Designação do projeto | FLaPsys – Fiber Plasma Spectroscopy System for real Element Analysis

Código do projeto | POCI-01-0145-FEDER-031165 - PTDC/EEI-EEE/31165/2017

Objetivo principal | To develop an advanced spectroscopy system, based on Laser-Induced breakdown spectroscopy (LIBS) supported by a Fiber Laser, to enable real time identification and quantification of elements in minerals and other geological samples.

Região de intervenção | Norte

Entidade beneficiária | INESC TEC - Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência

Data de aprovação | 27-02-2018
Data de início | 01-03-2018
Data de conclusão | 2021-02-28
Custo total elegível | 238 423,75€
Apoio financeiro da União Europeia | FEDER: 202 660,19€
Apoio financeiro público nacional/regional | 35 763,56€

The project aims:

The main goal of FLAPsys is to develop and validate a compact LIBS (Laser Induced breakdown spectroscopy) system, capable of real time analysis of element composition enabling the identification and quantification of complex minerals and other materials. This system would be based on an innovative Fiber Laser LIBS configuration associated with advanced signal processing and a robust reference database. The system will rely on unique features, that will enable a more compact system with higher performance, suitable for operation underwater or on ground, and capable of analysis with very high spatial resolution. This work will benefit from previous results in on-going projects and cooperation programs between INESC TEC Photonics and Robotics Lab (H2020 VAMOS, and PT2020 CORAL) where a solid base of standard LIBS technology is already established, and where the clear advantages of the Fiber Laser features, and the need for a robust context based LIBS spectra database has been identified. This tool will respond to the critical demand for new technologies for the raw materials industry, particularly those capable of "in-situ" and "real-time" identification and quantification of minerals and their elements.