

PROJETOS DE I&DT EMPRESAS EM COPROMOÇÃO

MyoCAD

Automatic Myocardial evaluation with cardiac magnetic resonance images: a computer-aided diagnosis tool

Project Name: MyoCAD

Project Code: POCI-01-0247-FEDER-047756

Main Objective: To strengthen research, technological development and innovation

Region of Intervention: North

Beneficiaries:

Coordinator: AI4MEDIMAGING – Medical Solutions, S.A.

Partners: Universidade do Minho

CCAB – Centro Clínico Académico - Braga, Associação

Approval Date: 03-02-2021

Start Date: 04-04-2020

End Date: 31-03-2023

Total Budget: 814.875,35 €

EU Financial Support: FEDER – 554.664,79 €

CCAB Budget: 125.334,36 €

Project Description:

The MyoCAD project aims the development of a technological platform that allows the automatization of the interpretation process of CMR images, speeding up the diagnosis of cardiovascular diseases and promoting more accurate and faster diagnosis. This way, it is expected to create a CAD system (Computer Aided Diagnosis), capable of detecting and segmenting the multiple cardiac sequences, obtained by CMR imaging. After that, it will be possible to extract some metrics from these images, as volumes, cardiac wall motion, LGE presence and patterns, myocardial perfusion, among others. Correlating these results with other patient clinical data, the system is capable of doing a classification, creating the respective Bullseye and offering their interpretation (including, if it turns out, the identification of the cardiovascular disease). To develop the MyoCAD tool, it will be investigated and exploited image processing and analysis approaches, based on machine learning, deep learning and neural networks paradigms. The final solution will be validated through the construction and implementation of a pilot, in a hospital environment.