Overview

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Foreword to Special Issue on Industry & Mobility

At Mitsubishi Electric Corporation Group, we aim to achieve sustainability, with a focus on contributing to a sustainable society by solving social issues through our businesses. We will transition into a circular digital engineering business model with smarter digitization of field knowledge accumulated from customer data, blending it with advanced digital technologies such as AI and modeling, and linking it with our digital platform "Serendie," thereby maximizing our strengths. By integrating our technical assets—Operational Technology (OT), domain knowledge, security, and development and design capabilities—and advancing data collaboration between systems across different business domains, we will continue to create solutions that solve complex social issues and contribute to a better society. In the Industry & Mobility BA, we will maximize technology synergies that support the future of "manufacturing" and "comfortable mobility" through digitally sophisticated core components and digital technologies, mutually reinforcing the manufacturing capabilities of the FA Systems Business and the Automotive Equipment Business, as well as our Digital Solutions Business.

For the industry domain, this feature issue showcases the programmable automated controller "MELSEC MX Controller," a newly released digitally sophisticated component that integrates various control and motion technologies cultivated through sequencers into a single unit, from a software-defined perspective.

In the mobility domain, advanced driver assistance functions in automobiles continue to evolve, and we are developing and providing key components that support these functions and lead their evolution, with the aim of creating a safe and secure society free from accidents. This feature issue takes a closer look at "High Definition Locater" and "Vehicle to everything (V2X)" as technologies for achieving safer mobility with automobiles—technologies that accurately identify the vehicle's own position on the road by leveraging high-precision satellite positioning technology, and that identify relative positions to surrounding vehicles through vehicle-to-exterior communications to avoid collisions. We also explore the "Driver Monitoring System (DMS)" and "in-cabin radar" technologies that sense the condition of drivers and passengers inside the cabin and issue alerts by detecting driver distractions, drowsiness and passenger remaining in the vehicle when parking, enabling people to use automobiles safely and with peace of mind every day. Finally, we also showcase "Microcontroller-less System on a Chip (SoC) control technology" that reduce the cost of these products and enable installation in more automobiles.

In today's complex and rapidly changing society, the Industry & Mobility BA will become a game changer itself and continue to explore the possibilities of the future. To achieve this, we will take the dual approach of backcasting that gains insight into future value from potential future scenarios to formulate a

mid-term technology strategy, and forecasting that internalizes technology trends and links them to business expansion in a reliable manner, to take on the challenge of technology development to transform existing businesses and open up new markets and customers.