

# RFID

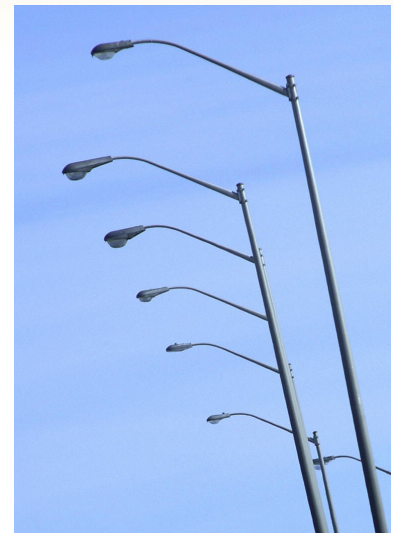


## Shedding Light on Street Lamps Saving Costs On Maintenance

### *Radio tagging speeds checks & improves information.*

Street lighting is an important part of the urban environment. Effective lighting helps to reduce street crime and road traffic accidents. Low tolerance of failed or vandalised street lights promotes community cohesion and can also reduce the total costs of operating street assets over time. Many local authorities have improved the information that they hold on street assets and have also improved the reporting systems that allow the public to notify councils of failed lighting.

However, the costs of inspection and reporting by council staff (or their contractors) are high, as are those of unplanned maintenance and repair. Manual recording of faulty lamps or recording based on bar-coded tags can be unreliable and time consuming. Radio frequency identification (RFID) tags provide a way of automating and speeding data collection from street furniture, including street lighting that reduces costs, improves accuracy and saves effort.



### **The RFID approach to street furniture management**

Radio frequency identification (RFID) provides a rapid way to collect data about street assets. Data collected by using RFID can easily be fed in to other systems such as maintenance management or asset location systems..

The RFID approach places a small tag on each asset, such as each street lamp, for example. This tag can be activated and read by a reader device (often attached to a mobile hand-held computer) which is used by maintenance staff either to confirm that the item they are repairing or replacing is the one reported or to identify faulty devices.

RFID can be seen as an alternative to bar-code or printed labels on street furniture but has significant benefits over these:

- Because the electronic tags can be read from a distance, assets can be identified more quickly than is possible with bar code or printed label tagged assets where the label has to be located within easy reach of the engineer. *So data collection costs are reduced.*
- Since tags need not be close to ground level and do not depend on optically or human readable information, they are less prone to vandalism, incidental damage or deterioration in readability due to the effects of weather. *This saves costs in maintaining the tagging system so that it continues to be useful.*
- Tags can have data written to them by the engineer's hand-held device, so that information can be stored to allow, independent verification of when each asset has been checked and who by. *Verification reduces the chance of fraud and reduces the risk to the public of lighting failures as a result of faulty or misdirected maintenance activities.*

***The ROI comes from lower maintenance costs, improved conformance to maintenance schedules and faster response to public alerts on faulty assets by using RFID to tag street furniture.***

One possible approach to a street furniture management system is shown below. An information server holds details of all street furniture and its location. Scheduled maintenance visits and details of faults reported by the public are consolidated to provide a schedule of visits. The schedule, together with details of the work to be done or the fault reported, are downloaded to a hand-held computer (1). Using GPS on the hand-held computer, the engineer navigates to the street lamp in question and then confirms the item in question by reading the data on the street lamp's asset tag (2), at the same time collecting data on when it was last checked.



The engineer confirms their presence at the asset and updates the tag with the date and identity of the engineer involved (3). Data collected on the hand-held computer is uploaded to the server either in real time across a GPRS network or from a fixed cradle or on a wireless LAN connection at the end of the day (4). The job is closed off on the server, data is consolidated and reports can be produced.

RFID tags can be installed in areas where there is moisture, grease or dirt without it affecting the read success rates. Tags can be fitted using adhesive or by rivets, inside of casings if necessary, preventing deliberate or accidental removal.

## About CoreRFID

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