

**PRESS RELEASE**

KOITO MANUFACTURING CO., LTD.

**KOITO Awarded Prizes for Science and Technology of the 2015 Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology, with regard to its Development and Promotion of LED Headlamps**

KOITO MANUFACTURING CO., LTD. (“KOITO”) (Head Office: Minato-ku, Tokyo; President: Masahiro Otake) announces that five engineers of KOITO were awarded, on April 15, 2015, Prizes for Science and Technology of the 2015 Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology (in the Development Category, for their achievement in developing the world’s first LED headlamp).

In 2007, KOITO successfully mass-produced the world’s first LED headlamp. Through further technological development, it succeeded in reducing the number of LEDs used in the headlamp from 5 to 1, thereby further improving the energy-efficiency, which is one of the advantages of LEDs. This was achieved not only by improving the LED brightness, but also by innovations in optical technology utilizing light efficiently, and in heat dissipation technology that cools the LED efficiently.

Having achieved drastic reductions in energy consumption as well as smaller size, lighter weight and lower cost, KOITO’s LED headlamps are now being used in a wide variety of vehicles, ranging from luxury cars to mini vehicles and motorcycles. Thus, KOITO is a leader not only in Japan but throughout the world in promoting the use of LED headlamps.

The cumulative number of LED headlamps produced totaled 6.2 million as of the end of March 2015, and they are expected to rapidly replace the current mainstream halogen headlamps and to be used increasingly in motorcycles as well. These energy-efficient headlamps will reduce CO<sub>2</sub> emissions even further.

This development was highly evaluated as it resulted in a trend for reduction of global CO<sub>2</sub> emissions, leading to the awarding of the prizes to KOITO.

The Prizes for Science and Technology of the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology are intended to applaud those involved in science and technology who have made remarkable achievements in research and development, thus motivating their followers to come in helping raise the level of science and technology in Japan. This is the second time for KOITO to win this kind of prizes, the first being in 2013 for the development of the mercury-free discharge headlamp.

Pursuing “Eco-Friendly Manufacturing for People and the Earth”, KOITO will continue to develop products that take into account safety and the environment.

[Outline of the prizes awarded to KOITO]

1. Achievement: Development of the world’s first LED headlamp
2. Winners: Masaru Sasaki, Shigeyuki Watanabe, Tsukasa Tokida, Hiroyuki Ishida, Hiroki Ikegaya
3. Description of the development:

After successfully mass-producing the world’s first LED headlamp, KOITO continued to develop the technology and reduced the cost and weight to enable LED headlamps to be used widely.

The LED headlamps use one-third of the energy of conventional headlamps, thus reducing CO<sub>2</sub> emissions. They also enhance safety thanks to improved brightness, and are long-lasting as LED is free from burn-out unlike conventional light bulbs.

These products are now being used in a wide variety of vehicles, ranging from luxury cars to mini vehicles, creating a global trend toward the use of energy-efficient headlamps based on LED technology and helping to reduce CO<sub>2</sub> emissions.

Reference:

- World's first mass-produced LED headlamp



(May 2007: Lexus LS600h)

- KOITO's LED headlamps are being used in a wide variety of vehicles worldwide, ranging from flagship cars to mini vehicles.



(Daihatsu Move Custom)



(Nissan Skyline)



(Lexus NX)