

## CiiEM Annual Report

Year: 2021

In 2021 a large effort was conducted aimed to increment the overall performance of CiiEM, as illustrated in table 1 - Indicators. This effort has been strongly funded by Egas Moniz, with the support of Fundação para a Ciência e a Tecnologia (FCT) funding.

**Table 1** – 2021' Indicators of the CiiEM.

Indicators	Results	Notes
Nº of the integrated members	47	The number of integrated members has been increasing. In the last 3 years, integrated members have productivity equal to or greater than 3 publications in indexed journals with publications in quartile 1, books of international circulation or patents.
Nº of the indexed publications	175	The number of indexed publications has increased significantly over the years.
% of the indexed publications in each quartil	Q1=45%; Q2=29%; Q3=14%; Q4=12%	There was a % of publications in quartile 1 close to 50%.
Nº of citations of indexed publications in the last 6 years	6129	There was an increase in the number of citations in the last 6 years by the entry of new integrated members, some with a curriculum of excellence.
Nº of books and book chapters	23	The number of published books has increased, which shows an increase in scientific production.
Communications in international scientific meetings	48	CiiEM disseminates its research work in international scientific meetings.
Communications in national scientific meetings	49	CiiEM disseminates its research work in national

		scientific meetings.
Nº of ongoing funded research projects	32	The number of research projects has been increasing over the years, which is an indicator of the research effort being developed, with repercussions on funding and publication.
Funding obtained in research projects	330.7 k€	Total funding obtained according to the number of research projects and amounts allocated by the funding entities.
Nº of international projects	6	The Centre participates in European or international applications to develop the research at the CiiEM.
Nº of projects with collaboration of international teams	15	The Centre seeks to include researchers from international universities in its research projects.
% of submitted projects that have obtained funding	21%	CiiEM has made a greater effort to disseminate and support the submission of new projects.
Average h-index value of integrated members	10.9	There has been an increase in h-index over the years which shows an increase in excellence of integrated members.
Nº of patents	1	Submission of a patent by a CiiEM collaborating member.
Nº of completed master's theses	187	This value reveals a great connection between the CiiEM and the teaching.
Nº of completed PhD theses	5	CiiEM's contribution to a more advanced level of education.
Nº of PhD students oriented by integrated members	29	There is an increase in the number of PhD students due to the recent Doctoral Program in Biomedical Sciences of IUEM.
Nº of seminars/meetings	21	CiiEM intends to disseminate the research activity.
Nº of prizes	4	Prizes obtained by integrated CiiEM members.

The activities of the CiiEM in 2021, were not limited to, but can be summarized in 3 main points: 1. European Projects and Egas Moniz funded projects: submission of projects for

European funding and an increase in small Egas Moniz funded projects; 2. Classification of CiiEM members: a tightening of the quality criteria for accessing the "integrated researcher" category; 3. Publications and dissemination of results: support for publication in *open access* high impact journals and recruitment of new researchers (also engaged in teaching) to reinforce key research areas.

Other initiatives like research protocols with highly ranked research centres, new research facilities and others were actively promoted by the Egas Moniz board as part of an integrated effort to enhance the quality and quantity of the CiiEM/Egas Moniz research.

Below, each of the above points are detailed:

## **1. European Projects and Egas Moniz funded projects.**

### **1.1. European Projects**

A COST network project submitted in 2021 has received an overall good referee review and an improved proposal will be submitted in 2022. A TWINNING project was submitted but not funded. In view of the large changes in the scope and documentation of the programme, a new improved version will be submitted in 2022.

Meanwhile, preliminary work following the guidelines of the latter project has been initiated with Leuven University (one of the twinning partners) with the support of Egas Moniz.

Other European research projects were submitted during this period indicating an increased high-level project submission activity.

### **1.2. CiiEM Investiga**

The "Egas Moniz/CiiEM investiga" programme opened one more call and further funding, covered by Egas Moniz, was allocated to research activity this way.

### **1.3. CiiEM EduCom**

The CiiEM EduCom is a newly launched joint Program by Egas Moniz and CiiEM aiming to support faculty researchers and programs that advance the University's impact on education and community, with scholarly output, and creative endeavor through a competitive funding process. This internal funding program opened in 2021 and had 6 winning projects.

### **1.4. Egas Moniz StarUp programme**

The StartUP Egas Moniz aims to promote the development of business projects, for a maximum period of 12 months, by students, alumni and researchers/teachers of Egas Moniz,

The Egas Moniz Startup programme opened in 2021 and the project Dentify/Impantify was the winner.

## **2. Classification of CiiEM members**

The admission process for integrated and collaborating members to CiiEM has been updated and published on the CiiEM website. The criteria for integrated members were tightened, with the aim of promoting and valuing the publication of articles in journals of excellence (i.e. Quartile 1). This measure is in line with a central objective of the CiiEM to prioritize the quality of science that is disseminated to a more specialized audience.

Thus, the updated membership criteria in 2021 for admission of integrated members are: a) 3 scientific indicators over the last 3 years (at least 2 publications in Q1 journals); or b) 4 scientific indicators over the last 3 years (at least 1 publication in Q1 journals); c) Other outputs: papers in peer-reviewed international journals, patents, books and books' chapters with international circulation.

## **3. Publications and dissemination of results**

### **3.1. Open Science publication**

Egas Moniz/CiiEM produced in 2021 a total of 175 papers in international journals, below are listed the papers with highest quartile.

CiiEM strongly supported publication in International Open Access Journals. Publication in 2021 attained a new annual record with 175 papers published in international journals. This represents a large increase from the value of 90 in 2020 and reflects the growing high-quality research being carried out at CiiEM.

### **3.2. Communication and dissemination**

#### *CiiEM Congress*

The 5th CiiEM International Congress was held "online" in 16-18 June 2021 and had the participation of 700 members, 94 communications and 23 invited guests.

#### *Regular CiiEM meetings*

Regular CiiEM meetings of the research lines and sessions for the presentation of research activity from the 17 CiiEM Labs were held on line during 2021

### *Ciência Aberta*

5 CiiEM students participated in the *Ciência Aberta* meetings with Posters and 1 oral communication was presented.

### *I Egas Moniz University and Polytechnic Scientific Meetings (JEM)*

This event was multidisciplinary, bringing together all areas of teaching-learning intervention and the Egas Moniz community. An event by students for students, where the Professors put their strong pedagogical and scientific contribution. This event is organized by Egas Moniz, but with the participation and interaction of the CiiEM.

### **3.3. Research support courses**

In 2021, the number of research support courses promoted by the Permanent Promotion Office [Gabinete de Formação Permanente; GFP] were increased. These consist of courses, workshops or training sessions on research-related subjects (i.e. how to write an article, how to prepare a research project), aimed at doctoral students, faculty and researchers at Egas Moniz.

### **Other CiiEM' activities**

#### **Teaching activity integration**

Integration of CiiEM scientific activity with the teaching activity of the University Institute and the Technical School received a strong impetus, with the creation of a new Ph. D. in dental medicine that adds to the ongoing Ph. D. in Biomedical Sciences, and a large increase in the number of students seeking the programme CiiEM Star Student. The number of students accepted into the Star student programme has grown to 5.

#### **Translational science**

Translational research has been incremented in 2021 with the association with Madan Park, a *startup* incubator, with the joint participation of Almada City Hall, Faculty of Sciences and Technology, New University of Lisbon, and Egas Moniz.

#### **New patent**

A new patent was submitted in 2021 - a patent on a set of chemically synthesized compounds that have potent activity against HIV-1, HIV-2 and Plasmodium (agent of malaria).

## **Quality Control**

The progressive adaptation of CiiEM administrative and laboratory procedures to the ISO 9001:2015 continued with the help of the Quality Control team.

New documents were conceived and approved to formalize procedures.

Calculated indicators of the CiiEM scientific performance are being treated under the quality control system and show an overall improvement of the CiiEM's activity compared to the near past.

The Metrologic control of the CiiEM research equipment is underway as part of the quality control procedures.

The results of both the internal and external audit of the CiiEM activity under the quality control system recognized big improvements in the performance of the Centre.