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FOR IMMEDIATE RELEASE **No. 3769**

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Mitsubishi Electric Researcher Elevated to IEEE Fellow, Class of 2025

Recognized for contributions to technological innovation and societal progress

Dr. Stefano Di Cairano

TOKYO, February 18, 2025 – Mitsubishi Electric Corporation (TOKYO: 6503) announced today that Dr. Stefano Di Cairano of Mitsubishi Electric Research Laboratories, Inc. (Cambridge, MA, USA) has been elevated to the title of IEEE Fellow. IEEE, the world's largest association of some 420,000 professionals engaged in electrical/electronic engineering and information/communication technology in 160 countries, confers fellowships annually to no more than 0.1% of its voting members for outstanding contributions to technological innovation and societal progress.

Dr. Stefano Di Cairano: For contributions to predictive and constrained control in automotive and aerospace applications

Dr. Stefano Di Cairano was elevated to IEEE Fellow, as recommended by the Control Systems Society, for contributions to predictive and constrained control in automotive and aerospace applications. His research developed methods and algorithms to achieve real-time computation of constrained optimization with guarantees of safety, robustness, and performance. Through these developments he demonstrated the effectiveness and impact of predictive and constrained control methods, such as model predictive control and reference governor,* in automotive and aerospace domains, and paved the way to the widespread usage of those methods in real-world applications. The developed methods were implemented in multiple Mitsubishi Electric applications. Some notable results are the mass production of nonlinear model predictive control for automotive driver assistance systems, achieving increased safety and comfort for cars, and for high-precision autonomous maneuvering of trucks in shipping yards, to optimize transportation in supply chains. The research results are also at the core of novel systems for controlling satellites and spacecraft, enabling larger payloads,** longer life-span and increased safety. The methods have also been prototyped for energy efficient HVAC*** system and for high-speed motion control in manufacturing applications such as laser processing machines.

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About Mitsubishi Electric Corporation

With more than 100 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Mitsubishi Electric enriches society with technology in the spirit of its "Changes for the Better." The company recorded a revenue of 5,257.9 billion yen (U.S.$ 34.8 billion*) in the fiscal year ended March 31, 2024. For more information, please visit www.MitsubishiElectric.com

*U.S. dollar amounts are translated from yen at the rate of ¥151=U.S.$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2024

* Method for constrained control that only changes the reference signal provided to the controller to ensure that the devices operation satisfies the constraints.

** Increasing payload capacity involves enhancing the ability of satellites and spacecraft to carry more equipment, instruments, or cargo.

*** Heating, Ventilation, and Air Conditioning (HVAC) systems are designed to provide heating, cooling, and air quality control.