



– Highlights of Our Environmental Activities in FY 2013 –  
**Creating Value from Light and Illuminating a Bright Future**

Here we will report on the new environmental activities that the Stanley Group has been working on, as well as activities that are worth taking note of.



**The first LED headlamps equipped on a domestic motorcycle!**

Conserving Energy while Achieving the World's Smallest Design Size



We were the first to have our LED headlamps equipped on a domestic motorcycle with the Z1000 (Kawasaki Heavy Industries, Ltd.). Adopting LED headlamps led to reducing the environmental impact through such measures as power consumption and the frequency with which the lamps have to be replaced. What is more, by establishing the world's smallest design with our product we improved design freedom, while also achieving a form that abounds with a sense of dynamism that aligns with the design theme of "Sugomi."

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Our LED headlamps were the first to be equipped on a domestic motorcycle!



**Recreating "moonlight" through LED lighting**  
 Achieving Energy Conservation at the Kabuki-Za Theater

LED floodlights that we developed have been adopted at the newly opened Kabuki-Za Theater. Our latest LED floodlights use the same optical technology as our automotive headlamps that elicit the maximum in light use efficiency. We have achieved a new landmark in energy conservation.

Through our ultra-narrow angle light distribution technology, the light from the LED floodlights illuminating the rooftop from a height of 130m aboveground from the top floor of the tower behind the Kabuki-Za Theater recreates "moonlight" to achieve a groundbreaking lighting effect.



High power, ultra narrow angle LED floodlight

Clients: Shochiku Co., Ltd.  
 Kabuki-Za Co., Ltd.

Exterior lighting design:  
 Motoko Ishii / Akari-Lisa Ishii +  
 Motoko Ishii Lighting Design Inc.





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## Creating Value from Light and Illuminating a Bright Future



### SIM-CEL: SIM-Drive Corporation's third EV prototype

#### Improved Safety and Reduced Size and Weight with Laser Headlamps

We developed headlamps that use a laser excitation light source\* for and equipped them on SIM-CEL, the third electric vehicle prototype announced by SIM-Drive Corporation. Compared to headlamps with just LED modules, these headlamps amplify the distance of visual cognition by 1.5-times, thereby further improving safety. What is more, the laser excitation light source has a luminance that is roughly 2.5-times greater than that of LEDs and a light emitting area that is 1/10 theirs, which is effective for reducing both the size and weight of the headlamps.



\* This produces white light based on laser beams

SIM-CEL: World's first laser headlamp!



#### Views

#### Equipping vehicles with next-generation light source lamps through Stanley's technical prowess

**Takuya Kitazono**  
Research and Development Department



We have engaged in development through the combined efforts of everyone concerned in being the first in the world to set our sights on such tall challenges. Using lasers, for which there are high hopes that they will serve as the next light source after LEDs, has been effective at improving safety and reducing both size and weight. By harnessing our know-how from recently equipping them on the SIM-CEL, we will continue to work towards entering them into mass production.



### Illuminating communities with a "reassuring light"

#### LED Crime Prevention Lights that Ensure Brightness while Reducing Glare

These are LED crime prevention lights that guarantee a bright road surface via a wide light distribution while taking into consideration the glare for both pedestrians and cars. This was achieved through the strong durability cultivated on our automotive lighting units, as well as our own proprietary optical technology.

Compared to conventional 20W fluorescent lights, these lights have a life span that is roughly seven-times longer and reduce power consumption by approximately 64%. They provide a "reassuring light" that contributes to crime prevention and the environment in local communities.



#### Views

#### One of our unique features is our proprietary optical design capable of delivering light over great distances

**Yosuke Mizuki**  
Design Department



I oversaw the design of our LED crime prevention lights with a built-in luminance sensor (automatic ON/OFF function), which represented a first for Stanley. Via a lens design that disseminates light uniformly across the road surface the lights achieve Class B standards for crime prevention lighting illumination while still offering low power consumption. We have been meticulous about the concept of design for the environment, and have also made efforts to reduce their weight by 300g from the initial design. Moving forward we will continue to work on designing products that are environmentally friendly.



Lights installed in Zama City, Kanagawa Prefecture



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## Creating Value from Light and Illuminating a Bright Future



**Achieving energy conservation and reductions in air conditioning cooling loads**

### Installing Heat Pumps on Our Production Equipment



We have been promoting the adoption of equipment with outstanding energy efficiency in an effort to conserve energy with our production equipment. FY 2013 was the first year in which the Stanley Group installed heat pumps on our production equipment. We changed over from heating the washing water with an electric heater to doing it via heat pumps that have roughly three-times their heating efficiency, thereby saving energy in heating the washing water. This has also allowed us to reduce the air conditioning cooling load by emitting cold exhaust air inside the plant.

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◀ Views

**Striving to conserve energy by using heat pumps in collaboration with our plants**

**Koki Takata**  
Administrative Department



Heat pumps are a representative means of conserving energy with air conditioning, and recently the technology for adopting heat pumps in place of the electric heaters used in heating processes within manufacturing processes have been spreading. Using these makes it possible to achieve enormous energy savings within manufacturing processes and has been conducive to reducing CO<sub>2</sub> and cutting costs.

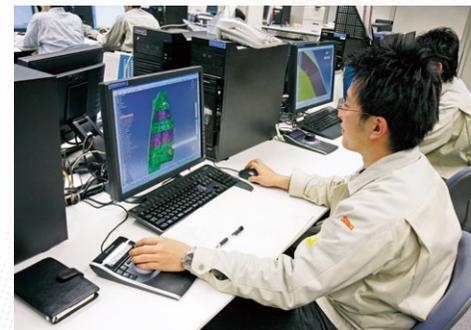


**Applying our guidelines to our full range of product design**

### Promoting Design for the Environment

In order to promote the manufacture of products designed for the environment from the design stages onwards, Stanley Electric has enacted the Design for Environment Guidelines. By applying these guidelines to the full range of our product design we are working on developing products that are environmentally friendly.

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**Thinking about the importance of environmental conservation**

### Holding an Environmental Painting Contest

The Stanley Group (in Japan) held its first ever Environmental Painting Contest as a measure to raise environmental awareness among the families of our employees. This is a contest that was held for the families (elementary school students) of employees that gathered together outstanding works befitting the theme of "Eco Actions that I Can Take," and six paintings were given awards. The contest deepened the interest of employees and their families in the environment, while also serving as an excellent opportunity to consider the importance of environmental conservation.

◀ Views

**We've increased conversation about the environment!**

**Megumi Inomata**  
Administrative Department



Getting people to participate in the contest has increased conversations about the environment among families, and has instilled in them the habit of being constantly aware of eco actions that each individual can take. When we announced that we would solicit works on the theme of "Carefully Using the Water We Love" at elementary schools, water conservation became a topic of conversation among the classes as well.

