

News Release

FOR IMMEDIATE RELEASE

Hitachi awarded the National Commendation for Invention “Imperial Invention Prize” for the Design of Class 800 High-speed Train for the UK



Fig. 1: Class 800 High-speed Train

Tokyo, Japan, May 23, 2019 --- Hitachi, Ltd. (TSE:6501, “Hitachi”) announced today that it has received the 2019 Imperial Invention Prize, which is a part of the National Commendation for Invention, for the design of Class 800 high-speed train for the UK (Design Registration No. 1486294). The Imperial Invention Prize is Japan’s most prestigious award for invention; this is the first time that it has been awarded in recognition of outstanding design.

The “National Commendation for Invention” was established in 1919 by the Japan Institute of Invention and Innovation, to contribute to advances in science and technology and the development of industry in Japan by recognizing the creators of outstanding inventions, ideas, and designs as well as researchers and scientists with notable achievements in these areas.

The Class 800, which was developed for the Intercity Express Programme (IEP) in the UK, is currently running on main routes out of London to western and northern UK. It overcomes differences in standards in the UK, which has a running environment unlike that of Japan, while at the same time offering a comprehensive design that includes both ease of use for the operating company and attractive, comfortable cars that blend seamlessly into local users’ lifestyle and culture. In this way, Hitachi strives to design trains that will be fully embraced by the regional society, and become the face of new

railway infrastructure.

Moving forward, Hitachi will continue to contribute to increasing people's quality of life and achieving a sustainable society, by expanding its railway business in the UK and throughout the global market.

The National Commendation for Invention award ceremony will be held on June 10, 2019 at the Hotel Okura Tokyo, Japan.

■ Class 800 design

1. Design that offers both collision safety and aerodynamic performance

In the UK and throughout Europe, standards have been stipulated to secure a “survival zone” that protects the driver in the event of a collision, and to provide a crashworthy structure that controls deceleration in a crash. Hitachi adopted numerous components to satisfy these standards, including energy absorption block in the train body. However, installing these components in the nose of the train presented an issue from a design perspective as they would protrude from the train body, hindering both the aerodynamic performance and the streamlined beauty of the train. In the Class 800, Hitachi made these parts as compact as possible and adjusted the installation angle to achieve a smooth fit that virtually eliminated protrusions and secured aerodynamic performance. (Fig. 2)



Fig. 2: The smooth streamlined nose of the Class 800
(in comparison to Hitachi's conventional trains)

2. Design accommodating for both human factors and rolling stock productivity

Among the “human factors” stipulated in UK train standards is securing a clear field of vision both for the driver and the co-driver (Fig. 3). The Class 800 was designed with a windshield that ensures a clear field of vision for the driver and the co-driver, while at the same time improving its productivity by minimizing its weight, as required in a high-speed train.

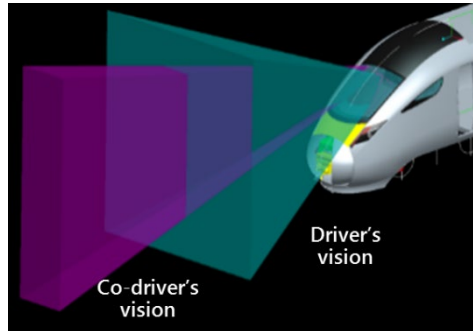


Fig. 3: The windshield ensures a wide field of vision for both the driver and the co-driver

3. Design that emphasizes the identity of Hitachi's trains

UK standards required that trains feature a yellow surface (a warning color) covering 1m² or more at the front of the train, to increase visibility for approaching trains. The Class 800 features two “character lines” on the nose of the train, with the warning color positioned between these lines. In this way, even if the same rolling stock is operated by different companies, the unique design of the train’s front face clearly identifies it as a Hitachi train, and provides a sense of uniformity. (Fig. 4)



Fig. 4: Warning color and “character lines” that emphasize Hitachi’s identity

*1: ECML: East Coast Main Line

*2: GWML: Great Western Main Line

■ **Outline of Award**

Name of Design	Design for High Speed Train “Class 800” as a social Infrastructure in the UK
Creators	Hitachi, Ltd.: Yuichiro Kota and Makoto Sono

About Hitachi, Ltd.

Hitachi, Ltd. (TSE: 6501), headquartered in Tokyo, Japan, is focusing on Social Innovation Business combining its operational technology, information technology and products. The company’s consolidated revenues for fiscal 2018 (ended March 31, 2019) totaled 9,480.6 billion yen (\$85.4 billion), and the company has approximately 296,000 employees worldwide. Hitachi delivers digital solutions utilizing Lumada in five sectors including Mobility, Smart Life, Industry, Energy and IT, to increase our customer’s social, environmental and economic value. For more information on Hitachi, please visit the company’s website at <https://www.hitachi.com>.

■ **Inquiries**

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