



Aveiro Institute of Materials

Alumni Career Outcome 2013–2023



Executive Summary

This report presents a comprehensive analysis of the career trajectories of doctoral alumni from CICECO – Aveiro Institute of Materials who completed their PhD degrees between 2013 and 2023. Based on employment data collected primarily from LinkedIn profiles in December 2024, the study focused on the professional outcomes of 291 PhD graduates. By providing an overview and identifying patterns in alumni careers, this report aims to inform strategic decisions within the research unit, provide a structure to strengthen connections with former students, and serve as an insight for prospective PhD candidates and stakeholders.

Employment Status and Sectoral Distribution

Among the 261 alumni with known employment outcomes, the majority are integrated into either companies (41%) or research and education institutions (53%). Although the recent shift toward industry, Higher Education Institutions and Research Centers and Laboratories (14%) remains strong destinations. A small group (4.6%) was identified as unemployed.

Research and Education Sector

137 alumni (53%) are employed in research and education roles. Of these, 20% hold academic teaching positions, 69% work primarily in research, 7% offer research support and 4% are non-HEI teachers. The University of Aveiro emerges as the top employer (31%), followed by other national universities and prominent international institutions. Additionally, 27% are employed in collaborative labs and innovation hubs.

Companies and Other Sectors

112 alumni (43%) work in companies and other non-academic sectors, distributed across 45 distinct industries. Notably, 55 alumni (49% of this group) are employed in manufacturing-related roles distributed within 16 subsectors. These include pharmaceutical, biochemical, and chemical production (19 alumni), as well as pulp and paper, ceramics, and energy. Regional industry impact is clear with alumni working at a diverse range of Aveiro-based firms. Research-intensive fields such as biotechnology and nanotechnology account for another 16 alumni, while other relevant sectors include consulting, and IT.

Geographic Reach

CICECO alumni are present in 107 cities across 33 countries and 5 continents. While 64% remain in Portugal, contributing to regional innovation clusters in Aveiro, Coimbra, Porto, and Braga, others are employed in global hubs like Zurich, London, São Paulo, and Los Angeles. This broad distribution underscores the institute's international standing and the adaptability of its graduates.

Together, these findings highlight CICECO's dual role as both catalyst for regional innovation and a globally connected research center. The diverse career outcomes of our PhD alumni, from academia and research to industry and government, demonstrate CICECO's effectiveness in preparing highly skilled and adaptable professionals who are shaping science, technology, and society at multiple levels.

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Data Availability and Evolution

Figure 1 presents the annual number evolution of PhD graduates from CICECO – Aveiro Institute of Materials between 2013 and 2023, along with the availability of employment information. Out of a total of 291 alumni, we successfully sourced employment data for 261 individuals in December 2024. For 30 alumni (10.3%), employment status remains unknown. This chart presents the evolution of graduate numbers over the years and the consistency of the data collection considered on this study.

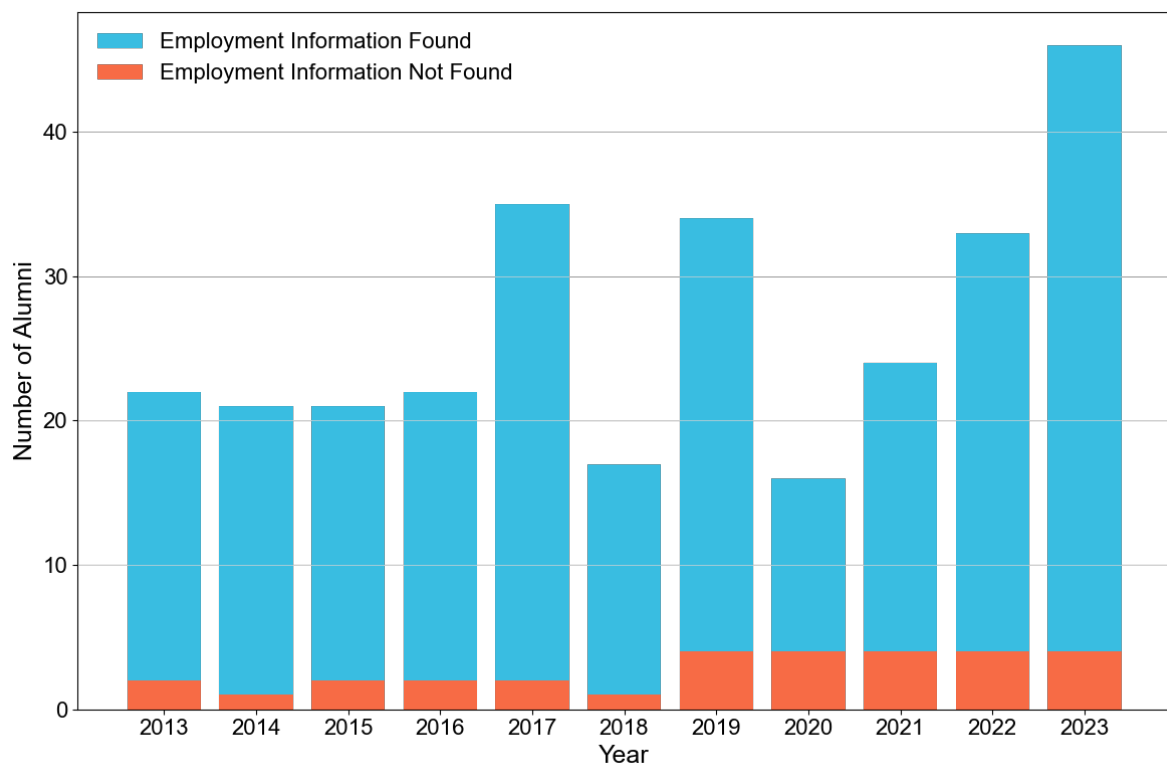


Figure 1 | Annual Number of CICECO PhD Graduates and Availability of Employment Information (2013–2023).

Employment Status Breakdown

The distribution of employment status among CICECO PhD alumni between 2013 and 2023 reveals significant trends in their postdoctoral trajectories. Figure 2 illustrates the spread of alumni across various employment sectors. Of the 261 alumni with known employment status, 106 alumni are currently working in private companies. This trend is particularly evident in recent years, with a notable rise in the number of alumni transitioning into industry. From the 2023 group alone saw 23 alumni being directly employed in companies, the highest annual count to date.

Higher Education Institutions (HEI) remain as an important destination, employing 95 alumni, followed by Research Centers and Laboratories (not integrated in HEI) with 37 alumni. Smaller numbers are observed in the Public Sector and Government (6 alumni) and in non-HEI Schools (5 alumni).

A point of attention is the group of 12 alumni classified as unemployed. This temporary spike is correlated with the end of several research contracts in late 2024, established in the framework of *Norma Transitória (DL57/L57)*, which affected contract transitions.

This data not only highlights the diverse career paths of CICECO PhDs but also reflects a growing connection with the private sector, underlining the institute's impact on industrial research and innovation.

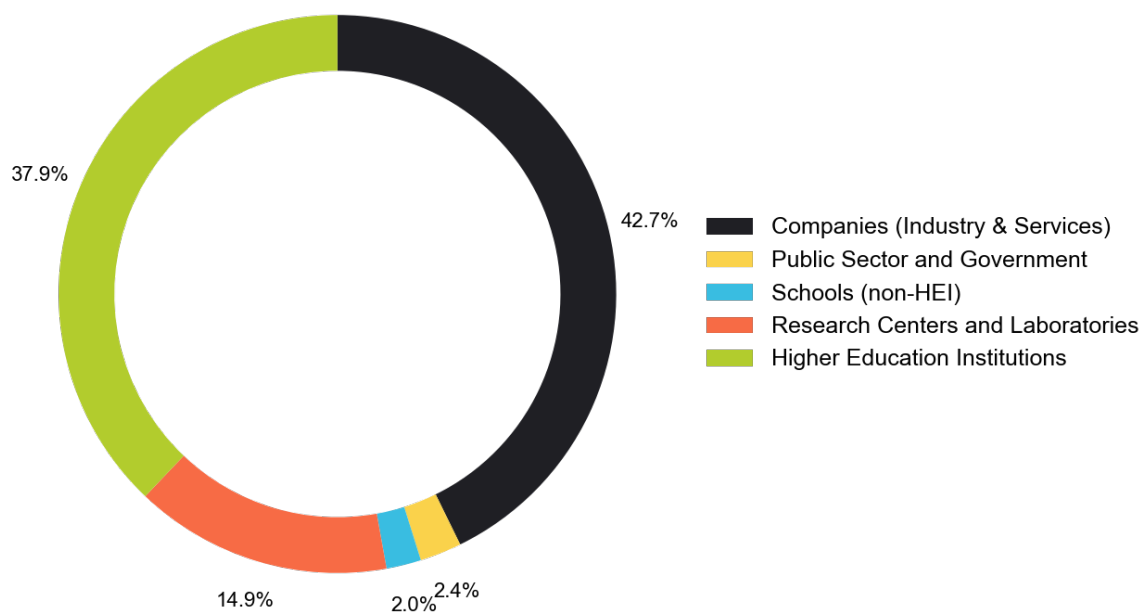


Figure 2 | Employment sector distribution of CICECO PhD alumni (2013–2023) observed in December 2024.

Research and Education Sector

A total of 137 alumni (53%) are employed in the Research and Education sector, highlighting our contribution to academic and scientific development. Within this group, 28 (20%) are engaged in academic roles such as professors and lecturers, 94 (69%) are involved in research, 10 (8%) in research support positions, while the remaining 5 alumni (4%) are non-Higher Education teachers.

The University of Aveiro is the most prominent institutional destination, employing 43 alumni (31%). Other national HEI institutions, including Universidade de Coimbra, Universidade do Porto, and Universidade Nova de Lisboa, collectively host 21 (15%). Internationally, 31 alumni (23%) are employed in institutions such as ETH Zurich, KU Leuven, University of Leeds and University of Southern California, and various federal universities across Brazil.

A further 37 alumni (27%) are currently employed in Research Centers and Laboratories (RC&L), with 16 (12%) being placed in national collaborative laboratories and innovation hubs, such as NET4CO2, BIOREF, AccelBio, RAIZ, CTCV and CeNTI, and 21 (15%) in international R&D entities like Oak Ridge National Laboratory, SIFBI (Singapore), and ICIQ (Spain).

Figure 3 provides a visual distribution by both functional role and institutional type, across academia and research-focused organizations.

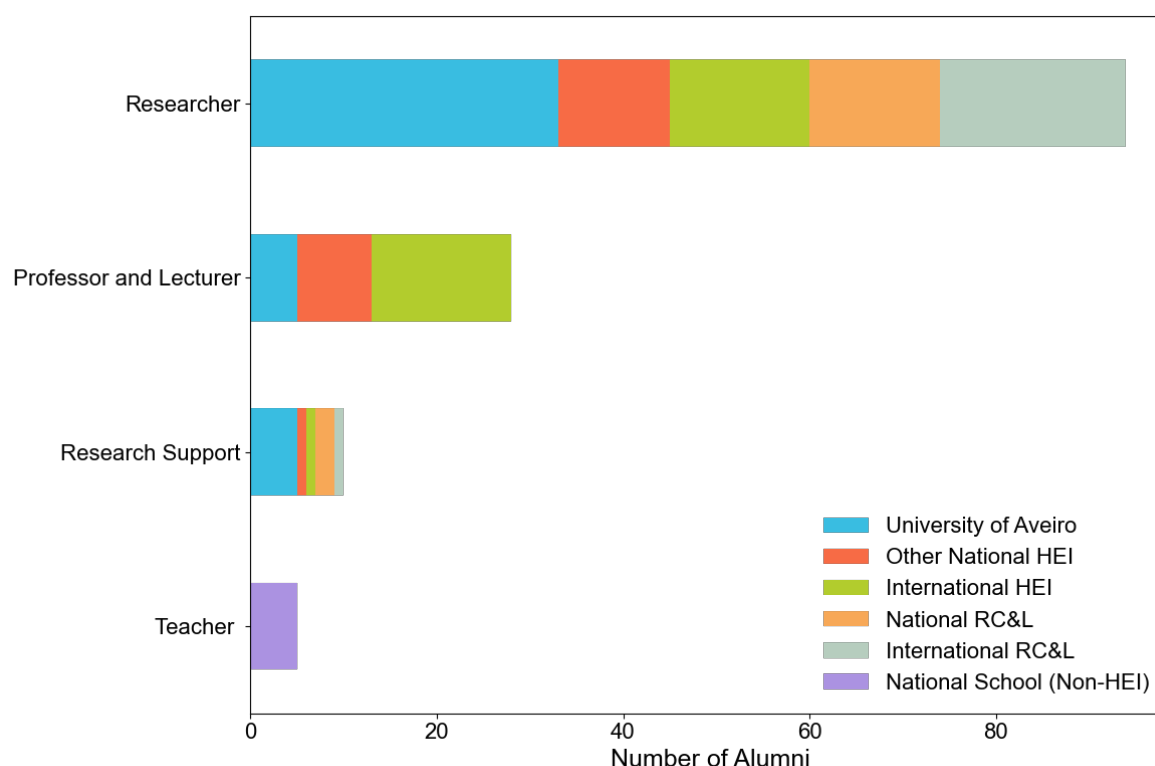


Figure 3 | Distribution by position and institutional type in the research and education sector (2013–2023).

Companies and Other Sectors

This section explores the professional destinations of CICECO doctoral alumni working in companies and other non-academic sectors. Based on a sample of 112 alumni (43%), the analysis reveals their distribution across 45 distinct economic sectors, as illustrated in Figure 4, highlighting a diverse career ecosystem.

A significant finding is the strong presence of alumni in manufacturing, with 55 individuals (49% of this group) working across 16 different manufacturing subsectors. These include pharmaceutical, biochemical, and chemical manufacturing, which collectively account for 19 alumni. Additional key areas include pulp and paper, glass and ceramics, electronics, and energy technologies. Employers in these sectors range from leading Portuguese companies such as Hovione and Bluepharma – including several based in the Aveiro region such as The Navigator Company, Grestel, INDASA, Sanitana, and Vista Alegre Atlantis –demonstrating CICECO’s regional impact, as well as from major international corporations like Bosch, Volvo, Airbus, Synthomer, and Coloplast.

Research intensive sectors such as biotechnology and nanotechnology also feature prominently, employing 16 alumni (14% of the sample), and are driven by innovation-focused enterprises like FairJourney Biologics, Biotrend AS, Smallmatek and Holiform. Other relevant sectors include consulting, IT services, biotechnology, software development, telecommunications, and nanotechnology.



Figure 4 | Distribution of CICECO alumni across company sectors (LinkedIn company classification). Sector areas are scaled by number of alumni and shaded on a gradient from orange to blue according to density.

International Distribution

The CICECO PhD alumni established a strong international presence, spreading across 33 countries, 107 cities, and 5 continents, as shown in Figure 5. This wide distribution demonstrates the global relevance of the doctoral training provided by CICECO and the capacity of its alumni to integrate into diverse academic, research, and industrial ecosystems.

Portugal remains the leading destination, hosting 64% of all alumni. Within Portugal, there is a clear regional concentration in the Centro region, particularly around Aveiro, Coimbra, Porto, and Braga. This also reflects the strong ecosystem of institutions and innovation-driven companies in these regions.

In parallel, CICECO alumni are found in key global hubs such as Zurich, London, São Paulo, Madrid, and Los Angeles and spread around Europe, North and South America, as well as in some places in Asia, Africa, and Oceania. This worldwide presence underscores CICECO's position as a leading international research and innovation center.



Figure 5 | Global distribution of CICECO PhD alumni (2013–2023), with arcs connecting Aveiro to cities around the world where alumni employment is based.

Final Thoughts

Over the past decades, the journey of CICECO's doctoral alumni has evolved into a remarkable story of excellence, adaptability, and global reach. As we reflect on the data presented in this report, we are both proud and inspired by the impact our alumni are making, whether advancing scientific frontiers, driving innovation in industry, or contributing to education and policy across the globe.

This alumni report not only showcases individual achievements but also underscores the strength of the ecosystem we've built together. From Aveiro to Zurich, São Paulo to Singapore, the presence of our graduates is a testament to the quality of training and the collaborative spirit that define CICECO.

As a research unit, we are deeply committed to nurturing this community. The connections we maintain with our alumni are more than symbolic, they are essential to our growth, relevance, and innovation. Your success enriches our legacy and reinforces the value of investing in scientific excellence, critical thinking, and interdisciplinary collaboration.

Looking ahead, we aim to strengthen these ties through more structured engagement, knowledge exchange, and opportunities for collaboration. Whether through mentoring, joint projects, or institutional partnerships, we believe that our alumni will continue to be integral to our mission.

To all who have been part of this journey: thank you. You are not only our past, but also our future. Let us continue building bridges between research, society, and industry – together.

Paula Vilarinho

Vice-Director

CICECO – Aveiro Institute of Materials



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