctuations. Between 2013 and 2017, the gap narrowed as consultancy funding rose and R&D funding decreased, reaching near parity in 2017, when R&D represented 51% of the total budget and consultancy 49% (Figures 17 and 18). This trend reversed in 2018, when R&D funding rose to 2.03 M€ (68% of the total), while consultancy dropped to 0.95 M€, restoring a ratio of approximately 2:1.

In 2019, the total budget fell sharply to 1.67 M€, and the imbalance deepened, with R&D funding (1.18 M€) representing 71% of the total and consultancy (0.49 M€) only 29%, the highest disparity since 2014. In 2020 and 2021, this pattern eased slightly, with R&D accounting for 68% and 65% of the total budget, respectively. In 2022, the disparity increased again, as R&D funding reached 2.31 M€ (75%) against 0.77 M€ from consultancy (25%).

A major structural shift occurred in 2023, when CERIS achieved its highest total funding ever (8.52 M€), driven overwhelmingly by competitive research funding, which reached 7.45 M€ (87%), while consultancy accounted for only 1.06 M€ (13%). This trend was similar in 2024, with a total budget of 8.01 M€, of which 7.08 M€ (88%) came from R&D and 0.93 M€ (12%) from consultancy. In 2025, although total funding decreased to 5.91 M€, consultancy activity showed a clear recovery, rising to 1.27 M€, its highest value since 2017, while R&D funding decreased to 4.64 M€. As a result, consultancy represented 22% of the total budget, reducing the imbalance relative to the previous two years, while R&D still accounted for 78%.

Overall, the data confirm that CERIS has substantially strengthened its capacity to secure competitive R&D funding, particularly since 2023, while consultancy activity, after several years of contraction, has shown signs of renewed growth.

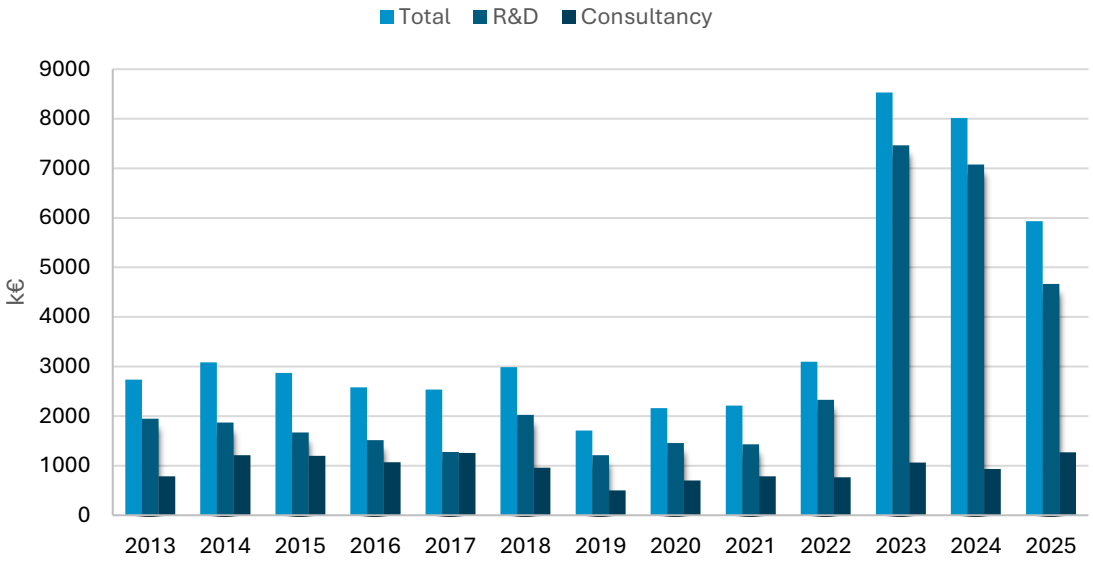


Figure 17 | Annual funding in research and consultancy.

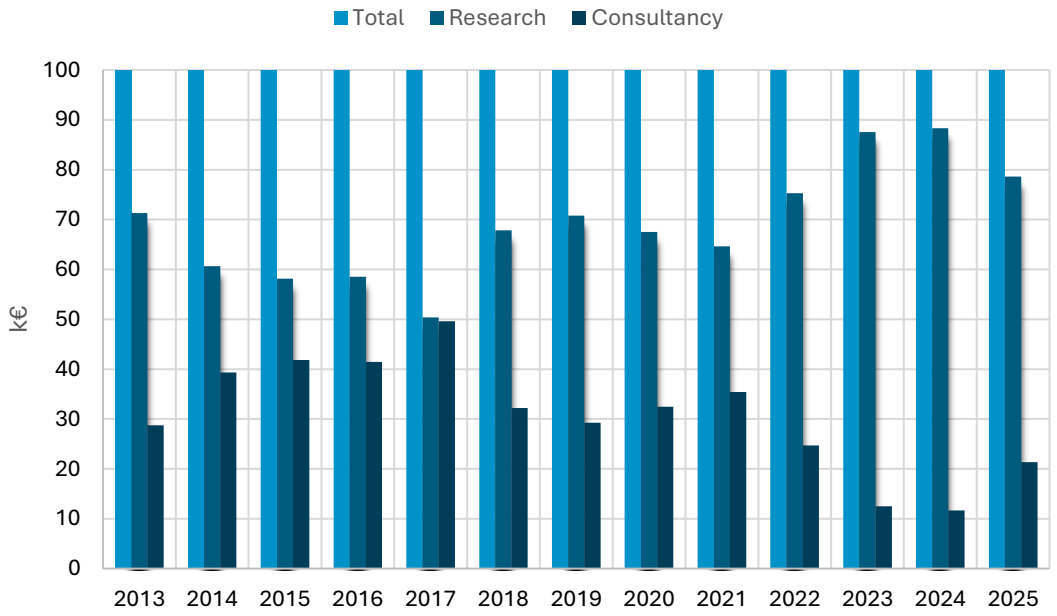


Figure 18 | Percentage of annual funding in research and consultancy.

The evolution of PhD members' capacity to secure funding through R&D and consultancy activities is shown in Figure 19. The lowest value was recorded in 2019, when the average total funding dropped to approximately 15 k€ per CERIS member (9 k€ per PhD researcher). A moderate recovery followed in subsequent years, reaching around 19 k€ per CERIS member in 2020 and 2022. A sharp increase occurred in 2023, when the average total funding rose to 54 k€ per CERIS member (47 k€ per PhD researcher). This upward trend peaked in 2024, with 58 k€ per CERIS member (48 k€ per PhD researcher), the highest values in the series. In 2025, however, there was a decline to 39 k€ per CERIS member (31 k€ per PhD researcher). Despite this decrease, the values remain significantly above those

observed before 2023. This recent evolution is mainly explained by the strong contribution of R&D funding, which reached 30 k€ per CERIS member (24 k€ per PhD researcher) in 2025, while consultancy funding remained comparatively lower, at around 8 k€ per CERIS member (6 k€ per PhD researcher).

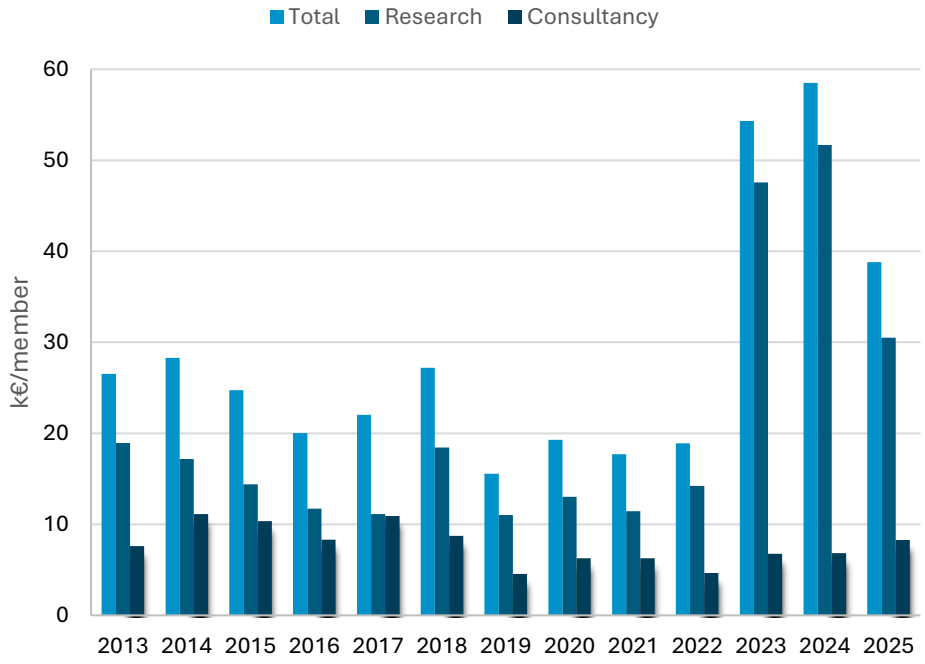


Figure 19 | Total annual funding per member.

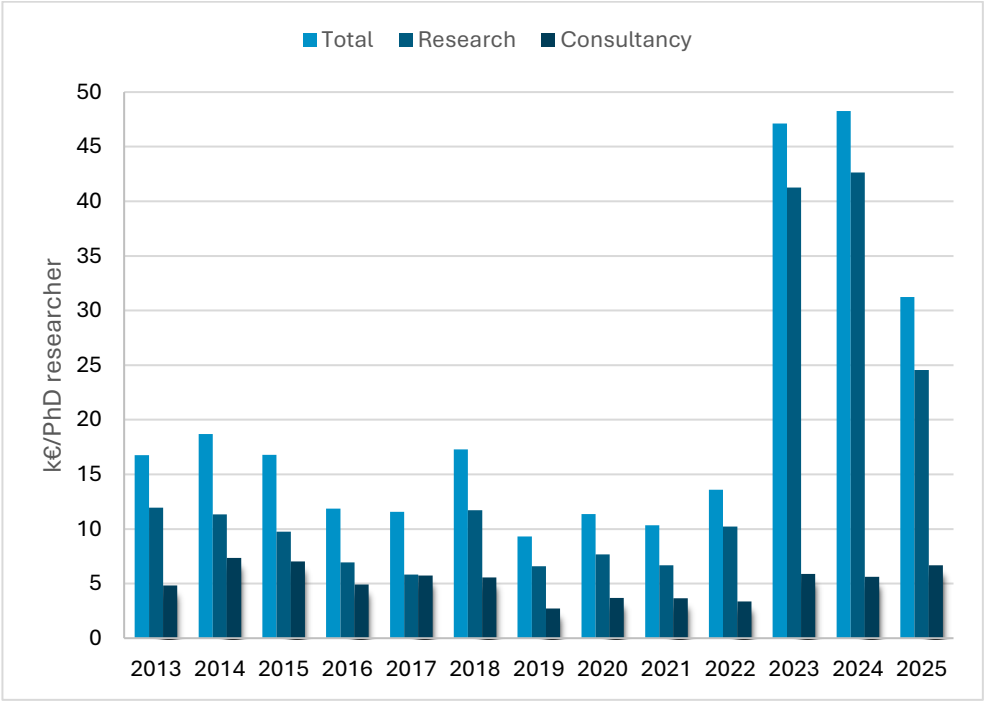


Figure 20 | Total annual funding per PhD researcher.

3.4 Research group results

The contribution of the research groups to the activity indicators above is presented in Annexe C.

4. FUTURE RESEARCH

The CERIS activities planned for 2026 are a natural follow-up of the research carried out in 2025, as summarised in Section 2.4. As submitted by the research group coordinators, the proposed activity will benefit from the internal programme to promote cooperation in research, as framed in the thematic strands and the work areas presented in Sections 2.2 and 2.3.

RG1 | Hydraulics

The RG activities in 2026 will be a natural follow-up of the research carried out in 2025. These activities will cover research objectives that include different cross-cutting issues with branches in the four thematic strands: Product development in Civil Engineering industries (PD); Risk and safety in natural and built environments (RS); Rehabilitation of natural and built environments (RNBE); Response to natural and societal changes (RNSC).

The RG activities for 2026 will be organized according to major research topics as follows:

Pressurized water systems

Numerical and experimental modelling

- Numerical and experimental analysis of hydraulic transients in pressurized pipe systems
- (RS).
- Leaks, blockages and air pocket detection, location, and quantification using hydraulic transients (RS).
- Modelling rapid pipe filling / Emptying events with two-phase flows (PD and RS).
- Modelling and testing hydraulic electromechanical equipment to improve 3D design, manufacturing and performance of hydraulic machines (PD).
- Mathematical modelling to simulate structural and mechanical behaviour, pump and turbine performance, and energy balance (PD, RS and RNSC);

Digital twin driving

- Real time anomalous consumption detection in water distribution systems, detection and analysis of pressure surges using statistical methods and machine learning tools (RS).
- Analysis and improvement of the resilience of drinking water systems for demand increase and pipe failure (RS).
- Multicriteria analysis for scheduling water-energy management and rehabilitation interventions in water distribution networks (RS).
- Digital twin modelling in the context of water networks, hydropower design, and hydraulic transients with real-time, data-driven virtual models that replicate physical systems to improve performance,
- Digital platforms for real-time system monitoring and control, and decision-making such as: Leak detection and predictive maintenance (PD);

- Scenario analysis for operational decisions and emergency responses (RS);
- Optimization of pump, turbines and valves schedules and energy use (RS and RNBE);
- Prediction of transient impacts on pipelines and valves and design and testing of mitigation measures (e.g., surge tanks, air valves) (PD and RS);
- Support design optimization and operational efficiency; Integrate environmental and hydrological data for sustainable hydraulic design (PD, RNBE, RNSC).

Energy management

- New energy converters, hybrid pumped hydropower, and energy storage solutions in renewables integration (PD).
- Energy recovery in water services systems, using pumps as turbines, and developing new low-cost energy-harvesting technologies (e.g., propellers, centrifugal micro-turbine, water wheels) (PD), towards the digital and energy transition in different sectors (PD, RNBE and RNSC).
- Hybrid energy solutions with pumped storage and BESS combine renewable sources (like solar or wind) with pumped hydro systems to store excess energy and stabilize the grid, enhancing reliability, energy shifting, and supports the integration of intermittent renewables (PD, RNBE and RNSC).

Fluvial hydraulic structures

- Development of mitigation strategies and pre-cast shelters for fish downstream of powerhouses with a hydropeaking operation (RS).
- Numerical and experimental modelling of flood releases and related hydraulic structures (RS; RNBE).
- Study the hydraulics of PKW weirs combined with spillways (RS, RNBE).
- Study the pressure field and slab stability in a plunge pool lined with concrete slabs (RS).

River restoration and management

- Risk management in the valleys downstream of dams (RS; RNSC).
- Environmental flow determination procedures and hydropower station operation rules to reduce ecological risk downstream of dams (RS, RNBE).
- River restoration and development of eco-efficient fish pass solutions to improve ecological connectivity in regulated rivers (PD; RNBE; RNSC).
- Assessment and development of selective fish passes to prevent the spread of invasive fish species (RS, RNBE).
- Development of innovative dam removal impact assessment monitoring tools (RS, RNBE).
- River Digital Twins for prediction of hydro-morphological outcomes of river interventions (PD; RNBE; RNSC).

Environmental fluid mechanics

- Laboratory investigation of rough-wall open-channel turbulence (RNBE).
- CFD simulation of solid-fluid interactions in turbulent flows (RNBE).
- Laboratory investigation and mathematical simulation of the transport of dissolved substances (RS, RNBE).
- Heat and mass transport in wetlands (RNBE).

Sediment transport and river morphodynamics

- Hydrodynamics of river diversions in equilibrium (RS; RNBE).
- Mathematical modelling of shallow flows with mobile beds. Application to long-term channel morphology evolution, dam-breaching, dam-break flows, and overland tsunami propagation (RS).
- Development of stabilization techniques for river meanders in equilibrium (RNBE).

Maritime hydraulics, coastal engineering and coastal morphodynamics

- Characterisation of offshore wave climate and storm wave events (RS).
- Analysis of wave-structure interaction (RS).
- Morphodynamic modelling and field observations of beaches and tidal inlets hydro-sedimentary dynamics, including engineering interventions (RS).
- Development of Nature-Based Solutions for Coastal Engineering (RNBE).
- Medium- and long-term shoreline evolution associated with coastal engineering interventions.
- Benefit-cost analysis of coastal engineering interventions for coastal management and planning.

RG2 | Environment and Water Resources

The E&WR will continue to focus on environmental and water resources research activities to develop approaches, methodologies, and tools that cut across these areas, improving knowledge and capabilities to manage natural and built environments sustainably.

The research objectives will cover different cross-cutting issues related to the thematic strands defined for CERIS. The main activities will focus on “Natural and Societal Changes” and “Risk and Safety in Natural and Built Environments," with more limited contributions to the other two thematic strands.

The E&WR will continue concentrating its activities on the following major topics:

- Characterisation and modelling of hydrological processes and variables, including extreme event analysis, multivariate frequency analysis, and joint probability modelling. Particular emphasis will continue to be placed on heatwave research, an area in which the group has established pioneering expertise in Portugal.
- Development of phenomenological approaches for the large-scale characterization of hydrological processes in Portugal, with emphasis on evapotranspiration and runoff.
- Development of advanced monitoring and forecasting systems for water resources, integrating remote sensing, numerical weather prediction, hydrological modelling, nowcasting, and forecasting techniques to improve the monitoring and prediction of hydrological processes.
- Integrated water resources management, including the conjunctive management of surface water and groundwater resources, water allocation and demand management, water quality protection, and the incorporation of environmental flow requirements, with particular expertise in transboundary river basin management.
- Development of digital twins for water resource systems, integrating real-time monitoring, numerical models, forecasting capabilities, and decision-support tools to improve planning, operation, and adaptive management.
- Assessment of climate change impacts on natural and engineered systems, with particular emphasis on water resources, including the development and evaluation of adaptation and mitigation strategies to enhance the resilience of water systems and dependent sectors.
- Research on water policy, governance, and economic regulation, focusing on the design, implementation, and evaluation of policy mixes that combine regulatory (command-and-control) and economic instruments to promote efficient, equitable, and sustainable water resources management.
- Development and set-up of operational probabilistic forecasting in natural streams, both gauged and ungauged, with emphasis on machine learning and hybrid models, including deep-learning and non-parametric ensemble approaches.

- Development of operational decision-support tools for water resources, including contexts of uncertainty, using high-performance computing.
- Non-sewer solutions and faecal sludge management options and techniques for in low-income countries.
- Water asset management, and urban resilience related to urban water/wastewater/stormwater systems.
- Hydraulic and environmental performance of nature-based solutions for climate change mitigation and adaptation, such as constructed wetlands, green roofs and green walls, and detention ponds.
- Coastal urban wastewater systems, including adaptation actions to climate change given sea level rise, rainfall patterns and risks of saline water inflows.
- Microbiological, virological and AMR risks in the One Health research, the dual role of water in the water cycle (both as source of information and infection) and microbial diversity in low-nutrient water systems and the influence in the water cycle.
- Environmentally sustainable assessment (LiderA system) and management of the built environment, namely approaches to the transition to the carbon-neutral, circular economy, climate adaptation, including sustainable buildings, infrastructures, and urban areas with a focus on the life-cycle framework of water, energy, carbon, materials, biodiversity, and resiliency systems.
- Field monitoring, aquifer and geophysical testing, and groundwater quality assessment to identify pollution sources - including saline intrusion, agricultural, industrial, and mining contamination - and to characterise surface–groundwater interactions and groundwater-dependent ecosystems;
- Numerical and stochastic modelling coupled with decision support systems to improve groundwater management practices;
- Nature-based solutions and climate adaptation measures to protect groundwater quality and quantity and to strengthen integrated water management;
- Remote sensing technologies - satellite, radar, and drone-based - to monitor land use, soil moisture, water availability, and aquifer recharge and discharge zones;
- Investigation of the role of groundwater in securing water and food supply in arid and semi-arid regions, contributing to broader debates on planetary health and the sustainable management of Earth's critical resources.

The previous research agenda will support the development of scientifically robust and operationally relevant solutions to emerging water-related challenges, contributing to resilient infrastructure, sustainable resource management, evidence-based public policies, and the achievement of national and international sustainability objectives.

It should be mentioned that the Groundwater Group activities will be advanced through the following two funded projects, both coordinated by CERIS:

WATER4ALL Sentinel Springs — EU-funded project under the Horizon Europe Water4All Partnership (Grant Agreement n°101060874), coordinated by IST-ID with national funding from FCT-Portugal and partners from France, Italy, Poland, Denmark, and Malta:

- Positions springs as early warning sentinels to monitor and protect groundwater and associated aquatic ecosystems under climate and human pressures;
- Combines real-time IoT monitoring, historical records, and citizen science to develop a standardised international online spring hydrological and ecological database;
- Supports long-term ecosystem tracking and sustainable conservation of groundwater and associated surface ecosystems;
- In 2026, advances field monitoring campaigns, citizen science engagement, and database consolidation, following the first Annual Consortium Meeting held in Poland in June 2026.

TWINSTREAMS — funded by FCT under the DigitalTwins4SmartTerritories (DT4ST) call, financed through the Recovery and Resilience Plan (PRR), coordinated by CERIS in collaboration with IST-ID MARETEC, Hidromod, Waterways, Bluefocus, and AHSA – :

- Implements a groundwater monitoring network and develops a surface–groundwater flow model for an agricultural catchment in southwest Portugal;
- Builds a Digital Twin to optimise surface–groundwater management for agriculture;
- Reduces vulnerability to climate change impacts, particularly drought;
- Delivers a practical and reusable decision-support tool for farming communities in the Odemira and Aljezur region.

RG3 | Systems and Management

In the future, the group will continue to grow on the following areas of development:

1. Digital Built Environment and Twin Transition
2. Digital Twin and Asset Management

Digital Built Environment and Twin Transition

Our research group has made groundbreaking strides in the field of the digital built environment. One of our significant achievements is the innovative use of BIM, particularly for heritage management. We have tailored scan-to-BIM workflows at UNESCO World Heritage sites in Sintra, which have pioneered the integration of seismic assessment with BIM. We have also optimised emergency response routes and developed advanced sensor data integration, which has significantly enhanced heritage protection and facility management.

Using other information technologies, such as GIS, we conducted GIS-based data processing in various applications, including optimising crop distribution in Portugal in collaboration with the National Institute of

Agricultural and Veterinary Research (INIAV). We have also mapped and monitored urban green roofs to assess their biodiversity potential and incorporated future global climate scenarios in risk evaluation for several natural hazards in Portugal.

Complementarily, our research group coordinated several projects that revolutionised the construction industry through digital transformation. Under the REV@Construction project, we have developed several digital tools for construction, influencing significant updates to standards and laws and promoting interoperability. Recently, our research group has been given support to the development of a National Strategy for BIM implementation in Portugal, which will start to be implemented in 2025.

Focusing on the Twin Transition, several initiatives have been conducted, such as the Circular ECO BIM project, which allowed the development of tools that can evaluate circularity and sustainability. One of these is the SmartLCA tool, which is a BIM-based LCA digital tool that has been developed and is now being deployed within the industry. Recently, a team of PhDs has been formed, constituting the TwinLab research group, which is conducting innovative research in digital and climate transition, always with a strong emphasis on industry connections.

Digital Twin and Asset Management

Understanding the importance of asset management for the built environment, the group conducted several works on this topic. Notably, it firmly pushed the standardisation ecosystem around this matter, coordinating the respective standardisation technical committee. Specialising in asset management, our research group has also embraced the challenges of integrating Digital Twin (DT), especially within the demanding context of complex infrastructures. We have made significant strides in advancing asset management through the deployment of DTs, which serve as dynamic, real-time replicas of physical assets. This transformative approach facilitates data-driven management across the asset's lifecycle, enhancing operational efficiency and decision-making. Central to our efforts was the DT4Health project, which has established a comprehensive framework for DT application in hospital settings.

Furthermore, closer coordination with the CERIS strategy and the general orientations stemming from its thematic strands will be promoted. The horizontal character of the S&M group skills and competencies creates opportunities for synergetic cooperation and interactions with other CERIS research groups and to make relevant contributions closely linked to the thematic strands' objectives.

RG4 | Transportation Systems

The RG4 for 2026 will pursue the objectives described in section II using the means and the routes offered by EU (Horizon Europe) and national (Portugal 2030 and FCT) financed research projects, by the research involved in each ongoing Ph.D. works integrated on the doctoral programme in Transportation Systems, by the innovation, the technology and the development transfer to society and industry, by supporting the professional training programmes set with several stakeholders on the transportation and infrastructure systems, and by the improvement of the results achieved within the international networks already established and the ones to enhance, especially with Spain and Brazil.

RG5 | Studies on Construction

The RG activities in 2026 will be a natural follow-up of the research carried out in 2025. These activities will cover research objectives that include different cross-cutting issues with branches in the four thematic strands: Product development in Civil Engineering industries (PD); Risk and safety in natural and built environments (RS); Rehabilitation of natural and built environments (RNBE); Response to natural and societal changes (RNSC).

The RG activities for 2026 will be organized according to major research topics as follows:

- To develop research projects in Construction Materials, Building Technology, and Management Innovation; Sustainable Construction Practices; Monitoring, Rehabilitation, and Conservation of the Built Heritage;
- An effort will be made to concentrate on increasingly less wide and more specific fields to produce relevant results in national and international forums (measured in a significant increase in the number and impact factor of papers in peer-reviewed international journals, the supervision of PhD theses, the approval of national and international research grants and the engagement in international research networks):
    - Advanced materials and technologies also focusing on nanomaterials - establish international cooperation and be a national leader in the field of composites (GFRP and CFRP);
    - Concrete and mortars technology - increase the number of PhD and MSc studies under way (in strong collaboration with LNEC and foreign universities) and improve the Mortars Section of the Construction Laboratory at IST;
    - Sustainable and functional bio-based construction products and building elements - research and development of innovative materials through international collaboration;
    - Risk informed quality, safety and environmental management in construction - increase the already large international cooperation via technical committees and international conferences;
    - Sustainability and deconstruction strategies and technology - increase the number of PhD and MSc studies under way and continue to be a national and international reference in the field of recycled aggregates and supplementary cementitious materials for concrete and mortars production; boost the international collaboration in the field of recycled aggregate concrete through the networking activities (secondments) of the CIRCLE project;
    - Building physics and passive design - continue the very good results in the near past and expand its potential through studies on indoor environmental comfort, energy efficiency, energy storage systems and acoustics, anchored on the development, multi-scale testing

and real-scale application of innovative materials, products, components and construction systems;

- Building acclimatization and mechanical systems - continue collaboration with the Mechanics and Physics Departments of IST and with universities from other countries, strategically important in terms of sustainable construction in terms of energy-saving; inspection, diagnosis, maintenance and rehabilitation systems - increase the number of PhD and MSc studies under way and be a national and international reference in the field of inspection and diagnosis systems;
- Conservation of historical building heritage - continue and strengthen national and international cooperation projects, namely within technical/scientific national/international networks;

- To continue participating in national and international scientific committees, participating/organizing national and international conferences, publishing scientific articles, books and book chapters, editorial activities, teaching in Graduation and Post-Graduation courses in the field of construction, and participating in academic events and performing consultancy work.

RG6 | Structures and Geotechnics

In 2026, it is planned that the members of the RG6 continue working on the most relevant research topics of the area, according to reference international organizations and current priorities of the country.

A renewed effort will be made to promote deeper and more effective collaboration between RG members and internationally renowned researchers, aiming to deliver relevant contributions to the sector and increase participation in European Union-funded research projects. The main general purpose is to improve the construction sector's competitiveness, reduce risk and improve the safety of infrastructures, supporting the development of economical and eco-efficient materials and products and new technologies to design, build and maintain high-quality and long-lasting structures. This embraces the development of (i) sustainable materials and products, (ii) innovative construction methods, addressing, particularly prefabrication, as well as rehabilitation, (iii) advanced computational tools for structural and geotechnical analysis, (iv) contributions to standards and design guidelines for both new and existing structures, including their foundations, (v) novel health monitoring and life-cycle assessment tools for structural and geotechnics use, (vi) study of the effects of explosions in urban environments, (vii) evaluation and rehabilitation of structures damaged by fire, and (vii) steel industrial research and innovation in line with the European Green Deal.

Other more general objectives are the increase of the group internationalisation and the links to industry, namely through:

- improvement of the competitive funding capacity in international and national research projects calls
- participation in national and international standardization committees,

- organization of academic national and international events,
- participation in national and international Graduation and Post-Graduation courses (namely ERASMUS and FCT Doctoral Programmes) in the field of Structures and Geotechnics,
- expert consultancy work to partially fund research and provide practical applications to the results of research,
- cooperation with design offices and private companies,
- partnership with the industry for the optimisation of resources and industrial efficiency upgrading.

5. CLOSURE

In 2025, CERIS consolidated its position as the largest and most comprehensive civil engineering research unit in Portugal, bringing together **150 integrated PhD members, 35 PhD collaborators, and 269 non-PhD collaborators**, reflecting a strong critical mass and a broad diversity of expertise across its four hubs: IST, NOVA, Coimbra, and Aveiro. The integration of the new Aveiro hub in 2025 further strengthened CERIS's territorial reach and scientific ecosystem, reinforcing its national leadership and international competitiveness.

Since its creation in 2015, CERIS has progressively consolidated its internal organisation, preserving the identities of its founding centres while promoting interdisciplinary cooperation through its four thematic strands and six research groups. This strategic alignment has increasingly fostered synergies across scientific domains, supported by internal seed-funding initiatives and a strengthened science management structure.

The scientific activity indicators for 2025 confirm a highly productive year. CERIS concluded 40 PhD theses and maintained 269 doctoral theses in progress, while 120 MSc dissertations were also completed. Scientific output remained particularly strong, with 439 papers published in WoS- and Scopus-indexed journals, alongside 275 international conference papers, 46 book chapters, and 39 consultancy and technical reports. These figures confirm the sustained growth in scientific productivity observed over the last decade and reinforce CERIS's capacity to generate internationally visible, high-impact research.

The unit's international visibility and scientific recognition also remained significant, with 22 Associate Editor positions, 146 editorial board memberships, 70 memberships of international scientific committees, 82 contributions to international codes and recommendations, and 40 international awards. These indicators reflect the growing relevance of CERIS researchers within the global scientific community, although further efforts are still needed to translate this recognition into larger and more stable international collaborative projects.

Financially, 2025 was one of the strongest years in CERIS's history, with a substantial increase in competitive funding capacity. The unit maintained 60 active international research grants, 84 active national research grants, and 72 active individual competitive grants, while also initiating 56 new competitive projects during the year. Consultancy remained equally relevant, with 68 concluded consultancy contracts, demonstrating CERIS's strong ability to combine scientific excellence with knowledge transfer and industrial engagement. This diversified and robust funding portfolio further consolidates CERIS as a financially dynamic and highly competitive research unit.

Following its Excellent classification in both the 2017 and 2023/2024 FCT evaluations, CERIS is well placed to maintain its leading role in civil engineering research in Portugal. This status aligns with the international standing of the Universidade de Lisboa, where CERIS remains the sole civil engineering research unit, contributing decisively to the institution's top national ranking in this scientific field.

ANNEXE A – PHD THESES COMPLETED IN 2025

PhD theses completed in 2025

Student name	Supervisor	Co-Supervisor #1	Co-Supervisor #2	Title	PhD programme
Adriana Melo Baio Dias	José Dinis Silvestre	Isabel Milagre Martins		Life cycle assessment of the introduction of recycled aggregates in the production of mortars and concrete in the national industry.	Civil Engineering
Adriana Sofia Rodrigues Boaventura de Azevedo	João Pedro Lage da Costa Firmo	João Pedro Ramôa Ribeiro Correia		Fire behaviour of reinforced concrete structures strengthened with advanced Carbon Fibre Reinforced Polymer (CFRP) systems.	Civil Engineering
Ana Sofia Mendes Pessoa	Ana Sofia Guimarães	Nuno Albino Vieira Simões	Sandra Lucas	Experimental and numerical study towards thermally efficient 3D-printed walls	Civil Engineering
André Filipe Rosário Marcelino Silva	Rita Maria Vilela Nogueira	José Alexandre de Brito Aleixo Bogas		Carbon Utilization Technologies in Cement-Based Materials. Effect of Carbonation on Fresh Mixtures and on Recycled Cementitious Fines	Civil Engineering
Angelica Rocco	Federica Del'Acqua	Mario Rosario Lossaso	Romeu da Silva Vicente	Parallel digital twins supporting blockchain in the AEC sector. Bio-based materials for nZEB buildings	
Bruno Jorge Santos de Carvalho Matos	Carlos Paulo Novais Oliveira da Silva Cruz	Fernando António Baptista Branco		Procurement and Digitalization for Construction Works Contracts: an integrated Building Information Modelling based approach.	Civil Engineering
Catarina Pinto Mouraz	José António Raimundo Mendes da Silva	Tiago Miguel dos Santos Ferreira		Methodology and tools for the evaluation and guidance of rehabilitation projects in vernacular constructions.	Civil Engineering

Student name	Supervisor	Co-Supervisor #1	Co-Supervisor #2	Title	PhD programme
Charles Chukwudi Okonyia Okeyia	Nuno Gonçalo Cordeiro Marques de Almeida	Joe Amadi-Echendu		4IR technologies for the management of distributed telecoms infrastructure assets in a developing country	Engineering and Management
Edilson Holanda Costa Filho	José Manuel de Saldanha Gonçalves Matos	Ronaldo Stefanutti		Reutilização de Água: contribuição para um modelo de apoio à decisão	Climate Change and Sustainable Development Policies
Eloísa Maria Castilho dos Santos	João Pedro Lage da Costa Firmo	João Pedro Ramôa Ribeiro Correia	Mário Alexandre de Jesus Garrido	Temperature-dependent behaviour and viscoelasticity of fibre polymer composites and polymeric foams used in sandwich panels.	Civil Engineering
Ghandy Diaa Eddine Lamaa	Jorge Manuel Caliço Lopes de Brito	Rui Vasco Pacheco Santos da Silva		Carbon capture of fully-recycled alkali-activated concrete.	Civil Engineering
Giovani Augusto Noquelli Lombardi	Margarida João Fernandes de Pinho Lopes	António Miguel Verdelho Paula	António Manuel de Bastos Pereira	Constitutive models for numerical analysis of the short- and long-term behaviour of geosynthetics and mechanical damage	Civil Engineering
Gonçalo Roque Araújo	Paulo Ferrão	Maria da Glória de Almeida Gomes	Manuel Correia Guedes	Surrogate models for efficient implementation of building performance analyses and optimizations	Sustainable Energy Systems
Ilídio dos Santos Dias	Ana Filipa Ferreira da Silva Cigarro Matos	Inês dos Santos Flores Barbosa Colen		Influence of maintenance on durability and life cycle cost of building envelope elements.	Civil Engineering
Inês Costa Feijão Borges	Maria Rafaela Pinheiro Cardoso	Susana Isabel Pinheiro Cardoso de Freitas		Design of soil biocenmentation strategies using biological activity monitored with biosensors.	Civil Engineering
Isequiel José Soares Alcolete	José António Raimundo Mendes da Silva	Luís Eugénio da Silva Lage		Safeguarding and valuing the built heritage of the Island of Mozambique. Contributions to a sustainable intervention strategy	Heritage of Portuguese Influence

Student name	Supervisor	Co-Supervisor #1	Co-Supervisor #2	Title	PhD programme
Jean-Paul Kapuya Bulaba Nyembwe	Manuel Carlos Gameiro da Silva	Nuno Albino Vieira Simões		Improving indoor environmental quality (IEQ) in healthcare facilities in tropical climates of developing countries	Sustainable Energy Systems
Joana Raquel Jorge Carneiro	Dídia Isabel Cameira Covas	Dália Susana dos Santos da Cruz Loureiro	Marta Sofia Ferreira Cabral	Resilience Assessment of Water Distribution Systems: a Framework for Supporting Adaptative Planning Under Uncertainty.	Civil Engineering
João Paulo Borges Coury Cavaleiro de Ferreira	Zoran Kapelan	Dídia Isabel Cameira Covas	David Ferras	Modelling air-water behaviour in intermittent water supply systems	Civil Engineering
João Pedro Cardoso Vieira	Nuno Gonçalo Cordeiro Marques de Almeida	João Poças Martins	Hugo Patrício	A value-centric approach to digital twins for rail and road infrastructure asset management	Civil Engineering
João Pedro Ferreira Martins	Álvaro Fernando Oliveira Costa	Carlos Paulo Novais Oliveira da Silva Cruz		The role of airports in spatial planning and regional development	Spatial Planning
Laísa Braga Kappler	João António de Abreu e Silva			Telework frequency and its effects on travel behavior during the COVID-19 pandemic and beyond.	Transportation Systems
Lana Todorović	Vítor Emanuel Marta da Silva			Towards risk assessment due to liquefaction	Earthquake Engineering and Engineering Seismology
Letícia Carvalho Moreira Dafico	Eva Sofia Botelho Machado Barreira	Ricardo Manuel dos Santos Ferreira de Almeida	Romeu da Silva Vicente	Smart diagnosis for preventing moisture damage in buildings	Civil Engineering
Liana Sombrio Ostetto	Hugo Filipe Pinheiro Rodrigues	Paulo Alexandre Lopes Fernandes	Romain Ribeiro de Sousa	Influence of cladding panels on the seismic behavior of industrial precast reinforced concrete buildings	Civil Engineering
Luís Miguel Varela Maneta	Luís Manuel Coelho Guerreiro	António Santos Carvalho Cabral Araújo Correia		Influence of masonry infill walls on the seismic vulnerability of existing reinforced concrete buildings	Civil Engineering

Student name	Supervisor	Co-Supervisor #1	Co-Supervisor #2	Title	PhD programme
Maria Luíza da Cunha Oliveira Santos	José Manuel de Saldanha Gonçalves Matos	Filipa Maria Santos Ferreira	Maria Cristina de Oliveira Matos Silva	Source control solution of rainwater in urban areas using green roofs as a measure of adaptation to climate change.	Climate Change and Sustainable Development Policies
Mariana Margarida Mateus Pinto	Maria Rafaela Pinheiro Cardoso			Biocementation as a Rehabilitation Technique. Small-scale analysis using Microfluidics devices and Natural Stone Substrates.	Civil Engineering
Marina Maria Cabette	Jorge C. Pais	Rui Alexandre Lopes Baltazar Micaelo		Self-healing efficiency of asphalt mixtures through heating and addition of capsulated rejuvenator	Civil Engineering
Mauricio José Orozco Fontalvo	Filipe Manuel Mercier Vilaça e Moura	Oscar Oviedo Trespalacios		Mobility as a Service: A tool for steering worldwide mobility and fostering equitable transport.	Transportation Systems
Miguel Ângelo da Silva Rodrigues	Sérgio Bruno Martins de Oliveira	Jorge Miguel Silveira Filipe Mascarenhas Proença		Development of Hybrid HST-FE Models for Effects Separation and Deterioration Assessment of Concrete Dams	Civil Engineering
Momade Sefu	Saidelamine Abibe	Sérgio António Neves Lousada		Assessment of water resources in the Monapo river basin in relation to the water supply to the municipality of Nampula	Energy and the Environment
Poliana Bellei	Inês dos Santos Flores Barbosa Colen	Maria Isabel Morais Torres	Manuel Francisco Costa Pereira	Performance of rendering mortars with oyster shell incorporation	Civil Engineering
Sérgio Marcelo de Deus Nascimento	José Joaquim Costa Branco de Oliveira Pedro	Ulrike Kuhlmann		Shear buckling resistance of high-strength steel plate girders and design of transverse web stiffeners	Civil Engineering
Seyed Mohammad Hossein Seyedi Rezvani	Nuno Gonçalo Cordeiro Marques de Almeida	Maria João Serpa da Lança Falcão da Silva		Enhancing urban resilience against natural disasters: A risk-informed asset-centric approach using geospatial analysis	Civil Engineering

Student name	Supervisor	Co-Supervisor #1	Co-Supervisor #2	Title	PhD programme
Seyedsajjad Hosseini	João Paulo Janeiro Gomes Ferreira	João Alexandre Medeiros Tavares Guerreiro	Luís Manuel Coelho Guerreiro	SHELTER – Structural Hyper-resisting Element for Life Threatening Earthquake Risk	Civil Engineering
Tânia Raquel Alves dos Santos	Maria Paulina Santos Forte de Faria Rodrigues	António Santos Silva	José Dinis Silvestre	Earth plasters: assessment of durability and eco-efficiency	Civil Engineering
Taylana Piccinini Scolaro	Enedir Ghisi	Maria Cristina de Oliveira Matos Silva		An integrated multi-criteria life-cycle method focusing on thermal-energy performance for the environmental, economic and social assessment of green, cool and conventional roofs	Civil Engineering
Tiago André Nunes Martins	Maria Manuela Portela Correia dos Santos Ramos da Silva	Teresa Eira Leitão	Manuel Mendes Oliveira	Decision-Making to Support Managed Aquifer Recharge (MAR). A Study for Southern Portugal	Civil Engineering
Vera Cibele Neves Marques	Ana Luísa Pinheiro Lomelino Velosa	Maria Clara de Carvalho Pimenta do Vale		Preservation of the vernacular built heritage of Cape Verde	Civil Engineering

ANNEXE B – PAPERS PUBLISHED IN 2025

Authors	Title of paper	Journal	Vol, Number (Pages)	DOI	Type of journal	Impact Factor Clar. Analytics (2024)	Quartile Scopus	Quartile WoS
Abd-Elaziz, W; Elsaiad, A; Sallam, GAH; Kuriqi, A; Ahmed, AA; Abd-Elaty, I	Performance of subsurface drainage systems considering groundwater flow directions and network alignment	FRONTIERS IN EARTH SCIENCE	V. 12 n.º , (1299495)	10.3389/feart.2024.1299495	WoS AND SCOPUS	2.0	Q2	Q3
Afonso G.P.; Figueira J.R.; Ferreira D.C.	Dealing with uncertainty in healthcare performance assessment: a fuzzy network-DEA approach with undesirable outputs	International Transactions in Operational Research	V. 32, n.º 5 (2732 - 2766)	10.1111/itor.13490	WoS AND SCOPUS	2.9	Q1	Q2
Afonso N.; Melo P.C.; Rocha B.T.; de Abreu e Silva J.	Going Big in a Small Country: Fifty Years of Motorways in Portugal; [Crescer num País Pequeno: Cinquenta Anos de Autoestradas em Portugal]	Revista Portuguesa de Estudos Regionais	V. , n.º 70 (7 - 26)	10.59072/rper.vi70.633	WoS AND SCOPUS		Q3	
Ahyani H.; Azmi N.; Lousada S.A.N.; Huda M.; Abduloh A.Y.	Legal Protection for Private Lecturers: Addressing Sub-Minimum Wage Challenges in West Java	Jurnal Media Hukum	V. 32, n.º 1 (21 - 39)	10.18196/jmh.v32i1.23436	WoS AND SCOPUS		Q2	
Albuquerque, G. B. M. L.; Silva, V. P.; Rodrigues, J. P. C.	Comportamento de vigas de concreto armado com diferentes condições de apoio em situação de incêndio: análise numérica	Revista Portuguesa de Engenharia de Estruturas	Série III, N.º 27 (95-106)	https://doi.org/10.34638/rpee-sIII-n27	Non WoS AND non SCOPUS			
Albuquerque, G. B. M. L.; Silva, V. P.; Rodrigues, J. P. C.	Comportamento de vigas de concreto armado simplesmente apoiadas: análise numérico-experimental	Revista Portuguesa de Engenharia de Estruturas	Série III, N.º 27 (107-118)	https://doi.org/10.34638/rpee-sIII-n27	Non WoS AND non SCOPUS			
Alcolete, I; Silva, JM; Lage, L; Catarino, L	Reinterpreting the Outstanding Universal Value of the Built Heritage of the Island of Mozambique: A Methodological Approach	HERITAGE	V. 8 n.º 12, (541)	10.3390/heritage8120541	WoS AND SCOPUS	1.9	Q1	Q2

Authors	Title of paper	Journal	Vol, Number (Pages)	DOI	Type of journal	Impact Factor Clar. Analytics (2024)	Quartile Scopus	Quartile WoS
Alegre A.; Oliveira S.; Proença J.; Mendes P.; Carvalho E.	A Finite Element Formulation for True Coupled Modal Analysis and Nonlinear Seismic Modeling of Dam–Reservoir–Foundation Systems: Application to an Arch Dam and Validation	Infrastructures	V. 10, n.º 8 (193)	10.3390/infrastructures10080193	WoS AND SCOPUS	2.9	Q2	Q2
Alhama I.; Carrasco S.N.; Jiménez-Valera J.A.; Bodas Freitas T.M.; Guerrero J.M.G.	A general solution for groundwater flow around deep excavations based on non–dimensionalization techniques	Engineering Geology	V. 347, n.º (107938)	10.1016/j.enggeo.2025.107938	WoS AND SCOPUS	8.4	Q1	Q1
Almeida R.; Rodrigues H.; Gomes M.G.; Furtado A.	Financial incentives for energy and seismic retrofitting of reinforced concrete buildings: a review of an integrated approach	Innovative Infrastructure Solutions	V. 10, n.º 8 (329)	10.1007/s41062-025-02123-6	WoS AND SCOPUS	2.4	Q2	Q2
Almomani A.Q.M.; Almeida R.M.S.F.; Vicente R.; Barreira E.	Long-term monitoring of thermal comfort in three apartments in Jordan	Building Research and Information	V. 53, n.º 8 (965 - 982)	10.1080/09613218.2025.2522862	WoS AND SCOPUS	3.4	Q1	Q2
Alnezami S.; Lamaa G.; Kurda R.; de Brito J.; Silva R.V.	Synergistic effects of treated municipal solid waste incineration bottom ash, coarse recycled concrete aggregates and fly ash on the mechanical and fresh-state properties of concrete	Journal of Building Engineering	V. 113, n.º (114056)	10.1016/j.jobe.2025.114056	WoS AND SCOPUS	7.4	Q1	Q1
Alvarez T.; Ferreira R.M.L.; Mendes S.; Aleixo R.; Amaral S.; Caldeira L.; Viseu T.	Breaching of Homogeneous Dams With Internal Drainage System	Water Resources Research	V. 61, n.º 7 (e2024WR038552)	10.1029/2024WR038552	WoS AND SCOPUS	5.0	Q1	Q1

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Álvarez-Fernández M.I.; Guerrero-Miguel D.-J.; González-Nicieza C.; Prendes-Gero M.B.; Peñas-Espinosa J.C.; Fernández-Rodríguez R.	Mortars with Mining Tailings Aggregates: Implications for Additive Manufacturing	Buildings	V. 15, n.º 11 (1912)	10.3390/buildings15111912	WoS AND SCOPUS	3.1	Q1	Q2
Alves R.; Lousada S.; Jankauskienė D.; Pukite V.	A Data-Driven Strategy for the Structural Health Monitoring of the Machico Cable-Stayed Bridge: A Case Study	Buildings	V. 15, n.º 22 (4150)	10.3390/buildings15224150	WoS AND SCOPUS	3.1	Q1	Q2
Alves R.; Lousada S.; Naranjo Gómez J.M.; Cabezas J.	Degradation and Sustainability: Analysis of Structural Issues in the Eduardo Caldeira Bridge, Machico	Infrastructures	V. 10, n.º 9 (224)	10.3390/infrastructures10090224	WoS AND SCOPUS	2.9	Q2	Q2

Alvisi S.; Franchini M.; Marsili V.; Mazzoni F.; Salomons E.; Housh M.; Abokifa A.; Arsova K.; Ayyash F.; Bae H.; Barreira R.; Basto L.; Bayer S.; Berglund E.Z.; Biondi D.; Boloukasli Ahmadgourabi F.; Brentan B.; Caetano J.; Campos F.; Cao H.; Cardona S.; Carreño Alvarado E.P.; Carriço N.; Chatzistefanou G.-A.; Coy Y.; Creaco E.; Cuomo S.; de Klerk A.; Di Nardo A.; Dicarlo M.; Dittmer U.; Dziedzic R.; Ebrahim Bakhshipour A.; Eliades D.; Farmani R.; Ferreira B.; Gabriele A.; Gamboa-Medina M.M.; Gao F.; Gao J.; Gargano R.; Geranmehr M.; Giudicianni C.; Glynis K.; Gómez S.; González L.; Groß M.; Guo H.; Habibi M.N.; Haghighi A.; Hammer B.; Hans L.; Hayslep M.; He	Battle of Water Demand Forecasting	Journal of Water Resources Planning and Management - ASCE	V. 151, n.º 10 (04025049)	10.1061/JWRMD5.WRENG-6887	WoS AND SCOPUS	2.7	Q1	Q2

Y.; Hermes L.; Herrera M.; Hinder F.; Hou B.; Iglesias-Rey A.; Iglesias-Rey P.L.; Jang I.-S.; Izquierdo J.; Jahangir M.S.; Jara-Arriagada C.; Jenks B.; Johnen G.; Kalami Heris M.; Kalumba M.; Kang M.-S.; Khashei Varnamkhasti M.; Kim K.-J.; Kley-Holsteg J.; Ko T.; Koochali A.; Kossieris P.; Koundouri P.; Kühnert C.; Kulaczkowski A.; Lee J.; Li K.; Li Y.; Liu H.; Liu Y.; López-Hojas C.A.; Maier A.; Makropoulos C.; Martínez-Solano F.J.; Marzouny N.H.; Menapace A.; Michalopoulos C.; Moraitis G.; Mousa H.; Namdari H.; Nikolopoulos D.; Oberascher M.; Ostfeld A.; Pagano M.; Pasha F.; Perafán J.; Perelman G.; Pesantez J.; Polycarpou M.; Quarta M.G.; Que Q.; Quilty J.;								

Authors	Title of paper	Journal	Vol, Number (Pages)	DOI	Type of journal	Impact Factor Clar. Analytics (2024)	Quartile Scopus	Quartile WoS
Quintiliani C.; Ramachandran A.; Reynoso Meza G.; Rodriguez V.; Romano Y.; Saldarriaga J.; Salem A.K.; Samartzis P.; Santonastaso G.F.; Savic D.; Schiano Di Cola V.; Schol D.; Seyoum A.G.; Shen R.; Simukonda K.; Sinske A.; Sitzenfrei R.; Sonnenschein B.; Stoianov I.; Tabares A.; Todini E.; Tsiami L.; Tsoukalas I.; Ulusoy A.-J.; Vamvakeridou-Lyroudia L.; van Heerden A.; Vaquet J.; Vaquet V.; Wallner S.; Walraad M.; Wang D.; Wu S.; Wu W.; Wunsch A.; Yao Y.; Yu J.; Zanfei A.; Zanutto D.; Zhang H.; Ziebarth M.; Ziel F.; Zou J.								

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Amorim J.D.M.; de Abreu e Silva J.; Gonçalves J.M.	Equity and Spatial Justice Perspectives in Transportation	Urban Science	V. 9, n.º 5 (163)	10.3390/urbansci9050163	WoS AND SCOPUS	2.9	Q1	Q1
Andrade Santos R.; Vieira Simões N.; Dinis Silvestre J.; Flores-Colen I.	Suitable transition temperature on thermo-adaptive reflectance for opaque facades: Influence of climate, solar orientation, and facade material	Solar Energy	V. 291, n.º (113268)	10.1016/j.solener.2025.113268	WoS AND SCOPUS	6.6	Q1	Q2
Anjos M.A.S.D.; Camões A.; Malheiro R.; Maia Pederneiras C.; Peixoto L.K.S.	Experimental Study of Carbonation and Chloride Resistance of Self-Compacting Concretes with a High Content of Fly Ash and Metakaolin, with and Without Hydrated Lime	Materials	V. 18, n.º 2 (422)	10.3390/ma18020422	WoS AND SCOPUS	3.2	Q2	Q3
Anjos, R; Pinho-Lopes, M; Powrie, W	An analysis of aggregate crumb rubber mixture packing	PROCEEDINGS OF THE INSTITUTION OF CIVIL ENGINEERS: GROUND IMPROVEMENT	V. n.º , ()	10.1680/jgrim.25.00094	WoS AND SCOPUS	1.7	Q2	Q3
Antão A.N.; Vicente da Silva M.	Lower and upper bounds for the drained three-dimensional stability of shallow tunnels using the Extended Matsuoka-Nakai yield criterion	Tunnelling and Underground Space Technology	V. 155, n.º (106137)	10.1016/j.tust.2024.106137	WoS AND SCOPUS	7.4	Q1	Q1
Antunes A.; Costa H.; do Carmo R.; Júlio E.	A comprehensive review of sustainable use of construction and demolition waste as recycled aggregates in the production of concrete – Properties, mix design and on-site applications	Construction and Building Materials	V. 482, n.º (141733)	10.1016/j.conbuildmat.2025.141733	WoS AND SCOPUS	8.0	Q1	Q1
Antunes A.C.; Teves-Costa P.; Gomes R.C.	The use of the inversion of single-station Rayleigh wave ellipticity curve in routine site investigation: numerical inversion and case-studies	Annals of Geophysics	V. 68, n.º 3 (NS330)	10.4401/ag-9150	WoS AND SCOPUS	1.2	Q2	Q3

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Arias Tapiero J.C.; Graus S.; Khei S.; Silva D.; Conde O.; Ferreira T.M.; Ortega J.; Luso E.; Rodrigues H.; Vasconcelos G.	An ICT-Enhanced Methodology for the Characterization of Vernacular Built Heritage at a Regional Scale	International Journal of Architectural Heritage	V. 19, n.º 6 (966 - 984)	10.1080/15583058.2024.2320862	WoS AND SCOPUS	2.4	Q1	Q2
Arias-Cárdenas B.; Lacasta A.M.; Haurie L.; Duarte S.; Duarte M.; Faria P.	Biological colonisation in bio-materials and composites with different bio-binder combinations	Construction and Building Materials	V. 492, n.º (142980)	10.1016/j.conbuildmat.2025.142980	WoS AND SCOPUS	8.0	Q1	Q1
Arrieta-Pastrana A.; Coronado-Hernández O.E.; Ramos H.M.	Simulation of Extreme Hydrographs in Heterogeneous Catchments with Limited Data	Water (Switzerland)	V. 17, n.º 11 (1713)	10.3390/w17111713	WoS AND SCOPUS	3.0	Q1	Q2
Arrieta-Pastrana A.; Martínez-Padilla E.A.; Pérez-Sánchez M.; Coronado-Hernández O.E.; Ramos H.M.	Assessing the Impact of Hydraulic Control Structures on Hydrodynamic Modelling in Shallow Waters	Journal of Marine Science and Engineering	V. 13, n.º 7 (1233)	10.3390/jmse13071233	WoS AND SCOPUS		Q2	
Arruda, MRT; Ribeiro, F; Gomes, M	Numerical study of high-velocity impact on aeronautic carbon composites	Mechanics of Advanced Materials and Structures	V. 32 n.º 11, (2463 - 2478)	10.1080/15376494.2024.2380385	Non WoS OR non SCOPUS		Q1	
Ascensão G.; Pereira J.; Fonseca J.; Costa A.; Ferreira V.M.; Paiva H.	Reviving heritage with contemporary solutions for adobe wall rehabilitation	Construction and Building Materials	V. 458, n.º (139557)	10.1016/j.conbuildmat.2024.139557	WoS AND SCOPUS	8.0	Q1	Q1

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Atiaga O.; Páez F.; Jácome W.; Castro R.; Collaguazo E.; Nunes L.M.	COVID-19 pandemic impacted differently air quality in Latin American cities	Air Quality, Atmosphere and Health	V. 18, n.º 7 (1919 - 1929)	10.1007/s11869-025-01738-z	WoS AND SCOPUS	2.5	Q2	Q3
Attaei M.; Condeço J.; Mateus M.M.; Nogueira R.; Bogas J.A.	Amine-based additives to enhance the carbonation rate of cement-based materials: A pathway to CO2 neutrality	Journal of Cleaner Production	V. 520, n.º (145940)	10.1016/j.jclepro.2025.145940	WoS AND SCOPUS	10.0	Q1	Q1
Avila Y.; de Brito J.; Silva R.V.	Pre-treated municipal solid waste bottom ash as alkali-activated mortar precursor	Magazine of Concrete Research	V. 77, n.º 21-22 (1208 - 1222)	10.1680/jmacr.24.00150	WoS AND SCOPUS	1.6	Q2	Q4
Azevedo A.G.S.; Baltazar L.; Faria P.; Savastano H.	Durability assessment of MgO-based fiber cement reinforced with lignocellulosic fibers and cured in a CO2-rich atmosphere	Journal of Building Engineering	V. 104, n.º (112327)	10.1016/j.jobe.2025.112327	WoS AND SCOPUS	7.4	Q1	Q1
Azevedo A.S.; Firmo J.P.; Correia J.R.	Fire behaviour of reinforced concrete beams strengthened in shear according to the embedded through-section (ETS) technique: Experimental and numerical study	Composite Structures	V. 357, n.º (118888)	10.1016/j.compstruct.2025.118888	WoS AND SCOPUS	7.1	Q1	Q1
Azevedo A.S.; Firmo J.P.; Correia J.R.; Almeida J.	Embedded through-section (ETS) technique for shear strengthening of reinforced concrete beams – Experimental and analytical study	Engineering Structures	V. 333, n.º (120038)	10.1016/j.engstruct.2025.120038	WoS AND SCOPUS	6.4	Q1	Q1
Azevedo N.M.; Cismaşiu I.; Pinho F.F.S.; Neves F.	Numerical Modeling of Reinforcement Solutions in Traditional Stone Masonry Using a Particle Model	Buildings	V. 15, n.º 7 (1058)	10.3390/buildings15071058	WoS AND SCOPUS	3.1	Q1	Q2
Badrzadeh N.; Alikhani S.; Green D.; Kuriqi A.; Sabzevari A.	Hydrodynamic and Water Quality Modeling for Sustainable Aquaculture Practices	ACS ES and T Water	V. 5, n.º 7 (3772 - 3784)	10.1021/acsestwater.5c00123	WoS AND SCOPUS	4.3	Q1	Q1

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Arruda, MRT; Ribeiro, F; Gomes, M	Numerical study of high-velocity impact on aeronautic carbon composites	Mechanics of Advanced Materials and Structures	V. 32 n.º 11, (2463 - 2478)	10.1080/15376494.2024.2380385	Non WoS OR non SCOPUS		Q1	
Ascensão G.; Pereira J.; Fonseca J.; Costa A.; Ferreira V.M.; Paiva H.	Reviving heritage with contemporary solutions for adobe wall rehabilitation	Construction and Building Materials	V. 458, n.º (139557)	10.1016/j.conbuildmat.2024.139557	WoS AND SCOPUS	8.0	Q1	Q1
Atiaga O.; Páez F.; Jácome W.; Castro R.; Collaguazo E.; Nunes L.M.	COVID-19 pandemic impacted differently air quality in Latin American cities	Air Quality, Atmosphere and Health	V. 18, n.º 7 (1919 - 1929)	10.1007/s11869-025-01738-z	WoS AND SCOPUS	2.5	Q2	Q3
Attaei M.; Condeço J.; Mateus M.M.; Nogueira R.; Bogas J.A.	Amine-based additives to enhance the carbonation rate of cement-based materials: A pathway to CO2 neutrality	Journal of Cleaner Production	V. 520, n.º (145940)	10.1016/j.jclepro.2025.145940	WoS AND SCOPUS	10.0	Q1	Q1
Avila Y.; de Brito J.; Silva R.V.	Pre-treated municipal solid waste bottom ash as alkali-activated mortar precursor	Magazine of Concrete Research	V. 77, n.º 21-22 (1208 - 1222)	10.1680/jmacr.24.00150	WoS AND SCOPUS	1.6	Q2	Q4
Azevedo A.G.S.; Baltazar L.; Faria P.; Savastano H.	Durability assessment of MgO-based fiber cement reinforced with lignocellulosic fibers and cured in a CO2-rich atmosphere	Journal of Building Engineering	V. 104, n.º (112327)	10.1016/j.jobe.2025.112327	WoS AND SCOPUS	7.4	Q1	Q1
Azevedo A.S.; Firmo J.P.; Correia J.R.	Fire behaviour of reinforced concrete beams strengthened in shear according to the embedded through-section (ETS) technique: Experimental and numerical study	Composite Structures	V. 357, n.º (118888)	10.1016/j.compstruct.2025.118888	WoS AND SCOPUS	7.1	Q1	Q1
Azevedo A.S.; Firmo J.P.; Correia J.R.; Almeida J.	Embedded through-section (ETS) technique for shear strengthening of reinforced concrete beams – Experimental and analytical study	Engineering Structures	V. 333, n.º (120038)	10.1016/j.engstruct.2025.120038	WoS AND SCOPUS	6.4	Q1	Q1

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Azevedo N.M.; Cismaşiu I.; Pinho F.F.S.; Neves F.	Numerical Modeling of Reinforcement Solutions in Traditional Stone Masonry Using a Particle Model	Buildings	V. 15, n.º 7 (1058)	10.3390/buildings15071058	WoS AND SCOPUS	3.1	Q1	Q2
Badrzadeh N.; Alikhani S.; Green D.; Kuriqi A.; Sabzevari A.	Hydrodynamic and Water Quality Modeling for Sustainable Aquaculture Practices	ACS ES and T Water	V. 5, n.º 7 (3772 - 3784)	10.1021/acsestwater.5c00123	WoS AND SCOPUS	4.3	Q1	Q1
Bahrami H.; Gorjian S.; Mokhtarzadeh H.; Ghobadian B.; Kuriqi A.; Gheisari J.	Performance evaluation of a solar-powered membrane capacitive deionization system considering energy recovery	Results in Engineering	V. 26, n.º (105552)	10.1016/j.rineng.2025.105552	WoS AND SCOPUS	7.9	Q1	Q1
Baquedano-Juliá P.; Ferreira T.M.; Arriagada-Luco C.; Sandoval C.; Palazzi N.C.; Hurtado M.; Oliveira D.V.	Combining physical and social indicators in a multi-vulnerability framework for fire risk assessment: An application to Valparaíso, Chile	International Journal of Disaster Risk Reduction	V. 131, n.º (105900)	10.1016/j.ijdrr.2025.105900	WoS AND SCOPUS	4.5	Q1	Q1
Barreirinha P.; Silva-Afonso A.; Pimentel-Rodrigues C.	The Challenges of Firefighters' Interventions in Old Urban Centres: A Case Study	Urban Science	V. 9, n.º 5 (170)	10.3390/urbansci9050170	WoS AND SCOPUS	2.9	Q1	Q1
Bartels, G.; Flores-Colen, I.; Silvestre, J. D.; Silva, L.	Plano de manutenção proativa de uma cobertura plana tradicional inovadora	Edifícios e Energia	N.º 158 (64-69)	-	Non WoS AND non SCOPUS	-		
Basaglia C.; Camotim D.; Gonçalves R.	GBT-based buckling analysis of cold-formed steel built-up section columns	Thin-Walled Structures	V. 215, n.º (113509)	10.1016/j.tws.2025.113509	WoS AND SCOPUS	6.6	Q1	Q1

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Bastos D.; Brazão Farinha C.; Pederneiras C.M.; Veiga R.; Bogas J.A.; Infante Gomes R.; Santos Silva A.	Towards Industrial Implementation: Experimental Campaign Based on Variations in Temperature, Humidity, and CO2 Concentration in Forced Carbonation Reactions of Recycled Aggregates	Applied Sciences (Switzerland)	V. 15, n.º 9 (5005)	10.3390/app15095005	WoS AND SCOPUS	2.5	Q2	Q3
Bastos, D; Gomes, RI; Gonçalves, D; Farinha, CB; Pederneiras, CM; Veiga, R; Silva, AS; Bogas, JA; dos Santos, RG	Enhanced CO2 Sequestration in Recycled Aggregates: Exploring Novel Capture-Promoting Additives	WASTE	V. 3 n.º 2, (17)	10.3390/waste3020017	Non WoS OR non SCOPUS	-		
Batista E.M.; Lazzari J.A.; Matsubara G.Y.; Pfeil M.S.; Elias R.N.	Assessment of reinforcements for enhancing structural performance of cold-formed steel polygonal conical poles for antennas support	Latin American Journal of Solids and Structures	V. 22, n.º 1 (e8033)	10.1590/1679-7825/e8033	WoS AND SCOPUS	1.1	Q2	Q3
Batista Pacheco, M.; Falcão, A. P.; Gomes, M. G.; Volzone, R.; Parreira Folgado, M.; Costa, S.	Digital vaulted territories: development of a cross-tool platform for vaults' knowledge	Revista de História da Arte	N.º 19 (96–119)	https://doi.org/10.34619/yhxw-3h6j	Non WoS AND non SCOPUS	-		
Bellei, P; Pereira, MFC; Torres, I; Foray, G; Flores-Colen, I	Re-Valorizing Oyster-Shell Waste in Natural Hydraulic Lime-Based Mortars for Brick Substrate Applications: Performance and Durability	MATERIALS	V. 19 n.º 1, (27)	10.3390/ma19010027	WoS AND SCOPUS	3.2	Q2	Q3

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Bellouk H.; Marín Beltrán I.; Er Raouan S.; Serrão Sousa V.; Zaitan H.; Reis M.; Ismail A.; Nunes L.M.	Prevalence of microplastics in agricultural soils in southern Portugal	International Journal of Environmental Analytical Chemistry	V. , n.º (-)	10.1080/03067319.2025.2602065	WoS AND SCOPUS	2.5	Q2	Q3
Benoliel M.A.; Pacheco J.N.; Silvestre J.D.; Martins I.; de Brito J.	Life cycle assessment of ready-mixed concrete: paths towards more sustainable practices	Magazine of Concrete Research	V. 77, n.º 21-22 (-)	10.1680/jmacr.25.00083	WoS AND SCOPUS	1.6	Q2	Q4
Bernardo F.; Brito M.; Ferreira R.M.L.; Leal J.	Experimental dataset on wave–structure interaction in a sloshing tank with a flexible floating body	Data in Brief	V. 63, n.º (112118)	10.1016/j.dib.2025.112118	WoS AND SCOPUS	1.4	Q3	Q3
Beroho M.; Aboumaria K.; El Hamdouni Y.; Ouallali A.; Jaufer L.; Kader S.; Hughes P.D.; Spalevic V.; Kuriqi A.; Mrabet R.; Kebede F.; Briak H.	A novel SWAT-based framework to integrate climate and LULC scenarios for predicting hydrology and sediment dynamics in the watersheds of Mediterranean ecosystems	Journal of Environmental Management	V. 388, n.º (125446)	10.1016/j.jenvman.2025.125446	WoS AND SCOPUS	8.4	Q1	Q1
Besharat M.; Rabbani A.; Yang X.; Martinez J.S.; Moran V.; Evans B.; Ramos H.	Data-driven predictive analysis and visualisation of air–water dynamics in an air vessel	Journal of Hydroinformatics	V. 27, n.º 5 (787 - 804)	10.2166/hydro.2025.287	WoS AND SCOPUS	2.4	Q2	Q2
Boavida I.; Costa M.J.; Santos J.M.	Community perceptions and ecosystem services provided by small hydropower plants	Environmental Development	V. 55, n.º (101247)	10.1016/j.envdev.2025.101247	WoS AND SCOPUS	5.3	Q1	Q1

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Bofill M.-Á.; Sánchez-Romero F.-J.; Zapata F.A.; Ramos H.M.; Pérez-Sánchez M.	Hybrid regulation of non-conventional water sources powered by renewable energy: advancing circular water management for coastal cities resilience	Water Research	V. 287, n.º (124477)	10.1016/j.watres.2025.124477	WoS AND SCOPUS	12.4	Q1	Q1
Bofill M.Á.; Sánchez-Romero F.-J.; Zapata-Raboso F.; Ramos H.M.; Pérez-Sánchez M.	Integrating Pumped Hydro Storage into Zero Discharge Strategy for Wastewater: The Alicante Case Study	Applied Sciences (Switzerland)	V. 15, n.º 20 (10953)	10.3390/app152010953	WoS AND SCOPUS	2.5	Q2	Q3
Bolina F.L.; Fachinelli E.G.; Rodrigues J.P.C.	Analysis of building structures subjected to electric vehicle fires	Journal of Building Engineering	V. 107, n.º (112769)	10.1016/j.jobe.2025.112769	WoS AND SCOPUS	7.4	Q1	Q1
Bombar G.; Cardoso A.H.	Experimental investigation of the evolution of bed topography in an asymmetrical confluence	Acta Geophysica	V. 73, n.º 3 (2851 - 2861)	10.1007/s11600-024-01512-2	WoS AND SCOPUS	2.1	Q2	Q2
Bona S.; Silva-Afonso A.; Gomes R.; Pimentel-Rodrigues C.; Rodrigues F.	From Nearly Zero Water Buildings to Urban Water Communities: The Need to Define Parameters to Support the New Paradigms	Applied Sciences (Switzerland)	V. 15, n.º 5 (2566)	10.3390/app15052566	WoS AND SCOPUS	2.5	Q2	Q3
Borralho T.M.O.; Rodrigues J.P.C.; dos Santos C.C.	Evacuation of Lisbon's Baixa-Chiado subway station in case of fire	Architecture, Structures and Construction	V. 5, n.º 1 (11)	10.1007/s44150-025-00127-5	WoS AND SCOPUS	-		
Borsoi G.; Parracha J.L.; Bersch J.D.; Garcia A.R.; Dionísio A.; Faria P.; Veiga R.; Flores-Colen I.	Long-Term Performance of Thermal Insulating Composite Systems Based on Water Resistance and Surface Multifunctionality	Energies	V. 18, n.º 18 (5008)	10.3390/en18185008	WoS AND SCOPUS	3.2	Q1	Q3

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Bourgeois I.; Ascensão G.; Ferreira V.; Rodrigues H.	Methodology for the Application of 3D Technologies for the Conservation and Recovery of Built Heritage Elements	International Journal of Architectural Heritage	V. 19, n.º 7 (1200 - 1211)	10.1080/15583058.2024.2341327	WoS AND SCOPUS	2.4	Q1	Q2
Bourgeois I.; Sugiyama G.; Capistrano J.; Ascensão G.; Ferreira V.; Rodrigues H.	Smart 3D printed elements for conservation of damaged heritage structures	Journal of Building Engineering	V. 112, n.º (113595)	10.1016/j.jobe.2025.113595	WoS AND SCOPUS	7.4	Q1	Q1
Bouzidi M.; Bailek N.; Nasri A.; Zerouali B.; El-Kenawy E.M.; Younis J.A.; Urooj S.; Kuriqi A.	Optimizing photovoltaic collector performance: A comprehensive study on the thermal performance of nanofluids	AIP Advances	V. 15, n.º 9 (095325)	10.1063/5.0285480	WoS AND SCOPUS	1.4	Q3	Q4
Burgos-Méndez Ó.J.; Coronado-Hernández O.E.; Ramos H.M.; Arrieta-Pastrana A.; Pérez-Sánchez M.	Water Hammer Mitigation Using Hydro-Pneumatic Tanks: A Multi-Criteria Evaluation of Simulation Tools and Machine Learning Modelling	Water (Switzerland)	V. 17, n.º 13 (1883)	10.3390/w17131883	WoS AND SCOPUS	3.0	Q1	Q2
C. Matos B.; O. Cruz C.; A. Branco F.	Building information modeling in construction projects: the case of the Portuguese code of public contracts	Journal of Public Procurement	V. 25, n.º 1 (1 - 40)	10.1108/JOPP-02-2024-0022	WoS AND SCOPUS	2.3	Q2	Q2
Cabette M.; Micaelo R.; Pais J.	Healing of bituminous mixtures incorporating bio-oil capsules and steel slag filler	Construction and Building Materials	V. 502, n.º (144456)	10.1016/j.conbuildmat.2025.144456	WoS AND SCOPUS	8.0	Q1	Q1

Authors	Title of paper	Journal	Vol, Number (Pages)	DOI	Type of journal	Impact Factor Clar. Analytics (2024)	Quartile Scopus	Quartile WoS
Cabette M.; Micaelo R.; Pais J.	Investigation into the healing properties of bituminous mastics with bio-oil and steel slag	Construction and Building Materials	V. 486, n.º (141972)	10.1016/j.conbuildmat.2025.141972	WoS AND SCOPUS	8.0	Q1	Q1
Cabette, M; Micaelo, R; Pais, J	Fatigue Resistance of Unaged and Aged Bio-bitumen: Time Sweep Test versus Linear Amplitude Sweep Test	JOURNAL OF TESTING AND EVALUATION	V. 53 n.º 2, (386 - 397)	10.1520/JTE20240213	WoS AND SCOPUS	0.8	Q3	Q4
Cachim, P.	Verificação ao punçoamento no novo Eurocódigo 2	Construção Magazine	N.º 130 (30–32)	Non WoS AND non SCOPUS	-			Cachim, P.
Caetano J.; Ferreira B.; Carriço N.; Covas D.	Redundancy-Driven Resilience in Optimal Design of Water Distribution Networks	Journal of Water Resources Planning and Management - ASCE	V. 151, n.º 9 (04025037)	10.1061/JWRMD5.WRENG-6613	WoS AND SCOPUS	2.7	Q1	Q2
Caixinhas A.; Tomé J.; Melo J.; Marreneca G.; Furtado A.	Impact of Corrosion on the Behaviour of Reinforced Concrete Buildings	Buildings	V. 15, n.º 8 (1267)	10.3390/buildings15081267	WoS AND SCOPUS	3.1	Q1	Q2
Câmara G.; Azevedo N.M.; Micaelo R.	Self-Healing Asphalt Mixtures Meso-Modelling: Impact of Capsule Content on Stiffness and Tensile Strength	Sustainability (Switzerland)	V. 17, n.º 16 (7502)	10.3390/su17167502	WoS AND SCOPUS	3.3	Q1	Q3
Camotim D.	BRASIL – Bilateral Research About Stability Interacting with Leisure	Thin-Walled Structures	V. 211, n.º (112973)	10.1016/j.tws.2025.112973	WoS AND SCOPUS	6.6	Q1	Q1
Candeias P.; Guerreiro L.	Shake table tests of a prefabricated ultra-thin shell specimen	Structural Concrete	V. 26, n.º 4 (3872 - 3890)	10.1002/suco.70266	WoS AND SCOPUS	3.3	Q1	Q2

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Capitão S.D.; de Picado-Santos L.G.; Marques Almeida A.M.	Properties of reclaimed asphalt pavement with Bio-Heating Oil as a rejuvenator considering ageing	Transportation Engineering	V. 19, n.º (100295)	10.1016/j.treng.2024.100295	WoS AND SCOPUS	-	Q1	
Cardoso B.; Cavaco E.; Júlio E.; Tavares M.E.	Numerical investigation on the behavior of thin concrete shells subjected to nonuniform and asymmetrical loads	Structural Concrete	V. 26, n.º 4 (3809 - 3821)	10.1002/suco.202400532	WoS AND SCOPUS	3.3	Q1	Q2
Cardoso P.; Cabral M.; Covas D.	A comprehensive review of water-energy nexus assessment methodologies applied to residential buildings	Urban Water Journal	V. 22, n.º 5 (493 - 506)	10.1080/1573062X.2025.2478973	WoS AND SCOPUS	1.6	Q2	Q3
Cardoso R.; Drouinot T.; de Freitas S.C.	Miniaturized device to measure urease activity in the soil interstitial fluid using wenner method	Biogeotechnics	V. 3, n.º 1 (100120)	10.1016/j.bgtech.2024.100120	WoS AND SCOPUS	-	Q1	
Cardoso R.; Oliveira M.; Cruz M.Q.; Gonzalez I.; Rodrigues A.T.; Sapin L.; Esnault-Fillet A.	Biocementation treatment to stabilize the surface of a real slope; [TRATAMENTO POR BIOCIMENTAÇÃO PARA ESTABILIZAÇÃO SUPERFICIAL DE UM TALUDE REAL]	Geotecnia	V. 2025, n.º 163 (31 - 46)	10.14195/2184-8394_163_2	WoS AND SCOPUS	-	Q4	
Carmo R.; Ferreira M.	Influence of using moment redistribution and high-strength steels on crack width and deformations	Advances in Structural Engineering	V. 28, n.º 14 (2677 - 2692)	10.1177/13694332251340729	WoS AND SCOPUS	2.6	Q1	Q2
Carriço N.; Felícissimo D.; Antunes A.; Luz P.B.D.	Simulating Water Application Efficiency in Pressurized Irrigation Systems: A Computational Approach	Water (Switzerland)	V. 17, n.º 8 (1217)	10.3390/w17081217	WoS AND SCOPUS	3.0	Q1	Q2
Castilho E.; Firmo J.P.; Garrido M.; Correia J.R.; Ataíde A.	Mechanical Behaviour of Vacuum-Infused GFRP Composites at Elevated Temperatures—Influence of Fibre Architecture	Fire and Materials	V. , n.º (-)	10.1002/fam.70029	WoS AND SCOPUS	2.4	Q2	Q3

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Castilho E.; Firmo J.P.; Garrido M.; Correia J.R.; Roque M.	Application of classical laminate theory to predict the effect of elevated temperature on the elastic modulus of GFRP composites	Construction and Building Materials	V. 494, n.º (143445)	10.1016/j.conbuildmat.2025.143445	WoS AND SCOPUS	8.0	Q1	Q1
Castro W.; Barrelas J.; Mendes M.P.; Reinhart C.; Silva A.	Towards optimal energy efficiency: analysing generalized and tailored retrofitting decisions	Discover Applied Sciences	V. 7, n.º 7 (773)	10.1007/s42452-025-07440-0	WoS AND SCOPUS	-	Q2	
Ceolin V.N.; Gomes M.I.; Oliveira F.; Louro M.	Application of recycled high-density polyethylene for construction of non-structural wattle and daub walls	Interactions	V. 246, n.º 1 (45)	10.1007/s10751-025-02266-z	WoS AND SCOPUS	-	Q4	
Chagas M.C.; Falcão A.P.; Oliveira R.P.D.	Using Sentinel Imagery for Mapping and Monitoring Small Surface Water Bodies	Remote Sensing	V. 17, n.º 13 (2128)	10.3390/rs17132128	WoS AND SCOPUS	4.1	Q1	Q2
Chen X.; Hao H.; de Brito J.; Liu G.; Wang J.	Discussion of the implementation of water compensation methods for recycled aggregate concrete: A critical review	Cement and Concrete Composites	V. 161, n.º (106080)	10.1016/j.cemconcomp.2025.106080	WoS AND SCOPUS	13.1	Q1	Q1
Chiorcea-Paquim A.-M.; Mascini W.B.S.; Oliveira-Brett A.M.	Amyloid–ß peptides interaction with curcumin:AFM and electrochemical characterisation	Electrochimica Acta	V.525 (146160)	10.1016/j.electacta.2025.146160	WoS AND SCOPUS	5,8	Q1	Q2

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Chun K.P.; Octavianti T.; Dogulu N.; Tyralis H.; Papacharalampous G.; Rowberry R.; Fan P.; Everard M.; Francesch-Huidobro M.; Migliari W.; Hannah D.M.; Marshall J.T.; Calasanz R.T.; Staddon C.; Ansharyani I.; Dieppois B.; Lewis T.R.; Ponce J.; Ibrean S.; Ferreira T.M.; Peliño-Golle C.; Mu Y.; Delgado M.D.; Espinoza E.S.; Keulertz M.; Gopinath D.; Li C.	Transforming Disaster Risk Reduction With AI and Big Data: Legal and Interdisciplinary Perspectives	Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery	V. 15, n.º 2 (e70011)	10.1002/widm.70011	WoS AND SCOPUS	11.7	Q1	Q1
Coelho G.B.A.; Faria P.; Mowafy N.	Eco-Efficient Thermal Rehabilitation of Residential Buildings in Northeast Brazil Through Thermal Modeling Considering Future Climate Needs †	Buildings	V. 15, n.º 9 (1497)	10.3390/buildings15091497	WoS AND SCOPUS	3.1	Q1	Q2
Colaço R.; de Abreu e Silva J.	Does the 15-minute City Promote Sustainable Travel? Quantifying the 15-minute City and Assessing its Impact on Individual Motorized Travel, Active Travel, Public Transit Ridership and CO2 Emissions	Networks and Spatial Economics	V. , n.º (-)	10.1007/s11067-025-09670-6	WoS AND SCOPUS	1.5	Q2	Q3

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Colaço R.; de Abreu e Silva J.	Are we moving online? Assessing the interactions between telework and grocery purchases, eating out and meal deliveries	Transportation Research Part A: Policy and Practice	V. 195, n.º (104461)	10.1016/j.tra.2025.104461	WoS AND SCOPUS	6.8	Q1	Q1
Collet F.; Mertens S.; Faria P.	RILEM TC 275-HDB round-robin tests and proposals: moisture buffer value of vegetal concrete	Materials and Structures/Materiaux et Constructions	V. 58, n.º 1 (36)	10.1617/s11527-024-02550-4	WoS AND SCOPUS	3.9	Q1	Q2
Conde D.A.S.; Ferreira R.M.L.; Canelas R.; Ricardo A.M.; Mendes L.	A Distributed-Heterogeneous Design for Explicit Hyperbolic Solvers. Application to Tsunami Urban Run-Up Modelling	Journal of Advances in Modeling Earth Systems	V. 17, n.º 12 (e2024MS004602)	10.1029/2024MS004602	WoS AND SCOPUS	4.6	Q1	Q1
Condelipes P.G.M.; Petrou I.; Iria I.; Gonçalves J.; Santos R.; Chu V.; Conde J.P.	Microfluidic capillary platform with hydrophilic PDMS for point-of-care immunoassays	Sensors and Actuators B: Chemical	V. 423, n.º (136831)	10.1016/j.snb.2024.136831	WoS AND SCOPUS	7.7	Q1	Q1
Coronado-Hernández O.E.; Mouthón-Bello J.A.; Arrieta-Pastrana A.; Pérez-Sánchez M.; Ramos H.M.	Assessing Air Pocket Pressure Pulses in Sealed Manholes of Urban Drainage Systems Under Pressurisation Conditions	Water (Switzerland)	V. 17, n.º 7 (984)	10.3390/w17070984	WoS AND SCOPUS	3.0	Q1	Q2
Correia A.G.; Roshan M.J.; Moldovan I.D.; Tinoco J.; Owusu-Ansah D.; Tola S.; Parente M.; Azenha M.	Advancing transportation geotechnics through digital technologies	Soils and Rocks	V. 48, n.º 3 (e2025007525)	10.28927/SR.2025.007525	WoS AND SCOPUS	0.9	Q3	Q4

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Correia J.R.; Ascione L.; Keller T.; Mottram J.T.; Sena-Cruz J.; Paulotto C.; Knippers J.; Pacheco J.; Sørensen J.D.; Garrido M.; Sá M.; Firmo J.P.; Tromp L.	Overview and Aspects of the European Technical Specification CEN/TS 19101:2022, "design of Fibre-Polymer Composite Structures"	Journal of Composites for Construction	V. 29, n.º 2 (04024093)	10.1061/JCCOF2.CCENG-4833	WoS AND SCOPUS	3.9	Q1	Q2
Cortês, A.; Almeida, J.; Tadeu, A.	Fachada Verde Modular à Base de Aglomerado de Cortiça Expandida	Dossier Novos Produtos e Soluções de Baixo Carbono – Materiais de Construção (APCMC)	N.º 211 (56-59)	https://www.apcmc.pt/wp-content/uploads/Revista_211.pdf	Non WoS AND non SCOPUS	-		
Cortês, A; Gonsalves, D; Tadeu, A; Almeida, J	Investigating the thermal and acoustic performance of a modular living wall: a case study using bioclimatic and reverberation chambers	CASE STUDIES IN THERMAL ENGINEERING	V. 76 n.º , (107372)	10.1016/j.csite.2025.107372	Non WoS OR non SCOPUS	-	Q1	
Costa C.; Silva V.	Estimating Road Disruptions in Urban Contexts Due to Earthquakes Using Machine Learning Surrogates	Earthquake Engineering and Structural Dynamics	V. 54, n.º 7 (1799 - 1818)	10.1002/eqe.4318	WoS AND SCOPUS	5.0	Q1	Q1
Costa H.; do Carmo R.; Rodrigues T.; Rodrigues A.; Júlio E.	Development of eco ultra-high performance concrete for the prefabrication of ultra-thin concrete shells	Structural Concrete	V. 26, n.º 4 (3768 - 3787)	10.1002/suco.202400588	WoS AND SCOPUS	3.3	Q1	Q2

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Costa M.; Marques M.; Azevedo C.L.; Siebert F.W.; Moura F.	Which Cycling Environment Appears Safer? Learning Cycling Safety Perceptions From Pairwise Image Comparisons	IEEE Transactions on Intelligent Transportation Systems	V. 26, n.º 2 (1689 - 1700)	10.1109/TITS.2024.3507639	WoS AND SCOPUS	8.4	Q1	Q1
Costa M.; Marques M.; Siebert F.W.; Lima Azevedo C.; Moura F.	Bridging the gap: a scoping review exploring the relationship between objective and subjective cycling safety	Transport Reviews	V. 45, n.º 6 (993 - 1015)	10.1080/01441647.2025.2537200	WoS AND SCOPUS	9.9	Q1	Q1
Costa M.; Valença G.; Adorean C.; Moura F.	The relation between circuity and mobility cultures: A study of 41 European cities	Cities	V. 166, n.º (106087)	10.1016/j.cities.2025.106087	WoS AND SCOPUS	6.6	Q1	Q1
Couto C.; Gernay T.	Strength of thin-walled steel beams under non-uniform temperature: Analytical and machine learning models	Fire Safety Journal	V. 153, n.º (104357)	10.1016/j.firesaf.2025.104357	WoS AND SCOPUS	3.3	Q1	Q2
Couto C.; Vila Real P.; Lopes N.	Local-global buckling interaction in steel I-beams—A European design proposal for the case of fire	Thin-Walled Structures	V. 206, n.º (112664)	10.1016/j.tws.2024.112664	WoS AND SCOPUS	6.6	Q1	Q1
Couto R.; Mucedero G.; Bento R.; Monteiro R.	Priority analysis framework for equitable seismic and energy-efficiency renovation of residential buildings applied to mainland Portugal	Earthquake Spectra	V. 41, n.º 3 (1941 - 1976)	10.1177/87552930251335282	WoS AND SCOPUS	3.7	Q1	Q1
da Rocha G.S.; Rodrigues J.P.C.; da Silva Gazzana D.	Fire risk of electrical installations: a fuzzy petri net approach applied to the National Museum of Brazil	Architecture, Structures and Construction	V. 5, n.º 1 (4)	10.1007/s44150-024-00121-3	WoS AND SCOPUS	-		

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da Silva Neto J.A.; dos Anjos M.A.S.; Dutra R.P.S.; Mendonça de Souza M.; Pederneiras C.M.	Optimization via Taguchi of Artificial Lightweight Aggregates Obtained from Kaolinite Clay and Ceramic Waste: Development and Industrial Applications	Buildings	V. 15, n.º 12 (2003)	10.3390/buildings15122003	WoS AND SCOPUS	3.1	Q1	Q2
da Silva Neto J.A.; dos Anjos M.A.S.; Dutra R.P.S.; Mendonça de Souza M.; Pederneiras C.M.	Development of Sustainable Artificial Lightweight Aggregates with Binary Mixtures of Waste Rich in Aluminosilicate and Carbonate in Kaolinitic Clay	Sustainability (Switzerland)	V. 17, n.º 5 (2017)	10.3390/su17052017	WoS AND SCOPUS	3.3	Q1	Q3
Dabbeek J.; Crowley H.; Silva V.; Ozcebe S.	Impact of population spatiotemporal patterns on earthquake human losses	International Journal of Disaster Risk Reduction	V. 122, n.º (105455)	10.1016/j.ijdrr.2025.105455	WoS AND SCOPUS	4.5	Q1	Q1
Dafico L.C.M.; Almeida R.M.S.F.; Vicente R.; de Freitas V.P.; Barreira E.	Infrared thermography to assess the drying process of building materials	Infrared Physics and Technology	V. 147, n.º (105808)	10.1016/j.infrared.2025.105808	WoS AND SCOPUS	3.4	Q2	Q2
Daneshfaraz R.; Ghaderi A.; Azali A.; Kuriqi A.	Enhancing Hydraulic Efficiency in Denil Fishway: Impact of Baffle Configurations on Flow Characteristics	ACS ES and T Water	V. 5, n.º 3 (1295 - 1309)	10.1021/acsestwater.4c01060	WoS AND SCOPUS	4.3	Q1	Q1
das Neves N.S.; Landesmann A.; Camotim D.	Lateral-torsional failure and DSM design of CFS lipped channel beams at room and elevated temperatures	Thin-Walled Structures	V. 209, n.º (112520)	10.1016/j.tws.2024.112520	WoS AND SCOPUS	6.6	Q1	Q1
Daza-Marquez N.; Guzmán A.; Ávila Y.; Abellán-García J.; Castro A.; Molinares M.	INCORPORATING INDUSTRIAL WASTES INTO MORTAR MIX PRODUCTION: A STEP TOWARDS SUSTAINABLE CONSTRUCTION	Detritus	V. 30, n.º (38 - 46)	10.31025/2611-4135/2025.19465	WoS AND SCOPUS	-	Q3	

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de Almeida F.F.; Pinto da Costa A.; Simões F.M.F.	Buckling of plane frames under unilateral kinematic constraints	International Journal of Solids and Structures	V. 309, n.º (113185)	10.1016/j.ijsolstr.2024.113185	WoS AND SCOPUS	3.8	Q1	Q1
de Barros Christ A.K.; Roque C.; Moura F.	Estimate traffic cyclist crashes using Poisson-Tweedie models	Accident Analysis and Prevention	V. 223, n.º (108256)	10.1016/j.aap.2025.108256	WoS AND SCOPUS	6.2	Q1	Q1
de Carvalho M.S.; Melo P.C.; Rocha B.T.; Proença I.; de Abreu e Silva J.	Market Potential, Road Accessibility, and Firm Births: Evidence From 20 Years of Road Investment	Journal of Regional Science	V. 65, n.º 4 (984 - 1016)	10.1111/jors.12770	WoS AND SCOPUS	2.7	Q1	Q2
de Lourdes Ferreira Minervino B.; Calmeiro C.C.; Von Kruguer P.G.; Rodrigues J.P.C.	Fire Risk Analysis: A Proposal for Historic Buildings in Brazil	International Journal of Architectural Heritage	V. 19, n.º 4 (542 - 550)	10.1080/15583058.2024.2308512	WoS AND SCOPUS	2.4	Q1	Q2
de Lourdes Ferreira Minervino B.; dos Santos C.C.; von Krüger P.G.; Rodrigues J.P.C.	Fire safety regulations in Brazil: Analysis of the occupancy classification of buildings	Architecture, Structures and Construction	V. 5, n.º 1 (15)	10.1007/s44150-025-00128-4	WoS AND SCOPUS	-		
de Menezes Amorim J.; de Abreu e Silva J.	The influence of residential location and public transit options on commuters' intention to use travel apps for different travel purposes	Travel Behaviour and Society	V. 38, n.º (100913)	10.1016/j.tbs.2024.100913	WoS AND SCOPUS	5.7	Q1	Q1
de Morais A.B.	A modified direct method to determine the bondline mode I traction-separation law from the adhesively bonded metal double cantilever beam specimen	Engineering Fracture Mechanics	V. 315, n.º (110861)	10.1016/j.engfracmech.2025.110861	WoS AND SCOPUS	5.3	Q1	Q1

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De Paula J.M.P.; Pinto F.S.; Arantes A.; Marques R.C.	Closing the loop on water supply and sanitation: The dynamic links between population, ecosystems, and economic interactions	Sustainable Futures	V. 9, n.º (100434)	10.1016/j.sftr.2025.100434	WoS AND SCOPUS	4.9	Q1	Q1
Del Carlo F.; Caprili S.; Ferreira T.M.	Development and Validation of a New Approach to Assess the Seismic Vulnerability of Masonry Structures Based on the CARTIS Form	International Journal of Architectural Heritage	V. 19, n.º 10 (2299 - 2316)	10.1080/15583058.2024.2421296	WoS AND SCOPUS	2.4	Q1	Q2
Del Carlo F.; Caprili S.; Miguel Ferreira T.; Roca P.; Uzielli M.	Cluster analysis for informing vulnerability assessment of masonry churches to natural hazards	Bulletin of Earthquake Engineering	V. 23, n.º 5 (2113 - 2136)	10.1007/s10518-025-02116-x	WoS AND SCOPUS	4.1	Q1	Q2
Del Carlo F.; Ferreira T.M.; Uzielli M.; Caprili S.; Roca P.	Analysing physical vulnerability and risk of historical religious buildings to earthquake-triggered landslides	Georisk	V. , n.º (-)	10.1080/17499518.2025.2507286	WoS AND SCOPUS	4.8	Q1	Q1
Demaj A.; Marques A.I.; Ferreira J.G.; Gago A.S.	Experimental and numerical analysis of full-scale solid brick masonry walls reinforced with NSM twisted steel bars subjected to cylic loading	Results in Engineering	V. 28, n.º (107084)	10.1016/j.rineng.2025.107084	WoS AND SCOPUS	7.9	Q1	Q1
Di Castro Silva M.; Do Rocio de Mello Maron da Costa M.; Velosa A.L.P.L.; Torres M.I.M.	Mineralogical Characterization of Mortars in Ancient Portuguese Tile and Embrechado Restorations: The Cases of Maceió (AL) and Salvador (BA)	International Journal of Architectural Heritage	V. 19, n.º 8 (1294 - 1310)	10.1080/15583058.2025.2450442	WoS AND SCOPUS	2.4	Q1	Q2

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Di Gregorio L.; Costa A.; Tavares A.; Rodrigues H.; Fonseca J.; Guimarães G.; Haddad A.; Danziger F.; Jannuzzi G.	Comprehensive Design Process of CEB-Reinforced Masonry Panels for Earthquake and Hurricane-Resilient Houses	Buildings	V. 15, n.º 17 (3242)	10.3390/buildings15173242	WoS AND SCOPUS	3.1	Q1	Q2
Dias L.C.; Marques P.; Garcia R.; de Santo F.; Tentúgal R.; Natal-da-Luz T.; Sousa Á.; Sousa J.P.; Freire F.	Using qualitative information elicited from a panel to obtain robust conclusions: a protocol and an application to improve integrated pest management systems	Annals of Operations Research	V. 353, n.º 1 (3 - 24)	10.1007/s10479-024-06162-7	WoS AND SCOPUS	4.5	Q1	Q1
Dias L.C.; Marques P.; Garcia R.; de Santo F.; Tentúgal R.; Natal-da-Luz T.; Sousa Á.; Sousa J.P.; Freire F.	A multicriteria sustainability assessment for improving integrated pest management for vineyards	Journal of Cleaner Production	V. 505, n.º (145489)	10.1016/j.jclepro.2025.145489	WoS AND SCOPUS	10.0	Q1	Q1
Dos Santos Gonçalves J.; Mateus R.; Dinis Silvestre J.; Pereira Roders A.; Bragança L.	Building passport for the sustainable conservation of built heritage	Journal of Cultural Heritage Management and Sustainable Development	V. 15, n.º 2 (168 - 180)	10.1108/JCHMSD-10-2021-0177	WoS AND SCOPUS	1.2	Q1	Q4

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Douadi A.; Makhlouf A.; Belebchouche C.; Hebbache K.; Boutlikht M.; Moretti L.; Faria P.; Abderazek H.; Czarnecki S.; Chajec A.	Synergistic Optimization of Mortar Performance and Carbon Footprint Reduction Using Quarry Wastes and Natural Pozzolana: A Statistical and Experimental Study	Sustainability (Switzerland)	V. 17, n.º 16 (7346)	10.3390/su17167346	WoS AND SCOPUS	3.3	Q1	Q3
Duarte A.P.C.; Vanooteghem E.; Correia J.R.; Gomes M.G.	Thermal response of pultruded glass fibre-reinforced polymer profiles subjected to outdoor environmental conditions	Construction and Building Materials	V. 463, n.º (139971)	10.1016/j.conbuildmat.2025.139971	WoS AND SCOPUS	8.0	Q1	Q1
Duarte R.; Moret Rodrigues A.; Pimentel F.; Gomes M.D.G.	Design and Performance of a Large-Diameter Earth–Air Heat Exchanger Used for Standalone Office-Room Cooling	Applied Sciences (Switzerland)	V. 15, n.º 14 (7938)	10.3390/app15147938	WoS AND SCOPUS	2.5	Q2	Q3
e Silva J.A.E.; Colaço R.	Residential dissonance of teleworkers: Implications on relocation and impacts on urban sprawl in a post-COVID world	Journal of Transport and Land Use	V. 18, n.º 1 (425 - 445)	10.5198/jtlu.2025.2693	WoS AND SCOPUS	2.2	Q1	Q3
Elmoudnia H.; Faria P.; Jalal R.; Waqif M.; Saâdi L.	A comprehensive chemical, physical, mechanical, and thermal characterization of novel cellulosic plant extracted from the petiole of Washingtonia robusta fibers	Biomass Conversion and Biorefinery	V. 15, n.º 10 (14923 - 14939)	10.1007/s13399-024-06178-w	WoS AND SCOPUS	4.1	Q2	Q3
Elmoudnia H.; Millogo Y.; Faria P.; Jalal R.; Waqif M.; Saâdi L.	Development of Doum Palm Fiber-Based Building Insulation Composites with Citric Acid/Glycerol Eco-Friendly Binder	Journal of Composites Science	V. 9, n.º 2 (67)	10.3390/jcs9020067	WoS AND SCOPUS	3.7	Q1	Q2

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Emanuel-Cristian, A; Jordi, N; Laura, GJ; Filipe, M	Perceptions of safety and security among e-bike and e-scooter users in Iberian capital cities: Implications for urban mobility planning	TRANSPORTATION RESEARCH PART F: TRAFFIC PSYCHOLOGY AND BEHAVIOUR	V. 114 n.º , (977 - 1005)	10.1016/j.trf.2025.07.009	WoS AND SCOPUS	4.4	Q1	Q2
Espinosa L.A.; Portela M.M.	Red-Hot Portugal: Mapping the Increasing Severity of Exceptional Maximum Temperature Events (1980–2024)	Atmosphere	V. 16, n.º 5 (514)	10.3390/atmos16050514	WoS AND SCOPUS	2.3	Q2	Q3
Estevão X.M.; Dias A.P.S.; Flores-Colen I.; Pereira M.F.C.; Mendes M.P.	Environmental impact of disposable face masks: degradation, wear, and cement mortar incorporation	Environmental Science and Pollution Research	V. 32, n.º 5 (2698 - 2712)	10.1007/s11356-025-35904-8	WoS AND SCOPUS	-	Q1	
Esteves R.; Mendes D.; Neves M.G.; Oliveira T.; Pinto J.P.	Corrigendum to "Observed changes in significant wave heights derived from long-term homogenized measurements offshore mainland Portugal" [Applied Ocean Research Volume 158, May 2025] (Applied Ocean Research (2025) 158, (S0141118725001348), (10.1016/j.apor.2025.104546))	Applied Ocean Research	V. 161, n.º (104658)	10.1016/j.apor.2025.104658	WoS AND SCOPUS	-	Q1	
Esteves R.; Mendes D.; Neves M.G.; Oliveira T.; Pinto J.P.	Observed changes in significant wave heights derived from long-term homogenized measurements offshore mainland Portugal	Applied Ocean Research	V. 158, n.º (104546)	10.1016/j.apor.2025.104546	WoS AND SCOPUS	-	Q1	
Fabbri A.; Colinart T.; Auger S.; Aubert J.-E.; Faria P.; Grillet A.C.; Perlot C.; McGregor F.	Recommendation of RILEM TC 274-TCE: test method to determine the apparent water vapor transfer coefficient of earthen materials	Materials and Structures/Materiaux et Constructions	V. 58, n.º 5 (159)	10.1617/s11527-025-02651-8	WoS AND SCOPUS	3.9	Q1	Q2

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Fagundes T.S.; Marques R.C.; Ferreira D.F.D.C.; Malheiros T.F.	Exploring water affordability through subsidy policies	Water Research	V. 286, n.º (124251)	10.1016/j.watres.2025.124251	WoS AND SCOPUS	12.4	Q1	Q1
Fagundes T.S.; Marques R.C.; Malheiros T.F.	A Comprehensive Framework for Water Affordability Analysis	Water Resources Management	V. 39, n.º 6 (2527 - 2549)	10.1007/s11269-024-04076-4	WoS AND SCOPUS	4.7	Q1	Q1
Falcão A.P.; Gonçalves A.B.; Machete R.; Silva J.; Bento R.	Dimensions of interoperability in BIM-supported seismic structural studies: Application to the H-BIM of the chalet of the countess of Edla in Sintra, Portugal	Journal of Cultural Heritage	V. 72, n.º (217 - 225)	10.1016/j.culher.2025.02.007	WoS AND SCOPUS	3.3	Q1	Q2
Falcão A.P.; Pernes J.; Miranda V.; Silva C.M.	Mapping Green Roofs on Buildings Using Vegetation Indices and Deep Learning Techniques	Remote Sensing	V. 17, n.º 21 (3657)	10.3390/rs17213657	WoS AND SCOPUS	4.1	Q1	Q2
Fecko T.; Kormošová Ľ.; Ramos A.P.; Halvonik J.	Punching shear behaviour of full-scale slab-column connections cast from concrete with coarse recycled aggregate	Engineering Structures	V. 345, n.º (121460)	10.1016/j.engstruct.2025.121460	WoS AND SCOPUS	6.4	Q1	Q1
Félix R.; Moura F.; Clifton K.J.	Corrigendum to “The Hierarchy of Cycling Needs: Modeling the self-assessed propensity to bicycle” (Journal of Urban Mobility (2025) 7, (S2667091725000329), (10.1016/j.urbmob.2025.100130))	Journal of Urban Mobility	V. , n.º (100159)	10.1016/j.urbmob.2025.100159	WoS AND SCOPUS	6.1	Q1	Q1
Félix R.; Moura F.; Clifton K.J.	The Hierarchy of Cycling Needs: Modeling the self-assessed propensity to bicycle	Journal of Urban Mobility	V. 7, n.º (100130)	10.1016/j.urbmob.2025.100130	WoS AND SCOPUS	6.1	Q1	Q1
Félix R.; Moura F.; Lovelace R.	Reproducible methods for modeling combined public transport and cycling trips and associated benefits: Evidence from the biclaR tool	Computers, Environment and Urban Systems	V. 117, n.º (102230)	10.1016/j.compenvurbsys.2024.102230	WoS AND SCOPUS	8.3	Q1	Q1

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Feng R.; Besharat M.; Van Meerkerk M.; Van Batenburg T.; Moreno-Rodenas A.; Tasca E.; Zhou L.; Ramos H.M.	Impact of air valves on air–water dynamics during pump startup and shutdown	Physics of Fluids	V. 37, n.º 12 (123310)	10.1063/5.0301523	WoS AND SCOPUS	4.3	Q1	Q1
Fernandes J.N.; Alizadeh L.	Sedimentation Pattern as a Response to Hydrodynamics in a Near-Symmetric River Confluence	Sustainability (Switzerland)	V. 17, n.º 9 (3790)	10.3390/su17093790	WoS AND SCOPUS	3.3	Q1	Q3
Fernandes J.N.; Leal J.B.; Cardoso A.H.	Shear Layer Development and Fully Developed Flows in Compound Channels	Water Resources Management	V. 39, n.º 3 (1055 - 1072)	10.1007/s11269-024-04005-5	WoS AND SCOPUS	4.7	Q1	Q1
Fernandes J.N.; Singh P.; Leal J.B.; Cardoso A.H.	Floodplain Transition Zone Hydrodynamics: The Role of Riparian and Floodplain Vegetation in Compound Channel Flows	Ecohydrology	V. 18, n.º 7 (e70123)	10.1002/eco.70123	WoS AND SCOPUS	2.1	Q1	Q3
Fernandes P.; Elbashir D.; Agante M.	Experimental characterization of indented dry connections for precast double-curved concrete shells	Structural Concrete	V. 26, n.º 4 (3797 - 3808)	10.1002/suco.202400647	WoS AND SCOPUS	3.3	Q1	Q2
Fernandes P.; Elbashir D.; Cavaco E.; Almeida N.; Henriques P.	Production and assembly of ultra-thin concrete shells using prefabrication	Structural Concrete	V. 26, n.º 4 (3905 - 3915)	10.1002/suco.202400708	WoS AND SCOPUS	3.3	Q1	Q2
Fernández F.; Oliveira C.S.; Vargas E.; Sousa L.R.; Malheiro A.; Chen X.; Amaral P.; Moniz L.; Sousa R.L.	Seismic Stability Assessment of Volcanic Slopes: A Case Study from São Miguel Island, Azores	Rock Mechanics and Rock Engineering	V. 58, n.º 10 (11475 - 11500)	10.1007/s00603-025-04404-z	WoS AND SCOPUS	6.6	Q1	Q1

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Ferreira B.; Carriço N.; Covas D.	Near Real-time Leak Location by Inverse Analysis Integrating Measurement Uncertainty	Water Resources Management	V. 39, n.º 1 (503 - 521)	10.1007/s11269-024-03983-w	WoS AND SCOPUS	4.7	Q1	Q1
Ferreira I.A.; Miranda P.; Marreiros J.; Mendes A.; Carriço N.	Why do open data platforms Fail? – A revised conceptual model with mitigations actions	Computers and Industrial Engineering	V. 203, n.º (111042)	10.1016/j.cie.2025.111042	WoS AND SCOPUS	6.5	Q1	Q1
Ferreira L.; Yano M.O.; Souza L.; Moldovan I.; da Silva S.; Lopes R.; Cimini C.A., Jr.; Costa J.C.W.A.; Figueiredo E.	Transfer learning and Bayesian calibration addressing data scarcity and uncertainty for structural health monitoring of twin concrete bridges	Mechanical Systems and Signal Processing	V. 235, n.º (112845)	10.1016/j.ymssp.2025.112845	WoS AND SCOPUS	8.9	Q1	Q1
Ferreira L.D.P.S.; Teloli R.D.O.; da Silva S.; Figueiredo E.; Maia N.; Cimini C.A., Jr	Bayesian data-driven framework for structural health monitoring of composite structures under limited experimental data	STRUCTURAL HEALTH MONITORING-AN INTERNATIONAL JOURNAL	V. 24, n.º 2 (738 - 760)	10.1177/14759217241236801	WoS AND SCOPUS	5.7	Q1	Q1
Ferreira M.A.; Oliveira C.S.; Francisco R.	Tsunami risk mitigation: the role of evacuation routes, preparedness and urban planning	Natural Hazards	V. 121, n.º 6 (6719 - 6751)	10.1007/s11069-024-07061-7	WoS AND SCOPUS	3.7	Q1	Q2
Ferreira M.T.H.A.; Costa A.A.; Silvestre J.D.	Environmental optimization and benchmarking of walls through a BIM plugin	Architectural Engineering and Design Management	V. 21, n.º 5 (931 - 960)	10.1080/17452007.2024.2448811	WoS AND SCOPUS	2.5	Q1	Q2
Ferreira Pinto A.P.; Sena da Fonseca B.; Mègre Pires S.; Machado R.	Potential and limitations of available dual function products to address new stone conservation challenges	Case Studies in Construction Materials	V. 22, n.º (e04601)	10.1016/j.cscm.2025.e04601	WoS AND SCOPUS	6.6	Q1	Q1

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Ferreira R.; Pereira J.; Diniz H.; de Azevedo A.R.G.; Pederneiras C.; de Farias E.; Carneiro A.	Evaluating the use of diatomaceous earth waste and by-products as a supplementary cementitious material	Environmental Science and Pollution Research	V. 32, n.º 35 (21072 - 21091)	10.1007/s11356-025-36905-3	WoS AND SCOPUS	-	Q1	
Ferreira, F.	A Estratégia Europeia para a Resiliência da Água	Indústria Ambiente	N.º 152 (36-39)	-	Non WoS AND non SCOPUS	-		
Figueiredo A.; Vela G.; Ascensão G.; Vettorazzi E.; Vicente R.; Oliveira M.	Development of an innovative biocomposite using coconut fibres and bio-based binder for thermal and acoustic aplications in buildings	Journal of Cleaner Production	V. 491, n.º (144834)	10.1016/j.jclepro.2025.144834	WoS AND SCOPUS	10.0	Q1	Q1
Figueiredo E.; Peres N.; Moldovan I.; Nasr A.	Impact of climate change on long-term damage detection for structural health monitoring of bridges	STRUCTURAL HEALTH MONITORING-AN INTERNATIONAL JOURNAL	V. 24, n.º 4 (2252 - 2270)	10.1177/14759217231224254	WoS AND SCOPUS	5.7	Q1	Q1
Filho E.H.C.; Stefanutti R.; Oliveira U.C.D.; Matos J.S.	Water Reuse: Contribution of a Decision Support Model	Sustainability (Switzerland)	V. 17, n.º 2 (692)	10.3390/su17020692	WoS AND SCOPUS	3.3	Q1	Q3
Fiorini C.; Arruda M.; Craveiro H.D.; Santiago A.; Branco F.	Assessment of the proposed wildfire curves for housing design protection	Fire Safety Journal	V. 155, n.º (104409)	10.1016/j.firesaf.2025.104409	WoS AND SCOPUS	3.3	Q1	Q2
Fonseca J.; Costa A.; Rodrigues H.	Characterization of Portuguese Masonry Walls: Insights from Flat-Jack Tests	International Journal of Architectural Heritage	V. , n.º (-)	10.1080/15583058.2025.2557397	WoS AND SCOPUS	2.4	Q1	Q2

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Forero J.; Pacheco J.; Sequeira L.; Bravo M.; de Brito J.; Evangelista L.	A comprehensive study on the impact of reactive magnesium oxide (MgO) on concrete properties: mechanical and durability assessment	Journal of Sustainable Cement-Based Materials	V. 14, n.º 12 (2693 - 2712)	10.1080/21650373.2025.2551635	WoS AND SCOPUS	4.2	Q1	Q2
Fraga Filho C.A.D.; Ferreira R.M.L.; Aleixo R.; Canelas R.; Amaral S.; Viseu T.	SPH modelling of mass detachment processes in overtopped dams. The limits of Froude similarity	Advances in Water Resources	V. 202, n.º (104987)	10.1016/j.advwatres.2025.104987	WoS AND SCOPUS	4.2	Q1	Q1
Francisco R.; Matos J.P.; Marinheiro R.; Lopes N.; Portela M.M.; Barros P.	Application of Temporal Fusion Transformers to Run-Of-The-River Hydropower Scheduling	Hydrology	V. 12, n.º 4 (81)	10.3390/hydrology12040081	WoS AND SCOPUS	3.2	Q1	Q2
Freire, T.	Componentes dos Estuques Portugueses. O que nos esconde a História?	Revista Pedra & Cal	N.º 78 (6-11)	-	Non WoS AND non SCOPUS	-		
Galhofo D.; Duarte A.P.C.; Silvestre N.	Preventing wrinkling in Kapton solar sails through graphene reinforcement	Structures	V. 77, n.º (108931)	10.1016/j.istruc.2025.108931	WoS AND SCOPUS	4.3	Q1	Q1
Galuppi L.; Zacchei E.; Esteves M.; Simões N.	Double Glass Units simply supported on two sides: Analytical-numerical modeling and experimental testing	Engineering Structures	V. 334, n.º (120212)	10.1016/j.engstruct.2025.120212	WoS AND SCOPUS	6.4	Q1	Q1
Galvão A.; Rodrigues M.; Mata J.; Silva C.M.	Green walls for greywater treatment: A comprehensive review of operational parameters and climate influence on treatment performance	Water Research	V. 272, n.º (122948)	10.1016/j.watres.2024.122948	WoS AND SCOPUS	12.4	Q1	Q1

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Galvão, A.	Inteligência Artificial para a Gestão da Água: Ferramenta para a Sustentabilidade ou Novo Desafio Ambiental?	Indústria e Ambiente	N.º 154 (36)	-	Non WoS AND non SCOPUS	-		
Ghaderi A.; Rezaei A.H.; Parvinshoar A.; Mahmoudi Hoseyni A.; Kuriqi A.	Elevated Crests and Their Impact on Flow Dynamics in Crump Weir Structures	ACS ES and T Water	V. 5, n.º 7 (4089 - 4101)	10.1021/acsestwater.5c00305	WoS AND SCOPUS	4.3	Q1	Q1
Gil-Martín, LM; Oliveira, MJ; Fernández-Ruiz, MA; Branco, FG; Hernández-Montes, E	Sustainable Use of Volcanic Ash in Mortars as a Replacement for Cement or Sand: Shrinkage and Physical and Mechanical Properties	MATERIALS	V. 18 n.º 15, (3694)	10.3390/ma18153694	WoS AND SCOPUS	3.2	Q2	Q3
Gomes B.; Cavaco E.; Fernandes P.; Júlio E.; Tavares M.E.	The effects of post-tension in the behavior of thin funicular concrete shells	Structural Concrete	V. 26, n.º 4 (3822 - 3836)	10.1002/suco.70147	WoS AND SCOPUS	3.3	Q1	Q2
Gomes M.G.; Marques da Silva F.; Sousa J.H.; Martinho N.; Moret Rodrigues A.	Experimental and numerical study of wind effect on an ultra-thin concrete triangular plan shell structure	Structural Concrete	V. 26, n.º 4 (3837 - 3851)	10.1002/suco.202400409	WoS AND SCOPUS	3.3	Q1	Q2
Gomes M.I.; Barreiros A.M.; Pinto I.; Rodrigues A.	Improving Indoor Air Quality in a Higher-Education Institution Through Biophilic Solutions †	Sustainability (Switzerland)	V. 17, n.º 11 (5041)	10.3390/su17115041	WoS AND SCOPUS	3.3	Q1	Q3

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Gonçalves M.; Figueiredo A.; Almeida R.M.S.F.; Vicente R.	Design and thermal performance analysis of a dynamic shading device incorporating phase change materials	Journal of Energy Storage	V. 134, n.º (118179)	10.1016/j.est.2025.118179	WoS AND SCOPUS	9.8	Q1	Q1
Gonçalves M.; Figueiredo A.; Vela G.; Rebelo F.; Almeida R.M.S.F.; Oliveira M.S.A.; Vicente R.	Effect of Macrocapsule Geometry on PCM Performance for Thermal Regulation in Buildings	Energies	V. 18, n.º 2 (303)	10.3390/en18020303	WoS AND SCOPUS	3.2	Q1	Q3
Gonçalves R.	Extension of GBT to the buckling analysis of tapered regular convex polygonal tubes	Thin-Walled Structures	V. 211, n.º (113101)	10.1016/j.tws.2025.113101	WoS AND SCOPUS	6.6	Q1	Q1
Gonçalves R.	First-order GBT for tapered regular convex polygonal tubes	Thin-Walled Structures	V. 207, n.º (112735)	10.1016/j.tws.2024.112735	WoS AND SCOPUS	6.6	Q1	Q1
Gonçalves R.; Camotim D.; Manta D.	Recent developments in the modeling of thin-walled structures combining GBT and shell finite elements	Mechanics Research Communications	V. 149, n.º (104525)	10.1016/j.mechrescom.2025.104525	WoS AND SCOPUS	2.3	Q2	Q3
Gonilha J.; Lazzari J.A.D.; Ramôa Correia J.; Silvestre N.	Compressive resistance of thin-walled pultruded GFRP profiles: The role of delamination examined through experiments and FE simulations	Composites Part B: Engineering	V. 288, n.º (111929)	10.1016/j.compositesb.2024.111929	WoS AND SCOPUS	14.2	Q1	Q1
González D.; Silva V.; Acevedo A.B.; Tarque N.; Lovon H.; Santa-Maria H.; Hube M.; Coronel-Delgado G.; Celi C.	Model of seismic design regulations and lateral force coefficients for buildings in South America	Bulletin of Earthquake Engineering	V. 23, n.º 14 (6497 - 6518)	10.1007/s10518-025-02287-7	WoS AND SCOPUS	4.1	Q1	Q2

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González-Caro, A; Lamaa, G; Silva, RV; de Brito, J; Jiménez, JR; Fernández-Rodríguez, JM; Merino-Lechuga, AM	CO2-cured alkali-activated pervious paving blocks incorporating seashell sand	Materials and Structures/Materiaux et Constructions	V. 59 n.º 1, (23)	10.1617/s11527-025-02912-6	WoS AND SCOPUS	3.9	Q1	Q2
Graus S.; Ferreira T.M.; Vasconcelos G.; Ortega J.; Sarmento J.	A novel methodology for assessing social vulnerability in depopulating rural communities: Application to Montesinho Natural Park, Portugal	International Journal of Disaster Risk Reduction	V. 130, n.º (105815)	10.1016/j.ijdrr.2025.105815	WoS AND SCOPUS	4.5	Q1	Q1
Gruss Ł.; Cyganowski P.; Tomczyk P.; Wiatkowski M.; Kasperek R.; Pulikowski K.; Rosik-Dulewska C.; Kinas S.; Skorulski W.	Anion exchange resin installation in reducing nitrate nitrogen and phosphate phosphorus concentrations: The backwater of Turawa reservoir, Poland case study	Ecohydrology and Hydrobiology	V. 25, n.º 3 (718 - 732)	10.1016/j.ecohyd.2024.12.003	WoS AND SCOPUS	2.2	Q1	Q2
Gruss Ł.; Willems P.; Tomczyk P.; Pollert J., Jr.; Märtner C.; Czaban S.; Wiatkowski M.	Evaluation of the Dual Gamma Generalized Extreme Value distribution for flood events in Poland	Hydrology and Earth System Sciences	V. 29, n.º 20 (5165 - 5184)	10.5194/hess-29-5165-2025	WoS AND SCOPUS	5.8	Q1	Q1

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Gueddari H.; Akodad M.; El Yousfi Y.; Kader S.; Kuriqi A.; Benyoussef S.; Chahban M.; Alsayer I.; Maach M.; Azour H.; Mabrouki J.	ASSESSMENT OF WATER QUALITY AND HYDROGEOCHEMICAL DYNAMICS IN THE GARET-BOUAREG AQUIFER, NORTHEASTERN MOROCCO, USING GIS AND STATISTICAL APPROACHES	Water Conservation and Management	V. 9, n.º 3 (520 - 532)	10.26480/wcm.03.2025.520.532	WoS AND SCOPUS	-	Q2	
Hammes N.; Monteiro J.; Rocha Segundo I.; Felgueiras H.P.; Silva M.M.; Costa M.F.M.; Carneiro J.	Development of Co-Axial Fibres Composed of CA (Mn 50,000) and PEGs (600 and 1000): Evaluation of the Influence of the Coagulation Bath	Applied Sciences (Switzerland)	V. 15, n.º 6 (3028)	10.3390/app15063028	WoS AND SCOPUS	2.5	Q2	Q3
Harbiankova A.; Manso M.	Integrating green roofs and green walls to enhance buildings thermal performance: A literature review	Building and Environment	V. 270, n.º (112524)	10.1016/j.buildenv.2025.112524	WoS AND SCOPUS	7.6	Q1	Q1
Hassanloui M.V.; Lajevardi S.H.; Ahmadi H.; Saba H.R.; Kuriqi A.	Correction to: Evaluation of Geotechnical Properties of Sediments of the Top Layer of Hypersaline Lakes: The Case of Lake Urmia (International Journal of Civil Engineering, (2025), 23, 2, (243-259), 10.1007/s40999-024-01040-6)	International Journal of Civil Engineering	V. 23, n.º 5 (1057 -)	10.1007/s40999-024-01051-3	WoS AND SCOPUS	2.0	Q2	Q3
Hassanpour M.; Costa A.; Cruz C.O.	Implications of Autonomous Buses on Public Transit Systems: A Literature Review	U.Porto Journal of Engineering	V. 11, n.º 1 (17 - 39)	10.24840/2183-6493_0011-001_002715	WoS AND SCOPUS	-	Q3	
Hassanshahi O.; Salati M.; Azimi N.; Bakhshi M.	Hybrid Steel Fibers and RCA in RCC Pavements: Mechanical Recovery, Freeze–Thaw Durability, and Eco-Efficiency	Infrastructures	V. 10, n.º 12 (321)	10.3390/infrastructures10120321	WoS AND SCOPUS	2.9	Q2	Q2

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Henriques D.; Gonçalves R.	On buckling of compact I-section beams subjected to biaxial bending	Advances in Structural Engineering	V. 28, n.º 6 (1041 - 1057)	10.1177/13694332241300678	WoS AND SCOPUS	2.6	Q1	Q2
Henriques D.; Peres N.; Gonçalves R.	Efficient generation of standard and non-standard influence functions using Generalized Beam Theory	Structures	V. 75, n.º (108673)	10.1016/j.istruc.2025.108673	WoS AND SCOPUS	4.3	Q1	Q1
Henriques D.F.	Understanding Structural Timber in Old Buildings in Lisbon, Portugal: From Knowledge of Construction Processes to Physical–Mechanical Properties	Buildings	V. 15, n.º 7 (1161)	10.3390/buildings15071161	WoS AND SCOPUS	3.1	Q1	Q2
Henriques D.F.; Şen A.U.; Gomes M.D.G.	Assessing the Density of Wood in Heritage Buildings' Elements Through Expedited Semi-Destructive Techniques	Applied Sciences (Switzerland)	V. 15, n.º 13 (7552)	10.3390/app15137552	WoS AND SCOPUS	2.5	Q2	Q3
Hokmabadi H.; Rezvani S.M.H.S.; Hokmabadi H.; de Almeida N.M.	Business Resilience Through AI-Agent Automation for SMEs and Startups: A Review on Agile Marketing and CRM	Information (Switzerland)	V. 16, n.º 11 (1000)	10.3390/info16111000	WoS AND SCOPUS	-	Q2	
Hunt J.D.; Nascimento A.; Zakeri B.; Ilyas A.; Ramos D.S.; Kuriqi A.; Tolmasquim M.T.; de Freitas M.A.V.; Brandão R.; Wada Y.	Optimizing hydropower generation with reservoir level management in humid regions	Energy Reports	V. 13, n.º (856 - 864)	10.1016/j.egyr.2024.12.064	WoS AND SCOPUS	5.1	Q1	Q2
Hurtado-Alonso N.; Bravo M.; de Brito J.; Revilla-Cuesta V.; Skaf M.	Evaluation of the durability of structural concrete with low contents of Raw-Crushed Wind Turbine Blade	Construction and Building Materials	V. 485, n.º (141900)	10.1016/j.conbuildmat.2025.141900	WoS AND SCOPUS	8.0	Q1	Q1

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Jan A.; Ferrari L.; Neves R.; Franzoni E.; de Brito J.	Durability and rheological properties of concrete with recycled fine and coarse aggregates and LC3	Construction and Building Materials	V. 498, n.º (143993)	10.1016/j.conbuildmat.2025.143993	WoS AND SCOPUS	8.0	Q1	Q1
Januário J.F.; Varum H.; Sousa V.F.E.; Cruz C.O.	Real Estate Resilience: Unveiling Seismic Preferences through Real Estate Prices in Lisbon, Portugal	Journal of Urban Planning and Development	V. 151, n.º 3 (04025028)	10.1061/JUPDDM.UPENG-5296	WoS AND SCOPUS	1.9		Q2
Jónatas R.; Amaral S.; Aleixo R.; Serra J.B.; Ferreira R.M.L.	In Situ Estimation of Breach Outflow Hydrographs from Fluvial Dike Failures: A Methodology Integrating Real-Time Monitoring and Physical Modelling †	Infrastructures	V. 10, n.º 12 (335)	10.3390/infrastructures10120335	WoS AND SCOPUS	2.9	Q2	Q2
Jónatas R.J.L.; Aleixo R.J.F.; Amaral S.R.C.; Mendes S.V.; Viseu M.T.F.S.; Ferreira R.M.L.	Laboratory Application of Real-Time LiDAR Technology for Assessing Breach Morphology during the Failure of Earth Dams and Fluvial Dikes	Journal of Hydraulic Engineering	V. 151, n.º 6 (04025033)	10.1061/JHEND8.HYENG-14126	WoS AND SCOPUS	2.8	Q2	Q2
Jorge, H.; Ascensão, G.; Francisco, V.; Rodrigues, H.; Ferreira, V.	Cultural heritage in stone: potential of the use of additive manufacturing in restoration	Técnica – Revista Técnica da Indústria da Fileira do Habitat	N.º 30 (44–47)	https://bit.ly/3ImaOYv	Non WoS AND non SCOPUS			
Joshi A.; Gaspar F.; Archbold P.; Silvestre J.D.	Study on the Composition of Mortars Based on Forest Biomass Fly Ash for Sustainable 3D Printing	Journal of Architectural Engineering	V. 31, n.º 4 (04025034)	10.1061/JAEIED.AEENG-1974	WoS AND SCOPUS	1.5	Q1	Q3
Kappler L.B.; Colaço R.; Melo P.C.; de Abreu e Silva J.	Will Telework Reduce Travel? An Evaluation of Empirical Evidence with Meta-Analysis	Urban Science	V. 9, n.º 6 (199)	10.3390/urbansci9060199	WoS AND SCOPUS	2.9	Q1	Q1

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Kappler L.B.; de Abreu e Silva J.	Telework frequency and travel behaviour during the later stages of the COVID-19 pandemic. A study across different Metropolitan Areas: Lisbon, Istanbul, and Porto Alegre	Journal of Transport Geography	V. 123, n.º (104102)	10.1016/j.jtrangeo.2024.104102	WoS AND SCOPUS	6.3	Q1	Q1
Kartal V.; Karakoyun E.; Akiner M.E.; Katipoğlu O.M.; Kuriqi A.	Optimizing river flow rate predictions: integrating cognitive approaches and meteorological insights	Natural Hazards	V. 121, n.º 5 (123981)	10.1007/s11069-024-07043-9	WoS AND SCOPUS	3.7	Q1	Q2
Kassim D.; Ibrahim M.B.; Merino-Lechuga A.M.; de Brito J.; Silva R.V.	Accelerated carbonation curing of alkali-activated electric arc furnace slag and ground ceramic brick mixes with variable Ca/Si and Si/Al ratios	Journal of Building Engineering	V. 112, n.º (113909)	10.1016/j.jobe.2025.113909	WoS AND SCOPUS	7.4	Q1	Q1
Király K.; Dunai L.; Calado L.; Kocsis A.B.	Experimental study on demountable steel-concrete composite beams	Journal of Constructional Steel Research	V. 231, n.º (109582)	10.1016/j.jcsr.2025.109582	WoS AND SCOPUS	4.3	Q1	Q1
Koukou M.K.; Lucas S.; Justino J.; Rafael S.; Livieratos A.D.; Carriço N.; Konstantaras J.; Vrachopoulos M.G.; Benedetti A.C.; Mazzoli C.; Ferrante A.; Abdollah M.A.F.; Scoccia R.; Famiglietti J.; Bakoń T.; Aleksiejuk-Gawron J.	Training for Sustainable and Healthy Building for 2050: New Methodologies for an Integrated and Transnational Education Approach Targeting Skills Development for the Transition Toward ZEB and PEB Buildings	Buildings	V. 15, n.º 1 (67)	10.3390/buildings15010067	WoS AND SCOPUS	3.1	Q1	Q2

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L. Quaresma A.; Mameri D.; Boavida I.; Romão F.	Flow, refuge, and invasion: common carp (Cyprinus carpio) behaviour under simulated hydropeaking conditions	Journal of Ecohydraulics	V. , n.º (-)	10.1080/24705357.2025.2601590	WoS AND SCOPUS	1.8	Q2	Q3
La Pasta Cordeiro M.; Nunes J.P.; Condesso de Melo M.T.	Impact of wildfires on spatial and temporal evolution of groundwater recharge in an Atlantic pine forest: An integrated approach using field, remote sensing and modeling.	Journal of Hydrology: Regional Studies	V. 59, n.º (102408)	10.1016/j.ejrh.2025.102408	WoS AND SCOPUS	5.0	Q1	Q1
Langner M.; Soares T.A.; Figueiredo A.; Almeida R.M.S.F.; Vicente R.	Parametric Analysis of Steel Studs to Reduce Thermal Bridges in Light Steel Framing Construction Systems	Buildings	V. 15, n.º 2 (194)	10.3390/buildings15020194	WoS AND SCOPUS	3.1	Q1	Q2
Lazzari J.A.D.; Martins A.D.; Correia J.R.; Martins L.L.; Ribeiro Á.S.; Pinheiro A.; Silvestre N.	Statistical analysis of dimensional deviations and geometrical imperfections of pultruded GFRP open-section profiles	Thin-Walled Structures	V. 210, n.º (112902)	10.1016/j.tws.2024.112902	WoS AND SCOPUS	6.6	Q1	Q1
Leite R.; Boavida I.; Costa M.J.; Godinho F.; Pinheiro A.N.; Santos J.M.	Overlap evidence in fish microhabitat use in low-order rivers affected by small hydropower plants	Ecohydrology and Hydrobiology	V. 25, n.º 4 (100683)	10.1016/j.ecohyd.2025.100683	WoS AND SCOPUS	2.2	Q1	Q2
Lemos G.; Soares P.M.M.; Simões R.; Antunes C.; Bosnic I.; Pinto C.	A physical climate storyline for the Hercules storm in Portugal: Extreme coastal flooding in southwestern Europe under a changing climate	Science of the Total Environment	V. 971, n.º (179050)	10.1016/j.scitotenv.2025.179050	WoS AND SCOPUS	8.0	Q1	Q1

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Lemos J.V.; Oliveira C.S.; Rupakhety R.	Collapse of the Dharahara Tower During the April 25, 2015 Nepal Earthquake: A New Interpretation Based on Video-Camera Footage	International Journal of Architectural Heritage	V. 19, n.º 10 (1977 - 1994)	10.1080/15583058.2024.2385964	WoS AND SCOPUS	2.4	Q1	Q2
Lessa F.P.; Lima O., Jr.; Margalho É.; Zahabizadeh B.; Cunha V.M.C.F.; Pereira E.; Camões A.; Costa M.F.M.; Rocha Segundo I.; Carneiro J.	Comparative Evaluation of Photocatalytic Efficiency Measurement Techniques Through Rhodamine B Degradation in TiO2-Based Cementitious Materials	Catalysts	V. 15, n.º 3 (201)	10.3390/catal15030201	WoS AND SCOPUS		Q2	
Li T.; Nogueira R.; de Brito J.; Faria P.; Liu J.	Effect of recycled concrete powder on the evolution of the static yield stress of cement paste	Cement and Concrete Composites	V. 162, n.º (106158)	10.1016/j.cemconcomp.2025.106158	WoS AND SCOPUS	13.1	Q1	Q1
Li T.; Nogueira R.; de Brito J.; Faria P.; Liu J.	Effect of recycled concrete powder on the rheological properties of cement paste: New findings	Cement and Concrete Composites	V. 156, n.º (105873)	10.1016/j.cemconcomp.2024.105873	WoS AND SCOPUS	13.1	Q1	Q1
Li Y.; Li W.; Zhang W.; Liu C.; Cachim P.; Bezuijen A.	Multi-objective optimization of recycled fine aggregate geopolymer-based grouting materials using the response surface methodology and backpropagation neural network coupled approach	Construction and Building Materials	V. 504, n.º (144529)	10.1016/j.conbuildmat.2025.144529	WoS AND SCOPUS	8.0	Q1	Q1
Liang M.; Wang X.; Correia J.R.; Ding J.; Zhou J.; Wu Z.	Local and global buckling behaviors of pultruded fiber-reinforced polymer box columns with multi-directional fiber layups under axial compression	Composites Part B: Engineering	V. 297, n.º (112265)	10.1016/j.compositesb.2025.112265	WoS AND SCOPUS	14.2	Q1	Q1
Liang M.; Wang X.; Yuan X.; Correia J.R.; Wu Z.	Behaviors and load distribution of sleeved bolted joints between pultruded FRP box profiles with multi-directional fiber layups	Composite Structures	V. 373, n.º (119673)	10.1016/j.compstruct.2025.119673	WoS AND SCOPUS	7.1	Q1	Q1

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Lima, O Jr; Segundo, IR; Mazzoni, L; Freitas, E; Carneiro, J	Self-Cleaning Road Marking Paints for Improved Road Safety: Multi-Scale Characterization and Performance Evaluation Using Rhodamine B and Methylene Blue as Model Pollutants	COATINGS	V. 15 n.º 11, (1349)	10.3390/coatings15111349	WoS AND SCOPUS	2.8	Q2	Q3
Liu C.; Li W.; Bezuijen A.; Yang L.; Mei G.; Cachim P.	Optimization of permeability resistance and micro-mechanism analysis of backfilling grouting materials for shield tunnel based on factorial design	Journal of Sustainable Cement-Based Materials	V. 14, n.º 4 (799 - 815)	10.1080/21650373.2025.2466214	WoS AND SCOPUS	4.2	Q1	Q2
Liu C.; Li W.; Pang J.; Liu Z.; Mei G.; Bezuijen A.; Cachim P.	Engineering properties and applicability of a novel alkali-activated industrial waste-based backfilling grouts in shield tunnels	Journal of Sustainable Cement-Based Materials	V. 14, n.º 8 (1601 - 1625)	10.1080/21650373.2025.2515500	WoS AND SCOPUS	4.2	Q1	Q2
Liu Z.; Chen Q.; Liu Y.; Liu C.; Cachim P.; Qin Y.	Evolution Characteristics and Mechanisms of Thermal Conductivity of Diesel Contaminated Soil Under High Temperature; [高温作用下柴油污染土导热系数演化特征及机理]	Yingyong Jichu yu Gongcheng Kexue Xuebao/Journal of Basic Science and Engineering	V. 33, n.º 4 (923 - 933)	10.16058/j.issn.1005-0930.2025.04.001	WoS AND SCOPUS		Q2	
Liu Z.; Shen J.; Lan Y.; Liu Y.; Cachim P.	Estimation of petroleum hydrocarbon contamination and water content in karst soils based on a frequency-dependent dielectric model	Measurement: Journal of the International Measurement Confederation	V. 253, n.º (117713)	10.1016/j.measurement.2025.117713	WoS AND SCOPUS		Q1	
Lolla S.; Oinam R.M.; Furtado A.; Varum H.	Tensile strength and flexural behavior of steel fiber-reinforced concrete beams	Structural Concrete	V. 26, n.º 1 (501 - 530)	10.1002/suco.202400074	WoS AND SCOPUS	3.3	Q1	Q2
Lopes A.; Moura F.; Vale D.	The effects of bike-sharing-transit integration on accessibility equity	Journal of Transport Geography	V. 128, n.º (104344)	10.1016/j.jtrangeo.2025.104344	WoS AND SCOPUS	6.3	Q1	Q1

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López-Pérez E.; Manzano-Juarez J.; Jiménez-Bello M.A.; García-Prats A.; Sanchis-Ibor C.; Rubio-Martín A.; Boubekri F.Z.; Kajji A.; Tufoni P.; Nunes L.M.; Pulido-Velazquez M.	A Spatial Framework for Assessing Irrigation Water Use in Overexploited Mediterranean Aquifers	Remote Sensing	V. 17, n.º 24 (4019)	10.3390/rs17244019	WoS AND SCOPUS	4.1	Q1	Q2
Lori A.R.; Novais R.M.; Ascensão G.; Fernandes F.; Ranjbar N.; Spangenberg J.	Chemically foamed geopolymers for 3D printing applications	Cement and Concrete Composites	V. 161, n.º (106116)	10.1016/j.cemconcomp.2025.106116	WoS AND SCOPUS	13.1	Q1	Q1
Lourenço M.P.; Arantes A.; Costa A.A.	Barriers to Building Information Modeling (BIM) Implementation in Late-Adopting EU Countries: The Case of Portugal	Buildings	V. 15, n.º 10 (1651)	10.3390/buildings15101651	WoS AND SCOPUS	3.1	Q1	Q2
Lousada S.; Gómez J.M.N.; Vilčekova S.; Delehan S.	Integrating Resilient Water Infrastructure and Environmental Impact Assessment in Borderland River Basins	Water (Switzerland)	V. 17, n.º 8 (1205)	10.3390/w17081205	WoS AND SCOPUS	3.0	Q1	Q2
Lousada S.; Naranjo Gómez J.M.; Jankauskienė D.; Pukite V.	Land-Use Changes in an Island Urban Setting: A Retrospective Study of Funchal, Madeira (1990–2018)	Journal of Sustainability Research	V. 7, n.º 2 (e250029)	10.20900/jsr20250029	WoS AND SCOPUS		Q2	
Lousada S.A.N.; Delehan S.; Khorolskyi A.; Figueiredo A.	Energy Sustainability of Construction Industry in Ukraine: Awareness, Actions, and Barriers	Bitacora Urbano Territorial	V. 35, n.º 2 (199 - 212)	10.15446/bitacora.v35n2.120167	WoS AND SCOPUS	0.4	Q2	Q4

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Lucas S.; Koukou M.K.; Aleksiejuk-Gawron J.; Justino J.; Rafael S.; Livieratos A.D.; Carriço N.; Konstantaras J.; Vrachopoulos M.G.; Coelho L.; Benedetti A.C.; Mazzoli C.; Ferrante A.; Scoccia R.; Famiglietti J.; Bakoń T.; Tourou P.	Training for Sustainable and Healthy Building for 2050 Part 2: Incorporation of New Knowledge and Dissemination for the Sustainability of the Trans-European Training Experience	Buildings	V. 15, n.º 9 (1512)	10.3390/buildings15091512	WoS AND SCOPUS	3.1	Q1	Q2
Macara G.; Capelo M.; Ferreira J.; Covas D.	Further experimental analysis of undershot water wheels towards the development of a prototype model	Urban Water Journal	V. 22, n.º 1 (28 - 50)	10.1080/1573062X.2024.2424396	WoS AND SCOPUS	1.6	Q2	Q3
Machado N.B.; Silvestre J.D.; Bohne R.A.	Embodied GHG emissions of reinforced concrete and timber structures: Relevance, driving factors and target values	Building and Environment	V. 275, n.º (112753)	10.1016/j.buildenv.2025.112753	WoS AND SCOPUS	7.6	Q1	Q1
Magalhães R.; Falcão A.P.; Barbosa A.	Vessel detection leveraging satellite imagery and YOLO in maritime surveillance	Remote Sensing Applications: Society and Environment	V. 40, n.º (101730)	10.1016/j.rsase.2025.101730	WoS AND SCOPUS	4.5	Q1	Q2
Magdy A.; Elsaiad A.; Ramadan E.-S.M.; Kuriqi A.; Ahmed A.A.; Abd-Elaty I.	Targeting runoff hotspots for sustainable rainwater harvesting in arid regions	Cleaner Water	V. 4, n.º (100166)	10.1016/j.clwat.2025.100166	WoS AND SCOPUS	-		

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Magnússon J.T.; Silva A.; Hawkins S.J.; Paula J.P.M.; Marques T.A.; Boaventura D.	Spatial distribution of the intertidal limpet Patella depressa Pennant, 1777: Patterns across wave exposure and season	Journal of Experimental Marine Biology and Ecology	V. 582, n.º (152073)	10.1016/j.jembe.2024.152073	WoS AND SCOPUS	1.8	Q2	Q3
Maia M.B.; Lamaa G.; Pereira C.; de Brito J.; Silvestre J.D.; Silva R.V.	Environmental impacts and ecotoxicity of alkali-activated municipal solid waste incinerator bottom ash	Low-Carbon Materials and Green Construction	V. 3, n.º 1 (30)	10.1007/s44242-025-00091-9	WoS AND SCOPUS	-		
Maldonado-Ríos R.; Gamboa-Marrufo M.; Cismasiu C.; Moreno-Herrera J.A.	Pressure coefficient distributions on Hyperbolic Paraboloid membranes by Numerical Fluid-Structure Interaction	Latin American Journal of Solids and Structures	V. 22, n.º 4 (e8419)	10.1590/1679-7825/e8419	WoS AND SCOPUS	1.1	Q2	Q3
Malik A.; Sudhamsu G.; Wratch M.K.; Singh S.; Sagiraju S.R.; Mansour L.; Rai P.; Ali R.; Kuriqi A.; Yadav K.K.	Soil temperature estimation at different depths using machine learning paradigms based on meteorological data	Environmental Monitoring and Assessment	V. 197, n.º 1 (104)	10.1007/s10661-024-13497-y	WoS AND SCOPUS	3.0	Q2	Q3
Malka L.; Kuriqi A.; Jurasz J.; Ramos H.M.	Strategic selection of wind turbines for low wind speed regions: Impact on cost and environmental benefits	International Journal of Green Energy	V. 22, n.º 1 (50 - 71)	10.1080/15435075.2024.2404103	WoS AND SCOPUS	3.1	Q2	Q3
Manso M.; Silva J.; Antunes V.; Ivo I.; Canto J.; Guerra C.	Potential Use of Brewer's Spent Grain By-Product as a Component for Sustainable Thermal Mortars	Sustainability (Switzerland)	V. 17, n.º 16 (7557)	10.3390/su17167557	WoS AND SCOPUS	3.3	Q1	Q3

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Marchante P.; Rivera Vidal A.; Murgia S.; Navarro Ezquerra A.; Achenza M.; Faria P.	Preliminary Analysis of the Impact of Finishing Layers on the Hygroscopic Performance of Vernacular Earthen Plasters from Santiago, Chile	Buildings	V. 15, n.º 11 (1930)	10.3390/buildings15111930	WoS AND SCOPUS	3.1	Q1	Q2
Marinheiro R.; Matos J.P.; Matos J.; Sousa V.; Meireles I.; Mahunguana M.; Francisco H.; Zunguze N.	Estimating streamflow from stage measurements affected by downstream water levels: the hyperbolic discharge rating curve	International Journal of River Basin Management	V. , n.º (-)	10.1080/15715124.2025.2553801	WoS AND SCOPUS	1.9	Q2	Q3
Marques L.; Monteiro M.; Cenci C.; Mateus M.; Condeço J.	Review of Post-Combustion Carbon Capture in Europe: Current Technologies and Future Strategies for Largest CO2-Emitting Industries	Energies	V. 18, n.º 13 (3539)	10.3390/en18133539	WoS AND SCOPUS	3.2	Q1	Q3
Martins A.D.; Rosa I.C.; Seruti C.A.; Correia J.R.; Teixeira Â.P.; Silvestre N.; Fernandes C.	Experimental investigation and uncertainty modelling of mechanical properties of a pultruded GFRP material	Composites Science and Technology	V. 269, n.º (111214)	10.1016/j.compscitech.2025.111214	WoS AND SCOPUS	9.8	Q1	Q1
Martins A.D.; Seruti C.A.; Gonilha J.; Correia J.R.; Teixeira Â.P.; Ferreira F.; Silvestre N.	Shear-out failure of GFRP single-bolted double-lap connections: Experimental investigation and reliability-based code calibration	Composite Structures	V. 371, n.º (119501)	10.1016/j.compstruct.2025.119501	WoS AND SCOPUS	7.1	Q1	Q1

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Martins A.D.; Teixeira Â.P.; Silvestre N.; Correia J.R.	Reliability-Based Code Calibration of Pultruded Glass Fibre-Reinforced Polymer I-Section Beams Under End-Two-Flange and Interior-Two-Flange Web-Crippling Loading Cases	Engineering	V. , n.º (-)	10.1016/j.eng.2025.03.019	WoS AND SCOPUS	11.6	Q1	Q1
Martins de Oliveira V.S.; Neto J.A.D.S.; Nascimento G.L.D.; Anjos M.A.S.D.; Dutra R.P.S.; Pederneiras C.M.	Evaluating Porcelain Polishing Waste as a Pyro-Expansive Agent in Clay Formulations for Sustainable Lightweight Aggregates	Sustainability (Switzerland)	V. 17, n.º 16 (7385)	10.3390/su17167385	WoS AND SCOPUS	3.3	Q1	Q3
Martins N.M.C.; Covas D.I.C.; Brunone B.; Meniconi S.; Capponi C.	CFD-Based Transient Analysis for the Detection and Characterisation of Extended Partial Blockages in Pipes	Fluids	V. 10, n.º 11 (291)	10.3390/fluids10110291	WoS AND SCOPUS	1.8	Q2	Q3
Masciotta M.G.; Mancini L.; Cianchino G.; Ferreira T.M.; Brando G.	Sources of errors and uncertainties in large-scale seismic vulnerability assessment methods	Journal of Building Engineering	V. 111, n.º (113477)	10.1016/j.jobe.2025.113477	WoS AND SCOPUS	7.4	Q1	Q1
Matos R.; Rodrigues H.; Costa A.G.; Rodrigues M.F.; Lavy S.; Dixit M.	Life cycle assessment applied to facility management of exposed steel frames – case study	Facilities	V. 43, n.º 1-2 (81 - 94)	10.1108/F-02-2024-0018	WoS AND SCOPUS	1.9	Q1	Q3

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Matos, R. V.; Ferreira, F.; Alves, L.; Dolores, M.; Ferraz, P.; Ramos, E.; Costa, L.; Saldanha Matos, J.	Mitigação de alterações climáticas – projetos de saneamento em cidades costeiras do norte de Angola	Águas & Resíduos	V. 2 (6-13)	10.22181/aer.2025.0101	Non WoS AND non SCOPUS	-		
Mazzuca P.; Firmo J.P.; Correia J.R.; Rosa I.C.	Fire behaviour of vacuum-infused glass fibre reinforced polymer sandwich panels: The role of polyurethane and polyethylene terephthalate foam cores and panel architecture	Engineering Structures	V. 345, n.º (121411)	10.1016/j.engstruct.2025.121411	WoS AND SCOPUS	6.4	Q1	Q1
Mendonça de Souza M.; Barbosa N.P.; dos Anjos M.A.S.; Aguiar J.G.C.; da Silva Neto J.A.; Pederneiras C.M.	Recycling Red Ceramic Waste as a Raw Material for Lightweight Aggregates	Applied Sciences (Switzerland)	V. 15, n.º 10 (5729)	10.3390/app15105729	WoS AND SCOPUS	2.5	Q2	Q3
Mendoza Gómez M.; Tagle-Zamora D.; Martínez J.L.M.; Caldera Ortega A.; Mora Rodríguez J.; Ramos H.M.; Delgado-Galván X.	Water Supply Management Index	Water (Switzerland)	V. 17, n.º 19 (2870)	10.3390/w17192870	WoS AND SCOPUS	3.0	Q1	Q2
Menghini A.; Kanyilmaz A.; Castiglioni C.A.; Calado L.	A dissipative replaceable bracing component for steel-composite building frames	Structures	V. 76, n.º (108941)	10.1016/j.istruc.2025.108941	WoS AND SCOPUS	4.3	Q1	Q1

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Merino-Lechuga A.M.; Lamaa G.; Silva R.V.; de Brito J.; Jiménez J.R.; Fernández-Rodríguez J.M.; González-Caro Á.	Technical and environmental assessment of CO2-cured alkali-activated pervious paving blocks incorporating recycled aggregates	Construction and Building Materials	V. 489, n.º (142286)	10.1016/j.conbuildmat.2025.142286	WoS AND SCOPUS	8.0	Q1	Q1
Messaoudi A.; Mohamed H.; Chebili R.; Abdesselam I.; Rodrigues H.	Seismic vulnerability assessment of reinforced concrete frames with various masonry infill patterns	Structures	V. 82, n.º (110536)	10.1016/j.istruc.2025.110536	WoS AND SCOPUS	4.3	Q1	Q1
Mihali A.; Rebelo H.B.; Cismaşiu C.; Shaker N.H.	Impact of building model complexity on predicting external explosion consequences	Engineering Structures	V. 339, n.º (120534)	10.1016/j.engstruct.2025.120534	WoS AND SCOPUS	6.4	Q1	Q1
Miqdady T.; de Abreu e Silva J.; Gasparovic S.; de Oña J.	Ict usage, social networks, interactivity, and satisfaction: an exploration of travel behavior for students from three European countries	European Transport Research Review	V. 17, n.º 1 (58)	10.1186/s12544-025-00752-7	WoS AND SCOPUS	4.2	Q1	Q2
Miranda F.; Calheiros-Cabral T.; Mendes D.; Rosa-Santos P.; Taveira-Pinto F.; Fazeres-Ferradosa T.	Reducing Wave Overtopping on Rubble Mound Breakwaters Using Floating Kelp Farms	Journal of Marine Science and Engineering	V. 13, n.º 5 (850)	10.3390/jmse13050850	WoS AND SCOPUS	-	Q2	
Miranda F.; Mendes D.; Castro J.M.; Rosa-Santos P.; Taveira-Pinto F.; Fazeres-Ferradosa T.	Physical modelling study on wave damping induced by an idealized floating kelp farm	Coastal Engineering	V. 195, n.º (104648)	10.1016/j.coastaleng.2024.104648	WoS AND SCOPUS	4.5	Q1	Q1

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Miranda L.; Caldeira L.; Serra J.B.; Gomes R.C.	Review of the Seismic Response of Immersed Tunnels	Geotechnics	V. 5, n.º 4 (72)	10.3390/geotechnics5040072	WoS AND SCOPUS	1.9	Q2	Q3
Mixco L.; López A.; López M.; González S.; Martínez-Coto A.; Yepes-Estrada C.; Calderón A.; Silva V.; Crowley H.	A national seismic risk model for El Salvador: development, implementation, and novel applications in disaster management	International Journal of Disaster Risk Reduction	V. 130, n.º (105861)	10.1016/j.ijdrr.2025.105861	WoS AND SCOPUS	4.5	Q1	Q1
Moghaddam S.A.; Brett M.; da Silva M.G.; Simões N.	Comprehensive in-situ assessment of glazing systems: thermal properties, comfort impacts, and machine learning-based predictive modelling	Building and Environment	V. 279, n.º (113027)	10.1016/j.buildenv.2025.113027	WoS AND SCOPUS	7.6	Q1	Q1
Moghaddam S.A.; Simões N.; Brett M.; da Silva M.G.; Prata J.	Dynamic Behavior of a Glazing System and Its Impact on Thermal Comfort: Short-Term In Situ Assessment and Machine Learning-Based Predictive Modeling	Energies	V. 18, n.º 17 (4656)	10.3390/en18174656	WoS AND SCOPUS	3.2	Q1	Q3
Moldovan I.D.; Roshan M.J.; Azenha M.; Correia A.G.	Dissipation boundaries for bender element experiments on geomaterials based on experimental and computational models	Transportation Engineering	V. 20, n.º (100331)	10.1016/j.treng.2025.100331	WoS AND SCOPUS	-	Q1	
Monteiro S.; Nunes F.; Dosse M.; Cangi Vaz N.; Nhantumbo C.; Juízo D.L.; Santos R.	Environmental Surveillance of Vector-Borne Diseases in a Non-Sewered System: A Case Study in Mozambique	Environmental Science and Technology	V. 59, n.º 7 (3411 - 3421)	10.1021/acs.est.4c09860	WoS AND SCOPUS	-	Q1	

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Mota de Sá F.; Lopes M.S.; Oliveira C.S.; Ferreira M.A.	A Rapid Assessment Method for Evaluating the Seismic Risk of Individual Buildings in Lisbon	Sustainability (Switzerland)	V. 17, n.º 13 (6027)	10.3390/su17136027	WoS AND SCOPUS	3.3	Q1	Q3
Mouraz C.P.; Almeida R.M.S.F.; Ferreira T.M.; Mendes Silva J.	Application of Data Mining Techniques to Rural Vernacular Buildings: A Methodology for Characterisation and Awareness	International Journal of Architectural Heritage	V. 19, n.º 3 (370 - 388)	10.1080/15583058.2023.2287151	WoS AND SCOPUS	2.4	Q1	Q2
Mouraz C.P.; Silva J.A.R.M.; Ferreira T.M.	Improving Quality and Sustainability Outcomes in Building Rehabilitation: Concepts, Tools, and a New Assessment Methodology	Buildings	V. 15, n.º 17 (3001)	10.3390/buildings15173001	WoS AND SCOPUS	3.1	Q1	Q2
Muralha A.; Melo J.F.; Ramos H.M.	Validation of Computational Methods for Free-Water Jet Diffusion and Pressure Dynamics in a Plunge Pool	Applied Sciences (Switzerland)	V. 15, n.º 4 (1963)	10.3390/app15041963	WoS AND SCOPUS	2.5	Q2	Q3
Murano A.; Barontini A.; Ortega J.; Rodrigues H.; Vasconcelos G.	Experimental study of the out-of-plane behaviour of two-leaf brick masonry walls in different condition: Unstrengthened, strengthened and repaired	Engineering Structures	V. 343, n.º (121118)	10.1016/j.engstruct.2025.121118	WoS AND SCOPUS	6.4	Q1	Q1
Napolitano R.; Riggio M.; Curmi A.; Ferreira T.M.; Pecchioli L.; Ferrero C.; Vallis S.; Chen X.; Dong Q.; Giardina G.; Bostenaru Dan M.	Preserving the Past, Protecting the Future: A Framework for Sustainable Climate Adaptation of Heritage Structures	International Journal of Architectural Heritage	V. , n.º (-)	10.1080/15583058.2025.2587223	WoS AND SCOPUS	2.4	Q1	Q2

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Narváez M.; Guamán J.; Hidalgo V.H.; Pérez-Sánchez M.; Ramos H.M.	Lagrangian Simulation of Sediment Erosion in Francis Turbines Using a Computational Tool in Python Coupled with OpenFOAM	Machines	V. 13, n.º 8 (725)	10.3390/machines13080725	WoS AND SCOPUS	2.5	Q2	Q2
Nascimento S.; Oliveira Pedro J.J.; Calado L.	Innovative dissipative pin-devices for seismic-resilient composite steel-concrete buildings: Experimental and numerical investigation	Journal of Constructional Steel Research	V. 229, n.º (109488)	10.1016/j.jcsr.2025.109488	WoS AND SCOPUS	4.3	Q1	Q1
Nascimento S.; Pedro J.J.O.; Kuhlmann U.	Axial forces in transverse web stiffeners of steel plate girders – a numerical investigation	Thin-Walled Structures	V. 217, n.º (113778)	10.1016/j.tws.2025.113778	WoS AND SCOPUS	6.6	Q1	Q1
Nascimento S.; Pedro J.O.; Kuhlmann U.	Numerical analysis of shear buckling and axial forces in transverse web stiffeners of steel plate girders	Steel Construction	V. 18, n.º 4 (295 - 312)	10.1002/stco.202500016	WoS AND SCOPUS	1.5	Q2	Q3
Neves N.S.D.; Landesmann A.; Camotim D.	DSM-based prediction of lateral-torsional failure of cold-formed steel lipped channel beams at elevated Temperatures: Influence of the constitutive model	Fire Safety Journal	V. 158, n.º (104547)	10.1016/j.firesaf.2025.104547	WoS AND SCOPUS	3.3	Q1	Q2
Neves R.; de Brito J.; Bravo M.	Performance of concrete produced with binders obtained through alkali-activation of different construction and demolition wastes	Construction and Building Materials	V. 473, n.º (141060)	10.1016/j.conbuildmat.2025.141060	WoS AND SCOPUS	8.0	Q1	Q1
Nie F.; Lin H.; Su X.; Ren Q.; Liu X.; Ou K.	Understanding the interfacial interaction characteristics of asphalt nanocomposites reinforced with diamond nanothreads and carbon nanotubes	Nanoscale	V. 17, n.º 46 (26738 - 26754)	10.1039/d5nr03427b	WoS AND SCOPUS	5.1	Q1	Q2
Novais H.C.; da Silva S.; Figueiredo E.	Co-Kriging strategy for structural health monitoring of bridges	STRUCTURAL HEALTH MONITORING-AN INTERNATIONAL JOURNAL	V. 24, n.º 5 (2927 - 2940)	10.1177/14759217241265375	WoS AND SCOPUS	5.7	Q1	Q1

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Nunes L.M.; Bomfim M.R.; Conceição J.N.; Costa O.A.V.; Gloaguen T.V.; Almeida M.C.; Cruz M.J.M.; Júnior A.B.S.R.; Santos J.A.G.	Integrating Portable X-Ray Fluorescence and Machine Learning for Soil Texture Prediction in Mangrove Ecosystems	Earth Systems and Environment	V. , n.º (-)	10.1007/s41748-025-00812-x	WoS AND SCOPUS	4.7	Q1	Q2
Ojha H.; Maheshwari B.; Camkin J.; Bhattarai B.; Banjade P.; Gurung P.; Delfau K.; Narain V.; Allen W.; Ransom S.; Singh V.; Rathod R.; Dahal N.; Neto S.; Giri M.; Rai S.; Adeline I.	From Dialogue to Policy Learning: Water Policy Labs for Transformative Water Governance	World Water Policy	V. 11, n.º 4 (969 - 983)	10.1002/wwp2.70041	WoS AND SCOPUS	-	Q3	
Oliveira D.; Sousa V.; Tiago P.; Leal A.; Falcão A.P.; Silva C.M.	Exploring Biodiversity Through Citizen Science: A Case Study of Green Roofs at the Calouste Gulbenkian Foundation Garden in Lisbon	Land	V. 14, n.º 5 (911)	10.3390/land14050911	WoS AND SCOPUS	3.2	Q1	Q2
Oliveira L.K.D.; Colaço R.; Araújo G.G.F.D.; de Abreu e Silva J.	The Role of Walkability in Shaping Shopping and Delivery Services: Insights into E-Consumer Behavior	Logistics	V. 9, n.º 3 (88)	10.3390/logistics9030088	WoS AND SCOPUS	3.6	Q2	Q2

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Oliveira M.; Lee P.-J.; Antonio J.	Corrigendum to “Effects of synthetic and eco-friendly sound absorbers on perceived speech intelligibility ratings in a simulated open-plan office” [Appl. Acoust. 231 (2025) 110432] (Applied Acoustics (2025) 231, (S0003682X24005838), (10.1016/j.apacoust.2024.110432))	Applied Acoustics	V. 231, n.º (110495)	10.1016/j.apacoust.2024.110495	WoS AND SCOPUS	-	Q1	
Oliveira M.; Lee P.-J.; António J.	Effects of synthetic and eco-friendly sound absorbers on perceived speech intelligibility ratings in a simulated open-plan office	Applied Acoustics	V. 231, n.º (110432)	10.1016/j.apacoust.2024.110432	WoS AND SCOPUS	-	Q1	
Orozco-Fontalvo M.; Llerena-Sierra L.; Cantillo V.	E-scooters: how do latent and socioeconomic factors affect their usage in the global south? Implications for policy planning	Transportation Planning and Technology	V. 48, n.º 2 (255 - 275)	10.1080/03081060.2024.2359492	WoS AND SCOPUS	1.8	Q2	Q3
Orozco-Fontalvo M.; Lopes A.S.; Vale D.; Moura F.	MaaS: Which resources are enablers, and who is being excluded?	Transportation Research Part D: Transport and Environment	V. 148, n.º (104990)	10.1016/j.trd.2025.104990	WoS AND SCOPUS	7.7	Q1	Q1
Ostetto L.; Fonseca J.; Sousa R.; Fernandes P.; Rodrigues H.	Experimental campaign of horizontal cladding wall panels connection in industrial precast reinforced concrete buildings	Engineering Structures	V. 322, n.º (119106)	10.1016/j.engstruct.2024.119106	WoS AND SCOPUS	6.4	Q1	Q1
Ostetto L.; Sousa R.; Fernandes P.; Rodrigues H.	Influence of horizontal cladding wall panels in industrial precast RC buildings using a simplified macro-model	Bulletin of Earthquake Engineering	V. 23, n.º 9 (3809 - 3835)	10.1007/s10518-025-02193-y	WoS AND SCOPUS	4.1	Q1	Q2
Ostetto, L.; Fonseca, J.; Sousa, R.; Fernandes, P.; Rodrigues, H.	Comportamento cíclico de ligações de painéis de fachada horizontais em edifícios industriais pré-fabricados	Revista Portuguesa de Engenharia de Estruturas	Série IIIN.º 27 (7–20)	https://doi.org/10.34638/rpee-sIII-n27-001	Non WoS AND non SCOPUS	-		

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Oyarhossein M.A.; Sugiyama G.; Rodrigues F.; Rodrigues H.	Finite Element Model Updating of a Steel Cantilever Beam: Experimental Validation and Digital Twin Integration	Buildings	V. 15, n.º 21 (3890)	10.3390/buildings15213890	WoS AND SCOPUS	3.1	Q1	Q2
Oyarhossein M.A.; Sugiyama G.; Rodrigues F.; Rodrigues H.	Colour-Coded BIM Models for Corrosion Severity Assessment in Steel Bridges	CivilEng	V. 6, n.º 4 (67)	10.3390/civileng6040067	WoS AND SCOPUS	2.0	Q2	Q3
Pacheco-Menor M.C.; Flores-Colen I.; de Brito J.	The use of stone waste as fine aggregate or cement replacement in cement-based mortars: A review	Journal of Building Engineering	V. 106, n.º (112503)	10.1016/j.jobe.2025.112503	WoS AND SCOPUS	7.4	Q1	Q1
Pacheco-Menor M.C.; Pereira M.F.C.; de Brito J.; Flores-Colen I.	Diabase fine waste for its use in cement-based mortar: Technical remarks, characterization and benefits for the industry	Construction and Building Materials	V. 489, n.º (142180)	10.1016/j.conbuildmat.2025.142180	WoS AND SCOPUS	8.0	Q1	Q1
Pais-Barbosa J.; Romão F.; Lima M.; Coelho C.	A Comparative Analysis of In-Situ Wave Measurements and Reanalysis Models for Predicting Coastline Evolution: A Case Study of IJmuiden, The Netherlands	Water (Switzerland)	V. 17, n.º 7 (1091)	10.3390/w17071091	WoS AND SCOPUS	3.0	Q1	Q2
Paiva L.; Pinho-Lopes M.; Valente R.; Paula A.M.	A simple 3D orthotropic model for the tensile response of geogrids: In-isolation and soil–geogrid interaction applications	Geotextiles and Geomembranes	V. 53, n.º 6 (1687 - 1698)	10.1016/j.geotexmem.2025.07.010	WoS AND SCOPUS	6.2	Q1	Q1
Palma D.; Riveros M.; Verichev K.; Silva A.; Prieto A.J.	Resilience and Functional Service Life of Modern Heritage Timber Buildings Amid Climate Change in Chile	Sustainability (Switzerland)	V. 17, n.º 10 (4553)	10.3390/su17104553	WoS AND SCOPUS	3.3	Q1	Q3

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Paternina-Verona D.A.; Coronado-Hernández O.E.; Fuertes-Miquel V.S.; Arrieta-Pastrana A.; Ramos H.M.	Two-Dimensional Analysis of Air–Water Interaction in Actual Water Pipe-Filling Processes	Water (Switzerland)	V. 17, n.º 2 (146)	10.3390/w17020146	WoS AND SCOPUS	3.0	Q1	Q2
Paternina-Verona D.A.; Coronado-Hernández O.E.; Fuertes-Miquel V.S.; Saba M.; Ramos H.M.	Digital Twin Based on CFD Modelling for Analysis of Two-Phase Flows During Pipeline Filling–Emptying Procedures	Applied Sciences (Switzerland)	V. 15, n.º 5 (2643)	10.3390/app15052643	WoS AND SCOPUS	2.5	Q2	Q3
Paternina-Verona D.A.; Quintero-Vásquez F.J.; Coronado-Hernández O.E.; Saba M.; Ramos H.M.	Predictive modelling of extreme air pocket pressures during filling and emptying processes in water pipelines using the transformer linear regression algorithm	Urban Water Journal	V. , n.º (-)	10.1080/1573062X.2025.2609833	WoS AND SCOPUS	1.6	Q2	Q3
Paul N.; Galasso C.; Baker J.; Silva V.	A predictive model for household displacement duration after disasters	Risk Analysis	V. 45, n.º 12 (4289 - 4317)	10.1111/risa.17710	WoS AND SCOPUS	-	Q1	
Paul N.; Silva V.	Probabilistic seismic risk assessment of Africa	International Journal of Disaster Risk Reduction	V. 119, n.º (105303)	10.1016/j.ijdrr.2025.105303	WoS AND SCOPUS	4.5	Q1	Q1
Paz M.C.; Falcão A.P.; Garcia C.A.; Esteves M.; Afonso N.; Mendes M.P.	Determination of baseline groundwater levels for tree conservation in urban historical botanical gardens using applied geophysics	Journal of Cultural Heritage	V. 73, n.º (256 - 266)	10.1016/j.culher.2025.04.001	WoS AND SCOPUS	3.3	Q1	Q2

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Pedreño-Rojas M.A.; Morales-Conde M.J.; Flores-Colen I.	Incorporation of wood waste as aggregate in the production of recycled gypsum products: mechanical and thermal analysis	Journal of Building Engineering	V. 115, n.º (114567)	10.1016/j.jobe.2025.114567	WoS AND SCOPUS	7.4	Q1	Q1
Pedro J.J.O.; Nascimento S.; Hendy C.	Shear buckling resistance models for steel plate girders – Numerical investigation	Engineering Structures	V. 340, n.º (120584)	10.1016/j.engstruct.2025.120584	WoS AND SCOPUS	6.4	Q1	Q1
Pereira C.M.; Vieira H.; Gonçalves N.P.F.; Ascensão G.; Novais R.M.	Innovative waste-containing 3D-printed geopolymer structures for enhanced acoustic comfort in built environments	Journal of Cleaner Production	V. 517, n.º (145857)	10.1016/j.jclepro.2025.145857	WoS AND SCOPUS	10.0	Q1	Q1
Pereira J.; Gomes M.G.	Lighting strategies in vertical urban farming for enhancement of plant productivity and energy consumption	Applied Energy	V. 377, n.º (124669)	10.1016/j.apenergy.2024.124669	WoS AND SCOPUS	11.0	Q1	Q1
Pereira Lessa F.; Lima Jr O.; Margalho É.; Pinheiro C.; Rocha Segundo I.; Oliveira Carneiro J.	Application of nano-TiO2 and micro-ZnO on cementitious surfaces for self-cleaning façades by spray coating and dip coating: A comparative study	Journal of Building Pathology and Rehabilitation	V. 10, n.º 1 (16)	10.1007/s41024-024-00522-3	WoS AND SCOPUS	-	Q2	
Pereira M.F.C.; Gominho M.; Pinchard L.; Maurício A.; Flores-Colen I.	Visual atlas of microstructures: Deciphering performance parameters in thermal mortars	Cement and Concrete Composites	V. 157, n.º (105852)	10.1016/j.cemconcomp.2024.105852	WoS AND SCOPUS	13.1	Q1	Q1
Periku E.; Korini O.; Luga E.; Baron E.; Matos J.C.; Kuriqi A.	Scour-induced stability risks of the Zogu Bridge: Preservation challenges and policy recommendations for a threatened European heritage	Innovative Infrastructure Solutions	V. 10, n.º 6 (266)	10.1007/s41062-025-01998-9	WoS AND SCOPUS	2.4	Q2	Q2

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Pessoa S.; Lucas S.S.; Simões N.; Guimarães A.S.	Heat transfer in a 3D-printed multilayer wall system: An experimental and numerical analysis	Construction and Building Materials	V. 490, n.º (142523)	10.1016/j.conbuildmat.2025.142523	WoS AND SCOPUS	8.0	Q1	Q1
Pimentel-Rodrigues C.; Silva-Afonso A.	Water conservation measures in buildings: a comparative study between rainwater harvesting and greywater use	Frontiers in Environmental Science	V. 13, n.º (1587050)	10.3389/fenvs.2025.1587050	WoS AND SCOPUS	3.7	Q1	Q2
Portela, M. M.; Espinosa, L. A.; Zelenáková, M.	Análise do comportamento da precipitação em Portugal Continental entre outubro de 1913 e setembro de 2019 (106 anos hidrológicos)	Riscos, Ambiente e Proteção Civil: uma Perspetiva Tecnológica	V. 18 (15-37)	https://doi.org/10.34037/978-989-9053-35-9_18	Non WoS AND non SCOPUS	-		
Possidente L.; Couto C.	Explained fire resistance machine learning models for compressed steel members of trusses and bracing systems	Engineering Applications of Artificial Intelligence	V. 139, n.º (109571)	10.1016/j.engappai.2024.109571	WoS AND SCOPUS	8.0	Q1	Q1
Proença J.; Figueiredo R.; Pereira V.; Cruz T.; Simões P.	Contributions to the Virtualization of the BNG	IEEE Access	V. 13, n.º (18713 - 18733)	10.1109/ACCESS.2025.3532548	WoS AND SCOPUS	-	Q1	
Quaresma A.L.; Romão F.; Pinheiro A.N.	A Comparative Assessment of Reynolds Averaged Navier–Stokes and Large-Eddy Simulation Models: Choosing the Best for Pool-Type Fishway Flow Simulations	Water (Switzerland)	V. 17, n.º 5 (686)	10.3390/w17050686	WoS AND SCOPUS	3.0	Q1	Q2
Rakesh P.; Rao S.V.; Kumar P.R.; De Brito J.	A study on the strength and microstructure properties of high strength geopolymer concrete (HSGPC)	Innovative Infrastructure Solutions	V. 10, n.º 6 (240)	10.1007/s41062-025-02012-y	WoS AND SCOPUS	2.4	Q2	Q2
Ramalho E.C.; Quental L.; Pinto C.; Gomes R.C.	Introducing Citizen Science in Portuguese high school Cidadania e Desenvolvimento subject – the AGEO App and natural risks; [Introdução de Ciência Cidadã na disciplina de Cidadania e Desenvolvimento – a App AGEO e os riscos naturais]	Comunicacoes Geologicas	V. 112, n.º (491 - 494)	10.34637/ev2h-2y66	WoS AND SCOPUS	-	Q4	

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Ramão A.; Modolo R.C.E.; Figueiredo A.; Vicente R.; Ferreira V.M.	Exploring the Potential of Belitic Cement Produced from Industrial Waste: Systematic Mapping of the Literature	Sustainability (Switzerland)	V. 17, n.º 6 (2377)	10.3390/su17062377	WoS AND SCOPUS	3.3	Q1	Q3
Ramos A.; Marchão C.; Pacheco J.N.; Enfedaque A.; Coronelli D.; Faria D.; de Brito J.; Ruiz M.F.; Marreiros R.	A review of punching behavior of slab–column connections with recycled coarse aggregate concrete	Structural Concrete	V. 26, n.º 2 (1388 - 1401)	10.1002/suco.202400435	WoS AND SCOPUS	3.3	Q1	Q2
Ramos H.M.; Borkar P.; Coronado-Hernández O.E.; Sánchez-Romero F.J.; Pérez-Sánchez M.	Multi-Criteria Decision-Making for Hybrid Renewable Energy in Small Communities: Key Performance Indicators and Sensitivity Analysis	Energies	V. 18, n.º 21 (5665)	10.3390/en18215665	WoS AND SCOPUS	3.2	Q1	Q3
Ramos H.M.; Coelho J.S.T.; Bekci E.; Adrover T.X.; Coronado-Hernández O.E.; Perez-Sanchez M.; Koca K.; McNabola A.; Espina-Valdés R.	Optimization and Machine Learning in Modeling Approaches to Hybrid Energy Balance to Improve Ports' Efficiency	Applied Sciences (Switzerland)	V. 15, n.º 9 (5211)	10.3390/app15095211	WoS AND SCOPUS	2.5	Q2	Q3

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Ramos H.M.; Coronado-Hernández O.E.; Besharat M.; Carravetta A.; Fecarotta O.; Pérez-Sánchez M.	Energy Storage Systems in Micro-Grid of Hybrid Renewable Energy Solutions	Technologies	V. 13, n.º 11 (527)	10.3390/technologies13110527	WoS AND SCOPUS	3.6	Q1	Q1
Ramos H.M.; Pérez-Sánchez M.; Correia T.; Bekçi E.; Besharat M.; Kuriqi A.; Coronado-Hernandez O.E.	Contributions toward net-zero carbon in the water sector: application to a case study	Aqua Water Infrastructure, Ecosystems and Society	V. 74, n.º 9 (579 - 595)	10.2166/aqua.2025.031	WoS AND SCOPUS	-	Q2	
Ramos H.M.; Soehlemann N.; Bekci E.; Coronado-Hernández O.E.; Pérez-Sánchez M.; McNabola A.; Gallagher J.	Challenges in Aquaculture Hybrid Energy Management: Optimization Tools, New Solutions, and Comparative Evaluations	Technologies	V. 13, n.º 10 (453)	10.3390/technologies13100453	WoS AND SCOPUS	3.6	Q1	Q1
Ramos S.; Silva V.; Martins L.; Paul N.; Vicente R.	Calibrating collapse and fatality rates for the assessment of fatalities due to earthquakes	Earthquake Spectra	V. 41, n.º 2 (1738 - 1761)	10.1177/87552930241308825	WoS AND SCOPUS	3.7	Q1	Q1
Ranesi A.; Cruz R.; Sousa V.; Bogas J.A.	Energy Consumption and Carbon Emissions of Compressed Earth Blocks Stabilized with Recycled Cement	Materials	V. 18, n.º 17 (4194)	10.3390/ma18174194	WoS AND SCOPUS	3.2	Q2	Q3

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Rao A.; Yepes-Estrada C.; Johnson K.; Todorović L.; Pagani M.; Simionato M.; Styron R.; Silva V.; Crowley H.	Evolution of the OpenQuake Engine: Enhanced capabilities, collaborative development, and global adoption	Earthquake Spectra	V. 41, n.º 5 (3299 - 3336)	10.1177/87552930251378157	WoS AND SCOPUS	3.7	Q1	Q1
Rathnarajan S.; Pacheco J.N.; Capucha F.; Valencia J.; Techman M.; Sikora P.	Seawater-mixed concretes containing supplementary cementitious materials: compressive strength, e-modulus, electrical resistivity, and life cycle assessment	Archives of Civil and Mechanical Engineering	V. 25, n.º 2 (69)	10.1007/s43452-025-01132-7	WoS AND SCOPUS	4.4	Q1	Q2
Rei, J. M.; Gago, A. S.	Sistemas estruturais desde a pré-história até à antiguidade (Parte I)	Proelium	Série VIIIN.º 15 ()	https://doi.org/10.60746/8_15_39571	Non WoS AND non SCOPUS	-		
Rei, J. M.; Gago, A. S.	Sistemas estruturais desde a pré-história até à antiguidade (Parte II)	Proelium	Série VIIIN.º 17 ()	https://doi.org/10.60746/8_17_42485	Non WoS AND non SCOPUS	-		
Remache A.; Pérez-Sánchez M.; Hidalgo V.H.; Ramos H.M.	Hybrid Optimization Approaches for Impeller Design in Turbomachinery: Methods, Metrics, and Design Strategies	Water (Switzerland)	V. 17, n.º 13 (1976)	10.3390/w17131976	WoS AND SCOPUS	3.0	Q1	Q2
Ren Q.; Pacheco J.; de Brito J.	Mesoscale modeling of recycled aggregate concrete: A parametric analysis of the quality and shape of aggregate	Structural Concrete	V. 26, n.º 2 (1636 - 1653)	10.1002/suco.202400743	WoS AND SCOPUS	3.3	Q1	Q2
Ribeiro A.; Daskalakis P.; Hosseini S.; Furtado A.	Parametric Numerical Analysis of Factors Influencing the Shear Strength of Precast Concrete Walls with Dry Connections	Applied Sciences (Switzerland)	V. 15, n.º 4 (1959)	10.3390/app15041959	WoS AND SCOPUS	2.5	Q2	Q3

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Ribeiro C.; Flores-Colen I.; Valentim Lopes N.; Ramos N.M.M.	The balconies as an archetype of well-being: a critical literature review	Archnet-IJAR: International Journal of Architectural Research	V. 19, n.º 4 (970 - 989)	10.1108/ARCH-02-2024-0052	WoS AND SCOPUS	2.2	Q1	
Rocha B.T.; Melo P.C.; Colaço R.; de Abreu e Silva J.; Afonso N.	The heterogenous effects of motorways on urban sprawl: causal evidence from Portugal	Research in Transportation Economics	V. 114, n.º (101666)	10.1016/j.retrec.2025.101666	WoS AND SCOPUS	3.4	Q1	Q2
Rocha D.; Faria P.; Lucas S.S.	Clay-gypsum mortars: The influence of binder and sand ratios	Results in Engineering	V. 26, n.º (104702)	10.1016/j.rineng.2025.104702	WoS AND SCOPUS	7.9	Q1	Q1
Rocha Segundo I.; Moreira L.; Freitas E.; Lima O., Jr.; Kuzminov D.; Carneiro J.O.	Anti-icing coatings for asphalt mixtures using sprayed hierarchical nano/micro-particle structures	Emergent Materials	V. 8, n.º 6 (4897 - 4916)	10.1007/s42247-025-01045-4	WoS AND SCOPUS	4.1	Q2	Q2
Rodrigues A.; Gonçalves A.B.; Maçãs B.; Cordeiro A.; Brito P.	A GIS-Based Estimation of Bioenergy Potential from Cereal and Legume Straw Biomasses in Alentejo, Portugal	Applied Sciences (Switzerland)	V. 15, n.º 2 (868)	10.3390/app15020868	WoS AND SCOPUS	2.5	Q2	Q3
Rodrigues A.; Pereira S.; Gomes A.A.; Louzada J.; Gonçalves A.B.; Fonseca T.; Castelo-Branco A.; Castro P.; Moreira H.; Menino R.	Impact of Fertilization with Cattle Slurry in a Poplar Short Rotation Coppice on Mass Balance of Nutrients and Biomass Productivity	Applied Sciences (Switzerland)	V. 15, n.º 23 (12403)	10.3390/app152312403	WoS AND SCOPUS	2.5	Q2	Q3

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Rodrigues B.N.; Favoreti A.L.F.; Molina Júnior V.E.; Silva C.M.; Canteras F.B.	Green infrastructure for urban climate mitigation and adaptation: methods, strategies, and typology selection based on ecosystem services	International Journal of Environmental Science and Technology	V. 22, n.º 16 (17383 - 17404)	10.1007/s13762-025-06754-1	WoS AND SCOPUS	3.4	Q1	Q2
Rodrigues, H.	Incêndios Pós-Sismos. Evidências, Fatores de Risco e Medidas de Mitigação	Construção Magazine	N.º 127 (40–41)	-	Non WoS AND non SCOPUS	-		
Roka R.; Figueiredo A.; Vieira A.; Cardoso C.	A Systematic Review of Sensitivity Analysis in Building Energy Modeling: Key Factors Influencing Building Thermal Energy Performance	Energies	V. 18, n.º 9 (2375)	10.3390/en18092375	WoS AND SCOPUS	3.2	Q1	Q3
Romão F.; Bravo-Córdoba F.J.; Quaresma A.L.; García-Vega A.; Fuentez-Pérez J.F.; Sanz-Ronda F.J.	Brown trout (Salmo trutta) passage performance: a quantitative assessment of two vertical slot fishway designs	Journal of Ecohydraulics	V. , n.º (-)	10.1080/24705357.2025.2572572	WoS AND SCOPUS	1.8	Q2	Q3
Pedro J.J.O.; Nascimento S.; Hendy C.	Shear buckling resistance models for steel plate girders – Numerical investigation	Engineering Structures	V. 340, n.º (120584)	10.1016/j.engstruct.2025.120584	WoS AND SCOPUS	6.4	Q1	Q1
Pereira C.M.; Vieira H.; Gonçalves N.P.F.; Ascensão G.; Novais R.M.	Innovative waste-containing 3D-printed geopolymer structures for enhanced acoustic comfort in built environments	Journal of Cleaner Production	V. 517, n.º (145857)	10.1016/j.jclepro.2025.145857	WoS AND SCOPUS	10.0	Q1	Q1
Pereira J.; Gomes M.G.	Lighting strategies in vertical urban farming for enhancement of plant productivity and energy consumption	Applied Energy	V. 377, n.º (124669)	10.1016/j.apenergy.2024.124669	WoS AND SCOPUS	11.0	Q1	Q1

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Pereira Lessa F.; Lima Jr O.; Margalho É.; Pinheiro C.; Rocha Segundo I.; Oliveira Carneiro J.	Application of nano-TiO2 and micro-ZnO on cementitious surfaces for self-cleaning façades by spray coating and dip coating: A comparative study	Journal of Building Pathology and Rehabilitation	V. 10, n.º 1 (16)	10.1007/s41024-024-00522-3	WoS AND SCOPUS	-	Q2	
Pereira M.F.C.; Gominho M.; Pinchard L.; Maurício A.; Flores-Colen I.	Visual atlas of microstructures: Deciphering performance parameters in thermal mortars	Cement and Concrete Composites	V. 157, n.º (105852)	10.1016/j.cemconcomp.2024.105852	WoS AND SCOPUS	13.1	Q1	Q1
Periku E.; Korini O.; Luga E.; Baron E.; Matos J.C.; Kuriqi A.	Scour-induced stability risks of the Zogu Bridge: Preservation challenges and policy recommendations for a threatened European heritage	Innovative Infrastructure Solutions	V. 10, n.º 6 (266)	10.1007/s41062-025-01998-9	WoS AND SCOPUS	2.4	Q2	Q2
Pessoa S.; Lucas S.S.; Simões N.; Guimarães A.S.	Heat transfer in a 3D-printed multilayer wall system: An experimental and numerical analysis	Construction and Building Materials	V. 490, n.º (142523)	10.1016/j.conbuildmat.2025.142523	WoS AND SCOPUS	8.0	Q1	Q1
Pimentel-Rodrigues C.; Silva-Afonso A.	Water conservation measures in buildings: a comparative study between rainwater harvesting and greywater use	Frontiers in Environmental Science	V. 13, n.º (1587050)	10.3389/fenvs.2025.1587050	WoS AND SCOPUS	3.7	Q1	Q2
Portela, M. M.; Espinosa, L. A.; Zelenáková, M.	Análise do comportamento da precipitação em Portugal Continental entre outubro de 1913 e setembro de 2019 (106 anos hidrológicos)	Riscos, Ambiente e Proteção Civil: uma Perspetiva Tecnológica	V. 18 (15-37)	https://doi.org/10.34037/978-989-9053-35-9_18	Non WoS AND non SCOPUS	-		
Possidente L.; Couto C.	Explained fire resistance machine learning models for compressed steel members of trusses and bracing systems	Engineering Applications of Artificial Intelligence	V. 139, n.º (109571)	10.1016/j.engappai.2024.109571	WoS AND SCOPUS	8.0	Q1	Q1

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Proença J.; Figueiredo R.; Pereira V.; Cruz T.; Simões P.	Contributions to the Virtualization of the BNG	IEEE Access	V. 13, n.º (18713 - 18733)	10.1109/ACCESS.2025.3532548	WoS AND SCOPUS	-	Q1	
Quaresma A.L.; Romão F.; Pinheiro A.N.	A Comparative Assessment of Reynolds Averaged Navier–Stokes and Large-Eddy Simulation Models: Choosing the Best for Pool-Type Fishway Flow Simulations	Water (Switzerland)	V. 17, n.º 5 (686)	10.3390/w17050686	WoS AND SCOPUS	3.0	Q1	Q2
Rakesh P.; Rao S.V.; Kumar P.R.; De Brito J.	A study on the strength and microstructure properties of high strength geopolymer concrete (HSGPC)	Innovative Infrastructure Solutions	V. 10, n.º 6 (240)	10.1007/s41062-025-02012-y	WoS AND SCOPUS	2.4	Q2	Q2
Ramalho E.C.; Quental L.; Pinto C.; Gomes R.C.	Introducing Citizen Science in Portuguese high school Cidadania e Desenvolvimento subject – the AGEO App and natural risks; [Introdução de Ciência Cidadã na disciplina de Cidadania e Desenvolvimento – a App AGEO e os riscos naturais]	Comunicacoes Geologicas	V. 112, n.º (491 - 494)	10.34637/ev2h-2y66	WoS AND SCOPUS	-	Q4	
Ramão A.; Modolo R.C.E.; Figueiredo A.; Vicente R.; Ferreira V.M.	Exploring the Potential of Belitic Cement Produced from Industrial Waste: Systematic Mapping of the Literature	Sustainability (Switzerland)	V. 17, n.º 6 (2377)	10.3390/su17062377	WoS AND SCOPUS	3.3	Q1	Q3
Ramos A.; Marchão C.; Pacheco J.N.; Enfedaque A.; Coronelli D.; Faria D.; de Brito J.; Ruiz M.F.; Marreiros R.	A review of punching behavior of slab–column connections with recycled coarse aggregate concrete	Structural Concrete	V. 26, n.º 2 (1388 - 1401)	10.1002/suco.202400435	WoS AND SCOPUS	3.3	Q1	Q2

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Ramos H.M.; Borkar P.; Coronado-Hernández O.E.; Sánchez-Romero F.J.; Pérez-Sánchez M.	Multi-Criteria Decision-Making for Hybrid Renewable Energy in Small Communities: Key Performance Indicators and Sensitivity Analysis	Energies	V. 18, n.º 21 (5665)	10.3390/en18215665	WoS AND SCOPUS	3.2	Q1	Q3
Ramos H.M.; Coelho J.S.T.; Bekci E.; Adrover T.X.; Coronado-Hernández O.E.; Perez-Sanchez M.; Koca K.; McNabola A.; Espina-Valdés R.	Optimization and Machine Learning in Modeling Approaches to Hybrid Energy Balance to Improve Ports' Efficiency	Applied Sciences (Switzerland)	V. 15, n.º 9 (5211)	10.3390/app15095211	WoS AND SCOPUS	2.5	Q2	Q3
Ramos H.M.; Coronado-Hernández O.E.; Besharat M.; Carravetta A.; Fecarotta O.; Pérez-Sánchez M.	Energy Storage Systems in Micro-Grid of Hybrid Renewable Energy Solutions	Technologies	V. 13, n.º 11 (527)	10.3390/technologies13110527	WoS AND SCOPUS	3.6	Q1	Q1
Ramos H.M.; Pérez-Sánchez M.; Correia T.; Bekçi E.; Besharat M.; Kuriqi A.; Coronado-Hernandez O.E.	Contributions toward net-zero carbon in the water sector: application to a case study	Aqua Water Infrastructure, Ecosystems and Society	V. 74, n.º 9 (579 - 595)	10.2166/aqua.2025.031	WoS AND SCOPUS	-	Q2	

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Ramos H.M.; Soehlemann N.; Bekci E.; Coronado-Hernández O.E.; Pérez-Sánchez M.; McNabola A.; Gallagher J.	Challenges in Aquaculture Hybrid Energy Management: Optimization Tools, New Solutions, and Comparative Evaluations	Technologies	V. 13, n.º 10 (453)	10.3390/technologies13100453	WoS AND SCOPUS	3.6	Q1	Q1
Ramos S.; Silva V.; Martins L.; Paul N.; Vicente R.	Calibrating collapse and fatality rates for the assessment of fatalities due to earthquakes	Earthquake Spectra	V. 41, n.º 2 (1738 - 1761)	10.1177/87552930241308825	WoS AND SCOPUS	3.7	Q1	Q1
Ranesi A.; Cruz R.; Sousa V.; Bogas J.A.	Energy Consumption and Carbon Emissions of Compressed Earth Blocks Stabilized with Recycled Cement	Materials	V. 18, n.º 17 (4194)	10.3390/ma18174194	WoS AND SCOPUS	3.2	Q2	Q3
Rao A.; Yepes-Estrada C.; Johnson K.; Todorović L.; Pagani M.; Simionato M.; Styron R.; Silva V.; Crowley H.	Evolution of the OpenQuake Engine: Enhanced capabilities, collaborative development, and global adoption	Earthquake Spectra	V. 41, n.º 5 (3299 - 3336)	10.1177/87552930251378157	WoS AND SCOPUS	3.7	Q1	Q1
Rathnarajan S.; Pacheco J.N.; Capucha F.; Valencia J.; Techman M.; Sikora P.	Seawater-mixed concretes containing supplementary cementitious materials: compressive strength, e-modulus, electrical resistivity, and life cycle assessment	Archives of Civil and Mechanical Engineering	V. 25, n.º 2 (69)	10.1007/s43452-025-01132-7	WoS AND SCOPUS	4.4	Q1	Q2
Rei, J. M.; Gago, A. S.	Sistemas estruturais desde a pré-história até à antiguidade (Parte I)	Proelium	Série VIIIN.º 15 ()	https://doi.org/10.60746/8_15_39571	Non WoS AND non SCOPUS	-		

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Rei, J. M.; Gago, A. S.	Sistemas estruturais desde a pré-história até à antiguidade (Parte II)	Proelium	Série VIIIN.º 17 ()	https://doi.org/10.60746/8_17_42485	Non WoS AND non SCOPUS	-		
Remache A.; Pérez-Sánchez M.; Hidalgo V.H.; Ramos H.M.	Hybrid Optimization Approaches for Impeller Design in Turbomachinery: Methods, Metrics, and Design Strategies	Water (Switzerland)	V. 17, n.º 13 (1976)	10.3390/w17131976	WoS AND SCOPUS	3.0	Q1	Q2
Ren Q.; Pacheco J.; de Brito J.	Mesoscale modeling of recycled aggregate concrete: A parametric analysis of the quality and shape of aggregate	Structural Concrete	V. 26, n.º 2 (1636 - 1653)	10.1002/suco.202400743	WoS AND SCOPUS	3.3	Q1	Q2
Ribeiro A.; Daskalakis P.; Hosseini S.; Furtado A.	Parametric Numerical Analysis of Factors Influencing the Shear Strength of Precast Concrete Walls with Dry Connections	Applied Sciences (Switzerland)	V. 15, n.º 4 (1959)	10.3390/app15041959	WoS AND SCOPUS	2.5	Q2	Q3
Ribeiro C.; Flores-Colen I.; Valentim Lopes N.; Ramos N.M.M.	The balconies as an archetype of well-being: a critical literature review	Archnet-IJAR: International Journal of Architectural Research	V. 19, n.º 4 (970 - 989)	10.1108/ARCH-02-2024-0052	WoS AND SCOPUS	2.2	Q1	
Rocha B.T.; Melo P.C.; Colaço R.; de Abreu e Silva J.; Afonso N.	The heterogenous effects of motorways on urban sprawl: causal evidence from Portugal	Research in Transportation Economics	V. 114, n.º (101666)	10.1016/j.retrec.2025.101666	WoS AND SCOPUS	3.4	Q1	Q2
Rocha D.; Faria P.; Lucas S.S.	Clay-gypsum mortars: The influence of binder and sand ratios	Results in Engineering	V. 26, n.º (104702)	10.1016/j.rineng.2025.104702	WoS AND SCOPUS	7.9	Q1	Q1
Rocha Segundo I.; Moreira L.; Freitas E.; Lima O., Jr.; Kuzminov D.; Carneiro J.O.	Anti-icing coatings for asphalt mixtures using sprayed hierarchical nano/micro-particle structures	Emergent Materials	V. 8, n.º 6 (4897 - 4916)	10.1007/s42247-025-01045-4	WoS AND SCOPUS	4.1	Q2	Q2

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Rodrigues A.; Gonçalves A.B.; Maçãs B.; Cordeiro A.; Brito P.	A GIS-Based Estimation of Bioenergy Potential from Cereal and Legume Straw Biomasses in Alentejo, Portugal	Applied Sciences (Switzerland)	V. 15, n.º 2 (868)	10.3390/app15020868	WoS AND SCOPUS	2.5	Q2	Q3
Rodrigues A.; Pereira S.; Gomes A.A.; Louzada J.; Gonçalves A.B.; Fonseca T.; Castelo-Branco A.; Castro P.; Moreira H.; Menino R.	Impact of Fertilization with Cattle Slurry in a Poplar Short Rotation Coppice on Mass Balance of Nutrients and Biomass Productivity	Applied Sciences (Switzerland)	V. 15, n.º 23 (12403)	10.3390/app152312403	WoS AND SCOPUS	2.5	Q2	Q3
Rodrigues B.N.; Favoreti A.L.F.; Molina Júnior V.E.; Silva C.M.; Canteras F.B.	Green infrastructure for urban climate mitigation and adaptation: methods, strategies, and typology selection based on ecosystem services	International Journal of Environmental Science and Technology	V. 22, n.º 16 (17383 - 17404)	10.1007/s13762-025-06754-1	WoS AND SCOPUS	3.4	Q1	Q2
Rodrigues, H.	Incêndios Pós-Sismos. Evidências, Fatores de Risco e Medidas de Mitigação	Construção Magazine	N.º 127 (40–41)	-	Non WoS AND non SCOPUS	-		
Roka R.; Figueiredo A.; Vieira A.; Cardoso C.	A Systematic Review of Sensitivity Analysis in Building Energy Modeling: Key Factors Influencing Building Thermal Energy Performance	Energies	V. 18, n.º 9 (2375)	10.3390/en18092375	WoS AND SCOPUS	3.2	Q1	Q3
Romão F.; Bravo-Córdoba F.J.; Quaresma A.L.; García-Vega A.; Fuentez-Pérez J.F.; Sanz-Ronda F.J.	Brown trout (Salmo trutta) passage performance: a quantitative assessment of two vertical slot fishway designs	Journal of Ecohydraulics	V. , n.º (-)	10.1080/24705357.2025.2572572	WoS AND SCOPUS	1.8	Q2	Q3

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Romão F.; Lima M.; Coelho C.	A State-of-the-Art Review on Storm Events, Overtopping and Morphological Changes in Front of Coastal Structures	Journal of Marine Science and Engineering	V. 13, n.º 1 (40)	10.3390/jmse13010040	WoS AND SCOPUS	-	Q2	
Romão F.; Quaresma A.; Simão J.; Amaral S.; Leite R.; Bravo-Córdoba F.J.; Sanz-Ronda F.J.; Pinheiro A.N.; Santos J.M.	Stopping invaders: Moving towards a selective vertical slot fishway to prevent the passage of non-native cyprinids	Journal of Environmental Management	V. 380, n.º (125004)	10.1016/j.jenvman.2025.125004	WoS AND SCOPUS	8.4	Q1	Q1
Romero-Gómez M.I.; Flores-Colen I.; Hooper F.; Cardoso R.; Pereira M.F.C.; Bravo M.; Mendes M.P.	Testing the durability of hydraulic lime-based renders against extreme weather: Experimental aging tests for compound events in a changing climate	Journal of Building Engineering	V. 113, n.º (114106)	10.1016/j.jobe.2025.114106	WoS AND SCOPUS	7.4	Q1	Q1
Rosa, I. C.; Firmo, J. P.; Correia, J. R.; Claus, B.; Taecke, M.; Coopman, E.	Aderência de varões de GFRP de matriz termoplástica ao betão: comportamento a temperatura elevada e propriedades residuais após exposição ao calor [Bond of thermoplastic GFRP bars to concrete: behaviour at elevated temperature and residual properties after exposure to heat]	Revista Portuguesa de Engenharia de Estruturas	Série III, N.º 28 (7-16)	https://doi.org/10.34638/rpee-sIII-n28	Non WoS AND non SCOPUS	-		
Roshan M.J.; Rashid A.S.A.; Tamassoki S.; Correia A.G.; Moldovan I.D.; Horpibulsuk S.; Ullah A.	Behavior of Fine-Grained Residual Soil under Cyclic Loading	Journal of Materials in Civil Engineering	V. 37, n.º 10 (04025348)	10.1061/JMCEE7.MTENG-19964	WoS AND SCOPUS	3.0	Q1	Q3

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Rucha M.; Sena da Fonseca B.; Ferreira Pinto A.P.; Piçarra S.; Montemor M.F.	Study of an eco-friendly path to prepare effective alkoxysilane-based consolidants for stone conservation without organic solvents	Journal of Cultural Heritage	V. 72, n.º (205 - 216)	10.1016/j.culher.2025.02.010	WoS AND SCOPUS	3.3	Q1	Q2
Ruzgienė B.; Kuklienė L.; Kuklys I.; Jankauskienė D.; Lousada S.	The use of kinematic photogrammetry and LiDAR for reconstruction of a unique object with extreme topography: a case study of Dutchman's Cap, Baltic seacoast, Lithuania	Frontiers in Remote Sensing	V. 6, n.º (1397513)	10.3389/frsen.2025.1397513	WoS AND SCOPUS	3.7	Q1	Q2
Sá Marques T.; Dias da Silva V.; Júlio E.N.B.S.	Geometric and structural optimization of concrete shells	Structural Concrete	V. 26, n.º 4 (3737 - 3747)	10.1002/suco.202400632	WoS AND SCOPUS	3.3	Q1	Q2
Sabbahfar P.; Melo J.; Costa A.; Varum H.; Rodrigues H.	Cyclic Behavior of Seismically Non-Conforming Interior Reinforced Concrete Beam–Column Joints	Buildings	V. 15, n.º 2 (202)	10.3390/buildings15020202	WoS AND SCOPUS	3.1	Q1	Q2
Sabbahfar P.; Melo J.; Varum H.; Rodrigues H.	Bond-slip modeling for reinforced concrete beam-column joints with plain reinforcement bars: Insights from numerical validation	Structural Concrete	V. , n.º (-)	10.1002/suco.70388	WoS AND SCOPUS	3.3	Q1	Q2
Saket Oskoui I.; Portela M.M.; Almeida C.	Enhancing Reservoir Design by Integrating Resilience into the Modified Sequent Peak Algorithm (MSPA 2024)	Water (Switzerland)	V. 17, n.º 2 (277)	10.3390/w17020277	WoS AND SCOPUS	3.0	Q1	Q2
Salati M.; Costa A.A.; Silvestre J.D.	A Comprehensive Review of Dynamic Life Cycle Assessment for Buildings: Exploring Key Processes and Methodologies	Sustainability (Switzerland)	V. 17, n.º 1 (159)	10.3390/su17010159	WoS AND SCOPUS	3.3	Q1	Q3
Salgado Fagundes T.; Cunha Marques R.	Water privatization in Brazil: is the private sector making the same mistakes as in the past?	Water International	V. 50, n.º 6 (583 - 603)	10.1080/02508060.2025.2497742	WoS AND SCOPUS	1.5	Q2	Q3

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Sampaio A.Z.; Gomes A.M.; Tomé J.; Pinto A.M.	BIM and HBIM: Comparative Analysis of Distinct Modelling Approaches for New and Heritage Buildings	Heritage	V. 8, n.º 8 (299)	10.3390/heritage8080299	WoS AND SCOPUS	1.9	Q1	Q2
Sampaio Z.; Moreira N.; Neves J.	I-BIM Applied in Railway Geometric Inspection Activity: Diagnostic and Alert	Applied Sciences (Switzerland)	V. 15, n.º 10 (5733)	10.3390/app15105733	WoS AND SCOPUS	2.5	Q2	Q3
Sánchez-Lite A.; Fuentes-Bargues J.L.; Geijo-Barrientos J.M.; González-Gaya C.; Sampaio A.Z.	Key predictors of injury severity in occupational accidents involving construction-site vehicles	Results in Engineering	V. 28, n.º (107762)	10.1016/j.rineng.2025.107762	WoS AND SCOPUS	7.9	Q1	Q1
Santos A.K.; Ferreira V.M.; Dias A.C.	Promoting decarbonisation in the construction of new buildings: A strategy to calculate the Embodied Carbon Footprint	Journal of Building Engineering	V. 103, n.º (112037)	10.1016/j.jobe.2025.112037	WoS AND SCOPUS	7.4	Q1	Q1
Santos B.O.; Valença J.	Relevant channel selection in hyperspectral imaging to enhance crack segmentation in historic concrete buildings	Infrared Physics and Technology	V. 150, n.º (105958)	10.1016/j.infrared.2025.105958	WoS AND SCOPUS	3.4	Q2	Q2
Santos B.S.; Machini W.B.S.; Matias G.; Moreira N.F.S.T.; Portugal P.M.M.; Torres I.; Tadeu A.; Almeida J.A.S.	Mortars with enhanced chemical resistance: Effects of sulphuric acid exposure	Developments in the Built Environment	V. 21, n.º (100592)	10.1016/j.dibe.2024.100592	WoS AND SCOPUS	8.2	Q1	Q1
Santos F.A.	Tensegrity metastructure with tunable stiffness, strength, and energy dissipation	Extreme Mechanics Letters	V. 81, n.º (102420)	10.1016/j.eml.2025.102420	WoS AND SCOPUS	4.5	Q1	Q2

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Santos J.; Viegas J.	Insights into drop mass systems for predicting pile compressive resistance from dynamic load test energy measurements: a case study of the Tagus River Lezíria bridge and viaducts	Soils and Rocks	V. 48, n.º 4 (e2025006425)	10.28927/sr.2025.006425	WoS AND SCOPUS	0.9	Q3	Q4
Santos J.F.; Carriço N.; Miri M.; Raziei T.	Distributed Composite Drought Index Based on Principal Component Analysis and Temporal Dependence Assessment	Water (Switzerland)	V. 17, n.º 1 (17)	10.3390/w17010017	WoS AND SCOPUS	3.0	Q1	Q2
Santos J.M.; Quaresma A.L.; Romão F.; Amaral S.D.; Mameri D.; Santo M.; Bochechas J.; Telhado A.; Godinho F.N.; Pádua J.; Pinheiro P.J.; Silva A.T.; Viseu T.; Almeida P.R.; Ferreira T.; Pinheiro A.N.; Branco P.	Fishways in Portugal: Status, Main Findings and Research Needs	Water (Switzerland)	V. 17, n.º 19 (2898)	10.3390/w17192898	WoS AND SCOPUS	3.0	Q1	Q2
Santos P.P.; Pereira S.; Zêzere J.L.; Reis E.; Oliveira S.C.; Garcia R.A.C.; Ferreira T.M.	Understanding flood risk in urban environments: spatial analysis of building vulnerability and hazard areas in the Lisbon metropolitan area	Natural Hazards	V. 121, n.º 20 (23603 - 23626)	10.1007/s11069-024-06731-w	WoS AND SCOPUS	3.7	Q1	Q2
Santos, M.; Matos, R.; Alves, L.; Saldanha Matos, J.	Soluções e tecnologias de saneamento a seco – uma ferramenta simplificada de apoio à decisão	Águas & Resíduos	V. 2 (21-29)	10.22181/aer.2025.0103	Non WoS AND non SCOPUS	-		

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Sequeira A.; Coelho C.; Lima M.	Morphodynamic Interactions Between Sandbar, Beach Profile, and Dune Under Variable Hydrodynamic and Morphological Conditions	Water (Switzerland)	V. 17, n.º 14 (2112)	10.3390/w17142112	WoS AND SCOPUS	3.0	Q1	Q2
Shahid A.T.; Garrido M.; Correia J.R.	Durability under natural outdoor weathering of sustainable composites developed with bio-based unsaturated polyester and epoxy resins reinforced with glass, basalt, and carbon fibres	Construction and Building Materials	V. 505, n.º (144651)	10.1016/j.conbuildmat.2025.144651	WoS AND SCOPUS	8.0	Q1	Q1
Shahid A.T.; Hofmann M.A.; Silvestre J.D.; Garrido M.; Correia J.R.	Life Cycle Assessment of Novel Partially Bio-Based Unsaturated Polyester Resins	Journal of Polymers and the Environment	V. 33, n.º 7 (3329 - 3347)	10.1007/s10924-025-03596-3	WoS AND SCOPUS	-	Q1	
Sheidaei M.; Östlund J.-A.; Antunes V.; Freire A.C.	Effect of the geometrical and physical nature of filler on the rheological properties of mastics	International Journal of Pavement Engineering	V. 26, n.º 1 (2582712)	10.1080/10298436.2025.2582712	WoS AND SCOPUS	3.3	Q1	Q1
Sikora P.; Federowicz K.; Skibicki S.; Techman M.; Hoffmann M.; Pacheco J.N.; Chougan M.; Grochała D.; Cendrowski K.; Sibera D.; Błyszko J.; Budziński B.; Lin G.; Ludwiczak-Sarzała A.	Demonstration of 3D-Printed Concrete Containing Fine Recycled Concrete Aggregates (fCAs) and Recycled Concrete Powder (RCP): Rheology, Early-Age, Shrinkage, Mechanical, and Durability Performance	Buildings	V. 15, n.º 23 (4255)	10.3390/buildings15234255	WoS AND SCOPUS	3.1	Q1	Q2

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Silva A.; Arvanitis K.; Nikolakopoulos P.; Siriwardane S.C.; Ferreira C.; Evangelista L.; Adasooriya N.D.; Bjørheim F.; Valença J.; Mendes M.P.; Pavlou D.	Beyond numbers: an exploratory data analysis of gas pipelines' service life	Proceedings of the Institution of Civil Engineers: Maritime Engineering	V. , n.º (1 - 20)	10.1680/jmaen.25.00035	WoS AND SCOPUS	3.6	Q2	Q2
Silva A.; Nogueira R.; Gomes M.G.; Bogas J.A.	Carbon utilization during concrete production: reasons for the low CO2 uptake	Journal of Building Engineering	V. 107, n.º (112766)	10.1016/j.jobe.2025.112766	WoS AND SCOPUS	7.4	Q1	Q1
Silva B.A.; Guerreiro E.; Duarte A.P.C.	Comparative study of lime-based mortars for conservation and restoration interventions	Construction and Building Materials	V. 499, n.º (143956)	10.1016/j.conbuildmat.2025.143956	WoS AND SCOPUS	8.0	Q1	Q1
Silva B.A.; Piçarra S.; Ferreira Pinto A.P.; Pereira M.F.; Rucha M.; Montemor M.F.; Sena da Fonseca B.	Layer double hydroxide (LDH): Synthesis and incorporation in alkoxysilanes for stone conservation	Applied Clay Science	V. 266, n.º (107687)	10.1016/j.clay.2024.107687	WoS AND SCOPUS	5.8	Q1	Q2
Silva E.; Ferreira V.; Cunha J.; Monteiro E.	CFD Analysis on the Performance of Twisted Tapes in Horizontal Heat Exchangers for Shower Water Heat Recovery	Journal of Heat and Mass Transfer Research	V. 12, n.º 1 (137 - 150)	10.22075/JHMTR.2024.35215.1604	WoS AND SCOPUS	1.8	Q2	Q3

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Silva Neto J.A.; Cavalcante D.S.L.; Medeiros C.M.; Anjos M.A.S.; Dutra R.P.S.; Souza M.M.; Pederneiras C.M.; Silva Mateus R.F.M.	Development of artificial lightweight aggregates with chamotte and eucalyptus firewood ash residues: Life cycle assessment and economic feasibility	Construction and Building Materials	V. 504, n.º (144600)	10.1016/j.conbuildmat.2025.144600	WoS AND SCOPUS	8.0	Q1	Q1
Silva V.; Wald D.; Taherian A.	Potential Benefits of Seismic Monitoring for Ground-Shaking Estimation and Loss Assessment	Bulletin of the Seismological Society of America	V. 115, n.º 4 (1658 - 1676)	10.1785/0120240014	WoS AND SCOPUS	2.9	Q1	Q2
Silva, JP; Sampaio, PS; De Pablo, H	Filtration Solutions for Microplastic Mitigation: Cutting-Edge Filtration Technologies and Membrane Innovations for Environmental Protection	Applied Sciences (Switzerland)	V. 16 n.º 1, (439)	10.3390/app16010439	WoS AND SCOPUS	2.5	Q2	Q3
Silva, L; Alves, M; Andrade, D; Ferreira, DM; Piloto, P; Mesquita, L	Tensile shear strength of wood adhesives with fire-retardants under elevated temperatures	JOURNAL OF ADHESION SCIENCE AND TECHNOLOGY	V. 39 n.º 24, (3740 - 3762)	10.1080/01694243.2025.2563910	WoS AND SCOPUS	3.7	Q2	Q2
Silvestre J.D.; Fontoura J.F.	Environmental and economic performance of alternative ultra-high-performance concrete	Structural Concrete	V. 26, n.º 4 (3788 - 3796)	10.1002/suco.202400431	WoS AND SCOPUS	3.3	Q1	Q2
Silvestre, J. D.; Flores-Colen, I.; Silva, C. M.; Bartels, G.	Adequabilidade dos isolantes térmicos à aplicação em coberturas e pavimentos	Edifícios e Energia	N.º 157 (42-52)	-	Non WoS AND non SCOPUS	-		

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Silvestre, J. D.; Flores-Colen, I.; Silva, C. M.; Bartels, G.	Materiais de isolamento térmico: Tipos e principais caraterísticas dos produtos existentes no mercado	Edifícios e Energia	N.º 160 (68-74)	-	Non WoS AND non SCOPUS	-		
Simão P.D.; Rodrigues J.P.C.	Consistent thermodynamics analysis of restrained steel columns in fire – Part 1: Theoretical developments for general application	Engineering Structures	V. 338, n.º (120591)	10.1016/j.engstruct.2025.120591	WoS AND SCOPUS	6.4	Q1	Q1
Simão P.D.; Rodrigues J.P.C.	Consistent thermodynamics analysis of restrained steel columns in fire – Part 2: Application to the voxels-based Rayleigh-Ritz method	Engineering Structures	V. 338, n.º (120590)	10.1016/j.engstruct.2025.120590	WoS AND SCOPUS	6.4	Q1	Q1
Soares K.; Torres I.; Flores-Colen I.; Silveira D.	The Influence of Traditional Substrates on the Behaviour of Lime Mortars	International Journal of Architectural Heritage	V. 19, n.º 3 (346 - 369)	10.1080/15583058.2023.2286503	WoS AND SCOPUS	2.4	Q1	Q2
Soares K.; Torres I.; Velosa A.	Portugal's Wattle and Daub Constructive Legacy	Buildings	V. 15, n.º 7 (1009)	10.3390/buildings15071009	WoS AND SCOPUS	3.1	Q1	Q2
Soares M.; do Paço A.; Braga A.; Arantes A.	Modelling the Barriers to Reverse Logistics for Sustainable Supply Chains: A Combined ISM and MICMAC Analysis Approach	Sustainability (Switzerland)	V. 17, n.º 21 (9375)	10.3390/su17219375	WoS AND SCOPUS	3.3	Q1	Q3
Soares T.A.; Langner M.; Sacht H.; Figueiredo A.; Vicente R.	Multi-objective optimisation of an earth-to-air heat exchanger for thermal regulation in Southern Brazilian bioclimatic zones	Energy and Buildings	V. 347, n.º (116243)	10.1016/j.enbuild.2025.116243	WoS AND SCOPUS	7.1	Q1	Q1

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Soehlemann N.; Pérez-Sánchez M.; Coronado-Hernández O.E.; McNabola A.; Quintino A.; Ramos H.M.	Optimization Tool of Hybrid Energy Systems Toward a New Integrated Solution to Improve the Fish Sector's Effectiveness	Water (Switzerland)	V. 17, n.º 22 (3242)	10.3390/w17223242	WoS AND SCOPUS	3.0	Q1	Q2
Song J.; Wang C.; Nunes L.M.; Liang Z.; Li G.	The historical distribution and future expansion of paddy rice fields in Asian highlands	npj Sustainable Agriculture	V. 3, n.º 1 (65)	10.1038/s44264-025-00107-8	WoS AND SCOPUS	-		
Soom J.; Boavida I.; Leite R.; Costa M.J.; Toming G.; Leier M.; Tuhtan J.A.	Open real-time, non-invasive fish detection and size estimation utilizing binocular camera system in a Portuguese river affected by hydropeaking	Ecological Informatics	V. 90, n.º (103196)	10.1016/j.ecoinf.2025.103196	WoS AND SCOPUS	7.3	Q1	Q1
Soto-Guayara M.A.; Galindo-García J.M.; Rojas-Salgado M.J.; Zuluaga-Villermo J.G.	ANALYSIS OF PEDESTRIAN MOBILITY IN THE COMMERCIAL AREA OF IBAGUE, COLOMBIA	Urbano	V. 28, n.º 51 (74 - 85)	10.22320/07183607.2025.28.51.06	WoS AND SCOPUS	0.7	Q3	Q4
Sousa I.; Peres R.; Couto R.; Bento R.; Castro J.M.	Numerical Modelling and Damage Assessment Criteria for FRP-Retrofitted RC Columns	Buildings	V. 15, n.º 2 (188)	10.3390/buildings15020188	WoS AND SCOPUS	3.1	Q1	Q2
Sousa J.T.F.D.; Anjos M.A.S.D.; Neto J.A.D.S.; Farias E.C.D.; Branco F.G.; Maia Pederneiras C.	Self-Compacting Concrete with Artificial Lightweight Aggregates from Sugarcane Ash and Calcined Scheelite Mining Waste	Applied Sciences (Switzerland)	V. 15, n.º 1 (452)	10.3390/app15010452	WoS AND SCOPUS	2.5	Q2	Q3

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Sousa V.; Carollo M.; Butera I.; Meireles I.	The combined performance of green roof and rainwater harvesting: retention capacity and water saving	Blue-Green Systems	V. 7, n.º 1 (238 - 257)	10.2166/bgs.2025.041	WoS AND SCOPUS	2.1	Q1	Q3
Souza J.; Pires L.; Silva A.; Nascimento M.	Exploring the Impact of Cement Mortar Adhesion Strength in the Durability of Facade Systems	Buildings	V. 15, n.º 9 (1499)	10.3390/buildings15091499	WoS AND SCOPUS	3.1	Q1	Q2
Souza M.M.D.; Barbosa N.P.; Anjos M.A.S.D.; Farias E.C.D.; Aguiar J.G.C.; Neto J.A.D.S.; Pederneiras C.M.	Sustainable Lightweight Aggregates from Diatomite Residue	Sustainability (Switzerland)	V. 17, n.º 14 (6508)	10.3390/su17146508	WoS AND SCOPUS	3.3	Q1	Q3
Souza N.S.; Di Francesco V.; De Wanda N.; Rafeiro J.; Tomé A.	Digital documentation and dissemination of the Via Crucis of the Convent of Nossa Senhora da Arrábida, Portugal	Digital Applications in Archaeology and Cultural Heritage	V. 37, n.º (e00421)	10.1016/j.daach.2025.e00421	WoS AND SCOPUS		Q1	
Sreekeshava K.S.; Rodrigues H.; Arunkumar A.S.; Dharek M.S.	Parametric studies on fundamental period of vibration of masonry in-filled reinforced concrete frames strengthened at interfaces of MI and RC with geo-fabric	International Journal of System Assurance Engineering and Management	V. 16, n.º 4 (1590 - 1606)	10.1007/s13198-025-02773-w	WoS AND SCOPUS	1.4	Q2	Q3
Studart T.M.C.; Pontes Filho J.D.; Gomez G.R.; Portela M.M.; Sousa Filho F.A.	A Bivariate Return Period Copula Application of Flood Peaks and Volumes for Climate Adaptation in Semi-Arid Regions	Water (Switzerland)	V. 17, n.º 20 (2963)	10.3390/w17202963	WoS AND SCOPUS	3.0	Q1	Q2
Sugiyama G.; Bourgeois I.; Rodrigues H.	A holistic methodology for the assessment of Heritage Digital Twin applied to Portuguese case studies	Digital Applications in Archaeology and Cultural Heritage	V. 36, n.º (e00390)	10.1016/j.daach.2024.e00390	WoS AND SCOPUS	-	Q1	

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Sugiyama G.T.; Rodrigues M.F.; Rodrigues H.	Environmental impacts and BIM: a Portuguese heritage case study	International Journal of Building Pathology and Adaptation	V. 43, n.º 7 (1863 - 1877)	10.1108/IJBPA-10-2023-0160	WoS AND SCOPUS	2.1	Q2	Q2
Suwal N.; Khatakho R.; Jha A.N.; Ankon S.B.; Lamichhane M.; Kuriqi A.	Streamflow forecasting using machine learning and remote sensing data in the Himalayan region	Water Practice and Technology	V. 20, n.º 12 (2472 - 2491)	10.2166/wpt.2025.153	WoS AND SCOPUS	1.8	Q3	Q3
Swe W.M.; Ribau Teixeira M.; Smuleac L.; Nunes L.M.	Ecodesign and environmental assessment: a synergy for higher education institutions	Frontiers in Sustainability	V. 6, n.º (1550102)	10.3389/frsus.2025.1550102	WoS AND SCOPUS	2.9	Q2	Q3
Szewczyk M.; Tomczyk P.; Wiatkowski M.	Long-term water quality assessment and trophic status trends in Dobromierz, Lubachów and Sosnówka drinking water reservoirs in southwestern Poland	Scientific Reports	V. 15, n.º 1 (9804)	10.1038/s41598-025-94219-3	WoS AND SCOPUS	3.9	Q1	Q1
Szewczyk M.; Tomczyk P.; Wiatkowski M.	Assessment of Drinking Water Quality from the Dobromierz Reservoir During the Treatment Process: Collection, Distribution and Future Challenges	Water (Switzerland)	V. 17, n.º 24 (3467)	10.3390/w17243467	WoS AND SCOPUS	3.0	Q1	Q2
Tavares A.; Costa A.; Oliveira C.S.	An Evaluation of the Effects of the 1755 Lisbon Earthquake on Rivers and Their Tributaries in Mainland Portugal	Hydrology	V. 12, n.º 6 (150)	10.3390/hydrology12060150	WoS AND SCOPUS	3.2	Q1	Q2
Teixeira de Freitas J.A.; Tiago C.; Pereira E.M.B.R.	Modelling of Kirchhoff and Mindlin–Reissner Plate Bending With Hybrid-Trefftz Stress Elements	International Journal for Numerical Methods in Engineering	V. 126, n.º 6 (e7668)	10.1002/nme.7668	WoS AND SCOPUS	2.9	Q1	Q1

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Teixeira H.; Rodrigues Moret A.; Aelenei D.; Gomes M.G.	Literature review of solar control smart building glazing: Technologies, performance, and research insights	Building and Environment	V. 274, n.º (112784)	10.1016/j.buildenv.2025.112784	WoS AND SCOPUS	7.6	Q1	Q1
Teixeira S.B.; Pinto C.A.; Rosa M.	Submerged and emerged paleoshorelines on the Central Algarve (Portugal); [Paleolitorais submersos e emersos no Algarve Central (Portugal)]	Comunicacoes Geologicas	V. 112, n.º (171 - 174)	10.34637/pnkd-z258	WoS AND SCOPUS	-	Q4	
Tomczyk P.; Mastalerek K.; Kociszewski K.; Orzepowski W.; Wiatkowski M.	Economic Analysis of the Operation of a Hydropower Plant in a Wastewater Treatment Plant: Toruń, Poland	Energies	V. 18, n.º 2 (406)	10.3390/en18020406	WoS AND SCOPUS	3.2	Q1	Q3
Tomczyk P.; Tymcio M.; Kuriqi A.; Santos J.M.; Wiatkowski M.	Small hydropower impacts on water quality: A comparative analysis of different assessment methods	Water Resources and Industry	V. 33, n.º (100282)	10.1016/j.wri.2025.100282	WoS AND SCOPUS	7.5	Q1	Q1
Tomczyk P.; Wiatkowski M.; Kasperek R.; Gruss Ł.; Pokładek R.	Floods as a Consequence of Climate Change: Comprehensive Meteorological and Hydrological Analysis of the 2024 Flood Course in the Bóbr River Basin (Southwestern Poland)	Sustainability (Switzerland)	V. 17, n.º 23 (10640)	10.3390/su172310640	WoS AND SCOPUS	3.3	Q1	Q3
Tomczyk P.; Wróbel B.; Rosik-Dulewska C.; Kuriqi A.; Wiatkowski M.; Skorulski W.; Kabat T.; Prycik M.; Drobnik J.; Gruss Ł.; Kłos A.	Application of effective microorganisms for Littoral zone restoration in eutrophic reservoirs	Scientific Reports	V. 15, n.º 1 (16723)	10.1038/s41598-025-01795-5	WoS AND SCOPUS	3.9	Q1	Q1

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Tomczyk P.; Wróbel B.; Rosik-Dulewska C.; Kuriqi A.; Wiatkowski M.; Skorulski W.; Kabat T.; Prycik M.; Drobnik J.; Gruss Ł.; Kłos A.	Author Correction: Application of effective microorganisms for Littoral zone restoration in eutrophic reservoirs (Scientific Reports, (2025), 15, 1, (16723), 10.1038/s41598-025-01795-5)	Scientific Reports	V. 15, n.º 1 (24920)	10.1038/s41598-025-09187-5	WoS AND SCOPUS	3.9	Q1	Q1
Toribio-Avedillo D.; Ballesté E.; García-Aljaro C.; Stange C.; Tiehm A.; Sánchez-Cid C.; Mulogo E.; Nasser A.; Santos R.; Nemes K.; Blanch A.R.	The reliability of CrAssphage in human fecal pollution detection: A cross-regional MST marker assessment	Journal of Environmental Management	V. 382, n.º (125399)	10.1016/j.jenvman.2025.125399	WoS AND SCOPUS	8.4	Q1	Q1
Toro J.P.; Sepúlveda S.; Bombardelli F.A.; Moreno-Casas P.A.; Meireles I.; Matos J.; Blanc A.	Influence of Step Height on Turbulence Statistics in the Non-Aerated Skimming Flow in Steep-Stepped Spillways	Water (Switzerland)	V. 17, n.º 22 (3256)	10.3390/w17223256	WoS AND SCOPUS	3.0	Q1	Q2
Torres, ECM; de Picado-Santos, LG	Sentiment Analysis and Topic Modeling in Transportation: A Literature Review	Applied Sciences (Switzerland)	V. 15 n.º 12, (6576)	10.3390/app15126576	WoS AND SCOPUS	2.5	Q2	Q3
Torres, ECM; de Picado-Santos, LG	Using Sentiment Analysis to Study the Potential for Improving Sustainable Mobility in University Campuses	SUSTAINABILITY (Switzerland)	V. 17 n.º 14, (6645)	10.3390/su17146645	WoS AND SCOPUS	3.3	Q1	Q3

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Valença G.; Azevedo C.; Moura F.; Morais de Sá A.	Creating visualizations using generative AI to guide decision-making in street designs: A viewpoint	Journal of Urban Mobility	V. 7, n.º (100104)	10.1016/j.urbmob.2025.100104	WoS AND SCOPUS	6.1	Q1	Q1
Valença J.; Brandão M.; Júlio E.	Vision-based monitoring system for in-plan seismic tests conducted on a shaking table: The case study of prefabricated concrete shells	Structural Concrete	V. 26, n.º 4 (3891 - 3904)	10.1002/suco.202400624	WoS AND SCOPUS	3.3	Q1	Q2
Valizadeh Hassanloui M.; Lajevardi S.H.; Ahmadi H.; Saba H.R.; Kuriqi A.	Evaluation of Geotechnical Properties of Sediments of the Top Layer of Hypersaline Lakes: The Case of Lake Urmia	International Journal of Civil Engineering	V. 23, n.º 2 (243 - 259)	10.1007/s40999-024-01040-6	WoS AND SCOPUS	2.0	Q2	Q3
Vara G.M.; Gomes M.C.; Ferreira D.C.	Assessing the performance of Portuguese public hospitals before and during COVID-19 outbreak, with optimistic and pessimistic benchmarking approaches	Health Care Management Science	V. 28, n.º 1 (1 - 27)	10.1007/s10729-024-09693-4	WoS AND SCOPUS	2.0	Q1	Q3
Varandas J.N.; Paixão A.; Tijera Á.; Crespo-Chacón I.; Estaire J.; Fortunato E.	Dynamic response of ballasted High-Speed Railways: insights from experimental measurements and 3D nonlinear numerical modelling	Transportation Geotechnics	V. 52, n.º (101549)	10.1016/j.trgeo.2025.101549	WoS AND SCOPUS	5.5	Q1	Q1
Varandas J.N.; Zhang Y.; Shi J.; Davies S.; Ferreira A.	Differential settlements monitoring in railway transition zones using satellite-based remote sensing techniques	Computer-Aided Civil and Infrastructure Engineering	V. 40, n.º 27 (4824 - 4844)	10.1111/mice.13511	WoS AND SCOPUS	9.1	Q1	Q1
Vazquez V.; Tomé A.; Vizotto I.	A spatial–functional analysis methodology of ultra-thin free-form shells	Structural Concrete	V. 26, n.º 4 (3748 - 3767)	10.1002/suco.202400332	WoS AND SCOPUS	3.3	Q1	Q2

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Veloso R.C.; Souza A.; Maia J.; Parracha J.L.; Duarte S.; Salgueiro T.A.; Ventura J.; Veiga R.; Ramos N.M.M.	Analysing the potential of optically enhanced dark-coloured finishing coats for ETICS performance improvement	Construction and Building Materials	V. 493, n.º (143078)	10.1016/j.conbuildmat.2025.143078	WoS AND SCOPUS	8.0	Q1	Q1
Venâncio, D.; Martins, N. R.; Bodas Freitas, T. M.; Bourne-Webb, P.	Avaliação da viabilidade técnica de um sistema de geotermia superficial baseado em estacas termo-ativadas	AVAC Magazine	N.º 14 (32-37)	-	Non WoS AND non SCOPUS	-		
Venus T.E.; Ola O.; Alp M.; Bätz N.; Bejarano M.D.; Boavida I.; Bruno M.C.; Casas-Mulet R.; Carolli M.; Chiogna G.; Gosselin M.-P.; Halleraker J.H.; Noack M.; Tonolla D.; Vanzo D.; Hayes D.S.	The power of hydropeaking: Trade-offs between flexible hydropower and river ecosystem services in Europe	Ecological Economics	V. 233, n.º (108583)	10.1016/j.ecolecon.2025.108583	WoS AND SCOPUS	6.3	Q1	Q1
Vettorazzi E.; Figueiredo A.; Dias M.V.; Moraes Souto A.E.; Langner M.; Cenci L.E.; da Silva Andrade J.	Indoor thermal comfort and energy efficiency in Brazilian social housing: A bibliometric and systematic review	Energy and Buildings	V. 348, n.º (116460)	10.1016/j.enbuild.2025.116460	WoS AND SCOPUS	7.1	Q1	Q1

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Vicente Da Silva M.; Antao A.N.	Finite-Element Limit Analysis Formulation using Bishop's Strength Criterion for Anisotropic Undrained Soils	International Journal of Geomechanics	V. 25, n.º 4 (04025037)	10.1061/IJGNAI.GMENG-10432	WoS AND SCOPUS	3.3	Q1	Q2
Vicente da Silva M.; Antão A.N.	A new random field finite-element limit analysis approach for undrained soils	Geotechnique Letters	V. , n.º (1 - 6)	10.1680/jgele.25.00023	WoS AND SCOPUS	2.5	Q1	Q2
Vieira J.; Cortês A.; Santos L.; Almeida J.	Planning separate collection and recycling of bio-waste in low density territories: a case study in Portugal	International Journal of Environmental Science and Technology	V. 22, n.º 12 (11761 - 11774)	10.1007/s13762-025-06356-x	WoS AND SCOPUS	3.4	Q1	Q2
Vishwakarma D.K.; Yadav D.; Kumar R.; Kumar R.; Bhat S.A.; Mirzania E.; Kuriqi A.	Assessing the performance of various infiltration models to improve water management practices	Paddy and Water Environment	V. 23, n.º 1 (77 - 93)	10.1007/s10333-024-01000-9	WoS AND SCOPUS	2.1	Q1	Q2
Vitorino H.; Esteves A.; Ferreira T.M.; Rodrigues H.	Post-earthquake fire risk assessment at urban scale in Aveiro, Portugal	Journal of Structural Fire Engineering	V. , n.º (1 - 26)	10.1108/JSFE-05-2025-0018	WoS AND SCOPUS	1.2	Q3	Q4
Xiao, JZ; Yu, CH; Xia, B; Xiao, XW; Wang, FM; Kang, J; de Brito, J	Low-carbon solutions for water infiltration in urban buildings under climate change	NATURE CITIES	V. 2 n.º 6, (479 - 488)	10.1038/s44284-025-00259-1	Non WoS OR non SCOPUS	-		
Yang C.; Lin H.; Gao R.; Li Z.; Gan D.; Liu M.; Ren Q.	Mechanical behaviour analysis of cemented tailings rock backfill materials: An insight from mesoscale modelling coupled with damage plasticity model	Case Studies in Construction Materials	V. 22, n.º (e04356)	10.1016/j.cscm.2025.e04356	WoS AND SCOPUS	6.6	Q1	Q1

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Ye Y.-Y.; Gonilha J.; Silvestre N.; Correia J.R.	Web-crippling behavior of pultruded GFRP I-section beams under one-flange loading: Computational modelling and parametric study	Composites Part B: Engineering	V. 307, n.º (112915)	10.1016/j.compositesb.2025.112915	WoS AND SCOPUS	14.2	Q1	Q1
Ye Y.-Y.; Gonilha J.; Silvestre N.; Correia J.R.	Experimental study of web-crippling behavior of pultruded GFRP I-section profiles under localized one-flange loading	Thin-Walled Structures	V. 209, n.º (112931)	10.1016/j.tws.2025.112931	WoS AND SCOPUS	6.6	Q1	Q1
Yepes-Estrada C.; Rao A.; Ceballos J.A.; Jenkins S.; Pagani M.; Silva V.; Ramírez L.G.V.; Laverde C.; Mora M.	Scenario impact assessment for volcanoes using the OpenQuake engine	Annals of Geophysics	V. 68, n.º (1)	10.4401/ag-9172	WoS AND SCOPUS	1.2	Q2	Q3
Zanoni A.L.; Piloto P.A.G.; Mesquita L.; Rossetto D.R.; Lopes N.; Real P.V.	Fire resistance of stainless steel beams: different sections and grades	Journal of Structural Fire Engineering	V. , n.º (-)	10.1108/JSFE-05-2025-0019	WoS AND SCOPUS	1.2	Q3	Q4
Zeleňáková M.; Abd Elhamid H.; Soľáková T.; Purcz P.; de Michele C.; Blišťan P.; Hlavatá H.; Simonová D.; Portela M.M.	Assessment of meteorological and hydrological droughts in the eastern Slovakia using SPI and SSI indices	Modeling Earth Systems and Environment	V. 11, n.º 4 (253)	10.1007/s40808-025-02423-x	WoS AND SCOPUS	2.9	Q1	Q3
Zerouali B.; Ayek A.A.E.; Bailek N.; Kuriqi A.; Wong Y.J.; Srivastava A.; Islam A.R.M.T.; Ouadja A.; Santos C.A.G.	RUSLE model insights for soil conservation and sustainable land use in semiarid environments	Euro-Mediterranean Journal for Environmental Integration	V. 10, n.º 2 (853 - 876)	10.1007/s41207-024-00664-3	WoS AND SCOPUS	2.1	Q3	Q3

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Zhang Y.; Shi J.; Varandas J.N.; Ding Y.	An interval prediction system for track irregularity after tamping based on multi-module machine learning and pointwise scaling approach	Computer-Aided Civil and Infrastructure Engineering	V. 40, n.º 27 (4797 - 4823)	10.1111/mice.13504	WoS AND SCOPUS	9.1	Q1	Q1
Zhao J.; Ma T.; Wang Z.; Cachim P.; Qin M.	Pavement crack detection and segmentation using nested U-Net with residual attention mechanism	Computer-Aided Civil and Infrastructure Engineering	V. 40, n.º 24 (4076 - 4092)	10.1111/mice.13527	WoS AND SCOPUS	9.1	Q1	Q1
Zitouni M.; Arruda M.R.T.; Cantor P.; Branco F.	Heat penetration and thermal response due to firebrand accumulation on the exterior walls of dwellings	Journal of Safety Science and Resilience	V. 6, n.º 3 (100189)	10.1016/j.jnlssr.2024.12.003	WoS AND SCOPUS		Q1	
Zitouni M.; Bicelli A.R.A.; Arruda M.R.T.; Branco F.	Numerical Simulation of the Thermal Effect of Firebrand Deposition on External Composite Walls	Journal of Composites Science	V. 9, n.º 4 (151)	10.3390/jcs9040151	WoS AND SCOPUS	3.7	Q1	Q2
Zitouni M.; Tiago Arruda M.R.; Cantor P.; Branco F.	Thermal Effect of Firebrand Accumulation in Ceramic Roof Tiles	Fire	V. 8, n.º 2 (55)	10.3390/fire8020055	WoS AND SCOPUS	2.7	Q1	Q2
Zitouni, M; Arruda, MRT	Fracture energy regularization for the numerical modelling of concrete structures with recycled aggregate: An application with an UMAT user subroutine for ABAQUS	MECHANICS RESEARCH COMMUNICATIONS	V. 148 n.º , (104463)	10.1016/j.mechrescom.2025.104463	WoS AND SCOPUS	2.3	Q2	Q3

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Adorean, EC; Nofre, J; García-Juan, L; Moura, F	Mobility patterns of shared and own e-bikes and e-scooters in Iberian cities	INTERNATIONAL JOURNAL OF SUSTAINABLE TRANSPORTATION	V. 20 n.º 4, (335 - 361)	10.1080/15568318.2025.2573743	WoS AND SCOPUS	3.9	Q1	Q2
Adorean, EC; Nofre, J; Moura, F	Clustering users and non-users of shared and private e-bikes and e-scooters across three European cities: Typologies, spatial patterns, and policy implications	TRANSPORT POLICY	V. 175 n.º , (103875)	10.1016/j.tranpol.2025.103875	WoS AND SCOPUS	5.3	Q1	Q1
da Silva, LV; Giacomitti, N; Ferreira, D; Lopes, N; Mesquita, LMR	Experimental investigation of cellular steel beams at ambient and elevated temperatures	FIRE SAFETY JOURNAL	V. 159 n.º , (104574)	10.1016/j.firesaf.2025.104574	WoS AND SCOPUS	3.3	Q1	Q2
de Morais, AB	Load-blocks and specimen deformation effects on the mixed-mode bending specimen for mixed-mode I plus II interlaminar fracture of composites	ENGINEERING FRACTURE MECHANICS	V. 332 n.º , (111780)	10.1016/j.engfracmech.2025.111780	WoS AND SCOPUS	5.3	Q1	Q1
Ferreira, MTHA; Costa, AA; Silvestre, JD	Integrating life cycle assessment and building information modelling: A purpose-driven approach	JOURNAL OF BUILDING ENGINEERING	V. 118 n.º , (115006)	10.1016/j.jobe.2025.115006	WoS AND SCOPUS	7.4	Q1	Q1
Gholipour, A; Kisielius, V; Fragoso, R; Galvao, A; Duarte, E; Carvalho, PN	Enhanced removal of organic micropollutants in earthworm-assisted sludge treatment reed beds	WATER RESEARCH	V. 291 n.º , (125168)	10.1016/j.watres.2025.125168	WoS AND SCOPUS	12.4	Q1	Q1
Izquierdo-Herazo, E; Orozco-Fontalvo, M; Gutiérrez, M; Ramos, R; Cantillo, V	How do regulations and safety perceptions affect the willingness to use e-scooters?	TRANSPORTATION RESEARCH PART A: POLICY AND PRACTICE	V. 204 n.º , (104828)	10.1016/j.tra.2025.104828	WoS AND SCOPUS	6.8	Q1	Q1

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Leite, R; Merianne, A; Costa, MJ; Afonso, F; Pinheiro, A; Santos, JM; Boavida, I	Parallel or not: which hydraulic cue maximizes cyprinid use of flow refuge under peaking flows?	JOURNAL OF ECOHYDRAULICS	V. 11 n.º 1, (45 - 55)	10.1080/24705357.2025.2489955	WoS AND SCOPUS	1.8	Q2	Q3
Meza-Gómez, SJ; Silva, RV; Colmenares-Cano, H; Ortiz-Palacios, J; Gonzalez-Robles, TE; Ramírez-Arreola, DE	CO2 curing influence in alkali-activated Metakaolin/waste glass rejects systems	MATERIALS LETTERS	V. 404 n.º , (139562)	10.1016/j.matlet.2025.139562	WoS AND SCOPUS	2.7	Q2	Q3
Nascimento, S; Ljubinkovic, F; Martins, JP; Pedro, JJO	Comprehensive review of shear resistance and web stiffeners design in plate girders	JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH	V. 238 n.º , (110166)	10.1016/j.jcsr.2025.110166	WoS AND SCOPUS	4.3	Q1	Q1
Nogueira, WD; Scussel, O; Figueiredo, E; da Silva, S	Nonlinear feature extraction in a mechanical system using kernel PCA and output-only data: Experiment and physical insights	MECHANICAL SYSTEMS AND SIGNAL PROCESSING	V. 242 n.º , (113624)	10.1016/j.ymssp.2025.113624	WoS AND SCOPUS	8.9	Q1	Q1
Okeyia, C; de Almeida, NM; Amad-Echendu, J; Asongu, SA	Optimizing the Distributed Telecoms Asset Maintenance Practice Using Blockchain and Digital Twin Technologies	GLOBAL BUSINESS REVIEW	V. 27 n.º 1, (93 - 113)	10.1177/09721509251374805	WoS AND SCOPUS	1.9	Q2	Q3
Pacheco, J; Valencia, J; Martins, I; de Brito, J	Workability of ready-mix concrete made with industrial recycled aggregates	STRUCTURAL CONCRETE	V. 27 n.º 1, (913 - 934)	10.1002/suco.70117	WoS AND SCOPUS	3.3	Q1	Q2

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Piloto, PAG; Torres, L; Couto, C; Real, PV; Mesquita, LMR; Lopes, N; Frizzera, G; Silva, RGL	Accurate 3D numerical models towards the prediction of the fire resistance on LSF partition walls	INTERNATIONAL JOURNAL OF THERMAL SCIENCES	V. 222 n.º , (110540)	10.1016/j.ijthermalsci.2025.110540	WoS AND SCOPUS	5.0	Q1	Q1
Ramos, VDR; Trautwein, LM; Ramos, AP; Liberati, EAP	Numerical analysis of the effects of corrosion on the punching shear capacity of reinforced concrete flat slabs with openings	STRUCTURAL CONCRETE	V. 27 n.º 2, (1663 - 1683)	10.1002/suco.70441	WoS AND SCOPUS	3.3	Q1	Q2
Roka, R; Vieira, A; Figueiredo, A; Ferreira, A; Cardoso, C	Thermal characterization of soils in Aveiro and Lisbon for shallow geothermal applications: A study using transient methods	GEOTHERMICS	V. 134 n.º , (103498)	10.1016/j.geothermics.2025.103498	WoS AND SCOPUS	3.9	Q1	Q3
Romero, A; Velázquez-Mata, R; Tadeu, A; Galvín, P	A unified BEM approach for complex and degenerate geometries based on the Burton-Miller method	ENGINEERING ANALYSIS WITH BOUNDARY ELEMENTS	V. 182 n.º , (106558)	10.1016/j.enganabound.2025.106558	WoS AND SCOPUS	4.1	Q1	Q1
Rucha, M; Piçarra, S; Pinto, APF; Montemor, MF; da Fonseca, BS	Superficial and in-depth effects of novel water-based fluorinated alkoxysilanes formulations for stone materials	JOURNAL OF BUILDING ENGINEERING	V. 117 n.º , (114801)	10.1016/j.jobe.2025.114801	WoS AND SCOPUS	7.4	Q1	Q1
Sparvoli, G; Bosi, E; Bernardini, G; Quagliarini, E; Ferreira, TM	How much do users matter? An integrated method for building flood vulnerability and exposure assessment in Historic Urban Areas	SUSTAINABLE CITIES AND SOCIETY	V. 136 n.º , (107084)	10.1016/j.scs.2025.107084	WoS AND SCOPUS	12.0	Q1	Q1

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Velázquez-Mata, R; Knuth, C; Romero, A; Squicciarini, G; Tadeu, A; Thompson, DJ; Galvín, P	A 2.5D BEM-based approach in the Bézier-Bernstein space for railway noise prediction and acoustic barrier assessment	ENGINEERING ANALYSIS WITH BOUNDARY ELEMENTS	V. 182 n.º , (106568)	10.1016/j.enganabound.2025.106568	WoS AND SCOPUS	4.1	Q1	Q1
Ye, YY; Gonilha, J; Silvestre, N; Correla, JR	Effects of specimen length and fiber layup on transverse tensile fracture behavior of pultruded GFRP materials	ENGINEERING FRACTURE MECHANICS	V. 332 n.º , (111777)	10.1016/j.engfracmech.2025.111777	WoS AND SCOPUS	5.3	Q1	Q1
Vara G.M.; Gomes M.C.; Ferreira D.C.	Assessing the performance of Portuguese public hospitals before and during COVID-19 outbreak, with optimistic and pessimistic benchmarking approaches	Health Care Management Science	V. 28, n.º 1 (1 - 27)	10.1007/s10729-024-09693-4	WoS AND SCOPUS	2.0	Q1	Q3
Varandas J.N.; Paixão A.; Tijera Á.; Crespo-Chacón I.; Estaire J.; Fortunato E.	Dynamic response of ballasted High-Speed Railways: insights from experimental measurements and 3D nonlinear numerical modelling	Transportation Geotechnics	V. 52, n.º (101549)	10.1016/j.trgeo.2025.101549	WoS AND SCOPUS	5.5	Q1	Q1
Varandas J.N.; Zhang Y.; Shi J.; Davies S.; Ferreira A.	Differential settlements monitoring in railway transition zones using satellite-based remote sensing techniques	Computer-Aided Civil and Infrastructure Engineering	V. 40, n.º 27 (4824 - 4844)	10.1111/mice.13511	WoS AND SCOPUS	9.1	Q1	Q1
Vazquez V.; Tomé A.; Vizotto I.	A spatial–functional analysis methodology of ultra-thin free-form shells	Structural Concrete	V. 26, n.º 4 (3748 - 3767)	10.1002/suco.202400332	WoS AND SCOPUS	3.3	Q1	Q2

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Veloso R.C.; Souza A.; Maia J.; Parracha J.L.; Duarte S.; Salgueiro T.A.; Ventura J.; Veiga R.; Ramos N.M.M.	Analysing the potential of optically enhanced dark-coloured finishing coats for ETICS performance improvement	Construction and Building Materials	V. 493, n.º (143078)	10.1016/j.conbuildmat.2025.143078	WoS AND SCOPUS	8.0	Q1	Q1
Venâncio, D.; Martins, N. R.; Bodas Freitas, T. M.; Bourne-Webb, P.	Avaliação da viabilidade técnica de um sistema de geotermia superficial baseado em estacas termo-ativadas	AVAC Magazine	N.º 14 (32-37)	-	Non WoS AND non SCOPUS	-		
Venus T.E.; Ola O.; Alp M.; Bätz N.; Bejarano M.D.; Boavida I.; Bruno M.C.; Casas-Mulet R.; Carolli M.; Chiogna G.; Gosselin M.-P.; Halleraker J.H.; Noack M.; Tonolla D.; Vanzo D.; Hayes D.S.	The power of hydropeaking: Trade-offs between flexible hydropower and river ecosystem services in Europe	Ecological Economics	V. 233, n.º (108583)	10.1016/j.ecolecon.2025.108583	WoS AND SCOPUS	6.3	Q1	Q1
Vettorazzi E.; Figueiredo A.; Dias M.V.; Moraes Souto A.E.; Langner M.; Cenci L.E.; da Silva Andrade J.	Indoor thermal comfort and energy efficiency in Brazilian social housing: A bibliometric and systematic review	Energy and Buildings	V. 348, n.º (116460)	10.1016/j.enbuild.2025.116460	WoS AND SCOPUS	7.1	Q1	Q1

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Vicente Da Silva M.; Antao A.N.	Finite-Element Limit Analysis Formulation using Bishop's Strength Criterion for Anisotropic Undrained Soils	International Journal of Geomechanics	V. 25, n.º 4 (04025037)	10.1061/IJGNAI.GMENG-10432	WoS AND SCOPUS	3.3	Q1	Q2
Vicente da Silva M.; Antão A.N.	A new random field finite-element limit analysis approach for undrained soils	Geotechnique Letters	V. , n.º (1 - 6)	10.1680/jgele.25.00023	WoS AND SCOPUS	2.5	Q1	Q2
Vieira J.; Cortês A.; Santos L.; Almeida J.	Planning separate collection and recycling of bio-waste in low density territories: a case study in Portugal	International Journal of Environmental Science and Technology	V. 22, n.º 12 (11761 - 11774)	10.1007/s13762-025-06356-x	WoS AND SCOPUS	3.4	Q1	Q2
Vishwakarma D.K.; Yadav D.; Kumar R.; Kumar R.; Bhat S.A.; Mirzania E.; Kuriqi A.	Assessing the performance of various infiltration models to improve water management practices	Paddy and Water Environment	V. 23, n.º 1 (77 - 93)	10.1007/s10333-024-01000-9	WoS AND SCOPUS	2.1	Q1	Q2
Vitorino H.; Esteves A.; Ferreira T.M.; Rodrigues H.	Post-earthquake fire risk assessment at urban scale in Aveiro, Portugal	Journal of Structural Fire Engineering	V. , n.º (1 - 26)	10.1108/JSFE-05-2025-0018	WoS AND SCOPUS	1.2	Q3	Q4
Xiao, JZ; Yu, CH; Xia, B; Xiao, XW; Wang, FM; Kang, J; de Brito, J	Low-carbon solutions for water infiltration in urban buildings under climate change	NATURE CITIES	V. 2 n.º 6, (479 - 488)	10.1038/s44284-025-00259-1	Non WoS OR non SCOPUS	-		
Yang C.; Lin H.; Gao R.; Li Z.; Gan D.; Liu M.; Ren Q.	Mechanical behaviour analysis of cemented tailings rock backfill materials: An insight from mesoscale modelling coupled with damage plasticity model	Case Studies in Construction Materials	V. 22, n.º (e04356)	10.1016/j.cscm.2025.e04356	WoS AND SCOPUS	6.6	Q1	Q1

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Ye Y.-Y.; Gonilha J.; Silvestre N.; Correia J.R.	Experimental study of web-crippling behavior of pultruded GFRP I-section profiles under localized one-flange loading	Thin-Walled Structures	V. 209, n.º (112931)	10.1016/j.tws.2025.112931	WoS AND SCOPUS	6.6	Q1	Q1
Yepes-Estrada C.; Rao A.; Ceballos J.A.; Jenkins S.; Pagani M.; Silva V.; Ramírez L.G.V.; Laverde C.; Mora M.	Scenario impact assessment for volcanoes using the OpenQuake engine	Annals of Geophysics	V. 68, n.º (1)	10.4401/ag-9172	WoS AND SCOPUS	1.2	Q2	Q3
Zanoni A.L.; Piloto P.A.G.; Mesquita L.; Rossetto D.R.; Lopes N.; Real P.V.	Fire resistance of stainless steel beams: different sections and grades	Journal of Structural Fire Engineering	V. , n.º (-)	10.1108/JSFE-05-2025-0019	WoS AND SCOPUS	1.2	Q3	Q4
Zeleňáková M.; Abd Elhamid H.; Soľáková T.; Purcz P.; de Michele C.; Blišťan P.; Hlavatá H.; Simonová D.; Portela M.M.	Assessment of meteorological and hydrological droughts in the eastern Slovakia using SPI and SSI indices	Modeling Earth Systems and Environment	V. 11, n.º 4 (253)	10.1007/s40808-025-02423-x	WoS AND SCOPUS	2.9	Q1	Q3
Zerouali B.; Ayek A.A.E.; Bailek N.; Kuriqi A.; Wong Y.J.; Srivastava A.; Islam A.R.M.T.; Ouadja A.; Santos C.A.G.	RUSLE model insights for soil conservation and sustainable land use in semiarid environments	Euro-Mediterranean Journal for Environmental Integration	V. 10, n.º 2 (853 - 876)	10.1007/s41207-024-00664-3	WoS AND SCOPUS	2.1	Q3	Q3

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Zhang Y.; Shi J.; Varandas J.N.; Ding Y.	An interval prediction system for track irregularity after tamping based on multi-module machine learning and pointwise scaling approach	Computer-Aided Civil and Infrastructure Engineering	V. 40, n.º 27 (4797 - 4823)	10.1111/mice.13504	WoS AND SCOPUS	9.1	Q1	Q1
Zhao J.; Ma T.; Wang Z.; Cachim P.; Qin M.	Pavement crack detection and segmentation using nested U-Net with residual attention mechanism	Computer-Aided Civil and Infrastructure Engineering	V. 40, n.º 24 (4076 - 4092)	10.1111/mice.13527	WoS AND SCOPUS	9.1	Q1	Q1
Zitouni M.; Arruda M.R.T.; Cantor P.; Branco F.	Heat penetration and thermal response due to firebrand accumulation on the exterior walls of dwellings	Journal of Safety Science and Resilience	V. 6, n.º 3 (100189)	10.1016/j.jnlssr.2024.12.003	WoS AND SCOPUS		Q1	
Zitouni M.; Bicelli A.R.A.; Arruda M.R.T.; Branco F.	Numerical Simulation of the Thermal Effect of Firebrand Deposition on External Composite Walls	Journal of Composites Science	V. 9, n.º 4 (151)	10.3390/jcs9040151	WoS AND SCOPUS	3.7	Q1	Q2
Zitouni M.; Tiago Arruda M.R.; Cantor P.; Branco F.	Thermal Effect of Firebrand Accumulation in Ceramic Roof Tiles	Fire	V. 8, n.º 2 (55)	10.3390/fire8020055	WoS AND SCOPUS	2.7	Q1	Q2
Zitouni, M; Arruda, MRT	Fracture energy regularization for the numerical modelling of concrete structures with recycled aggregate: An application with an UMAT user subroutine for ABAQUS	MECHANICS RESEARCH COMMUNICATIONS	V. 148 n.º , (104463)	10.1016/j.mechrescom.2025.104463	WoS AND SCOPUS	2.3	Q2	Q3

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Adorean, EC; Nofre, J; Moura, F	Clustering users and non-users of shared and private e-bikes and e-scooters across three European cities: Typologies, spatial patterns, and policy implications	TRANSPORT POLICY	V. 175 n.º , (103875)	10.1016/j.tranpol.2025.103875	WoS AND SCOPUS	5.3	Q1	Q1
da Silva, LV; Giacomitti, N; Ferreira, D; Lopes, N; Mesquita, LMR	Experimental investigation of cellular steel beams at ambient and elevated temperatures	FIRE SAFETY JOURNAL	V. 159 n.º , (104574)	10.1016/j.firesaf.2025.104574	WoS AND SCOPUS	3.3	Q1	Q2
de Morais, AB	Load-blocks and specimen deformation effects on the mixed-mode bending specimen for mixed-mode I plus II interlaminar fracture of composites	ENGINEERING FRACTURE MECHANICS	V. 332 n.º , (111780)	10.1016/j.engfracmech.2025.111780	WoS AND SCOPUS	5.3	Q1	Q1
Ferreira, MTHA; Costa, AA; Silvestre, JD	Integrating life cycle assessment and building information modelling: A purpose-driven approach	JOURNAL OF BUILDING ENGINEERING	V. 118 n.º , (115006)	10.1016/j.jobe.2025.115006	WoS AND SCOPUS	7.4	Q1	Q1
Gholipour, A; Kisielius, V; Fragoso, R; Galvao, A; Duarte, E; Carvalho, PN	Enhanced removal of organic micropollutants in earthworm-assisted sludge treatment reed beds	WATER RESEARCH	V. 291 n.º , (125168)	10.1016/j.watres.2025.125168	WoS AND SCOPUS	12.4	Q1	Q1
Izquierdo-Herazo, E; Orozco-Fontalvo, M; Gutiérrez, M; Ramos, R; Cantillo, V	How do regulations and safety perceptions affect the willingness to use e-scooters?	TRANSPORTATION RESEARCH PART A: POLICY AND PRACTICE	V. 204 n.º , (104828)	10.1016/j.tra.2025.104828	WoS AND SCOPUS	6.8	Q1	Q1

Authors	Title of paper	Journal	Vol, Number (Pages)	DOI	Type of journal	Impact Factor Clar. Analytics (2024)	Quartile Scopus	Quartile WoS
Leite, R; Merianne, A; Costa, MJ; Afonso, F; Pinheiro, A; Santos, JM; Boavida, I	Parallel or not: which hydraulic cue maximizes cyprinid use of flow refuge under peaking flows?	JOURNAL OF ECOHYDRAULICS	V. 11 n.º 1, (45 - 55)	10.1080/24705357.2025.2489955	WoS AND SCOPUS	1.8	Q2	Q3
Meza-Gómez, SJ; Silva, RV; Colmenares-Cano, H; Ortiz-Palacios, J; Gonzalez-Robles, TE; Ramírez-Arreola, DE	CO2 curing influence in alkali-activated Metakaolin/waste glass rejects systems	MATERIALS LETTERS	V. 404 n.º , (139562)	10.1016/j.matlet.2025.139562	WoS AND SCOPUS	2.7	Q2	Q3
Nascimento, S; Ljubinkovic, F; Martins, JP; Pedro, JJO	Comprehensive review of shear resistance and web stiffeners design in plate girders	JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH	V. 238 n.º , (110166)	10.1016/j.jcsr.2025.110166	WoS AND SCOPUS	4.3	Q1	Q1
Nogueira, WD; Scussel, O; Figueiredo, E; da Silva, S	Nonlinear feature extraction in a mechanical system using kernel PCA and output-only data: Experiment and physical insights	MECHANICAL SYSTEMS AND SIGNAL PROCESSING	V. 242 n.º , (113624)	10.1016/j.ymssp.2025.113624	WoS AND SCOPUS	8.9	Q1	Q1
Okeyia, C; de Almeida, NM; Amad-Echendu, J; Asongu, SA	Optimizing the Distributed Telecoms Asset Maintenance Practice Using Blockchain and Digital Twin Technologies	GLOBAL BUSINESS REVIEW	V. 27 n.º 1, (93 - 113)	10.1177/09721509251374805	WoS AND SCOPUS	1.9	Q2	Q3
Pacheco, J; Valencia, J; Martins, I; de Brito, J	Workability of ready-mix concrete made with industrial recycled aggregates	STRUCTURAL CONCRETE	V. 27 n.º 1, (913 - 934)	10.1002/suco.70117	WoS AND SCOPUS	3.3	Q1	Q2

Authors	Title of paper	Journal	Vol, Number (Pages)	DOI	Type of journal	Impact Factor Clar. Analytics (2024)	Quartile Scopus	Quartile WoS
Piloto, PAG; Torres, L; Couto, C; Real, PV; Mesquita, LMR; Lopes, N; Frizzera, G; Silva, RGL	Accurate 3D numerical models towards the prediction of the fire resistance on LSF partition walls	INTERNATIONAL JOURNAL OF THERMAL SCIENCES	V. 222 n.º , (110540)	10.1016/j.ijthermalsci.2025.110540	WoS AND SCOPUS	5.0	Q1	Q1
Ramos, VDR; Trautwein, LM; Ramos, AP; Liberati, EAP	Numerical analysis of the effects of corrosion on the punching shear capacity of reinforced concrete flat slabs with openings	STRUCTURAL CONCRETE	V. 27 n.º 2, (1663 - 1683)	10.1002/suco.70441	WoS AND SCOPUS	3.3	Q1	Q2
Roka, R; Vieira, A; Figueiredo, A; Ferreira, A; Cardoso, C	Thermal characterization of soils in Aveiro and Lisbon for shallow geothermal applications: A study using transient methods	GEOTHERMICS	V. 134 n.º , (103498)	10.1016/j.geothermics.2025.103498	WoS AND SCOPUS	3.9	Q1	Q3
Romero, A; Velázquez-Mata, R; Tadeu, A; Galvín, P	A unified BEM approach for complex and degenerate geometries based on the Burton-Miller method	ENGINEERING ANALYSIS WITH BOUNDARY ELEMENTS	V. 182 n.º , (106558)	10.1016/j.enganabound.2025.106558	WoS AND SCOPUS	4.1	Q1	Q1
Rucha, M; Piçarra, S; Pinto, APF; Montemor, MF; da Fonseca, BS	Superficial and in-depth effects of novel water-based fluorinated alkoxysilanes formulations for stone materials	JOURNAL OF BUILDING ENGINEERING	V. 117 n.º , (114801)	10.1016/j.jobe.2025.114801	WoS AND SCOPUS	7.4	Q1	Q1
Sparvoli, G; Bosi, E; Bernardini, G; Quagliarini, E; Ferreira, TM	How much do users matter? An integrated method for building flood vulnerability and exposure assessment in Historic Urban Areas	SUSTAINABLE CITIES AND SOCIETY	V. 136 n.º , (107084)	10.1016/j.scs.2025.107084	WoS AND SCOPUS	12.0	Q1	Q1

Authors	Title of paper	Journal	Vol, Number (Pages)	DOI	Type of journal	Impact Factor Clar. Analytics (2024)	Quartile Scopus	Quartile WoS
Velázquez-Mata, R; Knuth, C; Romero, A; Squicciarini, G; Tadeu, A; Thompson, DJ; Galvín, P	A 2.5D BEM-based approach in the Bézier-Bernstein space for railway noise prediction and acoustic barrier assessment	ENGINEERING ANALYSIS WITH BOUNDARY ELEMENTS	V. 182 n.º , (106568)	10.1016/j.enganabound.2025.106568	WoS AND SCOPUS	4.1	Q1	Q1
Ye, YY; Gonilha, J; Silvestre, N; Correla, JR	Effects of specimen length and fiber layup on transverse tensile fracture behavior of pultruded GFRP materials	ENGINEERING FRACTURE MECHANICS	V. 332 n.º , (111777)	10.1016/j.engfracmech.2025.111777	WoS AND SCOPUS	5.3	Q1	Q1

ANNEXE C–RESEARCH GROUP ACTIVITIES IN 2025

RESEARCH GROUP 1 - Hydraulics

RESEARCH GROUP COORDINATOR – Helena Ramos

PART I - RESOURCES

I.1 Budget

BUDGET (euros)						
FCT		Other Funding				
STRATEGIC Funding	FCT Projects	Other Research Funding		Consultancy		TOTAL
		National	International	National	International	
16 940,43	16 725,47	0,00	43 609,80	27 386,90		104 662,60

I.2 Personnel

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
António Heleno Cardoso	Full Professor	x			
António Alberto do Nascimento Pinheiro	Full Professor	x			
Dídia Isabel Cameira Covas	Full Professor	x			
Helena Margarida Machado da Silva Ramos	Full Professor	x			
Jorge de Saldanha Gonçalves Matos	Associate Professor	x			
Rui Miguel Lage Ferreira	Associate Professor	x			
Maria da Graça Reis e Silva de Oliveira Neves (CERIS NOVA)	Associate Professor		x		
Diogo Silva Mendes	Assistant Professor		x		
Marta Sofia Ferreira Cabral	Assistant Professor	x			
Isabel Maria Bento de Matos Boavida	Assistant Professor	x			

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Hilda de Pablo	Assistant Professor		x		
António Betâmio de Almeida	Emeritus Professor		x		
Carlos Daniel Borges Coelho (CERIS Aveiro)	Assistant Professor	x			
Sérgio António Neves Lousada (CERIS Aveiro)	Assistant Professor	x			
Nelson Jorge Gaudêncio Carriço	Assistant Professor	x			
Ana Margarida da Costa Ricardo	Assistant Researcher	x			
Ana Isabel da Rocha e Sá Lopes Quaresma	Assistant Researcher		x		
Filipe Alexandre da Silva Romão	Assistant Researcher		x		
Márcia Lima (CERIS Aveiro)	Researcher	x			
Nuno Miguel da Conceição Martins	Assistant Researcher		x		
Ana Margarida Rodrigues Ferreira	PhD Student			x	
André Filipe da Costa Ramos	PhD Student			x	
Armindo Amaro André Vilanculo	PhD Student			x	
Carlos Fabrício Andrade Galvão	PhD Student			x	
Catarina Isabel Ferreira Simões	PhD Student			x	
Celso Pedro Palmeiro Aleixo Ferradeira Pinto	PhD Student			x	
Cristina Ribeiro Bartolomeu Cavaco	PhD Student			x	
Francisco Bernardo	PhD Student			x	
Frederico Santos Romão	PhD Student			x	
James Green	PhD Student			x	
Joana Raquel Jorge Carneiro (concluded 2025)	PhD Student			x	
João Paulo Cavaleiro de Ferreira (concluded 2025)	PhD Student			x	
João Pedro Gaspar Caetano	PhD Student			x	
Leila Alizadeh	PhD Student			x	
Leonardo Zandonadi Moura	PhD Student			x	
Luciano José Lopardo	PhD Student			x	

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Mariana La Pasta Cordeiro	PhD Student			x	
Miguel de Sousa Antunes Trindade Tavares	PhD Student			x	
Momade Sefu	PhD Student			x	
Pedro Manuel Saraiva Cardoso	PhD Student			x	
Raul Manuel Costa Alves	PhD Student			x	
Renan S. Leite de Andrade (concluded 2026)	PhD Student			x	
Ricardo Jorge Lourenço Jónatas	PhD Student			x	
Solange Valente Mendes (concluded 2026)	PhD Student			x	
Steven Andrei Restrepo Velasquez	PhD Student			x	
Rute Maria Gomes de Lemos (2026)	PhD Student			x	
Zubaida da Conceição Esperança	PhD Student			x	
Praful Borkar	scolarship				x
Toni Xavier Adrover Vidal	scolarship				x
Alex Stephan Erdfarb	scolarship				x
Guilherme Gonçalves	scolarship				x
Maria Fortunato	scolarship				x
Miguel Constantino Ribeiro	scolarship				x
Nicolas Soehlemann	scolarship				x
Brenno Andrade (2026)	scolarship				x
Irene Etcheverria (2026)	scolarship				x
Renan Leite (2026)	scolarship		x		
Ruilin Feng (2026)	scolarship		x		

The summary table is shown below.

Type	Permanent	Non-permanent		Total
		Contract	Scholarship	
Members	12	1		13
Collaborators with PhD	4	3		7
Collaborators without PhD			38	38
Technical staff	0.5			0.5
Administrative Staff	1			1
Others				0

PART II - DESCRIPTION

Leadership

Professor Helena M. Ramos has served as Coordinator of the Hydraulics Research Group (RG) since 2025. In this role, she represents the group at regular meetings with the Executive Board and fellow research group coordinators, as well as at formal institutional engagements. She is also responsible for overseeing the share of FCT funding allocated to the group by the Executive Board.

Description of the Research Group

The Hydraulics Research Group, comprising around 49 researchers, including 13 integrated members, 12 permanent researchers, 6 collaborators, an IST Emeritus Professor, and 15 PhD students, carries out research and development. Its scientific work spans a broad range of topics, including hydrosystem safety, water-use and energy efficiency in water supply systems, experimental and numerical modelling of hydraulic conveyance systems and structures, sediment transport and local scour, hydropower and hybrid energy production, eco-hydraulics, river rehabilitation and restoration, wind-generated waves, storm surges, coastal flooding, coastal morphodynamics, and coastal and port structures.

The group's research is organised around six main thematic areas: (i) pressurised water systems; (ii) fluvial hydraulic structures; (iii) river restoration and management; (iv) environmental fluid mechanics; (v) sediment transport and river morphodynamics; and (vi) coastal engineering.

Recent scientific outputs demonstrate strong expertise in both experimental and numerical research. The recent upgrading of laboratory facilities is expected to further strengthen experimental programmes, which are typically integrated with advanced numerical modelling approaches.

The group also plays a leading role in advanced doctoral training. António Cardoso served as Programme Director of the FCT PhD Programme in Environmental Hydraulics and Hydrology (H2Doc), while António Pinheiro was the IST co-coordinator of the FCT PhD Programme in River Restoration and Management (FLUVIO). These leadership roles have supported the expansion of the group's research agenda into emerging areas.

Interdisciplinary collaboration is a defining feature of the group, with active engagement across scientific domains including hydrology, water resources management, ecology, pollution control, geology, oceanography, and sociology. These collaborations have fostered integrated research approaches and enhanced the group's overall scientific impact.

A major strength of the group is its strong international profile. Several members hold prominent editorial positions in internationally recognised journals indexed in Web of Science and Scopus, serving as editors, associate editors, guest editors, and editorial board members. These roles reflect the group's academic visibility and influence within the international research community.

In addition, most permanent researchers have extensive experience in industry collaboration, particularly in the design of hydraulic structures and the provision of specialised consultancy services. This expertise

has been essential for the development of contract-based studies and technical reports addressing complex challenges in both existing infrastructures and projects under construction.

General Objectives

The group's research objectives address cross-cutting issues across the four thematic strands of CERIS. However, the group's main activities are focused on the thematic strands of Risk and Safety in Natural and Built Environments (RS) and Rehabilitation of Natural and Built Environments (RNBE). Nevertheless, contributions are expected to the other two thematic strands.

The safety and design of pressurised pipe systems (RS), Digital Twin technology enhancing decision-making, operational efficiency, and asset management across water networks, hydraulic pumping and hydropower solutions within hydraulic engineering domains allow to create a bridge between physical infrastructure and intelligent data systems, as well as the development of new energy concepts and converters, including pumped storage, hydropower, and water hammer, are crucial for safer, more flexible, and more reliable solutions to attain the objective of decarbonising energy production in 2050 (RNBE). The development of digital water (real-time data to provide recommendations to users) and digital twins (combinations of models and real-time data) concepts and energy transition solutions allow control and assurance of the system's operationality, namely burst detection, energy efficiency improvement, hybridisation of energy solutions, and hydro-energy recovery on existing infrastructures.

The safety of river structures (RS) is closely linked to the study of long-term channel morphology. These phenomena are increasingly solved with numerical modelling. Its application to dam-break flows and overland tsunami propagation was considered. Risk management is closely related to these aspects, either in the valleys downstream of dams or in mitigating the ecological impacts of water use, such as hydropower production.

Climate change or major alterations in the catchment basins advise the development of innovative hydraulic structures and circuits. CFD modelling of hydraulic structures and circuits contributes to a better understanding of the behaviour of these hydraulic systems and to the development of measures to reduce the probability of accidents (RS).

Assessing the vulnerability of built environments on low-lying estuaries to flooding caused by extreme storm-wave events, storm surges, or rising sea levels due to climate change were also research objectives of this group (RS). Moreover, understanding how wind-generated waves interact with coastal structures and how they change coastal morphology, both in the short and long term, has been driving the research interests of the RS group.

Regarding RNBE, the ecohydraulics line included improving fish-passage design guidelines, enhancing ecological connectivity along regulated rivers, and providing mitigation strategies and shelters for fish downstream of powerhouses operating under hydropeaking (RS), as well as improving the river's physical and chemical features. In this context, the focus was on studying the transport of sediment, pollutants, and nutrients in rivers and estuaries, developing guidelines for the rehabilitation of river confluences, and developing stabilisation techniques for river meanders.

Some of the R&D objectives mentioned relate to the response to natural and societal changes thematic strand. Managing regulated rivers and improving ecological conditions, while maintaining river and seashore recreational and economic uses, which are increasingly associated with tourism, are major societal challenges. Additionally, within the same line, the social and economic analysis of removing small dams and weirs to improve ecological conditions downstream is a cross-cutting issue that the group is still pursuing.

Group Governance

A simple organisational structure was set up to ensure the coordination of members' actions while preserving individual scientific freedom, so that each may continue to promote the initiatives necessary to foster research activity.

The Directive Board of CERIS appointed the Group Coordinator (Professor Helena M. Ramos). The Coordinator participated in meetings promoted by the heads of the four thematic strands and convened group meetings whenever necessary. When appropriate, the meetings were extended to other researchers and external collaborators, such as postdoctoral and PhD students enrolled in research projects conducted by group members.

The Group Coordinator, with contributions from group members, elaborated on the annual report and activity plan. The Group Coordinator was also responsible for fostering joint initiatives among group members and for trying to boost collaboration between groups across the thematic strands, supporting cross-cutting R&D projects that members may be willing to promote.

Facilities

The experimental research on RG1 is supported by several facilities at the Laboratory of Hydraulics, Water Resources and Environment (LHWRE). The laboratory is located on the IST campus, is shared with other research groups, and is also used for teaching activities. The main facilities installed at the LHE are:

- Didactic flume: 5.0 m long, 0.30 m wide, and 0.40 m high, a tilting flume made of acrylic and aluminium. It is equipped with several experimental apparatuses for generating different backwater profiles;
- Blue flume: 6.0 m long, 0.395 m wide, and 0.40 m high, a tilting flume made of acrylic and steel. It includes a recirculating water circuit with a frequency-controlled pump;
- Multipurpose free surface hydraulics flume: 8 m long, 0.70 m wide, and 0.80 m high horizontal flume, made of a steel frame and glass side walls, equipped with flap gates immediately upstream and downstream of the flume. This flume is part of the bioterium, where we perform experiments with live animals (fish) in compliance with national and EU regulations;
- Wave flume: This is a 20 m long, 0.70 m wide, and 1.00 m high wave channel equipped with a wave generator able to produce regular and irregular waves with frequencies between 0.05 Hz and 1.5 Hz, equipped with resistive probes and a wave absorbing system;

- CRIV - recirculating and tilting hydraulics flume: CRIV is a 12.5 m long, 0.41 m wide, and 0.50 m high prismatic glassed walls channel with adjustable slope. It includes a water and sediment recirculation circuit;
- Confluence flume includes the main channel (MC) and a tributary channel (TC). The MC is 10.0 m long, 1.00 m wide, and 0.70 m high. The TC is 4.0 m long, 0.50 m high, and has an adjustable width. It is equipped with conveyors for sand feeding and an automated transverse system;
- Pool-type fishway flume: This is a 1/2.5 scaled model of a real fishway. The channel is 5.70 m long, 0.40 m wide, and 0.50 m high; it is a tilting flume made of a steel frame and glass side walls and includes a recirculating water circuit;
- Steep-slopes flume: This is a 3.50 m long, 0.50 m wide, and 0.50 m high steel flume with an adjustable slope up to 26.5%. It includes a recirculating water circuit equipped with a hopper and a conveyor belt for coarse sediment feeding;
- Test-Hydro: Test-Hydro is an innovative pipe rig for testing small-power reaction turbomachines in both transient and steady-state conditions, being fully instrumented and equipped with a state-of-the-art data acquisition system. The rig is a closed, reversible circuit composed of steel pipes with diameters ranging from 50 to 200 mm for testing small-power turbomachines. The instrumentation includes sensors to measure discharge, pressure, torque, electrical power, rotational speed, and temperature. A software application has been developed in LabVIEW to acquire, process, and analyse collected data and determine the efficiency of tested turbomachines;
- Water hammer test-rig I: This rig is composed of a copper pipe coil with 103 m and 20 mm diameter, with a centrifugal pump and control valves. It has been developed for measuring transient pressures generated by pump trip-off and valve manoeuvres. It is equipped to acquire high-frequency pressure variations;
- Water hammer test-rig II: This rig is composed of a straight pipe, 15 m long, 20 mm diameter, for measuring transient pressures generated by valve manoeuvres. It is equipped to acquire high-frequency pressure variations;
- Water hammer test-rig III: This rig consists of polyethene (PE) pipe coils 200 m in length and 50 mm in diameter, with a hydro-pneumatic vessel upstream and valves downstream for analysing transients generated by valve manoeuvres in viscoelastic pipes and with leaks;
- PAT systems: Two pumps as turbines (PAT) can be tested isolated or installed in parallel and series. The system is composed of an air vessel, a pipe rig of metal and HDPE and PVC pipe branches, with a flowmeter and transducers installed. In the recirculating system, there are also two pumps to operate in single, parallel, and series modes;
- TP5B - Five-blade tubular propeller: TP5B was designed at LH to study the efficiency of micro-energy production, with a maximum turbine flow of 12 l/s;

- Compressed air volume system (CAV): This system is used to study the behaviour of entrapped air during pipe filling and under transient conditions. It comprises two hydro-pneumatic vessels, one CAV, a pump with a maximum nominal head of 28.2 m and a nominal power of 4 kW, and control valves;
- Energy converter facility based on centrifugal turbines and wells pumps, and TI-CAES for energy storage induced by hydraulic transient conditions;
- Filling and emptying processes in pipe systems (DN=45 mm) with air valves or orifices in the higher point of the pipe profile for the upsurge control;
- A small-scale model of water storage tanks with two cross-sections (circular and rectangular), different inlet and outlet pipe configurations, and with/ or without baffles and multiple nozzles to study the water mixing conditions and renewal time;
- A small-scale model of an undershot water wheel with plane blades, installed in a horizontal flume with a recirculating flow circuit to study the mechanical power and efficiency of the water wheel at different flow rates and rotational speeds.

There is also an extension of the LHWRE in IG energy labs, developed under CERIS supervision and for operating conditions not available at LHWRE:

- Development of a new low-head propeller turbine, with a 120º upstream connection and long downstream draftube;
- Development of a waterwheel cross-flow type and a siphon turbine.

Research carried out in these facilities uses advanced instrumentation, namely:

- PIV – Particle Image Velocimetry: PIV is a laser-based technique to acquire 2D instantaneous velocity fields at a maximum frequency of 15 Hz, composed of a 1600x1200 CCD camera synchronised with a 30 mJ, 532 nm laser;
- ADV – Acoustic Doppler Velocimetry: ADV for pointwise measurement of 3D velocity; composed of a down-looking and side-looking probe (200 Hz max; control vol 1.5-7 mm) and a VCM for field applications (8 Hz max; control vol 15 mm);
- UVP – Ultrasonic Velocity Profiler: Acoustic probes for measuring velocity profiles and water and bottom levels; composed of 1 UVP system with two probes of 2 MHz and 4 MHz;
- Limnimeter: 10 ultrasonic distance-sensing sensors UNDK30U6103/S14 with a sensing range of 100-700 mm, repeatability < 3 mm, and response time <5 ms. Used to measure bed and water-surface levels;
- Mini-Echo-Sounder: Two Mini-Echo-Sounders (UltraLab UWS) to measure bathymetry, erosion, and sedimentation without emptying the model. It measures distances in water from 2 cm up to 15 m with 1mm accuracy and 1MHz acquisition rate;

- 3D Automated Transverse System: This equipment moves longitudinally, transversely, and vertically relative to the channel, allowing automatic measurements. Conflume, specifically developed software, controls it;
- Pumped-storage Hydropower: equipment supported by Hydropneumatic reservoirs and a closed metal and HDPE pipe rig with pressure transducers and a flowmeter installed;
- RTK GNSS – Real-Time Kinematic Global Navigation Satellite System: RTK GNSS is a system capable of carrying out xyz field measurements with a sampling rate of up to 2 Hz and with vertical and horizontal accuracies of less than 0.05 m and 0.10 m, respectively. The RTK GNSS is used to study beach erosion during coastal storms, beach accretion, and beach changes induced by coastal engineering interventions, such as beach nourishments.

The group's activities are also supported by a computational server acquired by a research project, which features 16 CPUs and 8 GPU boards dedicated to computation.

PART III – ACTIVITY

III.1 Activity indicators - Summary table for 2025

ACTIVITIES			Number
PhD Theses		Concluded	3
		To be concluded after 2025	23
Publications	Papers in peer-reviewed journals	International peer-reviewed journals (WoS AND Scopus)	99
		Peer-reviewed journals (non-WOS OR non-Scopus)	2
		Peer-reviewed journals (non-WOS AND non-Scopus)	0
	Papers in proceedings	International	12
		National	10
	Books	Entire	2
		Chapters	11
		As editor	3
Reports		Scientific	0
		Consultancy/others	0
Collective guidance in scientific work	Editor-in-Chief	WoS/Scopus-indexed Journals	0
		Other journals	0
	Associate Editor	WoS/Scopus-indexed Journals	4
		Other journals	0
	Issue Editor/Guest editor/Membership Editorial Boards	WoS/Scopus-indexed Journals	10
		Other journals	0
	Membership in Scientific Committees	International	0
		National	0
	Drafting of codes, Recommendations	International	0
		National	1
Organisation of scientific events		International	0
		National	0
	International research grants	Started in 2025	2

ACTIVITIES			Number
Competitive research projects		Active in 2025	5
	National research grants	Started in 2025	6
		Active in 2025	6
Competitive individual research grants (PhD, Post-doc, sabbatical, etc)		Started in 2025	1
		Active in 2025	3
Awards		International	7
		National	2
Refereeing for funding agencies		International	0
		National	0
Invited lectures		Keynote lectures at international conferences	0
		Other	0
Models			0
Software applications			0
Pilot plants			0
Prototypes			0
Patents		International	1
		National	1
Other actions (*e.g.,* scientific dissemination to a broad audience, social media)			4

III.2 Highlights of main achievements

The results achieved in 2025 confirm the strong scientific maturity, productivity, and international standing of the group. Throughout the year, RG1 maintained a high level of research activity, consolidating its position in the areas of hydraulics and environmental engineering through scientific excellence, advanced training, and international collaboration.

In 2025, the group concluded **3 PhD theses**, with **23 additional theses** expected to be completed after 2025, reflecting the group's sustained commitment to advanced research training and its capacity to ensure continuity in knowledge generation. The adoption of the thesis-by-publication model, together with a strong emphasis on international collaboration with leading research institutions, has significantly enhanced the dissemination of research results in high-impact scientific outlets. Equally relevant is the group's advanced laboratory infrastructure, which has supported a broad range of experimental and

applied research in hydraulics and environmental engineering. This infrastructure has played a key role in enabling both fundamental and applied research, strengthening the link between scientific knowledge production and practical implementation.

Scientific publications remain the most significant output, with **99 papers in international peer-reviewed journals indexed in WoS and Scopus**, which represent the core of the group's dissemination strategy and confirm a strong commitment to high-impact scientific production. This is complemented by **12 international and 10 national conference papers**, reflecting active participation in global scientific forums. Additional contributions include **2 books**, **11 book chapters**, and **3 edited books**, demonstrating scientific maturity and sustained knowledge production.

The group also holds significant editorial responsibilities, with **4 Associate Editor** roles and **10 editorial board memberships or guest editorships at indexed journals,** reflecting strong international recognition and influence within the scientific community.

In terms of research funding, the group maintained a strong competitive profile in 2025, with **5 active international research** grants and **6 active national projects**, and initiated **2 new international and 6 national projects**. Additionally, 4 individual competitive grants were awarded, showing vitality in researcher development and mobility.

The group's scientific excellence is further evidenced by **9 awards** (**7 international and 2 national**), which reinforce its visibility and impact. Innovation and technology transfer, while less expressive, are represented by **2 patents** (1 international and 1 national), indicating some translational potential of the research.

Overall, the data reveal a **highly productive, internationally connected, and research-intensive group**, with particular strengths in peer-reviewed publications, international funding, editorial recognition, and doctoral training. Future efforts could focus on strengthening knowledge transfer, scientific networking, event organisation, and broader outreach activities to further enhance impact and visibility.

PART IV – FUTURE ACTIVITY (2026)

The RG activities in 2026 will be a natural follow-up of the research carried out in 2025. These activities will cover research objectives that include different cross-cutting issues with branches in the four thematic strands: Product development in Civil Engineering industries (PD); Risk and safety in natural and built environments (RS); Rehabilitation of natural and built environments (RNBE); Response to natural and societal changes (RNSC).

The RG activities for 2026 will be organized according to major research topics as follows:

Pressurized water systems

Numerical and experimental modelling

- Numerical and experimental analysis of hydraulic transients in pressurized pipe systems
- (RS).
- Leaks, blockages and air pocket detection, location, and quantification using hydraulic transients (RS).
- Modelling rapid pipe filling / Emptying events with two-phase flows (PD and RS).
- Modelling and testing hydraulic electromechanical equipment to improve 3D design, manufacturing and performance of hydraulic machines (PD).
- Mathematical modelling to simulate structural and mechanical behaviour, pump and turbine performance, and energy balance (PD, RS and RNSC);

Digital twin driving

- Real time anomalous consumption detection in water distribution systems, detection and analysis of pressure surges using statistical methods and machine learning tools (RS).
- Analysis and improvement of the resilience of drinking water systems for demand increase and pipe failure (RS).
- Multicriteria analysis for scheduling water-energy management and rehabilitation interventions in water distribution networks (RS).
- Digital twin modelling in the context of water networks, hydropower design, and hydraulic transients with real-time, data-driven virtual models that replicate physical systems to improve performance,
- Digital platforms for real-time system monitoring and control, and decision-making such as: Leak detection and predictive maintenance (PD);
- Scenario analysis for operational decisions and emergency responses (RS);
- Optimization of pump, turbines and valves schedules and energy use (RS and RNBE);
- Prediction of transient impacts on pipelines and valves and design and testing of mitigation measures (e.g., surge tanks, air valves) (PD and RS);
- Support design optimization and operational efficiency; Integrate environmental and hydrological data for sustainable hydraulic design (PD, RNBE, RNSC).

Energy management

- New energy converters, hybrid pumped hydropower, and energy storage solutions in renewables integration (PD).
- Energy recovery in water services systems, using pumps as turbines, and developing new low-cost energy-harvesting technologies (e.g., propellers, centrifugal micro-turbine, water wheels) (PD), towards the digital and energy transition in different sectors (PD, RNBE and RNSC).
- Hybrid energy solutions with pumped storage and BESS combine renewable sources (like solar or wind) with pumped hydro systems to store excess energy and stabilize the grid, enhancing reliability, energy shifting, and supports the integration of intermittent renewables (PD, RNBE and RNSC).

Fluvial hydraulic structures

- Development of mitigation strategies and pre-cast shelters for fish downstream of powerhouses with a hydropeaking operation (RS).
- Numerical and experimental modelling of flood releases and related hydraulic structures (RS; RNBE).
- Study the hydraulics of PKW weirs combined with spillways (RS, RNBE).
- Study the pressure field and slab stability in a plunge pool lined with concrete slabs (RS).

River restoration and management

- Risk management in the valleys downstream of dams (RS; RNSC).
- Environmental flow determination procedures and hydropower station operation rules to reduce ecological risk downstream of dams (RS, RNBE).
- River restoration and development of eco-efficient fish pass solutions to improve ecological connectivity in regulated rivers (PD; RNBE; RNSC).
- Assessment and development of selective fish passes to prevent the spread of invasive fish species (RS, RNBE).
- Development of innovative dam removal impact assessment monitoring tools (RS, RNBE).
- River Digital Twins for prediction of hydro-morphological outcomes of river interventions (PD; RNBE; RNSC).

Environmental fluid mechanics

- Laboratory investigation of rough-wall open-channel turbulence (RNBE).
- CFD simulation of solid-fluid interactions in turbulent flows (RNBE).
- Laboratory investigation and mathematical simulation of the transport of dissolved substances (RS, RNBE).
- Heat and mass transport in wetlands (RNBE).

Sediment transport and river morphodynamics

- Hydrodynamics of river diversions in equilibrium (RS; RNBE).

- Mathematical modelling of shallow flows with mobile beds. Application to long-term channel morphology evolution, dam-breaching, dam-break flows, and overland tsunami propagation (RS).
- Development of stabilization techniques for river meanders in equilibrium (RNBE).

Maritime hydraulics, coastal engineering and coastal morphodynamics

- Characterisation of offshore wave climate and storm wave events (RS).
- Analysis of wave-structure interaction (RS).
- Morphodynamic modelling and field observations of beaches and tidal inlets hydro-sedimentary dynamics, including engineering interventions (RS).
- Development of Nature-Based Solutions for Coastal Engineering (RNBE).
- Medium- and long-term shoreline evolution associated with coastal engineering interventions.
- Benefit-cost analysis of coastal engineering interventions for coastal management and planning.

RESEARCH GROUP 2 - Environment and Water Resources

RESEARCH GROUP COORDINATOR – Maria Manuela Portela

PART I - RESOURCES

I.1 Budget

BUDGET (euros)						
FCT		Other Funding				
STRATEGIC Funding	FCT Projects	Other Research Funding		Consultancy		TOTAL
		National	International	National	International	
19 763,83	68 662,67	0,00	0,00	193 338,86		281 765,36

I.2 Personnel

PERSONNEL					
Name	Category	Member	Collaborators		
			with PhD	without PhD	
				PhD student	Other
Ana Fonseca Galvão	Associate Professor with Habilitation	x			
Armando B. da Silva Afonso (CERIS Aveiro)	Full Professor	x			
Carla Andreia Pimentel Rodrigues (CERIS Aveiro)	Coordinator Professor	x			
Filipa Maria Santos Ferreira	Associate Professor with Habilitation	x			
Inês Osório de Castro Meireles (CERIS Aveiro)	Assistant Professor	x			
José Manuel de Saldanha Gonçalves Matos	Full Professor	x			
José Paulo Patrício Geraldes Monteiro	Assistant Professor		x		
José Pedro Gamito de Saldanha Calado Matos	Assistant Professor	x			
Luís Miguel de Amorim Ferreira Fernandes Nunes	Associate Professor with Habilitation	x			

PERSONNEL					
Name	Category	Member	Collaborators		
			with PhD	without PhD	
				PhD student	Other
Manuel Guilherme Caras Altas Duarte Pinheiro	Full Professor	x			
Maria Manuela Portela Correia dos Santos Ramos da Silva	Full Professor	x			
Maria Teresa Condesso de Melo	Associate Professor	x			
Rodrigo de Almada Cardoso Proença de Oliveira	Associate Professor with Habilitation	x			
Ana Catarina Ferreira da Silva	Research fellow	x			
Sílvia Patrícia Nunes Monteiro	Research fellow	x			
Ricardo Jaime Pereira Rosário dos Santos	Research fellow	x			
João Nuno da Palma Nascimento	Researcher		x		
Luis Angel Espinosa Villalpando	Researcher	x			
Romeu Gerardo Jorge	Researcher	x			
Ana Luísa de Carvalho Quaresma	PhD Student			x	
Armen Chilingaryan	PhD Student			x	
Aura María Bustillo Mendoza	PhD Student			x	
Carla Larissa Fonseca da Silva	PhD Student			x	
Carmen Sofia Murilhas Cardoso de Lima Sousa	PhD Student			x	
Daniela Patrícia França Pinto de Andrade	PhD Student			x	
Edilson Holanda Costa Filho (concluded 2025)	PhD Student			x	
Efraim Tchissingui Soma	PhD Student			x	
Filipa Catarina Camisão Saraiva Nunes	PhD Student			x	
Filomena das Dores Cardoso do Espírito Santo Carvalho	PhD Student			x	
Francisco Miguel Cid Bispo Pereira	PhD Student			x	
Issa Saket Oskoui	PhD Student			x	
Joana Ferraz Contente	PhD Student			x	
Joana Fonseca da Mata (concluded 2026)	PhD Student			x	
Joaquim José Vasques Condeça	PhD Student			x	

PERSONNEL					
Name	**Category**	**Member**	**Collaborators**		
			with PhD	**without PhD**	
				PhD student	**Other**
Laura Ocaranza	PhD Student			x	
Lili Minasyan	PhD Student			x	
Liliana Clara Alves	PhD Student			x	
Luis Melick Mendez Rodriguez	PhD Student			x	
Maria Luiza da Cunha Oliveira Santos (concluded 2025)	PhD Student			x	
Maria de Fátima Martins Pereira	PhD Student			x	
Mariana Campista Chagas	PhD Student			x	
Mariana La Pasta Cordeiro	PhD Student			x	
Orleane Souza de Brito	PhD Student			x	
Rafael da Silva Francisco	PhD Student			x	
Rui Manuel Fernandes Silva Cordeiro Marinheiro	PhD Student			x	
Silvia Cabrita	PhD Student			x	
Sofia Rita Machado Bicha Castelo	PhD Student			x	
Tiago André Nunes Martins (concluded 2025)	PhD Student			x	
Vera Filomena Silva Garcia Chaves	PhD Student			x	
João Pedro Gonçalves Pegas (2026)	PhD Student			x	
Catarina Mendes Andrade Cruz (2026)	PhD Student			x	
Daniela Silva	Scholarship				x
Melissa Sonderman	Scholarship		x		

The summary table can be seen below.

Type	**Permanent**	**Non-permanent**		**Total**
		Contract	**Scholarship**	
Members	15	2	0	17
Collaborators with PhD	1	1	0	2

Type	Permanent	Non-permanent		Total
		Contract	Scholarship	
Collaborators without PhD			32	32
Technical staff	0.5			0.5
Administrative Staff	1			1
Others				

PART II - DESCRIPTION

Leadership

The coordinator represents the group at regular meetings with the Executive Board, fellow research group coordinators, and other formal institutional engagements. The role also includes overseeing the management of the Group's share of FCT funding. Since 2025, the position has been held by Maria Manuela Portela.

Description of the Research Group

At the Environment and Water Resources (E&WR) Research Group, R&D activities have focused on developing methodologies and tools across a broad range of topics in hydrology and water resources management, including hydrogeology, urban water services, environmental systems, and sustainability. This work has contributed to advancing knowledge and strengthening the capacity to manage both natural and built environments more sustainably. Water and environmental policies, as well as governance frameworks, have also been key areas of research.

Research activities have involved 50 researchers, including 19 PhD holders, 27 PhD students, and 2 scholarship holders, often in collaboration with experts from other engineering and scientific fields, namely construction, urban and regional planning, social sciences, ecology, information and decision-support systems, chemistry, and biochemistry.

Internationalisation is a defining characteristic of the E&WR group. Many members actively contribute to the international scientific community by serving on the editorial boards of international journals, participating in scientific committees, and helping draft international codes and guidelines.

The group encompasses a broad and diverse range of expertise within hydrology, water resources, urban water systems, and environmental sciences. Most members combine teaching and research activities and are actively engaged in national and international research projects, doctoral programmes, and advanced training initiatives. Many also have extensive consultancy experience with the water sector and public institutions.

Research in environment, water resources, and urban water and wastewater services has been strategically coordinated by three full professors and one associate professor with habilitation, who have guided the group's scientific agenda, identifying priority research topics in line with the expertise of the group and the international state of the art.

E&WR members also play active roles in advanced academic programmes and scientific networks. A group member serves on the Scientific Committee of the PhD in Climate Change and Sustainable Development Policies, jointly organised by the University of Lisbon and the NOVA University Lisbon, as well as on the PhD in Environmental Engineering at Instituto Superior Técnico. Another member coordinates the Tropical Health specialisation within the PhD in Planetary Health at the University of Lisbon.

Additionally, three professors are members of Tropical College (CTROP), a cross-disciplinary unit dedicated to advancing transdisciplinary knowledge in tropical regions through research, education, cooperation, innovation, and technology transfer, while reinforcing ULisboa's role in scientific diplomacy.

The group also contributes directly to policymaking and strategic planning. One member participates in the European Union Common Implementation Strategy (CIS) Working Group on Water Scarcity and Droughts, serves on the Scientific Committee of the National Adaptation Strategy, and acts as Secretary-General of the Tagus River Basin.

General Objectives

The E&WR group (RG2) develops research in the following areas: 1 - Water resources modelling and integrated water resources management and planning; 2 - Water and wastewater/stormwater systems and services; 3 - Groundwater and environment; and 4 - Sustainability assessment and management.

RG2 is involved in the four thematic strands of CERIS and has the following main objectives:

- To promote effective water resources management through policy formulation and governance;
- To promote integrated water resources management, including the development of advanced knowledge of hydrological processes and groundwater assessment tools and modelling;
- To promote the application of new technologies (AI) to water resources modelling;
- To promote the circular economy and resilience of urban water services, including the valorisation of by-products and the promotion of nature-based solutions;
- To promote sustainable water supply and dry sanitation approaches and solutions for the urban poor in developing countries;
- To develop an environmentally sustainable assessment of the built environment (LiderA system) and new approaches to sustainable management;
- To develop methodologies for the identification of groundwater-dependent ecosystems and effective methods for risk-based environmental decision-making;
- To develop advanced potentialities in hydrogeology and groundwater research;
- To develop a digital twin framework to support the monitoring, simulation, and optimisation of groundwater systems, thereby improving resilience to environmental and anthropogenic stressors.

Group Governance

A simple organisational structure is in place to ensure the coordination of E&WR activities. The Group Leader, elected by its members and nominated by the Executive Board of CERIS, participates in regular meetings promoted by the Coordinators of the four thematic strands. Group meetings are held regularly with Ph.D. researchers to discuss results and budget issues and to monitor the group's progress. External

collaborators, such as postdoctoral and Ph.D. students, may be invited to participate in these meetings, depending on their involvement with the agenda items.

The group coordinator will be responsible for stimulating joint activities among group members and for promoting collaboration and cross-cutting initiatives with other CERIS groups and other research units of IST-UL.

Facilities

The E&WR group's research is supported by several computational and laboratory facilities, assembled at the Laboratory of Hydraulics, Water Resources and Environment, and by equipment for educational purposes. This laboratory is located at the IST campus and is equipped with advanced, state-of-the-art instrumentation. The laboratory is shared with other research groups and is used to conduct advanced experimental research, support doctoral programmes, and support teaching activities for undergraduate courses.

PART III - ACTIVITY

III.1 Activity indicators - Summary table for 2025

ACTIVITIES			
PhD Theses		Concluded	3
		To be concluded after 2025	33
Publications	Papers in peer-reviewed journals	International peer-reviewed journals (WoS AND Scopus)	31
		Peer-reviewed journals (non-WOS OR non-Scopus)	0
		Peer-reviewed journals (non-WOS AND non-Scopus)	5
	Papers in proceedings	International	19
		National	4
	Books	Entire	0
		Chapters	2
		As editor	0
Reports		Scientific	0
		Consultancy/others	4
Collective guidance in scientific work	Editor-in-Chief	WoS/Scopus-indexed Journals	0
		Other journals	0
	Associate Editor	WoS/Scopus-indexed Journals	0
		Other journals	0
	Issue Editor/Guest editor/Membership Editorial Boards	WoS/Scopus-indexed Journals	13
		Other journals	0
	Membership in Scientific Committees	International	1
		National	0
	Drafting of codes, Recommendations	International	5
		National	0
Organisation of scientific events		International	0
		National	0
Competitive research projects	International research grants	Started in 2025	6
		Active in 2025	7
	National research grants	Started in 2025	6
		Active in 2025	11
Competitive individual research grants (PhD, Post-doc, sabbatical, etc)		Started in 2025	2
		Active in 2025	4
Awards		International	1
		National	2
Refereeing for funding agencies		International	0
		National	0

ACTIVITIES		
Invited lectures	Keynote lectures at international conferences	0
	Other	0
Models		0
Software applications		0
Pilot plants		0
Prototypes		0
Patents	International	0
	National	0
Other actions (e.g., scientific dissemination to a broad audience, social media)		5

III.2 Highlight of main achievements

The results achieved in 2025 confirm the strength, diversity, and international relevance of the group's research activity. This has been a year of solid scientific production, successful project acquisition, and strong progress in advanced research training.

In 2025, the group concluded **3 PhD theses**, and **3 additional theses** are expected to be completed after 2025, reflecting the group's sustained capacity to train highly qualified researchers and ensure continuity of scientific output.

Scientific production remained one of the group's strongest assets, with **31 papers published in international peer-reviewed journals indexed in WoS and Scopus**, complemented by 5 additional papers in non-indexed peer-reviewed journals. The dissemination of results was further reinforced by **19 international conference papers**, **4 national proceedings**, and **2 book chapters**, demonstrating active engagement in both academic and professional forums.

The group also reinforced its competitiveness in attracting research funding, with **6 new international** and **6 new national projects** awarded in 2025, adding to a substantial portfolio of **7 ongoing international** and **11 ongoing national projects**. In addition, **2 new competitive individual grants** and **4 active grants** further strengthened the research capacity of the team.

In the area of **hydrology and water resources**, relevant results were achieved in the validation of alternative datasets and in large-scale modelling, trend detection in hydrological time series, drought, heatwave and flood analysis (including non-stationary approaches), rainfall-runoff modelling, and the application of artificial intelligence techniques, particularly artificial neural networks, to hydrological modelling. Additional developments included daily runoff modelling for very large watersheds using reanalysis data, regionalised climate change impact scenarios for the water sector, and risk assessment studies. Collaboration with national stakeholders in water resources management remained strong, involving public administration, water and energy utilities, and irrigation associations. Internationally, ongoing cooperation also includes the critical assessment of financial instruments for water resources management in Brazil.

In the area of **water services**, covering water supply, sanitation, and pollution control, research focused on the performance of urban green roofs as climate-adaptation measures, urban stormwater indicators, organic and microbiological processes in constructed wetlands, and faecal sludge management. Particular emphasis was placed on multicriteria decision-support tools for sludge service chains and business models (collection, storage, transport, sludge treatment, and final disposal of biosolids), as well as on nature-based solutions for wastewater and stormwater management and on water reuse in Mediterranean and tropical climates.

Research on **environmental issues** addresses the assessment and analysis of climate change impacts on natural and man-made water systems, sustainable governance, environmental management in sustainable construction, and life-cycle analysis applied to urban, building, and infrastructure systems. Governance dimensions of environmental policies also remained an important topic, reinforcing the interdisciplinary character of the group.

In **hydrogeology and groundwater services**, relevant work addressed groundwater pollution and risk assessment, groundwater-dependent ecosystems, aquifer recharge and discharge, water and climate changes, and decision-support systems for catchment management. Effective risk-based environmental decision-making methods were also developed. International scientific collaborations in this area have been consolidated with partners in Brazil, Guatemala, Chile, Angola, and Cape Verde.

Another major achievement was the renewal of funding for the GroundwatCh under the Erasmus Mundus Programme (http://www.groundwatermaster.eu/), further strengthening the group's international educational and scientific positioning.

Members of the E&WR group were also involved in a significant number of research contracts funded by the water industry, the European Commission, the FCT, and other public institutions. These projects have substantially advanced scientific knowledge of the complexity of natural and built environments and have improved methodologies and tools to address natural and societal challenges, particularly those affecting water services, water resources, and environmental systems, including climate change-related issues.

A special effort was also dedicated to collaboration with the agrobusiness sector, aiming to promote the sustainable use of groundwater and to increase awareness of urban water-cycle sustainability through innovative cultural initiatives and public participation.

In sustainability assessment and management, a major achievement was the development of the new version of the environmentally sustainable assessment framework, the LiderA System Model (version 4). This updated model was designed to enhance sustainability by reducing structural impacts, improving social housing, and introducing innovative approaches to the design, construction, and management of built environments. Its application to more than 40 social housing projects has demonstrated significant benefits, including reductions in energy consumption and carbon emissions, increased reuse and recycling of materials, and broader social gains, reinforcing the group's contribution to sustainable construction and environmental management practices.

International scientific recognition is evidenced by participation in **editorial boards of indexed journals (3 memberships)**, **scientific committees (1 international)**, and, especially, contributions to **5 international codes and recommendations**, reflecting a significant role in shaping technical and scientific standards. Recognition of excellence is also reflected in the attribution of **1 international and 2 national awards**, while **3 additional dissemination and outreach actions** illustrate the group's commitment to broader societal engagement and science communication.

Overall, the data reveal a dynamic, productive, and internationally connected research group, characterised by strong doctoral training, solid publication performance, successful project acquisition, impactful stakeholder engagement, and significant scientific contributions across hydrology, water resources, hydrogeology, water services, environmental sustainability, and sustainability assessment and management.

PART IV – FUTURE ACTIVITY (2026)

The E&WR will continue to focus on environmental and water resources research activities to develop approaches, methodologies, and tools that cut across these areas, improving knowledge and capabilities to manage natural and built environments sustainably.

The research objectives will cover different cross-cutting issues related to the thematic strands defined for CERIS. The main activities will focus on “Natural and Societal Changes” and “Risk and Safety in Natural and Built Environments," with more limited contributions to the other two thematic strands.

The E&WR will continue concentrating its activities on the following major topics:

- Characterisation and modelling of hydrological processes and variables, including extreme event analysis, multivariate frequency analysis, and joint probability modelling. Particular emphasis will continue to be placed on heatwave research, an area in which the group has established pioneering expertise in Portugal.
- Development of phenomenological approaches for the large-scale characterization of hydrological processes in Portugal, with emphasis on evapotranspiration and runoff.
- Development of advanced monitoring and forecasting systems for water resources, integrating remote sensing, numerical weather prediction, hydrological modelling, nowcasting, and forecasting techniques to improve the monitoring and prediction of hydrological processes.
- Integrated water resources management, including the conjunctive management of surface water and groundwater resources, water allocation and demand management, water quality protection, and the incorporation of environmental flow requirements, with particular expertise in transboundary river basin management.
- Development of digital twins for water resource systems, integrating real-time monitoring, numerical models, forecasting capabilities, and decision-support tools to improve planning, operation, and adaptive management.
- Assessment of climate change impacts on natural and engineered systems, with particular emphasis on water resources, including the development and evaluation of adaptation and mitigation strategies to enhance the resilience of water systems and dependent sectors.
- Research on water policy, governance, and economic regulation, focusing on the design, implementation, and evaluation of policy mixes that combine regulatory (command-and-control) and economic instruments to promote efficient, equitable, and sustainable water resources management.
- Development and set-up of operational probabilistic forecasting in natural streams, both gauged and ungauged, with emphasis on machine learning and hybrid models, including deep-learning and non-parametric ensemble approaches.

- Development of operational decision-support tools for water resources, including contexts of uncertainty, using high-performance computing.
- Non-sewer solutions and faecal sludge management options and techniques for in low-income countries.
- Water asset management, and urban resilience related to urban water/wastewater/stormwater systems.
- Hydraulic and environmental performance of nature-based solutions for climate change mitigation and adaptation, such as constructed wetlands, green roofs and green walls, and detention ponds.
- Coastal urban wastewater systems, including adaptation actions to climate change given sea level rise, rainfall patterns and risks of saline water inflows.
- Microbiological, virological and AMR risks in the One Health research, the dual role of water in the water cycle (both as source of information and infection) and microbial diversity in low-nutrient water systems and the influence in the water cycle.
- Environmentally sustainable assessment (LiderA system) and management of the built environment, namely approaches to the transition to the carbon-neutral, circular economy, climate adaptation, including sustainable buildings, infrastructures, and urban areas with a focus on the life-cycle framework of water, energy, carbon, materials, biodiversity, and resiliency systems.
- Field monitoring, aquifer and geophysical testing, and groundwater quality assessment to identify pollution sources - including saline intrusion, agricultural, industrial, and mining contamination - and to characterise surface–groundwater interactions and groundwater-dependent ecosystems;
- Numerical and stochastic modelling coupled with decision support systems to improve groundwater management practices;
- Nature-based solutions and climate adaptation measures to protect groundwater quality and quantity and to strengthen integrated water management;
- Remote sensing technologies - satellite, radar, and drone-based - to monitor land use, soil moisture, water availability, and aquifer recharge and discharge zones;
- Investigation of the role of groundwater in securing water and food supply in arid and semi-arid regions, contributing to broader debates on planetary health and the sustainable management of Earth's critical resources.

The previous research agenda will support the development of scientifically robust and operationally relevant solutions to emerging water-related challenges, contributing to resilient infrastructure, sustainable resource management, evidence-based public policies, and the achievement of national and international sustainability objectives.

It should be mentioned that the Groundwater Group activities will be advanced through the following two funded projects, both coordinated by CERIS:

WATER4ALL Sentinel Springs — EU-funded project under the Horizon Europe Water4All Partnership (Grant Agreement n°101060874), coordinated by IST-ID with national funding from FCT-Portugal and partners from France, Italy, Poland, Denmark, and Malta:

- Positions springs as early warning sentinels to monitor and protect groundwater and associated aquatic ecosystems under climate and human pressures;
- Combines real-time IoT monitoring, historical records, and citizen science to develop a standardised international online spring hydrological and ecological database;
- Supports long-term ecosystem tracking and sustainable conservation of groundwater and associated surface ecosystems;
- In 2026, advances field monitoring campaigns, citizen science engagement, and database consolidation, following the first Annual Consortium Meeting held in Poland in June 2026.

TWINSTREAMS — funded by FCT under the DigitalTwins4SmartTerritories (DT4ST) call, financed through the Recovery and Resilience Plan (PRR), coordinated by CERIS in collaboration with IST-ID MARETEC, Hidromod, Waterways, Bluefocus, and AHSA – :

- Implements a groundwater monitoring network and develops a surface–groundwater flow model for an agricultural catchment in southwest Portugal;
- Builds a Digital Twin to optimise surface–groundwater management for agriculture;
- Reduces vulnerability to climate change impacts, particularly drought;
- Delivers a practical and reusable decision-support tool for farming communities in the Odemira and Aljezur region.

RESEARCH GROUP 3 - Systems and Management

RESEARCH GROUP COORDINATOR – António Aguiar da Costa

PART I - RESOURCES

I.1 Budget

BUDGET (euros)						
FCT		Other Funding				
STRATEGIC Funding	FCT Projects	Other Research Funding		Consultancy		TOTAL
		National	International	National	International	
9 881,91	0,00	0,00	2 214,00	3 232,06		15 327,97

I.2 Personnel

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Alcínia Zita de Almeida Sampaio	Assistant Professor	x			
Alexandre Bacelar Gonçalves	Associate professor	x			
Amílcar José Martins Arantes	Assistant Professor	x			
Ana Paula Martins Falcão Flor	Assistant Professor	x			
António Morais Aguiar da Costa	Associate professor	x			
Cristina Marta Castilho Pereira Santos Gomes	Assistant Professor		x		
Hugo Marco Consciência Silvestre	External Researcher		x		
Maria Fernanda da Silva Rodrigues (CERIS Aveiro)	Invited Associate Professor with Habillitation	x			
Maria Susana Semião Neto	External Researcher		x		
Nuno Gonçalo Cordeiro Marques de Almeida	Assistant Professor with Habilitation	x			
Raquel Valente de Pinho Matos (CERIS Aveiro)		x			

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Alejandra Gabriela Orozco Nande	PhD Student			x	
Atiyeh Rezvani Befrouei	PhD Student			x	
Charles Chukwudi Okonyia Okeyia (concluded 2025)	PhD Student			x	
Delaram Rezvani Befrouei	PhD Student			x	
Felisberto Lopes da Veiga Cortês	PhD Student			x	
Francisco Diogo Pascoal	PhD Student			x	
Jaime Gabriel Silva	PhD Student			x	
Jean Marlo Pepino de Paula	PhD Student			x	
João Manuel Amor Perianes Palma	PhD Student			x	
João Pedro Cardoso Vieira (concluded 2025)	PhD Student			x	
Jonatan Yeraj Villavicencio Moreno	PhD Student			x	
Luís Guilherme Pinto Afonso	PhD Student			x	
Manuel Pedro Rodrigues Pacheco	PhD Student			x	
Maria Azucena Marques Gamallo	PhD Student			x	
Maria Teresa Henriques Alves Ferreira	PhD Student			x	
Mariana Campista Chagas	PhD Student			x	
Mariana Isaura de Moura Ormeche	PhD Student			x	
Maryam Salati	PhD Student			x	
Pedro Emanuel Frazão Pedroso	PhD Student			x	
Pedro Szwarc dos Santos	PhD Student			x	
Rita Freire Machete	PhD Student			x	
Rodrigo da Silva Varela Pedral Sampaio	PhD Student			x	
Saikat Maiti	PhD Student			x	
Seyed Hossein Seyedi Rezvani (concluded 2025)	PhD Student			x	
Sílvia Helena de Freitas Barbosa Sá	PhD Student			x	
Solmaz Asadpour	PhD Student			x	
Wagner Oliveira de Carvalho	PhD Student			x	

The summary table can be seen below.

Type	Permanent	Non-permanent		Total
		Contract	Scholarship	
Members	8	0		8
Collaborators with PhD		3		3
Collaborators without PhD			27	27
Technical staff				0
Administrative Staff	1			1
Others				0

PART II - DESCRIPTION

Leadership

Professor António Aguiar da Costa has served as Coordinator of the Systems and Management Group since 2023. In this role, he represents the group in regular meetings with the Executive Board, alongside the other group coordinators, and in official institutional meetings. He is also responsible for managing the share of FCT funding allocated to Group 3 by the Executive Board.

Description of the Research Group

The Group 3 Scientific Board comprises all 11 PhD members of the group and meets formally once a year to discuss administrative and scientific matters. During these meetings, the coordinator reports on guidelines issued by the Executive Board, and other relevant administrative issues are addressed. The group's research interests and ongoing activities are also discussed. However, knowledge exchange and collaborative work are mainly fostered through informal, regular interactions among group members on a day-to-day basis.

General Objectives

RG3 develops research in the following general domains:

4. Decision support systems, operations and project management;
5. Information modelling and digital technologies;
6. Asset management and digital representation of the built environment.

RG3 is primarily involved in these three thematic strands and has the following main objectives:

- To develop and apply methods for simulation, optimisation, and assessment to improve process efficiency and the effectiveness of decision support systems;
- To investigate the causes of inefficiencies in project management and support the development of delay-mitigation strategies informed by professional feedback;
- To study strategic challenges in construction operations, including modular construction, lean approaches, reverse logistics, and procurement planning;
- To advance the use of information modelling in the built environment, including the development of digital workflows and the integration of real-time data to support asset management and emergency planning;
- To explore and apply GIS-based analysis for spatial planning, environmental monitoring, and risk assessment, incorporating long-term sustainability indicators and future climate scenarios;
- To promote the digital transformation of the construction sector by contributing to the development of tools, methodologies, and standards that foster interoperability and support circular and sustainable practices;

- To support the integration of digital representations of physical assets and infrastructure, enabling lifecycle-based management supported by data-driven insights and real-time monitoring.

The S&M group has a long tradition of engagement in applied research and in providing innovative services to private and public organisations, and we intend to reinforce these industrial links. It is also our objective to consolidate our reputation as one of the leading groups in Operational Research and in Engineering Systems and Information within the Civil Engineering field in Portugal and abroad, particularly in specific areas, with a view to strengthening our international collaborative ties and recognition. Contributing to the literature and increasing the number of published papers in leading international journals, alongside active participation in international forums and projects, is also a means to promote international visibility and recognition.

The research development strategy is built on three fundamental pillars:

- Existing skills and capacity to capture the essence of each problem and to devise appropriate frameworks that fit the decision context;
- Societal and industrial relevance of the issues to be addressed and the capability to attract and engage partners who provide case studies and funding;
- Internationalisation and networking of their members, the ability to attract young researchers, and involvement in international project teams.

Structure of the Research Group

Group Governance

Facilities

The facilities of Research Group 3 are as follows:

- Laboratory of Geographical Information Systems (software and hardware), used by MSc students for the GIS-related applications in their theses;
- Laboratory of BIM and virtual reality (software and hardware), used by MSc and PhD students;
- Geodetic and surveying equipment used in regular teaching and research;
- Various software for GIS, CAD, BIM, Revit, remote sensing and image processing, geometric modelling and virtual reality, and surveying equipment used by MSc students.

PART III - ACTIVITY

III.1 Activity indicators - Summary table for 2025

ACTIVITIES			
PhD Theses		Concluded	3
		To be concluded after 2025	24
Publications	Papers in peer-reviewed journals	International peer-reviewed journals (WoS AND Scopus)	28
		Peer-reviewed journals (non-WOS OR non-Scopus)	0
		Peer-reviewed journals (non-WOS AND non-Scopus)	1
	Papers in proceedings	International	13
		National	1
	Books	Entire	0
		Chapters	3
		As editor	1
Reports		Scientific	0
		Consultancy/others	1
Collective guidance in scientific work	Editor-in-Chief	WoS/Scopus-indexed Journals	0
		Other journals	1
	Associate Editor	WoS/Scopus-indexed Journals	0
		Other journals	0
	Issue Editor/Guest Editor/Membership Editorial Boards	WoS/Scopus-indexed Journals	4
		Other journals	0
	Membership in Scientific Committees	International	0
		National	0
	Drafting of codes, Recommendations	International	1
		National	4
Organisation of scientific events		International	0
		National	0
Competitive research projects	International research grants	Started in 2025	1
		Active in 2025	6
	National research grants	Started in 2025	2
		Active in 2025	5
Competitive individual research grants (PhD, Post-doc, sabbatical, etc)		Started in 2025	0
		Active in 2025	8
Awards		International	0
		National	0
Refereeing for funding agencies		International	0
		National	0

ACTIVITIES		
Invited lectures	Keynote lectures at international conferences	0
	Other	0
Models		0
Software applications		0
Pilot plants		0
Prototypes		0
Patents	International	0
	National	0
Other actions (e.g., scientific dissemination to a broad audience, social media)		0

III.2 Highlight of main achievements

The research activities of the RG on Systems and Management within CERIS have been strategically directed toward the following domains:

1. Decision support systems, operations and project management;
2. Information modelling and digital technologies;
3. Digital Twinning and Asset Management.

RG3 has relevant results in specific topics such as:

1a) Efficiency and productivity of public services and infrastructure

1b) Regulatory governance and substance

1c) Governance models in local government

1d) Decision-aiding and MCDA methods

1e) Logistics and supply chain management

1f) Systems modelling and optimisation

1g) Procurement models of PPPs

1h) Infrastructure contract management

1i) Risk assessment and management

2a) Ground deformation measure with advanced SAR interferometric methods;

2b) 3D city information models and their application;

2c) Spatial analysis problems;

2d) Building information modelling and systems interoperability;

2e) Construction innovation and information management;

2f) E-business and e-procurement in construction;

3a) Digital Transition;

3b) Information management and Interoperability;

3c) Business Process modelling;

3d) Asset Management.

These research lines pursued throughout 2025 fully achieved the objectives established for the year, generating significant scientific and technical outputs. These results further consolidate the group's position as an international reference of excellence in several of its core research domains.

The main achievements can be highlighted as follows:

(i). PhD training: **3 PhD theses** were successfully concluded, while **24 remain in progress** beyond 2025, confirming the group's strong capacity for advanced research training and ensuring continuity of scientific production in the coming years;

(ii). Scientific publications: **28 papers** were published in **peer-reviewed journals** and **14 papers in conference proceedings**, maintaining a strong and consistent scientific output, particularly in internationally indexed journals;

(iii). Academic dissemination: **3 book chapters** and 1 book edition were produced, contributing to broader dissemination of the group's research activities;

(iv). Scientific leadership: the group strengthened its international scientific recognition through **1 Editor-in-Chief** position and **4 Editorial Board memberships**, demonstrating its active role in shaping scientific dissemination;

(v). Technical and normative impact: contributions to 1 international code/recommendation and 4 related technical outputs reinforced the group's relevance in standardisation and professional practice;

(vi). Research funding: the group secured **1 new international project** and **maintained 6 active international projects**, while also obtaining **2 new national projects and managing 5 active national projects**, confirming a strong and diversified competitive funding portfolio;

(vii). Individual competitive grants: **8 active grants** further reinforced the group's ability to attract funding and support early-career researchers.

Overall, these results confirm a productive, competitive, and scientifically mature research group, characterised by strong doctoral training, sustained publication performance, robust project activity, and growing scientific leadership at both national and international levels.

PART IV – FUTURE ACTIVITY (2026)

In the future, the group will continue to grow on the following areas of development:

3. Digital Built Environment and Twin Transition
4. Digital Twin and Asset Management

Digital Built Environment and Twin Transition

Our research group has made groundbreaking strides in the field of the digital built environment. One of our significant achievements is the innovative use of BIM, particularly for heritage management. We have tailored scan-to-BIM workflows at UNESCO World Heritage sites in Sintra, which have pioneered the integration of seismic assessment with BIM. We have also optimised emergency response routes and developed advanced sensor data integration, which has significantly enhanced heritage protection and facility management.

Using other information technologies, such as GIS, we conducted GIS-based data processing in various applications, including optimising crop distribution in Portugal in collaboration with the National Institute of Agricultural and Veterinary Research (INIAV). We have also mapped and monitored urban green roofs to assess their biodiversity potential and incorporated future global climate scenarios in risk evaluation for several natural hazards in Portugal.

Complementarily, our research group coordinated several projects that revolutionised the construction industry through digital transformation. Under the REV@Construction project, we have developed several digital tools for construction, influencing significant updates to standards and laws and promoting interoperability. Recently, our research group has been given support to the development of a National Strategy for BIM implementation in Portugal, which will start to be implemented in 2025.

Focusing on the Twin Transition, several initiatives have been conducted, such as the Circular ECO BIM project, which allowed the development of tools that can evaluate circularity and sustainability. One of these is the SmartLCA tool, which is a BIM-based LCA digital tool that has been developed and is now being deployed within the industry. Recently, a team of PhDs has been formed, constituting the TwinLab research group, which is conducting innovative research in digital and climate transition, always with a strong emphasis on industry connections.

Digital Twin and Asset Management

Understanding the importance of asset management for the built environment, the group conducted several works on this topic. Notably, it firmly pushed the standardisation ecosystem around this matter, coordinating the respective standardisation technical committee. Specialising in asset management, our research group has also embraced the challenges of integrating Digital Twin (DT), especially within the demanding context of complex infrastructures. We have made significant strides in advancing asset management through the deployment of DTs, which serve as dynamic, real-time replicas of physical assets. This transformative approach facilitates data-driven management across the asset's lifecycle,

enhancing operational efficiency and decision-making. Central to our efforts was the DT4Health project, which has established a comprehensive framework for DT application in hospital settings.

Furthermore, closer coordination with the CERIS strategy and the general orientations stemming from its thematic strands will be promoted. The horizontal character of the S&M group skills and competencies creates opportunities for synergetic cooperation and interactions with other CERIS research groups and to make relevant contributions closely linked to the thematic strands' objectives.

RESEARCH GROUP 4 - Transportation Systems

RESEARCH GROUP COORDINATOR – Luís Picado Santos

PART I - RESOURCES

I.1 Budget

BUDGET (euros)						
FCT		Other Funding				
STRATEGIC Funding	FCT Projects	Other Research Funding		Consultancy		TOTAL
		National	International	National	International	
15 528,72	39 408,44	1 355,78	0,00	189 932,35		246 225,29

I.2 Personnel

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Filipe Vilaça Moura	Full Professor	X			
Gabriel da Costa Valença	Assistant Professor	X			
Iran Gomes da Rocha Segundo	Researcher	X			
João de Abreu e Silva	Associate Professor with Habilitation	X			
Joaquim Miguel Gonçalves Macedo (CERIS Aveiro)	Assistant Professor	X			
José Manuel Neves	Associate Professor	X			
Luís Guilherme de Picado Santos	Full Professor	X			
Mauricio Orozco Fontalvo	Researcher	X			
Patrícia Dinis Ferreira	Assistant Professor		x		
Paulo Fonseca Teixeira	Associate Professor		x		
Rosa Félix	Researcher	X			
Rui Micaelo (CERIS NOVA)	Associate Professor	X			

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Rui Manuel Cordeiro Colaço	Researcher	X			
Silvino Capitão	Coordinator Professor	X			
Ana Karina de Barros Christ	PhD Student			x	
André Canto e Castro Guerreiro Duarte	PhD Student			x	
Andreza Dornelas de Souza Roma	PhD Student			x	
António Agostinho de Oliveira Pereira	PhD Student			x	
Carlos Henrique Pinto Caixinha de Marques dos Santos	PhD Student			x	
Cristian Adorean	PhD Student			x	
Daniel António Patel dos Santos	PhD Student			x	
Ewerton Chaves Moreira Torres	PhD Student			x	
Fabíula Pereira Lessa	PhD Student			x	
Fesseha Fentahun Belay	PhD Student			x	
Freddy Paiva Nogueira	PhD Student			x	
Javier Rueda	PhD Student			x	
Jéssica Gomes de Lucena	PhD Student			X	
Joana Félix Ribeiro da Cunha	PhD Student			x	
Juan Guillermo Zuluaga Villermo	PhD Student			x	
Julianno de Menezes Amorim	PhD Student			x	
Laísa Braga Kappler (concluded 2025)	PhD Student			x	
Laura Daniela Ramirez Leuro	PhD Student			x	
Marco Antônio Silva	PhD Student			x	
Maria Ana Benoliel Nunes Bonito	PhD Student			x	
Marina Maria Cabette (concluded 2025)	PhD Student			x	
Mauricio Orozco Fontalvo (concluded 2025)	PhD Student			x	
Nathalia Hammes	PhD Student			x	
Nayamma Almeida da Silva	PhD Student			x	

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Nuno Filipe da Silva Afonso	PhD Student			x	
Orlando de Sousa Lima Júnior	PhD Student			x	
Quintino Jackson Vinevala	PhD Student			x	
Sandra Isabel da Silva Pinto	PhD Student			x	
Sofia Ribeiro	PhD Student			x	
Telmo Alexandre Farto Fernandes	PhD Student			x	
Webert Brasil Cirilo da Silva	PhD Student			x	

The summary table can be seen below.

Type	Permanent	Non-permanent		Total
		Contract	Scholarship	
Members	10	2	0	12
Collaborators with PhD	0	2	0	0
Collaborators without PhD			31	31
Technical staff				
Administrative Staff	1			1
Others				

PART II - DESCRIPTION

Leadership

Professor Luís Picado Santos has coordinated the Transportation Infrastructure, Systems, and Policy group since 2022. In this role, he represents the group at regular meetings with the Executive Board, fellow group coordinators, and other official gatherings. The coordinator is also responsible for managing the FCT funds allocated to Group 4 by the Executive Board and for ensuring that all members comply with the approved regulations in the development of the group's activities.

Description of the Research Group

General Objectives

The group has five main objectives for the next four to five years:

- To use the best framework to support sustainable policies (regulatory, pricing, and evaluation) for transport systems
- To integrate public and private transport modes and services, using improved demand characterisation and considering new types of business models
- To enhance innovation and technology in infrastructure planning, design, and maintenance, guaranteeing accessibility and support for mobility
- To improve infrastructure systems development and management under new challenges, such as automated mobility for cargo and passengers.
- To develop and sustain participation in international professional and academic networks, thereby increasing formal support for I&D and research, and to enhance the international PhD programmes (in association with UC and UP) and their recognition on a broad international level.

This is happening in close coordination with the general orientations of the CERIS thematic strands. This group has connections and will include contributions and achievements that may be closely linked to the objectives of all the thematic strands, but mainly to "Response to natural and societal changes" and "Rehabilitation of natural and built environments".

Under the thematic strand "Response to natural and societal changes," certain developments are underway, such as "New types of integration of public and private transportation modes and services (within each type and across types), including the modelling and testing of demand-responsive transport, multimodal systems, bike-sharing, and freight services supported by new types of business models and by the development of appropriate ITS tools."

Under the thematic strand "Rehabilitation of natural and built environments," the following aspects are addressed: "Methodologies and models to predict degradation and improve maintenance, renewal and investment decisions within the different transport infrastructure systems and across them (integrated asset management)" and "Retrofitting transport systems: changing and adapting "old to like-new" transport systems to meet new performance standards while extending the existing ones."

Nevertheless, many other subjects are ongoing or are predicted to be developed soon, which could be included in other thematic strands or even in the two main thematic strands, where the group feels more able to establish its work base. These subjects are “the application of nanotechnology and development of low energy asphalt concrete incorporating industrial by-products, having the same structural efficiency as traditional ones”, “new concepts for railway infrastructure design to enhance reliability, availability, maintainability and resilience to natural events”, “tools and indicators to infrastructure planning and design and technology development to foster sustainable modes in urban environments (for vulnerable users like pedestrians and cyclists)”, “adaptable networks through dynamic regulatory schemes managed by advanced ICT technologies and implemented by ITS innovative solutions for infrastructure”, “microscopic and other type of simulation modelling for the estimate of network safety performance for vehicles, freight and vulnerable users”, “new life cycle assessment for transportation infrastructures in a low life cycle cost perspective, incorporating material, risk and flexibility and environmental concerns through the use of innovative techniques to survey the necessary indicators and to establish decisions”, “to redesign global logistics processes, including the last mile component of the logistics chain, towards enhanced efficiency, reduction of CO2 emissions and enhancement of accessibility”, “optimization and simulation of public transport operations under a huge uncertainty for demand and risk analysis to support decision-making in transport system investments”.

Group Governance

The coordinator should focus efforts on the following directions:

- stimulating joint activities among the members of the group;
- seeking to increase collaboration and cross-cutting initiatives with other groups of CERIS;
- encouraging meetings of thematic strand players whenever pertinent to any envisaged interdisciplinary action, in cooperation with the thematic strand coordinator.

Group meetings are held regularly, mainly with permanent members and collaborators, such as postdoctoral and PhD students, to discuss results, group activity, resource management, and to monitor the development of activities.

Facilities

The research is supported by two types of laboratory facilities: experimental facilities (the Laboratory of Transport Infrastructures, LVCT) and two rooms dedicated to developing applications for transport and infrastructure systems. LVCT is primarily dedicated to research, teaching, and IR&D on road and airport pavements (materials, structural behaviour, and their assessment). It has also conducted traffic surveys to support traffic management studies. The two rooms support all developments in transport planning, services, and operations, in connection with the doctoral programme in transportation systems and with

all research and technological transfer made for the industry. Both facilities are located at the IST campus in Alameda and are often shared with other research groups.

PART III - ACTIVITY

III.1 Activity indicators - Summary table for 2025

ACTIVITIES			
PhD Theses		Concluded	3
		To be concluded after 2025	29
Publications	Papers in peer-reviewed journals	International peer-reviewed journals (WoS AND Scopus)	36
		Peer-reviewed journals (non-WOS OR non-Scopus)	5
		Peer-reviewed journals (non-WOS AND non-Scopus)	0
	Papers in proceedings	International	11
		National	12
	Books	Entire	0
		Chapters	7
		As editor	0
Reports		Scientific	2
		Consultancy/others	6
Collective guidance in scientific work	Editor-in-Chief	WoS/Scopus-indexed Journals	0
		Other journals	0
	Associate Editor	WoS/Scopus-indexed Journals	0
		Other journals	0
	Issue Editor/Guest Editor/Membership Editorial Boards	WoS/Scopus-indexed Journals	11
		Other journals	0
	Membership in Scientific Committees	International	0
		National	0
	Drafting of codes, Recommendations	International	2
		National	13
Organization of scientific events		International	0
		National	0
Competitive research projects	International research grants	Started in 2025	3
		Active in 2025	14
	National research grants	Started in 2025	5
		Active in 2025	11
Competitive individual research grants (PhD, Post-doc, sabbatical, etc.)		Started in 2025	3
		Active in 2025	9
Awards		International	1
		National	0
Refereeing for funding agencies		International	0
		National	0

ACTIVITIES		
Invited lectures	Keynote lectures at international conferences	1
	Other	0
Models		0
Software applications		0
Pilot plants		0
Prototypes		0
Patents	International	0
	National	0
Other actions (e.g., scientific dissemination to a broad audience, social media)		4

III.2 Highlight of main achievements

The 2025 results confirm the strength and consistency of the group's activities, combining solid scientific productivity, strong doctoral training, competitive project acquisition, and significant societal impact.

The group benefits from the strong international standing of its senior researchers, who actively participate in leading organisations and strategic committees, including the OECD committees (notably through the International Transport Forum), the European Commission, the Independent Evaluation Group of the World Bank Group, the World Road Association Committees, and UIC committees (International Union of Railways). Their roles as advisors, evaluators, and committee members in international research programmes (in France, the Netherlands, Italy, Brazil and also the European Commission) and in policy bodies reinforce the group's scientific recognition and influence on transport policy and infrastructure planning at the global level.

At the applied level, the group maintains strong links with key transportation stakeholders through several research and innovation contracts. These include collaborations with Infraestruturas de Portugal, the Câmara Municipal de Lisboa, Lisbon's public transport operators, and the Transportes Metropolitanos de Lisboa, as well as private construction and consultancy companies operating nationally and internationally. This demonstrates the group's strong capacity for knowledge transfer and direct contribution to solving real-world mobility and infrastructure challenges.

In advanced training, the conclusion of **3 PhD theses** and the **ongoing supervision of 29 additional doctoral works** demonstrate the group's sustained commitment to research capacity building and future scientific continuity.

Scientific output remained strong, with **41 papers in peer-reviewed journals** (36 in WoS/Scopus-indexed journals and 5 in other peer-reviewed journals) and **23 papers in conference proceedings** (11 international and 12 national), reflecting consistent productivity and strong scientific visibility. In 2025, the group achieved an average of **3.0 peer-reviewed scientific papers per member per year**. Although no books were published, the production of **7 book chapters** demonstrates engagement with broader

dissemination formats. This output is complemented by scientific and consultancy reports, reflecting both academic and applied relevance.

The group also maintained strong scientific leadership, with **11 editorial board memberships** and important contributions to the drafting of international and national technical codes and recommendations.

Funding performance remained highly competitive, with **14 active international** and **11 active national projects**, alongside **8 new projects** awarded in 2025 and several individual grants supporting early-career researchers.

Overall, these results reflect a mature, internationally connected, and impactful group, able to combine scientific excellence with strong engagement in transport systems, infrastructure management, and mobility policy, while ensuring sustained growth through doctoral training and competitive research funding.

PART IV – FUTURE ACTIVITY (2026)

The RG4 for 2026 will pursue the objectives described in section II using the means and the routes offered by EU (Horizon Europe) and national (Portugal 2030 and FCT) financed research projects, by the research involved in each ongoing Ph.D. works integrated on the doctoral programme in Transportation Systems, by the innovation, the technology and the development transfer to society and industry, by supporting the professional training programmes set with several stakeholders on the transportation and infrastructure systems, and by the improvement of the results achieved within the international networks already established and the ones to enhance, especially with Spain and Brazil.

RESEARCH GROUP 5 – Studies on construction

RESEARCH GROUP COORDINATOR – Jorge de Brito

PART I - RESOURCES

I.1 Budget

BUDGET (euros)						
FCT		Other Funding				
STRATEGIC Funding	FCT Projects	Other Research Funding		Consultancy		TOTAL
		National	International	National	International	
36 704,26	140 724,02	11 938,78	42 018,00	169 405,53	0	400 790,59

I.2 Personnel

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Alessandra Ranesi (CERIS NOVA)	Researcher		x		
Ana Filipa Ferreira da Silva Cigarro Matos	Researcher	x			
Ana Luísa Pinheiro Lomelino Velosa (CERIS Aveiro)	Associate Professor with Habilitation	x			
Ana Paula Filipe Tomé	Assistant Professor	x			
Ana Paula Patrício Teixeira Ferreira Pinto França de Santana	Associate Professor	x			
António Heleno Domingues Moret Rodrigues	Associate Professor	x			
António José Barreto Tadeu (CERIS Coimbra)	Full Professor	x			
António José Pereira de Figueiredo (CERIS Aveiro)	Researcher	x			
Augusto Martins Gomes	Associate Professor	x			
Beatriz Rosa de Abreu Pereira Marques (CERIS Coimbra)	Researcher	x			
Bruna Amarílis da Palma e Silva	Researcher		x		

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Carlos Paulo Novais Oliveira da Silva Cruz	Full Professor	x			
Catarina Lopes Serra (CERIS Coimbra)	Researcher	x			
Clara Isabel Fernandes Pereira	Researcher	x			
Cláudia Alexandra Rocha Ferreira	Researcher	x			
Evelina Brigite Pires da Moura Rodrigues	Researcher		x		
Fernando António Baptista Branco	Full Professor/retired	x			
Fernando Farinha da Silva Pinho (CERIS NOVA)	Assistant Professor		x		
Fernando Henriques (CERIS NOVA)	Full Professor	x			
Ghandy Diaa Eddine Lamaa	Researcher	x			
Gina Maria Lourenço Matias (CERIS Coimbra)	Researcher	x			
Giovanni Borsoi	Researcher	x			
Guilherme António dos Santos Calado Marianito da Ascensão (CERIS Aveiro)	Researcher	x			
Guilherme Barreto Arez Coelho (CERIS NOVA)	Assistant Professor	x			
Helena Maria da Costa Paiva (CERIS Aveiro)	Researcher		x		
Inês Cruz Mina Rosa	Researcher	x			
Inês dos Santos Flores Barbosa Colen	Full Professor	x			
Joana de Sousa Dias Prata (CERIS Coimbra)	Researcher	x			
João António Soares de Almeida (CERIS Coimbra)	Researcher	x			
João Diogo Fragoso Januário	Researcher	x			
João Paulo Correia Rodrigues (CERIS Coimbra)	Associate Professor	x			
João Paulo Janeiro Gomes Ferreira	Associate Professor	x			
João Pedro Ramôa Ribeiro Correia	Full Professor	x			
João Rafael Cardoso de Brito Oliveira Abrantes (CERIS Coimbra)	Researcher		x		
Jorge Manuel Caliço Lopes de Brito	Full Professor	x			
José Alexandre de Brito Aleixo Bogas	Full Professor	x			
José António Raimundo Mendes da Silva (CERIS Coimbra)	Associate Professor	x			
José Dinis Silvestre	Full Professor	x			

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Julieta Maria Pires António (CERIS Coimbra)	Associate Professor	x			
Luís Manuel Faria da Rocha Evangelista	Associate Professor		x		
Márcio Paulo Ferreira Gonçalves (CERIS Coimbra)	Researcher	x			
Marco Ivo Frazão Pedroso	Researcher	x			
Maria Cristina de Oliveira Matos Silva	Assistant Professor with Habilitation	x			
Maria da Glória de Almeida Gomes	Associate Professor	x			
Maria de Castro Fonseca Mourão Manso	Assistant Professor	x			
Maria Dulce e Silva Franco Henriques	Professor Adj	x			
Maria Idália da Silva Gomes (CERIS NOVA)	Assistant Professor	x			
Maria Inês Vieira Simões (CERIS Coimbra)	Researcher	x			
Maria Isabel Morais Torres (CERIS Coimbra)	Assistant Professor	x			
Maria Paulina Santos Forte de Faria Rodrigues (CERIS NOVA)	Associate Professor	x			
Maria Teresa de Almeida Gouveia Geraldes Freire (CERIS NOVA)	Researcher		x		
Mário Alexandre de Jesus Garrido	Researcher	x			
Michael Alexander de Oliveira Brett (CERIS Coimbra)	Researcher	x			
Miguel José Pereira das Dores Santos de Oliveira (CERIS Coimbra)	Professor Adj	x			
Miguel Nuno Caneiras Bravo	Researcher	x			
Nuno Albino Vieira Simões (CERIS Coimbra)	Associate Professor	x			
Paulo Barreto Cachim (CERIS Aveiro)	Associate Professor with Habilitation	x			
Pedro Miguel Soares Raposeiro da Silva	Assistant Professor		x		
Rita Maria Vilela Nogueira	Assistant Professor	x			
Rita Pinheiro Garcia (CERIS Coimbra)	Researcher	x			
Romeu da Silva Vicente (CERIS Aveiro)	Full Professor	x			
Rui Vasco Pacheco Santos da Silva	Researcher	x			
Sara Maria Santos Soares Dias (CERIS Coimbra)	Researcher	x			
Victor Miguel Carneiro de Sousa Ferreira (CERIS Aveiro)	Full Professor	x			
Vitor Faria e Sousa	Assistant Professor	x			

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Wesley Bruno da Silva Machini (CERIS Coimbra)	Researcher	x			
Admir Jeremias Silva Tavares	PhD Student			x	
Adnan Abdulghani Ali Al-ganad	PhD Student			x	
Adriana Melo Baio Dias (Concluded 2025)	PhD Student			x	
Adriana Sofia Rodrigues Boaventura de Azevedo (Concluded 2025)	PhD Student			x	
Akif Berke Öztürk	PhD Student			x	
Ali Shoaei	PhD Student			x	
Amir Reza Taherian	PhD Student			x	
Ana Cláudia Lemos Ramão	PhD Student			x	
Ana Margarida Gaspar de Oliveira Braga Maia	PhD Student			x	
Ana Margarida Gregório Gonçalves	PhD Student			x	
Ana Sofia Mendes Pessoa (Concluded 2025)	PhD Student			x	
André Filipe Rosário Marcelino Silva	PhD Student			x	
Andrea Ferre Balboa	PhD Student			x	
Angelica Rocco (Concluded 2025)	PhD Student			x	
António Braz Leiras	PhD Student			x	
António Renato Albuquerque Bicelli	PhD Student			x	
Arpan Joshi	PhD Student			x	
Augusto Montor de Freitas Luiz	PhD Student			x	
Bahareh Ramezani	PhD Student			x	
Bruno Carvalho Lima de Alencar Matos	PhD Student			x	
Bruno Jorge Santos de Carvalho Matos	PhD Student			x	
Carlos Alexandre Seruti	PhD Student			x	
Carlos Miguel Abreu dos Santos Matrena	PhD Student			x	
Carlos Miguel Rocha	PhD Student			x	
Catarina Faria Lopes	PhD Student			x	

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Catarina Pinto Mouraz (Concluded 2025)	PhD Student			x	
Charles Severo Cenci	PhD Student			x	
Chenhui Liu	PhD Student			x	
Dany Azad Kareem Kassim	PhD Student			x	
David Eduardo Nunes Bastos	PhD Student			x	
David Melanda Pereira	PhD Student			x	
Deives Junior de Paula	PhD Student			x	
Douglas Rocha	PhD Student			x	
Du Yi	PhD Student			x	
Eduarda da Conceição Nepomuceno	PhD Student			x	
Eloísa Maria Castilho dos Santos (Concluded 2025)	PhD Student			x	
Elżbieta Jadwiga Hamadyk	PhD Student			x	
Fernanda Calado Mendonça	PhD Student			x	
Fernanda Caroline Rodrigues Magalhães	PhD Student			x	
Filipe José da Silva Rebelo	PhD Student			x	
Filomena das Dores Cardoso do Espírito Santo Carvalho	PhD Student			x	
German Andres Lozano Vela	PhD Student			x	
Ghandy Diaa Eddine Lamaa (Concluded 2025)	PhD Student			x	
Giovanna Schäfer Bartels	PhD Student			x	
Gonçalo Roque Araújo (Concluded 2025)	PhD Student			x	
Ilídio dos Santos Dias (Concluded 2025)	PhD Student			x	
Inês dos Anjos Almeida	PhD Student			x	
Isequiel José Soares Alcolete	PhD Student			x	
Isobel Storm Andrews-McCarroll	PhD Student			x	
Ivan Kristiadi Damanik	PhD Student			x	
Jean Carlos Ravanelli Appel	PhD Student			x	

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Jean-Paul Kapuya Bulaba Nyembwe	PhD Student			x	
Jéssica Deise Bersch	PhD Student			x	
Jéssika Cahino	PhD Student			x	
Joana Fonseca da Mata	PhD Student			x	
João Alfredo de Lazzari	PhD Student			x	
João Carlos Iria Filipe	PhD Student			x	
João Pedro de Freitas Saraiva dos Santos	PhD Student			x	
João Pedro Ferreira Martins (Concluded 2025)	PhD Student			x	
João Pedro Soares Cópio	PhD Student			x	
Jordan Loïc Dongmo Tadonbou	PhD Student			x	
Jorge Miguel Pires do Nascimento Pontes	PhD Student			x	
José Miguel Paulo de Lima Ferreira	PhD Student			x	
Kátia Maria Pereira Soares	PhD Student			x	
Laura Ocaranza	PhD Student			x	
Leonor Rodrigues Freire Antunes	PhD Student			x	
Letícia Carvalho Moreira Dafico (Concluded 2025)	PhD Student			x	
Lucas Xavier Ribeiro Rodrigues Sequeira	PhD Student			x	
Madalena Fava Lopes Rucha	PhD Student			x	
Maher Issa	PhD Student			x	
Marcelo Langner	PhD Student			x	
Maria Ana Benoliel Nunes Bonito	PhD Student			x	
Maria Inês Sardinha Gomes	PhD Student			x	
Maria Teresa Henriques Alves Ferreira	PhD Student			x	
Mariana Marques Gonçalves	PhD Student			x	
Marina Machado Leal dos Santos	PhD Student			x	
Marta Isabel Silva Rodrigues da Costa	PhD Student			x	
Martim Henrique dos Santos Vicente Alves Nabais	PhD Student			x	

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Maryam Salati	PhD Student			x	
Matheus Henrique Alves	PhD Student			x	
Mayara Di Castro Silva	PhD Student			x	
Md Abu Toyob Shahid	PhD Student			x	
Mehdi Mellef	PhD Student			x	
Mohammed Hameed Ali Saleh Hafeeth	PhD Student			x	
Moussa Fraoui	PhD Student			x	
Mustafa Bahjat Ibrahim	PhD Student			x	
Nada Abdulla Ibrahim Ibrahim Mowafy	PhD Student			x	
Oscar Naranjo	PhD Student			x	
Patrícia Alexandre Pereira Marques Marchante	PhD Student			x	
Pedro de Andrade Quirino Rosa	PhD Student			x	
Pedro Emanuel Frazao Pedroso	PhD Student			x	
Pedro Enrique Cantor Cortes	PhD Student			x	
Pedro Salvador Ramos Goméz	PhD Student			x	
Poliana Bellei (Concluded 2025)	PhD Student			x	
Quintino Jackson Vinevala	PhD Student			x	
Rafael Miguel Mabunda	PhD Student			x	
Rafaela Caetano de Almeida	PhD Student			x	
Rajendra Babu Roka	PhD Student			x	
Raquel dos Santos Sarmento	PhD Student			x	
Renan Tenório de Araújo Lima	PhD Student			x	
Renato Jorge Fernandes Neves	PhD Student			x	
Ricardo Infante Gomes	PhD Student			x	
Ricardo Jorge Tomé Cruz	PhD Student			x	
Rita Freire Machete	PhD Student			x	
Roberto Rosa de Santana	PhD Student			x	

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Rodrigo Almeida Freitas	PhD Student			x	
Rodrigo Carlos Fritsch	PhD Student			x	
Rodrigo da Silva Varela Pedral Sampaio	PhD Student			x	
Rúben Filipe Rosa Lopes	PhD Student			x	
Saman Abolghasemi Moghaddam	PhD Student			x	
Sérgio Roberto Oberhauser Quintanilha Braga	PhD Student			x	
Seyed Mohammad Hossein Seyedi Rezvani	PhD Student			x	
Seyedsajjad Hosseini	PhD Student			x	
Shahriar Modaresi	PhD Student			x	
Sofia Rita Machado Bicha Castelo	PhD Student			x	
Sónia Pereira Marques da Silva	PhD Student			x	
Stephanie Oliveira Nina Rocha	PhD Student			x	
Tânia Raquel Alves dos Santos (Concluded 2025)	PhD Student			x	
Tarikul Hasan	PhD Student			x	
Taylana Piccinini Scolaro	PhD Student			x	
Teerdad Mirdjalali	PhD Student			x	
Thais Aline Soares	PhD Student			x	
Tomás João Fernando	PhD Student			x	
Valdomiro Ceolin Neto	PhD Student			x	
Vera Cibele Neves Marques	PhD Student			x	
Vitor Dacol	PhD Student			x	
Wilamy Valadares de Castro	PhD Student			x	
Wilson Jonathan Keedi	PhD Student			x	
Xiwen Fu	PhD Student			x	
Yoleimy del Carmen Avila Pereira	PhD Student			x	
Yuyi Ye	PhD Student			x	
Zarin Karim Zadeh	PhD Student			x	

The summary table is shown below.

Type	Permanent	Non-permanent		Total
		Contract	Scholarship	
Members	53	5	0	58
Collaborators with PhD	7	2		9
Collaborators without PhD	1		132	132
Technical staff				1,5
Administrative Staff	1			1
Others				0

PART II – DESCRIPTION

Leadership

The coordinator represents the research group in regular meetings with the Executive Board, fellow group coordinators, and other official bodies. The coordinator is also responsible for managing the share of the FCT funding allocated to the group. Since 2025, this role has been held by Professor Jorge de Brito.

Description of the Research Group

RG5 is structured into four main research domains, reflecting the core scientific areas and strategic research lines in which the group is actively engaged:

- Construction Materials, Technology, and Management Innovation;
- Sustainable Construction;
- Monitoring, Rehabilitation, and Conservation of the Built Heritage;
- Fire Behaviour of Materials and Structures.

General Objectives

The research activities focus on the development of projects within the following domains:

- **Construction Materials, Technology, and Management Innovation**: advanced materials (e.g., GFRP, CFRP); waterproofing systems; concrete and mortar technology; quality, safety, environmental, and health management in construction; and virtual reality applications in construction;
- **Sustainable Construction**: sustainability and deconstruction strategies; sustainable traditional materials; demolition and recycling; recycled aggregates; building physics and passive design; building acclimatization and mechanical systems;
- **Monitoring, Rehabilitation, and Conservation of the Built Heritage**: inspection, diagnosis, maintenance, and rehabilitation systems; maintenance of buildings envelope; conservation of historical building heritage; sensors, technological innovation, and structural assessment;
- **Fire Design**: fire resistance and risk assessment of cultural heritage.

Other objectives include:

5. To participate in national and international technical and scientific committees;
6. To participate/organize national and international conferences;
7. To teach in Graduation and Post-Graduation courses in the field of construction and participate in academic events;
8. To provide consultancy services to support research funding and promote the practical applications of research outcomes.

Group Governance

The group's governance, led by the coordinator, aims to:

- Promote applications for research funding, including projects, scholarships, and advanced consultancy initiatives;
- Stimulating collaborative activities among group members;
- Strengthen collaboration with other CERIS research groups through transversal initiatives, particularly within the thematic strands
- Organise CERIS seminars and scientific dissemination activities.

Facilities

Laboratory of Structures (LERM) and Laboratory of Construction (LC):

- LC is dedicated to research in construction materials, rehabilitation, sustainable construction technologies, and building physics, and has supported industry and public institutions for more than three decades. Its advanced equipment includes systems for porosity characterisation, rheometers, pull-off testing, thermography analysis, indoor air quality assessment, thermal conductivity measurement, aggregate characterisation, abrasion testing, carbonation chambers, rapid chloride migration devices, water and air permeability testing, hydraulic presses, and thermal chambers, enabling comprehensive material characterisation and durability assessment.
- LERM provides large-scale experimental facilities for civil and structural engineering, supporting both laboratory and in-situ testing. With infrastructure such as a reaction wall, shaking table, wind tunnel, furnace for fire resistance tests, test frames, hydraulic jacks, dynamic actuators, and a 20-ton crane, LERM enables advanced structural testing, performance assessment, and the development of innovative solutions for structural resilience and safety.

Laboratory of Computational Mechanics (LMC):

- RG5 has access to shared computer and printing facilities used jointly with other Research Groups. Experimental work is carried out by Group members or by PhD and MSc students. Occasionally, technical staff responsible for maintaining LERM and LC provide support; however, the Group does not have dedicated, qualified experimental personnel to cover all its research areas. Periods of overlapping demand from LERM and LC users have, in the past, led to delays in research activities. Maintenance, repair, and installation of equipment are typically carried out by LERM and LC technical staff or by specialised external companies.

PART III - ACTIVITY

III.1 Activity indicators - Summary table for 2025

ACTIVITIES			
PhD Theses		Concluded	21
		To be concluded after 2025	112
Publications	Papers in peer-reviewed journals	International peer-reviewed journals (WoS AND Scopus)	170
		Peer-reviewed journals (non-WOS OR non-Scopus)	8
		Peer-reviewed journals (non-WOS AND non-Scopus)	11
	Papers in proceedings	International	91
		National	5
	Books	Entire	1
		Chapters	17
		As editor	2
Reports		Scientific	26
		Consultancy/others	20
Collective guidance in scientific work	Editor-in-Chief	WoS/Scopus-indexed Journals	0
		Other journals	0
	Associate Editor	WoS/Scopus-indexed Journals	7
		Other journals	0
	Issue Editor/Guest Editor/Membership Editorial Boards	WoS/Scopus-indexed Journals	58
		Other journals	1
	Membership in Scientific Committees	International	29
		National	0
	Drafting of codes, Recommendations	International	23
		National	26
Organisation of scientific events		International	18
		National	0
Competitive research projects	International research grants	Started in 2025	4
		Active in 2025	26
	National research grants	Started in 2025	25
		Active in 2025	46
Competitive individual research grants (PhD, Post-doc, sabbatical, etc)		Started in 2025	1
		Active in 2025	24
Awards		International	14
		National	3
Refereeing for funding agencies		International	0
		National	0

ACTIVITIES		
Invited lectures	Keynote lectures at international conferences	2
	Other	0
Models		0
Software applications		0
Pilot plants		0
Prototypes		0
Patents	International	1
	National	0
Other actions (e.g., scientific dissemination to a broad audience, social media)		11

III.2 Highlight of main achievements

The research activity carried out in 2025 confirms the maturity, scale, and international leadership of RG5, demonstrating an outstanding scientific output, a strong capacity to attract competitive funding, and an increasing impact on innovation and knowledge transfer.

The main achievements can be highlighted as follows:

- **21 PhD theses were concluded** and **112 remain in progress**, reflecting an exceptional capacity for advanced training and ensuring continuity of scientific activity in the coming years;
- **170 papers were published in international peer-reviewed journals indexed in** Web of Science and Scopus, complemented by 19 additional papers in non-indexed journals, confirming a very high level of scientific productivity and strong international visibility;
- **91 papers were published in international conference proceedings** and 5 in national proceedings, demonstrating a consolidated presence in major international scientific forums;
- **1 book, 17 book chapters, and 2 edited books** were published, reinforcing the group's ability to disseminate knowledge through diverse scientific formats;
- **45 scientific and technical reports** (26 scientific and 19 consultancy reports) were produced, highlighting a strong link between fundamental research and practical application;
- **A prominent role in international scientific leadership** was maintained, with **7 Associate Editors and 59 editorial board memberships**, as well as participation by **30 members** in **international scientific committees**;
- **Significant contributions to codes and technical recommendations**, with 49 participations in drafting standards and recommendations (16 international and 25 national), demonstrating direct influence on the evolution of the construction sector;
- **A very strong project portfolio**, with **4 new international** research projects and **25 new national projects** starting in 2025, bringing the total to 72 active competitive projects;
- **25 active individual competitive grants**, including PhD and postdoctoral fellowships, reinforcing the attractiveness and competitiveness of the group;

- **17 scientific awards** (14 international and 3 national), confirming the external recognition of the quality and relevance of the research developed;
- **1 international patent**.

Particularly relevant was the 2025 publication of the book **Design of fibre-polymer composite structures: Commentary to European technical specification CEN/TS 19101: 2022**, authored by João R. Correia and leading international experts. It provides a scientific and technical commentary on the European technical specification CEN/TS 19101:2022 for the design of fibre-polymer composite structures. This work represents a significant contribution to the consolidation and international dissemination of knowledge in this strategic field, reinforcing the group's leading role in advancing the application of composite materials in structural engineering.

Also highly significant in 2025 was the granting of the **MSCA Staff Exchanges project CIRCLE**, coordinated by Jorge de Brito. It marks the first time IST coordinates this type of project, and only four projects coordinated by Portuguese institutions were granted under this call. The project involves 10 universities from Europe and Asia and focuses on research activities through secondments among partners. The CIRCLE project involves tackling challenges and generating new knowledge and application fields in the use of recycled aggregate concrete.

The main fields of research are:

- Innovative applications of materials such as GFRP and CFRP were studied in depth, both experimentally and analytically; most Portuguese research on waterproofing systems was conducted within the group; breakthroughs in concrete and mortar technology were experimentally validated, namely using various types of by-products and wastes; mortars and concrete formulations with nanomaterials were developed; studies on the energy efficiency and hygrothermal comfort of different materials, building components and construction systems, such as active and glazing facades, shading devices and green roofs and walls, were conducted; risk-informed quality, safety and environmental management in construction-related research was integrated into various national and international actions, including normative work;
- New theories on sustainability and construction were put forward, including the use of vernacular and traditional techniques and materials (earth, wood, natural fibres, stone, brick), often including innovative application, to produce innovative building products (e.g. thermal-acoustic insulation boards); the use of various types of by-products and waste as supplementary cementitious materials and aggregates; the implementation of selective demolition and recycling maximisation (namely recycled aggregates in concrete and mortar production); the use of recycled and natural materials (e.g. hemp; wood fibre, cellular glass, compressed earth blocks, etc.) to develop low-carbon materials; and strategies for passive design and acclimatisation, including numerical hygrothermal simulation and experimental durability tests;
- Life-cycle assessment of many innovative building products, compared with commercial ones; life-cycle costing analysis of new building products/systems; life-cycle management systems

(inspection, diagnosis, maintenance, and rehabilitation); conservation of historical building heritage; monitoring of indoor environmental quality using sensors; sensors for monitoring the structural performance of constructions, technological innovation, and assessment of complex structures;

- Seismic rehabilitation of masonry buildings; experimental and numerical analysis of timber-framed masonry walls subjected to monotonic and cyclic loading; reinforcement of timber-framed masonry walls with elastoplastic dampers, reinforced render, or steel plates. Experimental and numerical analysis of ordinary masonry walls subjected to in-plane and out-of-plane loading. Seismic reinforcement of ordinary masonry walls with carbon fibre reinforced render or transverse hinge connectors;
- Implementation of innovative testing methods to assess the performance and durability of construction materials, such as resistance to microbiological growth, hygrothermal performance and mechanical resistance under extreme weather events.

Overall, the results achieved in 2025 further reinforce the group's position as an international reference in several of its research domains, combining scientific excellence, strong advanced training capacity, and direct impact on innovation and sustainability in the construction sector.

PART IV – FUTURE ACTIVITY (2026)

The RG activities in 2026 will be a natural follow-up of the research carried out in 2025. These activities will cover research objectives that include different cross-cutting issues with branches in the four thematic strands: Product development in Civil Engineering industries (PD); Risk and safety in natural and built environments (RS); Rehabilitation of natural and built environments (RNBE); Response to natural and societal changes (RNSC).

The RG activities for 2026 will be organized according to major research topics as follows:

- To develop research projects in Construction Materials, Building Technology, and Management Innovation; Sustainable Construction Practices; Monitoring, Rehabilitation, and Conservation of the Built Heritage;
- An effort will be made to concentrate on increasingly less wide and more specific fields to produce relevant results in national and international forums (measured in a significant increase in the number and impact factor of papers in peer-reviewed international journals, the supervision of PhD theses, the approval of national and international research grants and the engagement in international research networks):
    - Advanced materials and technologies also focusing on nanomaterials - establish international cooperation and be a national leader in the field of composites (GFRP and CFRP);
    - Concrete and mortars technology - increase the number of PhD and MSc studies under way (in strong collaboration with LNEC and foreign universities) and improve the Mortars Section of the Construction Laboratory at IST;
    - Sustainable and functional bio-based construction products and building elements - research and development of innovative materials through international collaboration;
    - Risk informed quality, safety and environmental management in construction - increase the already large international cooperation via technical committees and international conferences;
    - Sustainability and deconstruction strategies and technology - increase the number of PhD and MSc studies under way and continue to be a national and international reference in the field of recycled aggregates and supplementary cementitious materials for concrete and mortars production; boost the international collaboration in the field of recycled aggregate concrete through the networking activities (secondments) of the CIRCLE project;
    - Building physics and passive design - continue the very good results in the near past and expand its potential through studies on indoor environmental comfort, energy efficiency, energy storage systems and acoustics, anchored on the development, multi-scale testing

and real-scale application of innovative materials, products, components and construction systems;

- Building acclimatization and mechanical systems - continue collaboration with the Mechanics and Physics Departments of IST and with universities from other countries, strategically important in terms of sustainable construction in terms of energy-saving; inspection, diagnosis, maintenance and rehabilitation systems - increase the number of PhD and MSc studies under way and be a national and international reference in the field of inspection and diagnosis systems;
- Conservation of historical building heritage - continue and strengthen national and international cooperation projects, namely within technical/scientific national/international networks;

- To continue participating in national and international scientific committees, participating/organizing national and international conferences, publishing scientific articles, books and book chapters, editorial activities, teaching in Graduation and Post-Graduation courses in the field of construction, and participating in academic events and performing consultancy work.

RESEARCH GROUP 6 - Structural Design and Geotechnics

RESEARCH GROUP COORDINATOR – Rafaela Cardoso

PART I - RESOURCES

I.1 Budget

BUDGET (euros)						
FCT		Other Funding				
STRATEGIC Funding	FCT Projects	Other Research Funding		Consultancy		TOTAL
		National	International	National	International	
33 880,85	148 940,30	3 842,96	2 213,00	276 997,64	0,00	465 874,75

I.2 Personnel

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Alfredo Manuel Balacó de Morais (CERIS Aveiro)	Associate Professor		x		
André Filipe Castanheira Alves Furtado	Assistant Professor	x			
Aníbal Guimarães da Costa (CERIS Aveiro)	Full Professor Retired	x			
António Manuel Candeias de Sousa Gago	Associate Professor	x			
António Manuel Figueiredo Pinto da Costa	Associate Professor		x		
António Manuel Pinho Ramos (CERIS NOVA)	Full Professor	x			
Armando Manuel Sequeira Nunes Antão (CERIS NOVA)	Associate Professor	x			
Carla Alexandra da Cruz Marchão (CERIS NOVA)	Assistant Professor		x		
Carlos Alberto Ferreira de Sousa Oliveira	Full Professor Retired	x			
Carlos Manuel Tiago Tavares Fernandes	Assistant Professor	x			
Carlos Manuel Chastre Rodrigues (CERIS NOVA)	Associate Professor	x			
Corneliu Cismasiu (CERIS NOVA)	Associate Professor	x			

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Dinar Reis Zamith Camotim	Full Professor Retired	x			
Eduardo Nuno Brito Santos Júlio	Full Professor	x			
Elói João Faria Figueiredo	Full Professor	x			
Fernando Manuel Fernandes Simões	Associate Professor with Habilitation		x		
Fernando Pedro Simões da Silva Dias Simão (CERIS Coimbra)	Assistant Professor	x			
Filipe Pimentel Amarante dos Santos (CERIS NOVA)	Assistant Professor	x			
Hugo Filipe Pinheiro Rodrigues (CERIS Aveiro)	Associate Professor with Habilitation	x			
Hugo Miguel Bento Rebelo (CERIS NOVA)	Assistant Professor		x		
Hugo Sérgio Sousa Costa	Adj. Professor	x			
Ildi Cismasiu (CERIS NOVA)	Assistant Professor		x		
Ionut Dragos Moldovan	Assistant Professor	x			
João Carlos de Oliveira Fernandes de Almeida	Full Professor		x		
João Pedro Lage da Costa Firmo	Assistant Professor	x			
Jorge Miguel Silveira Filipe Mascarenhas Proença	Associate Professor	x			
José Joaquim Costa Branco de Oliveira Pedro	Assistant Professor	x			
José Manuel Cabecinhas de Almeida Gonilha	Assistant Professor	x			
José Nuno Varandas da Silva Ferreira (CERIS NOVA)	Assistant Professor		x		
Luís Manuel Coelho Guerreiro	Associate Professor with Habilitation	x			
Luís Manuel Calado de Oliveira Martins	Full Professor	x			
Margarida João Fernandes de Pinho Lopes (CERIS Aveiro)	Assistant Professor	x			
Maria Rafaela Pinheiro Cardoso	Full Professor	x			
Mário Jorge Vicente da Silva (CERIS NOVA)	Assistant Professor	x			
Mário Manuel Paisana dos Santos Lopes	Assistant Professor		x		
Nuno Filipe Ferreira Soares Borges Lopes (CERIS Aveiro)	Associate Professor with Habilitation	x			
Paulo Alexandre Lopes Fernandes	Coordinator Professor	x			

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Paulo Jorge de Melo Matias Faria de Vila Real (CERIS Aveiro)	Full Professor	x			
Peter John Bourne-Webb	Assistant Professor	x			
Ricardo Nuno Francisco do Carmo	Assistant Professor	x			
Rita Maria do Pranto Nogueira Leite Pereira Bento	Full Professor	x			
Rodrigo de Moura Gonçalves (CERIS NOVA)	Full Professor	x			
Rui Pedro Carrilho Gomes	Assistant Professor	x			
Rui Pedro César Marreiros (CERIS NOVA)	Assistant Professor		x		
Teresa Maria Bodas de Araújo Freitas	Assistant Professor	x			
Válter José da Guia Lúcio (CERIS NOVA)	Associate Professor		x		
Vítor Emanuel Marta da Silva (CERIS Aveiro)	Associate Professor	x			
André Rafael Dias Martins	Researcher	x			
Carlos André Soares Couto (CERIS Aveiro)	Researcher	x			
David Miranda Carlos	Researcher		x		
Flávio Alexandre Matias Arrais (CERIS Aveiro)	Researcher		x		
Hugo Manuel Mendes Vitorino (CERIS Aveiro)	Researcher		x		
João Nuno Noronha Ramos Vigário Pacheco	Researcher	x			
Mónica Maria Sequeira Amaral Ferreira	Researcher	x			
Romain Ribeiro de Sousa	Researcher	x			
Abdalla Mustafa Abdalla Almukashfi	PhD Student			x	
Adriana Sofia Rodrigues Boaventura de Azevedo (Concluded 2025)	PhD Student			x	
Ajith Mathew	PhD Student			x	
Ali Asghar Nemati	PhD Student			x	
Amaro António Feliciano Catumbaiala	PhD Student			x	
Amir Reza Taherian	PhD Student			x	
Ana Célia Henriques Antunes	PhD Student			x	
Ana Maria Paes de Vasconcelos Caixinhas	PhD Student			x	

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
António Maria Matos Lopes Simões	PhD Student			x	
António Renato Albuquerque Bicelli	PhD Student			x	
Bárbara Cardoso Gomes	PhD Student			x	
Bruno José Oliveira Santos	PhD Student			x	
Carlos Correia	PhD Student			x	
Carlos Miguel de Araújo Rocha	PhD Student			x	
Catarina Gonçalves Martins	PhD Student			x	
Catarina Pinto Mouraz (Concluded 2025)	PhD Student			x	
Catherine Souto Costa Coelho da Silva	PhD Student			x	
Daniela Sofia Correia Rodrigues	PhD Student			x	
Dener Silveira da Silva	PhD Student			x	
Deodato Bongo Manuel	PhD Student			x	
Eduardo Menayame Kielo Madekanga	PhD Student			x	
Eliana Augusta Clemente Soldado	PhD Student			x	
Ellon Bernardes de Assis	PhD Student			x	
Emad Janghorban	PhD Student			x	
Federica Del Carlo	PhD Student			x	
Fernando Rocha Sarquis	PhD Student			x	
Giovani Augusto Noquelli Lombardi (Concluded 2025)	PhD Student			x	
Gustavo Faísca António Salvador de Sousa	PhD Student			x	
Inês Costa Feijão Borges (Concluded 2025)	PhD Student			x	
Ionel-Daniel Craiu	PhD Student			x	
João Carlos Iria Filipe	PhD Student			x	
João Carlos Martins Rei	PhD Student			x	
João Pedro Baião Grilo	PhD Student			x	
João Rodrigo da Silva Baptista	PhD Student			x	

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Jorge Emanuel Ramalho da Fonseca	PhD Student			x	
José Pedro Pais Fernandes Basto	PhD Student			x	
Király Krisztián	PhD Student			x	
Laís Viana	PhD Student			x	
Lana Todorović (Concluded 2025)	PhD Student			x	
Laura Salime Hage de Souza	PhD Student			x	
Layla Ferraz Aquino	PhD Student			x	
Leonardo Valadão Nunes Torres	PhD Student			x	
Liana Sombrio Ostetto (Concluded 2025)	PhD Student			x	
Luana Vieira	PhD Student			x	
Lucas Carvalho Paiva	PhD Student			x	
Luís João Ferreira Vieira	PhD Student			x	
Luís Miguel Varela Maneta	PhD Student			x	
Manuel Dinis	PhD Student			x	
Mariana Cirila Sousa Jesus	PhD Student			x	
Mariana Isaura de Moura Ormeche	PhD Student			x	
Mariana Margarida Mateus Pinto (Concluded 2025)	PhD Student			x	
Martim Henrique dos Santos Vicente Alves Nabais	PhD Student			x	
Matheus Henrique Alves	PhD Student			x	
Miguel Ângelo da Silva Rodrigues	PhD Student			x	
Mihai Adrian Bud	PhD Student			x	
Mila Smiljanovska	PhD Student			x	
Mohammad Jawed Roshan	PhD Student			x	
Mohammad Sadegh Heidari	PhD Student			x	
Nima Tabarestani	PhD Student			x	
Oriana Ilnica	PhD Student			x	

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Patrícia Alexandra Rodrigues de Freitas	PhD Student			x	
Pedro Enrique Cantor Cortes	PhD Student			x	
Peiman Ghaderi	PhD Student			x	
Pilar Alejandra Baquedano Juliá	PhD Student			x	
Pouneh Bourang	PhD Student			x	
Rafael Manuel da Silva Ramos	PhD Student			x	
Rafael Pereira Anjos	PhD Student			x	
Rafaela Caetano de Almeida	PhD Student			x	
Rajendra Babu Roka	PhD Student			x	
Ricardo André das Neves Martins	PhD Student			x	
Rita Freire Machete	PhD Student			x	
Rita Matias Bola	PhD Student			x	
Rita Monteiro Garcia Couto	PhD Student			x	
Salar Khaiiatali	PhD Student			x	
Samer Rida	PhD Student			x	
Sandra Graus Quevedo	PhD Student			x	
Sandra Isabel da Silva Pinto	PhD Student			x	
Sebastião Osório de Aragão Gomes Ferreira	PhD Student			x	
Sérgio Marcelo de Deus Nascimento (Concluded 2025)	PhD Student			x	
Sérgio Roberto Oberhauser Quintanilha Braga	PhD Student			x	
Sérgio Sunley	PhD Student			x	
Seyedsajjad Hosseini (Concluded 2025)	PhD Student			x	
Tatiana Costa Ferreira de Sá Marques	PhD Student			x	
Tomás João Fernando	PhD Student			x	
Victor Scartezini Terra	PhD Student			x	
Yuyi Ye	PhD Student			x	

PERSONNEL					
Name	Category	Member	Collaborator		
			with PhD	without PhD	
				PhD student	Other
Zarin Karim Zadeh	PhD Student			x	

The summary table is below.

Type	Permanent	Non-permanent		Total
		Contract	Scholarship	
Members	40	2		42
Collaborators with PhD	10	3		13
Collaborators without PhD			90	90
Technical staff	1.5			2
Administrative Staff	2			2
Others				

PART II - DESCRIPTION

Leadership

The coordinator represents the research group at regular meetings with the Executive Board, fellow group coordinators, and other official bodies, and oversees the management of the share of FCT funding allocated to the group. Since 2025, this role has been held by Professor Rafaela Cardoso.

Description of the Research Group

General Objectives

The research activities of RG6 are organised around six major research areas:

7. Mechanics, Modelling, and Analysis of Structures;
8. Earthquake Engineering and Seismology;
9. Structural Concrete;
10. Steel and Composite Structures;
11. Bridge Design;
12. Geotechnics.

Across these areas, the group pursues a set of transversal objectives, namely:

- Develop new products with enhanced performance, durability, and eco-efficiency;
- Reduce risk and improve infrastructure safety, particularly through seismic hazard characterisation and seismic vulnerability assessment;
- Increase the efficiency of structural systems and the use of innovative materials and devices;
- Develop more powerful and user-friendly models for structural and geotechnical analysis, directly linked to design codes and standards;
- Develop alternative solutions for the rehabilitation of existing structures, particularly historical buildings;
- Address broader societal challenges by applying the above research outcomes.

Within the research area of Mechanics, Modelling, and Analysis of Structures, the group's activity has focused on the analysis of nonlinear and coupled structural problems using conventional and hybrid finite element formulations. The main topics addressed include:

8. Dynamic instabilities and algorithms for the numerical analysis of the mechanical behaviour of non-smooth structures with frictional or elastoplastic components;
9. Modelling of moving loads on beams on nonlinear foundations;

10. Numerical simulation of wildfire effects in dwellings in forest areas using computational fluid dynamics to solve the Navier-Stokes equations for low-speed, thermally driven flows, including smoke and heat transport from fires;
11. Development of hybrid-Trefftz stress plate elements for Reissner-Mindlin plates with an exact Kirchhoff limit;
12. Development and application of finite element formulations for limit analysis;
13. Numerical modelling of old stone masonry walls using particle-based models;
14. Feasibility study of automatic generation of structural meshes and the effects of explosions.

Within the research area of Earthquake Engineering and Seismology, the group's work has remained focused on the following topics:

7. History of construction, structural behaviour, and construction techniques of traditional masonry tile vaults;
8. Assessment of existing structures (e.g., dynamic characterisation, seismic vulnerability, and seismic risk assessment);
9. Update and improve a model for the rapid evaluation of the potential seismic performance of masonry and reinforced concrete buildings, based on its application to existing buildings;
10. Structural rehabilitation (e.g., seismic strengthening techniques, and passive protection systems);
11. Development of tools to improve preparedness and community resilience, aiming to reduce seismic risk through non-structural elements;
12. Seismic design of new masonry constructions.

Within the research area of Structural Concrete, the group's activity aimed to consolidate and further develop the work carried out in previous years, focusing on the following topics:

11. Advanced cementitious materials;
12. High-performance ordinary and prestressed reinforcement;
13. Enhanced durability of concrete structures;
14. Sustainable and eco-efficient solutions;
15. Modelling and design models (e.g., stress-field models, FEM-based software with strongly embedded discontinuities, and fibre-reinforced concrete systems);
16. Assessment of existing structures (e.g., reliability, structural robustness, monitoring, and seismic vulnerability);
17. Structural rehabilitation (e.g., repairing and strengthening techniques, seismic strengthening, passive protection);

18. Study on the use of recycled aggregate concrete in slab-column connections subjected to centred vertical loads;
19. Study of anchorage zones for prestressing cables;
20. Prefabrication and innovation.

Within the research area of Steel and Composite Structures, the group's activity has been directed towards developing in-house expertise in the following topics:

10. GBT formulations to perform buckling, post-buckling, and vibration analyses of isolated members and structural systems (e.g., continuous beams or simple frames) prone to local, distortional, and global deformations;
11. In-depth investigations into the non-linear behaviour, ultimate strength, and design of cold-formed steel open-section and tubular members experiencing coupling phenomena involving local and/or distortional buckling;
12. Novel rational approaches for the design of cold-formed and hot-rolled steel angle columns;
13. Development and implementation of (a) a displacement-based finite element for the linear analysis of curved members (circular axis), (b) a finite element formulation for the bifurcation analysis of composite steel-concrete beams;
14. In-depth investigations on steel sub-assemblages with bolted and welded dissipative fuses;
15. Proposal of design rules for composite structural members and parts;
16. Applications to steel and composite bridges;
17. Development of formulations of the Generalised Beam Theory for polygonal tubes of variable cross-section;
18. Study of the resistance to lateral buckling of steel profiles subjected to deviated bending.

In the field of Bridge Design, the activity was planned to deepen the work developed in previous years, focusing mainly on the following:

8. Buckling resistance of steel-plated girders considering M-V interaction with high compression forces (application to cable-stayed bridges);
9. Curved steel plates on bridge deck beams: post-buckling behaviour and ultimate strength;
10. The use of high-strength steels in bridge decks;
11. Fatigue assessment of composite steel-concrete cable-stayed bridge decks;
12. Higher order beam theory (developments and applications to steel structures and bridges analysis);
13. Analysis of the distortion effect on the dynamic behaviour of high-speed railway bridges;
14. Analysis of offshore wind turbines substructures.

In the field of Geotechnics, the group focused mainly on the following topics:

10. Dynamic characterisation of soils from small to large strains, including liquefaction;
11. Studies of elastic response measured in resonant columns and using bender elements;
12. Characterisation of the chemo-hydro-mechanical behaviour of clayey and treated soils, considering their structure and degree of saturation;
13. Characterisation of soils treated with lime, cement, and bacteria;
14. Numerical analysis of geotechnical structures involving strong soil structure interaction (e.g., tunnels, retaining structures, piles, and thermoactivated structures);
15. Studies on soil decontamination techniques (e.g., electro-osmosis);
16. Study and development of failure criteria for rock materials;
17. Reliability analysis of geotechnical structures under undrained conditions - development of techniques for determining collapse loads with the introduction of spatial variability of soils;
18. Numerical simulation of gas migration, temperature and solute transport in soils.

Group Governance

Facilities

The main laboratory facilities used by CERIS RG6 include: (i) the Laboratory of Structures and Strength of Materials (LERM), (ii) the Laboratory of Computational Mechanics (LMC), and (iii) the Laboratory of Geotechnics (LabGeo), all located at the IST Alameda campus; (iv) the Seismology Laboratory (SeismLab), which belongs to the National Geophysical Network; and (v) the laboratories of Civil Engineering at the University of Aveiro for Structures and Fire resistance (LERF). A more detailed description of each laboratory is presented below.

LERM: Regarding the laboratory components available at LERM, the following equipment should be mentioned: travelling crane; steel frames; reaction wall (capable of applying horizontal forces up to 1000 kN at 4 m above floor level); universal testing machine; hydraulic press for compression testing; wind tunnel; static and dynamic actuators; automatic data acquisition systems; accelerometers and displacement transducers. The equipment mentioned above allows the realisation of full-scale tests of structural components or assemblages of structural elements, up to one-story frames.

LMC: Regarding the available computational equipment, emphasis should be placed on the connection to a European electronic mail network, as well as on the Computational Mechanics laboratories, which are equipped with RISC-technology graphic workstations, PCs, and Macs, all served by a cluster that includes a machine with parallel processing. All the necessary support equipment was also available, including printers, plotters, scanners, and software for developing numerical models and processing experimental data.

LabGeo: The facilities of the Laboratory of Geotechnics have been used for teaching, research, and consultancy projects. It provides the experimental means necessary for fundamental research on the stress-strain behaviour of soils, from very small deformations to failure conditions under monotonic and cyclic loading. It also enables the acquisition of high-quality soil parameters for applied research on the numerical modelling of soil-structure interaction problems. Several MSc and PhD theses have been developed using the available equipment to perform advanced physical, mechanical, hydraulic, and electrical characterisation of geomaterials in saturated and unsaturated conditions. Moreover, the existing equipment allows for field tests such as quality control, dynamic load tests on piles, and seismic tests for site characterisation.

SeismLab: The seismology laboratory and the seismic networks are primarily used for research. CERIS operates a seismological laboratory that is part of the National Geophysical Network. The Network comprises 61 stations that monitor moderate to strong seismic activity across the Portuguese mainland and the Azores. These are accelerometric stations with common universal timing, installed in the basements of small buildings such as fire brigade headquarters or schools. Soon, all accelerometric stations will belong to a National Accelerometric Network, closely aligned with the Accelerometric Stations of the Institute for the Sea and Atmosphere (IPMA). This connection was strongly supported and promoted by FCT.

LERF: Regarding the Civil Engineering laboratories at the University of Aveiro, the Laboratory for Structures and Fire Resistance is equipped with a vertical furnace with a free opening of 3.10 m x 3.10 m, capable of conducting standardised fire resistance tests on construction elements and products in accordance with European regulations. This enables the determination of fire resistance according to the functions performed by the construction elements, namely load-bearing (criterion R), tightness to flames and hot gases (criterion E) or thermal insulation (criterion I).

PART III - ACTIVITY

III.1 Activity indicators - Summary table for 2025

ACTIVITIES			
PhD Theses		Concluded	12
		To be concluded after 2025	79
Publications	Papers in peer-reviewed journals	International peer-reviewed journals (WoS AND Scopus)	146
		Peer-reviewed journals (non-WOS OR non-Scopus)	3
		Peer-reviewed journals (non-WOS AND non-Scopus)	7
	Papers in proceedings	International	61
		National	18
	Books	Entire	2
		Chapters	19
		As editor	3
Reports		Scientific	4
		Consultancy/others	9
Collective guidance in scientific work	Editor-in-Chief	WoS/Scopus-indexed Journals	0
		Other journals	0
	Associate Editor	WoS/Scopus-indexed Journals	9
		Other journals	0
	Issue Editor/Guest Editor/Membership Editorial Boards	WoS/Scopus-indexed Journals	45
		Other journals	1
	Membership in Scientific Committees	International	28
		National	0
	Drafting of codes, Recommendations	International	46
		National	26
Organisation of scientific events		International	9
		National	0
Competitive research projects	International research grants	Started in 2025	1
		Active in 2025	18
	National research grants	Started in 2025	7
		Active in 2025	25
Competitive individual research grants (PhD, Post-doc, sabbatical, etc)		Started in 2025	2
		Active in 2025	25
Awards		International	17
		National	5
Refereeing for funding agencies		International	0
		National	0

ACTIVITIES		
Invited lectures	Keynote lectures at international conferences	1
	Other	0
Models		0
Software applications		0
Pilot plants		0
Prototypes		0
Patents	International	0
	National	0
Other actions (e.g., scientific dissemination to a broad audience, social media)		1

III.2 Highlight of main achievements

The data reflect a strong and consolidated research group, characterised by high scientific productivity, broad international visibility, and significant leadership within its areas of expertise. In 2025, the main achievements of Group RG6 can be highlighted as follows:

(i). **12 PhD theses were concluded**, while **79 remain in progress**, reflecting the group's strong commitment to advanced research training and the continuity of its scientific activity;

(ii). **149 papers** were published in peer-reviewed journals, of which **146 were indexed in WoS and Scopus**, confirming the high quality and international relevance of the group's research output;

(iii). **61 papers** were published in international conference proceedings, demonstrating an active presence at major international scientific forums;

(iv). **18 papers** were published in national conference proceedings;

(v). **2 books** were authored;

(vi). **19 book chapters** were published;

(vii). **3 books** were edited, contributing to the dissemination and consolidation of knowledge in the field;

(viii). **18 international research projects remained active**, with 1 new project awarded in 2025, reflecting the group's competitiveness in attracting international funding;

(ix). **25 national research projects remained active**, with **7 new projects awarded** in 2025, reinforcing the group's strong position at the national level;

(x). **23 individual research grants** remained active, with **1 new grant awarded in 2025**, supporting the development of researchers at different career stages;

(xi). Group members held **9 Associate Editor** positions and participated in **45 editorial boards and guest editorships**, evidencing their active role in shaping scientific discussion and publication standards;

(xii). **28 members also contributed to international scientific committees**, reflecting their recognition and active engagement in the international scientific community;

(xiii). **9 members organised international scientific events**, further strengthening the group's contribution to scientific exchange and collaboration;

(xiv).**46 members contributed to international codes** and **26 to national codes and recommendations**, highlighting its impact on professional practice and technical standards;

(xv). The group received **17 international awards** and **5 national awards**, demonstrating the quality, relevance, and impact of its scientific contributions.

Overall, these results highlight the sustained dynamism of RG6 and its strong contribution to scientific advancement, advanced training, and the transfer of knowledge to society and professional practice.

PART IV – FUTURE ACTIVITY (2025)

In 2026, it is planned that the members of the RG6 continue working on the most relevant research topics of the area, according to reference international organizations and current priorities of the country.

A renewed effort will be made to promote deeper and more effective collaboration between RG members and internationally renowned researchers, aiming to deliver relevant contributions to the sector and increase participation in European Union-funded research projects. The main general purpose is to improve the construction sector's competitiveness, reduce risk and improve the safety of infrastructures, supporting the development of economical and eco-efficient materials and products and new technologies to design, build and maintain high-quality and long-lasting structures. This embraces the development of (i) sustainable materials and products, (ii) innovative construction methods, addressing, particularly prefabrication, as well as rehabilitation, (iii) advanced computational tools for structural and geotechnical analysis, (iv) contributions to standards and design guidelines for both new and existing structures, including their foundations, (v) novel health monitoring and life-cycle assessment tools for structural and geotechnics use, (vi) study of the effects of explosions in urban environments, (vii) evaluation and rehabilitation of structures damaged by fire, and (vii) steel industrial research and innovation in line with the European Green Deal.

Other more general objectives are the increase of the group internationalisation and the links to industry, namely through:

- improvement of the competitive funding capacity in international and national research projects calls
- participation in national and international standardization committees,
- organization of academic national and international events,
- participation in national and international Graduation and Post-Graduation courses (namely ERASMUS and FCT Doctoral Programmes) in the field of Structures and Geotechnics,
- expert consultancy work to partially fund research and provide practical applications to the results of research,
- cooperation with design offices and private companies,
- partnership with the industry for the optimisation of resources and industrial efficiency upgrading.