



PRESS RELEASE

e-JIKEI Light

NEW!!



## LED Street Light with e-JIKEI Camera, Security Camera with Privacy Protection

28 October 2009  
NPO e-JIKEI Network Promotion Institute  
TOSTEC Co. Ltd.  
Rocky Co. Ltd.  
Faculty of Engineering, Gunma University

### [Time and Place]

Date: Wednesday 28 October 2009  
Time: 16:00-17:00  
Place: 4<sup>th</sup> Floor, Kiryu City Performing Arts Center, Kiryu, Japan  
<http://www.kiryu-shibun.net/>

### [Summary]

A prototype of “e-JIKEI Light”, which is a LED Street Light with e-JIKEI Camera, i.e. Security Camera with Privacy Protection, has been developed.

The features of the developed camera are as follows,

- (1) It has a card-type memory, in which the images for latest 1 week are recorded.
- (2) It can be used as an energy-efficient and long-life LED street light.
- (3) It can be used as a low cost security camera with privacy protection. The price will be only 500USD for the initial stage. It will be reduced less than 300USD.
- (4) All it requires are only the power supply of AC100V.
- (5) All images are encrypted and stored in the memory card.**
- (6) Owners of e-JIKEI Light do not have the key for decryption. They own the encrypted images, but they cannot view the images.
- (7) Only the particular persons, such as police or city government, have key for decryption. They can view the stored images once they are given by the owners.

### [Concept for privacy protection]

- (1) We propose a new concept regarding the management of security cameras in which those who own and manage images (owner) and those who have the right to view the images (viewer) are separated by means of the encryption of the images.
- (2) Using this concept, encrypted images are transferred from the owner to the viewer only when both the owner and the viewer consider it necessary, such as in the case of crimes; then the encrypted images are restored for viewing by the viewer. By this method, the images can be viewed only when absolutely necessary.
- (3) This concept was proposed to prevent the risk of privacy violation, as well as to reduce the unnecessary psychological burden that third parties may be subjected to, with the aim of promoting the placement of security cameras throughout local communities.

We have developed a PC-based system for realize the concept. (Please see below link)

Nikkei News

[http://www.ev.gunma-u.ac.jp/old/press/paper/20080107\\_nk.JPG](http://www.ev.gunma-u.ac.jp/old/press/paper/20080107_nk.JPG)

NHK (Largest TV company in Japan)

[http://www.ev.gunma-u.ac.jp/old/press/broadcast/20071119\\_nhk.wmv](http://www.ev.gunma-u.ac.jp/old/press/broadcast/20071119_nhk.wmv)

We have also developed “e-JIKEI Camera”, which is a stand-alone-type (all-in-one-type) camera.

Tokyo News

[http://www.ev.gunma-u.ac.jp/old/press/paper/20090531\\_ts.jpg](http://www.ev.gunma-u.ac.jp/old/press/paper/20090531_ts.jpg)

Yomiuri News

[http://www.ev.gunma-u.ac.jp/old/press/paper/20090531\\_ys.jpg](http://www.ev.gunma-u.ac.jp/old/press/paper/20090531_ys.jpg)

This time, we have developed A prototype of “e-JIKEI Light”, which is a LED Street Light with e-JIKEI Camera, i.e. Security Camera with Privacy Protection.

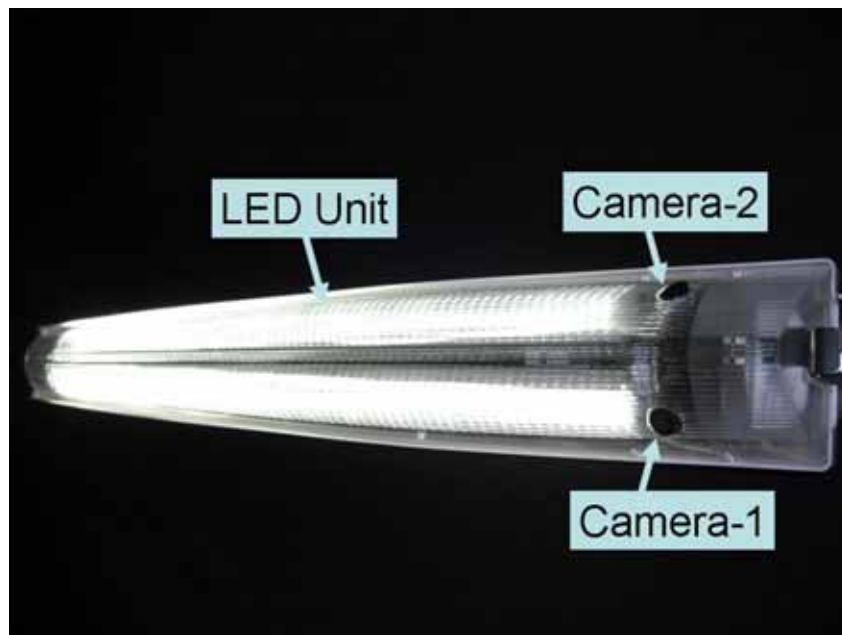


Figure 1. Photo of e-JIKEI Light



Figure 2. Camera control unit embedded inside e-JIKEI Light  
(Images are coded with **secret key** and recorded)



Figure 3. Images taken by e-JIKEI Light (Daytime, after decoding the code)



**Figure 4. Images taken by e-JIKEI Light (Night, after decoding the code)**

At this moment, the [e-JIKEI Light](#) has to be opened to remove the memory card. However, this inconvenience is preferred from the viewpoint of privacy protection, especially in the initial stage of society's gradual acceptance of our concept. However, in the near future, the cameras will be connected to the Internet after the information security system between the owner and viewers is established. Thereafter, online operations of solving crime, such as the rescue of kidnapped children, can be implemented.

We are asking the citizens how they compare the responsibility on watching what happens around their houses with the risk of the violation of privacy. We are now commencing tests on the true value of our concept.

**[Our activities]**

Our activities have been introduced by some newspaper and TV.

Please see the following URL:

<http://www.ev.gunma-u.ac.jp/old/press/press.htm>

**[Electric files for this Press Release]**

Japanese version:

[http://www.el.gunma-u.ac.jp/~fujii/Materials/PReJikeiLight\\_J.doc](http://www.el.gunma-u.ac.jp/~fujii/Materials/PReJikeiLight_J.doc)

English version:

[http://www.el.gunma-u.ac.jp/~fujii/Materials/PReJikeiLight\\_E.doc](http://www.el.gunma-u.ac.jp/~fujii/Materials/PReJikeiLight_E.doc)

**[Contact point]**

Professor Yusaku Fujii, PhD

Professor, Department of Electronic Engineering, Faculty of Engineering, Gunma University

President, NPO e-JIKEI Network Promotion Institute

Phone: 0277-30-1756, Mobile: 080-3550-5585, E-mail: [fujii@el.gunma-u.ac.jp](mailto:fujii@el.gunma-u.ac.jp)