



CENTRO  
DE INVESTIGAÇÃO  
INTERDISCIPLINAR  
EGAS MONIZ



**STRATEGIC PLAN 2017-2019**

# **INTRODUCTION**

## Preface

The CiiEM (Centro de Investigação Interdisciplinar Egas Moniz) is the Research centre of Egas Moniz – Cooperativa de Ensino Superior CRL. The Centre is one of the priorities of the Cooperative and represents a nucleus of innovation and knowledge creation. It fosters a paradigm of translational research and teaching in collaboration with other functional structures of Egas Moniz. It also focuses strongly on community interactions in different contexts, including health, health-related sciences and social services.

The strategic options in this plan agree with the development politics of the Cooperativa, as defined by its governance structures, in order to contribute to its qualitative improvement, and the adaptation to the growing demands of its environment, taking into account the new European directives for Science, Training and Youth formation (Europe 2020 Strategy and Erasmus Plus).

The strategic actions of the CiiEM consider:

- 1) The needs of Egas Moniz concerning the creation and dissemination of knowledge and advanced training in a research environment. This focuses mainly on graduate and post-graduates and their integration in a translational research and teaching context, thus positioning the Centre between academic education, industry and clinical practice.
- 2) Imperatives of the Regional Innovation Program and National Scientific system, in particular the interaction with the Foundation for Science and Technology (FCT) and other agencies of the Ministries of Education and Science.
- 3) The need for Internationalisation, with particular relevance to participation in European Union Programmes that support research and innovation, and also foster efficient education and training systems, able to provide competencies demanded by the labour market in a competitive economy.
- 4) The need to create a supportive legal data and project management infrastructure, including developing a portfolio of intellectual property attractive to the biomedical industry, aiming at gathering budget support to research and make it self-sustaining in the long term.

## ***Strategic Plan organisation***

The Plan sets the guidelines for the Centre's activity for the next 3 years, defining objectives considered essential to the development of CiiEM as an instrument of the Cooperativa.

The results of CiiEM's operation will be monitored annually with the purpose of adjusting the relevant instruments and implementation to achieve CiiEM's goals.

An overall re-evaluation of the strategic plan is anticipated after a period of 3 years.

The plan can be re-evaluated exceptionally, with the agreement or on the initiative of the Cooperativa, if the Institutional or Scientific context in which it operates changes significantly.

# **STRATEGIC PLAN**

## **Mission**

The CiiEM mission consists of the development of advanced research, basic and applied, in subjects connected to the study and teaching of biomedical sciences as well as other scientific fields applied to health care.

## **Vision**

CiiEM provides an environment tailored to promoting the advance of knowledge in the scientific fields associated with health and health care, including sociology, psychology and forensic sciences, while implementing a demanding culture of quality. This environment is an essential part of the translational interface promoted by Egas Moniz, Cooperativa de Ensino Superior CRL, linking the needs of industry, clinics and society.

CiiEM seeks to impart an effective dynamic to specific actions that include research projects using collaborative activities where appropriate, services based on advanced research and training, dissemination actions and outreach activities, thus complementing the professional training and development of Egas Moniz students with relevant soft skills.

During the period of this plan, CiiEM will organise programmes to foster the development of projects, based on research lines of strategic importance to Egas Moniz, aligned where relevant with the priority objectives of Regional, Interregional, national and international funding programmes. These lines should achieve a critical mass needed for the implementation of high quality projects, meeting the highest international standards, while participating in leading consortia and establishing networks of excellence in their areas of activity.

This activity is consistent with the objectives set by the European Union in the Lisbon treaty and in its Europe2020 and Horizon2020 programmes, of fostering research into the most pressing problems of an ageing society, and of equipping Europe's youth with advanced training by developing vocational education and lifelong training, higher education and research. The research lines will be concentrated mainly in areas which benefit society in its various branches, including industry and health clinics.

The research to be developed shall follow strict ethical rules, and shall aim at innovating thus providing solutions to the challenges of the XXIst Century, contributing directly or indirectly to the overall improvement of the response to societal demands in health care.

It is important that the knowledge generated by the R&D activities of the Centre be disseminated inside Egas Moniz, amongst the research community, staff and students. In particular students should be encouraged to take part in ongoing projects, and efforts should be made to identify students willing and able to take an active part in the research effort.

All research results shall be evaluated for their socio-economic impact and value, and where appropriate Egas Moniz shall capitalise the effort by protecting the intellectual property generated.

The functioning of the research lines will be based on the infrastructure provided by the functional units of the CiiEM, complemented by partnerships with other academic players, health providers and industry, to ensure the exploitation of the project's results.

An important part of the development of the research lines will be the development of partnerships and international consortia that can contribute to the conceptual growth of the CiiEM, through exchanges of research activities and teaching, promotion of courses and scientific meetings.

## **Strategic priorities**

This Strategic Plan is intended to shape the overall approach of CiiEM; it requires the commitment of all CiiEM members. It will be the engine of the changes that will allow CiiEM to successfully overcome the

challenges involved in achieving external recognition at the highest level and to maximize the social and professional impact of its work.

The strategic priorities of CiiEM are:

### **1. Research lines**

To promote the creation and development of strategic research lines to mobilise the potential of Egas Moniz.

Expected outputs:

At least 4 research lines with a critical mass of at least 5 researchers will be set up

### **2. Internationalisation**

To promote internationalisation, supporting its members in the gathering of financial support to foster their international exposure.

Expected outputs: Participation in European Consortia and networks.

### **3. Collaboration**

**a.** To establish and consolidate collaborations with strategic partners in complementary areas of knowledge.

**b.** To increase the financing received by the CiiEM through collaborations with the industrial sector, supply of services and participation in National and International calls for research support.

Expected outputs: The research lines and functional units will establish partnerships with suitable institutions at a Regional, Interregional, National and International level thus improving their capabilities for participating in fund gathering activities and Societal impact.

### **4. Community interactions**

To set up and carry out activities with a positive impact on the community and global society's unmet needs, such as information actions, training and services, as well as to ensure the inclusion in the curriculum of skills to facilitate the participation of students in the social and economic tissue of the community.

Expected outputs: Better trained personnel in complementary skills, and programmes established for the implementation of new services that respond to the current needs of society.

### **5. Dissemination**

**a.** To modernise and develop the communication strategy of CiiEM with the objective of fostering a strong "organisational culture" and improving the external visibility of CiiEM and the access of external organisations and the general population to information on the Centre's activities.

**b.** To foster Regional, Interregional and National dissemination of activities, bringing knowledge of CiiEM's actions and research achievements to the appropriate actors in Portuguese society.

**c.** To set up meetings and other actions on up-to-date subjects, in order to contribute to the dissemination of scientific knowledge and to increase the external scientific visibility of CiiEM and Egas Moniz. Besides the internal know-how, it will be important to draw on the contribution of staff, alumni, National and International experts and other figures with public visibility.

Expected outputs: Implementing a regular program of scientific meetings of excellent quality, guaranteed by peer review practices for acceptance and publication of communications.

Set-up of an image-promoting unit able to disseminate through the community at multiple levels the contents and outputs of the research carried out at Egas Moniz, stressing its importance to Society. Frequent and continued participation in National and International scientific meetings with high impact and visibility.

## **6. Training**

To promote and participate in coordinated training with other educational structures of Egas Moniz in order to complement the traditional teaching activities, equipping students, researchers and staff with soft skills that create competitive and international value.

Expected outputs: Setting up protocols with the teaching units of Egas Moniz for incorporating research-directed skills in the training of students, specially but not exclusively, at Master degree and higher levels.

## **7. Internal culture**

To promote the establishment of a quality culture that ensures convergence of all dimensions of CiiEM's activities to the highest international standards.

Expected outputs: To increase the interaction of Egas Moniz researchers with high level international research units and researchers and set high research standards within the research lines and functional units.

## **8. Evaluation**

To develop and implement recognised independent evaluation processes of the researchers and research groups, to support the strategic plan and improve quality and efficiency.

Expected outputs: An external peer review, carried out at least annually, by panels of internationally-recognized experts, unrelated to the Egas Moniz activity.

## ***Research Thematic Areas***

The research lines represent the core of CiiEM's Research activity, to encourage the concentration of efforts and resources in structured programs. Egas Moniz offers support and services to the community, both through its own services and through cooperation with authorities and other institutions. Some of the structures interacting with the community have reached a high level of sophistication and size, making them relevant not only at a local, but also at a National and International level. This is the case for the Dental medical clinics with a performance of about 50000 consultations/year. Community directed services require the support of an efficient R&D activity to keep improving and innovating on the practice thus maximizing their societal impact. This will be the main focus of CiiEM's research lines over the next few years. Additionally, there will be other research projects, which do not fall within any of the present research lines, but that arise from the diversity of CiiEM's internal and collaborative research activity.

Research lines set up for the onset of this Strategic plan are:

### ***1. Environmental Health Research Line***

Environmental agents can have direct toxicities and influence biological processes. The resulting disease processes often develop insidiously and are recognized at a late stage severely affecting the health and life quality of the elderly and imposing a heavy burden on National health systems.

This research line aims to identify those disease processes through epidemiologically-directed research, and to study the mechanism of action of environmental stressors in the production of disease down to the molecular level.

Through the strong connections of Egas Moniz with the community, this line will translate the knowledge

gained into preventive actions for achieving better health, with special focus on the elderly, including training and education of health professionals, and development of improved stress sensors aiming to reduce exposure and the consequent societal impact.

## ***2. Clinical Research Unit***

This research line is committed to improving the health and wellbeing of society by boosting both innovation and fundamental and applied research on clinical problems. Egas Moniz has a large commitment to health care among local and Regional communities, hosting a major dental clinic, a third age rest house and physiotherapy units. This line aims to foster a translational research initiative bridging the gap between Fundamental Science and Clinical Research through:

- a) The development of a support research infrastructure able to bridge the gap between fundamental research and clinical applications supported by robust interdisciplinary networks and teams.
- b) Dissemination of core information, competencies and activities among CiiEM members, undergraduate students and community partners, through interaction with the Egas Moniz teaching units and promotion of a dedicated dissemination programme.

## ***3. Public Health Microbiology Research***

Public health microbiology is a cross-discipline area that spans the fields of human, animal, food, and environmental microbiology, with a focus on human health and disease. It requires laboratory scientists with the ability to work effectively across disciplines. The development of antibiotic resistance in bacteria and the emergence of new pathogens pose severe threats to society, and this has a huge impact in health units where hospital-acquired infections become increasingly dangerous.

This line will contribute to a better understanding, monitoring and control of microbial infections taking advantage of interactions with the community and with the large Egas Moniz clinical activity and facilities. Research on pathogens posing significant threats to the community, such as HIV and antibiotic-resistant bacteria, will be targeted by the research line, with the aim of understanding virulence factors and finding solutions that contribute towards the control and prevention of those threats.

## ***4. Forensic Science and Psychology Research***

Forensic Science and Psychological research line takes a translational approach to its functioning, linking fundamental and applied research to professional practice in Forensics and Psychology. This is achieved through the creation of a strong bridge between scientific research and the professional context. This multidisciplinary line is unified by a conceptual umbrella linking psychological processes and human behaviour with neural degeneration and designed novel psychoactive substances. This research line encompasses several branches aimed at the accomplishment of its main aim. Specific longitudinal research goals include deviant and violent human behaviour, toxicological impact of newly designed drugs and chemical-induced neural degeneration. The translational approach of this research aims at answering several issues from individual and social environments improving the prevention, intervention, forensic strategies and operational practice of professionals in the field.

The research thematic areas:

- A. Shall support their operation with the budget and material resources provided by the functional units of CiiEM (Labs, Clinics, Centres etc.), complemented (where appropriate) by external resources obtained through consortia, networking, participation in projects, etc.
- B. Shall articulate their activity in order to converge on common objectives and improve the impact of their operation upon Egas Moniz Institution as a whole and the community.
- C. Shall develop integrated programs of medium- to long-term duration, promoting their operation through interconnected short-term activities such as projects, meetings etc.



- D. Shall foster, through Congresses, meetings and other dissemination actions, such as webinars, the diffusion of knowledge acquired or created within CiiEM by its members, at all levels.
- E. Shall promote training, dissemination activities and support for MSc and eventual PhD programs and theses internally and within the community through outreach activities.
- F. Shall identify and try to resolve limitations and bottlenecks of research activity, and ensure the use of results for societal development.

### **Functional structures**

The functional structures of CiiEM are research infrastructures such as laboratories, centres, clinics, etc. which operate within Egas Moniz and are incorporated in CiiEM by decision of the Cooperativa. CiiEM complements its capabilities by interacting with other research, teaching and social infrastructures through consortia, networking, and other joint activities such as conferences and workshops.

The responsibilities of the functional structures include

- a) Providing the resources that allow for the development of the research lines to the relevant quality standards, and ensuring excellent scientific performance in accordance with the By-laws and other relevant regulations.
- b) Drawing up, for approval by the President, the regulations governing their operation and interactions within and outside CiiEM, according to CiiEM's By-laws and regulations.
- c) Ensuring support for their activities either by identifying sources of funding for projects, or by other means such as providing services to the community, actively seeking participation in networks and consortia, etc.
- d) Contributing to the performance and external image of the CiiEM, deploying the necessary resources, such as web pages, dissemination actions etc.

### **CiiEM Congress**

Publication and communication of the results and accumulated knowledge of CiiEM at all levels, including publication in top-ranked journals, participation in National and International Congresses and scientific meetings, organisation of Congresses and meetings, and dissemination activities among the community, are a critical part of CiiEM's activities.

A major focus of this activity will be a CiiEM Congress, to be organised each year. This Congress will be a showpiece for CiiEM's activities, and the contributions, both internal and external, should be of the highest quality, in order to develop CiiEM's visibility, knowledge and external contacts.

### **Evaluation**

Monitoring of the functioning of the CiiEM, including regular evaluations, is an essential part of its quality control and continuous improvement policy. The evaluation will focus on the organisation and functioning of the research lines, functional Units and individual members. It will use appropriate metrics for measuring the output of CiiEM at all levels, including peer reviews focusing on the activity of the research lines and of the functional units. Evaluation will be performed on an annual basis, but the time span of the evaluation can consider the work performed during several years, to enable a more comprehensive assessment of the overall results of CiiEM members and organisational structures.

Principles and Responsibilities for Research

In its scientific activity, CiiEM adopts the Singapore statement on Research Integrity (<http://www.singaporestatement.org/statement.html>).

## ***Values for a healthy work environment***

CiiEM members are committed to act in their day-to-day activities according to a set of values indispensable for the creation of a healthy and productive work environment aiming at excellence in science, and the creation and continuous transmission of knowledge to younger colleagues, and to the community.

To this end, in their work within CiiEM, members must consider:

### **1. Search for knowledge and innovation**

Participate actively in the creation of knowledge and innovation, assuming individual responsibility for both in-depth study and the search for new solutions to specific problems, with societal impact, fostering actively their discussion and diffusion.

### **2. Excellence**

Develop their activities of research and knowledge transmission with high quality criteria to the level of the highest international standards, setting high standards for themselves and for their colleagues, supporting them in their work and initiatives.

### **3. Exchange of experiences**

Share their experiences among themselves, and with their peers, supporting and enriching, with their participation and critical intervention, both meetings promoted by the Centre's members and external events.

### **4. Dissemination through publication**

Foster actively a culture of publication of their scientific results in high level journals, using when possible Open Access ones, aiming to continually increase the impact factor of CiiEM's publications

### **5. Alertness to change**

Be alert to changing factors in their areas of activity, at a national and international level, and keep themselves scientifically updated, transmitting and discussing their perception of new scientific trends with their colleagues.

### **6. New competencies**

Share resources in order to facilitate the work of colleagues towards the accomplishment of objectives that enhance the skills of the CiiEM and the Cooperativa, and be active in the diffusion of new competencies among their colleagues, fostering competence, scientific and technological growth.

### **7. Recognition of CiiEM's intellectual property**

Contribute actively to the knowledge resources of the CiiEM, recognising their affiliation in their publications, congresses and other public manifestations; collaborate with CiiEM structures in the creation of a knowledge set identifiable as part of the institution's achievements.

### **8. Image promotion**

Promote explicitly the image of the CiiEM and the Cooperativa externally, in their institutional, scientific and public interactions.

### **9. Commitment to the gathering of resources**

Be alert to the opportunities for fund gathering raised by their scientific work, dissemination and service activities, contributing actively to the viability and success of their actions and of the CiiEM's.