PHOENIX Electric Co.,Ltd.

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Phoenix Electric Develops an LED with Wavelengths from Near-ultraviolet to Near-infrared

Phoenix Electric Co., Ltd. (Hiroya Tahara, President and Representative Director), a consolidated subsidiary of Helios Techno Holding Co., Ltd., the National Institute of Advanced Industrial Science and Technology (Dr. Ryoji Chubachi, President), and Sialon Corporation (Eiji Fuchita, President) have succeeded at developing an LED with wavelengths extending from the near-ultraviolet to near-infrared bands. The development of this LED was reported in the evening edition of the September 10 electronic version of the Nihon Keizai Shimbun in an article titled "Wide-band LED Makes Factory Inspections Easier."

Summary

The LED development team, which consisted of the individuals listed below, has created an LED that produces light across an extremely broad range of frequencies. This is the first LED in the world (as of July 31, 2018 based on Helios Techno data) capable of generating light from 350nm (near-ultraviolet) to 1,200nm (near-infrared).

Tetsuya Goda, Manager of the LED Development Group, Phoenix Electric Co., Ltd. (President and Representative Director: Hiroya Tahara)

Dr. Takashi Fukuda, Senior Researcher, Optical Sensing Group (Research Leader: Makoto Fujimaki), Electronics and Photonics Research Institute (Director: Masahiko Mori), National Institute of Advanced Industrial Science and Technology (President: Dr. Ryoji Chubachi)

Dr. Kosei Takahashi, Director, Development Dept., Sialon Corporation (National Institute for Materials Science (NIMS) authorized venture)

For many years, a new type of light source that produces light across an extremely broad band of frequencies with stability regarding the frequency and intensity of light produced has long been desired to be developed. This revolutionary LED is expected to be used in medical, analytic and scientific measuring instruments, consumer products, and many other applications. As a replacement for halogen and other lamps, the new LED has the potential to be widely used as a maintenance-free light source that is compact and energy efficient.

See the explanation of terminology for information about underlined terms.

More information about this development is available at the Phoenix Electric's website: (http://www.phoenix-elec.co.jp/)

The impact of this development on the consolidated performance of Helios Techno Holdings has not been determined at this time. An announcement will be made when a decision has been reached.

Explanation of Terminology

Near-ultraviolet

Within the ultraviolet spectrum, wavelengths between 315nm and 380nm are generally referred to as near-ultraviolet. These wavelengths are also called UV-A. This newly developed LED can produce light with a wavelength as small as 350nm, which is well within the near-ultraviolet range.

Near-infrared

Within the infrared spectrum, wavelengths between 780nm and 1,400nm are generally referred to as near-infrared. These wavelengths are also called NIR or IR-A. This newly developed LED can produce light with a wavelength of up to 1,200nm, which is well within the near-infrared range.