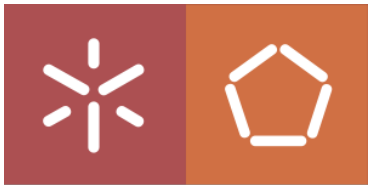

Universidade do Minho
Escola de Engenharia

Smart Street Lighting

Master in Industrial Eletronics and Computers Engeneering

Embedded Systems

Authors:
Diogo Fernandes PG47150
José Tomás Abreu PG47386

Supervisors:
Prof. Dr. Tiago Gomes
Prof. Dr. Sandro Pinto

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1 Problem Statement

Nowadays, the energy crisis is a constant theme because of the inflated energy prices [1]. Furthermore, huge energy consumption is a burden to the environment, as not all means of energy production are non-polluting [2]. It is known that, in cities, street lamps are continuously switched on, most of the time unnecessarily, which causes a great waste of energy, also contributing to the increase in light pollution [3].

With that in mind, the main objective of this project is the creation of a monitoring device capable of controlling intelligent street lamps, which turn on only when they detect movement in the surroundings, adjusting their luminosity according to the needs of the surrounding environment.

References

[1] "Energy-crisis 2021," https://www.forbes.com/sites/christopherhelman/2021/10/19/energy-crisis-2021-how-bad-is-it-and-how-long-will-it-last/?sh=6a5feff14c63, Forbes, 2021.

[2] "World energy supply and consumption," https://en.wikipedia.org/wiki/World_energy_supply_and_consumption, Wikipedia, 2021.

[3] "Light pollution," https://www.nationalgeographic.com/science/article/nights-are-getting-brighter-earth-paying-the-price-light-pollution-dark-skies, National Geographic, 2019.