OTOWA ELECTRIC CO., LTD.

<COMPANY PROFILE>

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Website	http://www.otowadenki.co.jp/eng/
Capital	¥81,900,000.-
Established	May 11, 1946
President	Osamu Yoshida

＜BUSINESS>

Development, manufacturing, and sales of various surge protective devices (SPDs) and other SPD and lightning protection related products using ceramic elements (zinc oxide materials). Consultation services on internal and external lightning protection. R&D, manufacturing, and sales of various device products, as well as electrical engineering and grounding work in addition to offering lightning surge testing.

＜TECHNOLOGY>

Japan's only lightning surge test center – Lightning Technology Center –

Operators in action at impulse generator

Lineup of lightning protection products

Museum of Lightning

Resounding thunder follows the white flash of light that appears in the dark sky. Otowa Electric Co., Ltd. is the nation's only company specializing in lightning protection goods, guarding society and lives against lightning damages that can amount to 200 billion yen annually. Otowa's business portfolio encompasses development, manufacturing and sales of lightning surge protective devices designed to stave off lightning surges trying to make inroads into electrical equipment as well as consultation on lightning protection and installation work.

As a lightning protection specialist and manufacturer of distributing arresters boasting the largest market share in Japan, Otowa opened the Lightning Technology Center in 2008. The Center is the culmination of the technologies developed by Otowa over 70 years and is the only platform for lightning surge tests and research in Japan. The Center houses the top-notch testing equipment of the nation including world-class impulse generator test equipment, a lightning impulse voltage generator located in an open room three stories tall that can simulate direct lightning strokes of 220kA. Within the Center, a two-storied house is installed to be used for lightning surge evaluation at housing-level to examine the adverse effect of the lightning surges to home appliances. Various manufacturers commission Otowa to conduct tests that conform to standards such as JIS and IEC.

For the general public, opportunities to experience what it is like to be struck by lightning, as well as to learn the mechanism of lightning generation, are offered using various devices. At the museum, an experiment to show the role of a lightning surge protective device by using light bulbs is available for visitors. The museum also exhibits various lightning protection products, some of the winning works of the Otowa Lightning Photo Contest, and archives a collection of books and goods on lightning.

【Background behind the development of the Center】

Given that modern society is experiencing series of technological innovations as seen in the popularization of the Internet, the introduction of robots, and the advent of Industry 4.0., it is vital that the general public further recognizes the pressing need for incorporating lightning protection. It is Otowa's mission to undertake vigorous tests and evaluations to develop a new product to respond to the demand of the market. Such recognition combined with developmental efforts should be the inspiration to bring in a safe and reliable lightning protection era. With its over 70 years of experience of focusing on the development of lightning protection related products, Otowa takes pride in its abundant know-how and expertise which led to the opening of the Center.

【Uniqueness】

Although it is a natural phenomenon, lightning can be simulated using various test devices. Otowa's lightning generation system, including the world-class Impulse Current Generator, and the three-story tall Impulse Voltage Generator, is used to generate lightning artificially. A house installed within the Center is used to evaluate the induced lightning surge entering into the structure, contributing to the development of home arrestors for sockets, LAN cables, and home distribution switchboards. Through all of these products, Otowa exerts its competitiveness as the top-notch lightning protection manufacturer.

【Future development】

The Lightning Technology Center will celebrate its ninth anniversary in September, 2017. The Center receives over 3,000 visitors annually, and it recently reached a lifetime total of 30,000 visitors. The Center is a popular destination for school field trips and excursions by young students from elementary through senior high schools as well as for engineers from the U.S., Europe, and Africa. Otowa will continue to turn its attention to potential talents who are aspiring to make contributions to society via lightning protection and communicate a new era of lightning protection with its unique product lineups and outside-the-box thinking.

＜TOPICS>

The Lightning Technology Center was chosen to conduct lightning surge resistance tests for Japan's first mass-produced small jet passenger aircraft "MRJ."

Otowa to perform lightning surge resistance tests for MRJ (Source: Mitsubishi Aircraft Corporation)

Mitsubishi Aircraft Corporation is currently developing the MRJ (Mitsubishi Regional Jet). Lightning protection measures are one of the most technically challenging tasks within passenger aircraft development. Lightning surge resistance tests are an integral part of development. Otowa Electric Co., Ltd was chosen to perform these resistance tests for the MRJ at its Lightning Technology Center where such tests are conducted day and night. Since these lightning surge resistance tests for passenger aircraft are nearly non-existent elsewhere even overseas, Otowa's technology was selected to further fortify the safety of Japan-made aircraft development.

Learning the mechanisms of lightning from photographs
Otowa Lightning Photo Contest held annually!

The 12th Lightning Photo Contest Grand Prix (2014)
Title: “Silence broken by lightning.”
Source: Otowa Electric Co., Ltd.

The annually held Photo Contest accepts photos from the public whose pictures have captured the moment when lightning flashes, with examples such as a photo of a column of current rising from the ground in winter, and an image of a volcanic lightning bolt gleaming in the blaze. Otowa's intention is to enable the public to develop a deeper understanding of lightning as well as to make the company better known. Winning works of lightning photos were compiled into a book which was included in the certified reading list by the Japan School Library Association. The book containing invaluable photos to support theories concerning lightning strikes is continuously receiving positive reviews.

<HISTORY>

1946	Established as Otowa Electric Ltd. in Gojozaka, Higashiyama-ku, Kyoto City
1955	The company was reorganized into a stock company, and the company name was changed to Otowa Electric Co., Ltd., then the headquarters was moved to Shibata-cho, Kita-ku, Osaka City.
1983	Began supplying oxide zinc arrestors to power companies across the nation.
1997	Earned the ISO9001 certification.
2000	The headquarters office was established in Amagasaki.
2003	The Lightning Photo Contest started.
2006	Was selected as one of the “Top 300 vigorous manufacturing SMEs to support the future of Japan” by the Ministry of Economy, Trade and Industry (METI) and the Small and Medium Enterprise Agency.
2008	Lightning Technology Center opened.
2014	Selected as one of the “Next Global Niche” companies which is a sister ranking next to the "Global Niche Top Companies Selection 100” chosen by the Ministry of Economy, Trade and Industry (METI) of Japan.