

Distributed Architecture Proposal for Efficient Energy Management of Road Lighting in Urban Environments

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- Juan-José Sáenz-Peñañiel (1)
- Jose-Luis Poza-Lujan (2) Email author (jopolu@upv.es)
- Juan-Luis Posadas-Yagüe (2)

1. Dirección de Investigación, Universidad de Cuenca, , Cuenca, Ecuador
2. Research Institute of Industrial Computing and Automatics, Universitat Politècnica de València, , Valencia, Spain

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Abstract

The energy management in urban and interurban lighting is currently, mainly, based on a centralised or clustered model. The control is mainly based on the level of brightness needed to circulate, without taking into account the presence or not of pedestrians or vehicles. This thesis proposes to review the solutions implemented and to use the Industry 4.0 paradigm as a basis for the design of a highly distributed architecture that efficiently controls the lighting of the roads of urban environments, and is extensible to interurban environments. As results it is expected to be able to verify the hypothesis of, how the distribution of the intelligence at the level of control node, together with the communication between nearby control nodes, allows to optimise the consumption in front of the current solutions.

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Notes

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