

# News Release

May 23, 2024  
Proterial, Ltd.

## The Fiber-optic Warning System for Contact Wire Wins the Distinguished Achievement at the 56th Ichimura Prize in Industry

Proterial, Ltd. (hereafter, “Proterial”) has won the Distinguished Achievement at the 56th Ichimura Prize in Industry, organized by the Ichimura Foundation for New Technology, for its Fiber-optic Warning System for Contact Wire (developed by Hiroyoshi Hiruta, Toyokazu Matsue, and Kazuhiko Tamura). The award ceremony was held on April 19 at Imperial Hotel, Tokyo.



Recipients of the Fiber-optic Warning System for Contact Wire at the award ceremony

### 1. Details of the Award

- Products: The Fiber-optic Warning System for Contact Wire
- Details: Distinguished Achievement at the 56th Ichimura Prize in Industry\*  
organized by the Ichimura Foundation for New Technology
- Awardees: Hiroyoshi Hiruta,  
Casting & Wire Engineering Dept., Electric Wire & Cable Business Unit, Proterial, Ltd.  
Toyokazu Matsue,  
Engineering Dept. I, Electric Wire & Cable Business Unit, Proterial, Ltd.  
Kazuhiko Tamura,  
Casting & Wire Engineering Dept., Electric Wire & Cable Business Unit, Proterial, Ltd.

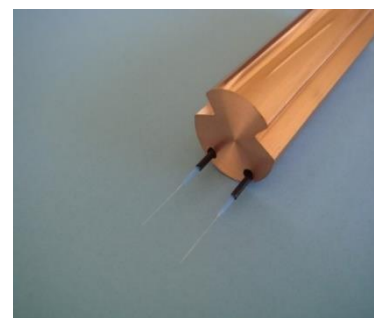
#### \*The Ichimura Prize in Industry

The award was established in commemoration of the Medal with Dark Blue Ribbon awarded to Kiyoshi Ichimura, founder of the Ichimura Foundation for New Technology. It is an award program that traditionally recognizes technology developers who advance science, technology and the industrial development of Japan.

The contact wire system is the 11th Proterial technology honored by the awards program. The development of a technology for the mass production of large high-uniformity gallium nitride (GaN) substrates won the Excellent Achievement at the 43rd Prize.

## 2. Technology Overview

Shinkansen bullet trains and other rolling stock run by receiving power from contact wires above the track through pantograph units fitted to their rooftops. Due to the structure where pantographs and contact wire are in contact, in the worst cases the contact wires break due to the effects of friction, preventing trains from running. To prevent this, conventional warning systems place a metal detection line inside the contact wire and monitor friction based on the presence or absence of a flowing current. However, this approach means that detection can only be performed at night when no noise is produced by running trains.



Contact wire  
with fiber-optic warning function

Jointly developed by Central Japan Railway Company and Proterial, the Fiber-optic Warning System for Contact Wire uses optical fiber detection wires to enable a constant monitoring function that monitors even during the day. It also supports the pinpoint identification of wear positions and helps users understand the status of wear in real time. The introduction of this system will reduce the workload for maintaining contact wires and help improve the quality of railroad maintenance.

Proterial will continue to respond to increasingly diverse needs as it strives to develop the high-performance materials that support social infrastructure.

Media Inquiries: Corporate Communications Dept.

[https://www.cntct.proterial.com/contact/publish/inquiry\\_eng?g=01&c=001-01](https://www.cntct.proterial.com/contact/publish/inquiry_eng?g=01&c=001-01)

### ■ About PROTERIAL

# PROTERIAL

“Proterial” reflects the essence of our corporate philosophy, which consists of three elements: Mission: “Make the best quality available to everyone;” Vision: “Leading sustainability by high performance;” and Values: “Unfaltering integrity” and “United by respect.” It combines **“pro-”** with the word **“material.”**

“Pro-” represents our “three pros”:

- Professional — work that exceeds expectations
- Progressive — a spirit that keeps challenging
- Proactive — an enterprising attitude

“Material” refers to the high-performance materials that our original technologies produce and underpinned by the three pros. With our focus on solving customer issues and bringing new levels of value, we promise to contribute to the realization of a sustainable society through the products and services that embody our philosophy.

### ■ Proterial, Ltd. — Company Overview

Established: April 1956

Head office: Toyosu Prime Square, 5-6-36 Toyosu, Koto-ku, Tokyo 135-0061, Japan

Capital: 310 million yen (as of March 31, 2024)

Representative: Sean M. Stack

Representative Director, Chairman, President, and Chief Executive Officer (CEO)

Sales revenue: 1,033.2 billion yen (Term ended March 2024)

History: 1910: Founded as Tobata Foundry Co.

1937: Merged with Hitachi, Ltd.

1956: Established separately as Hitachi Metals Industries, Ltd.

2023: Company separated from the Hitachi Group, and renamed from Hitachi Metals, Ltd. to Proterial, Ltd.

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Toyosu Prime Square, 5-6-36 Toyosu, Koto-ku, Tokyo 135-0061, Japan  
[www.proterial.com/e/](http://www.proterial.com/e/)