

Featured Topic: Our Endeavor in the Automotive Business to Achieve VISION 2022



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The automotive industry has entered a major once-in-a-century revolutionary era characterized by the connected, autonomous, shared/service, and electric (CASE) strategy. R&D efforts are strongly directed towards the next-generation motorized society. Meanwhile, global automobile sales are expected to continuously increase. At the same time, the market for environmentally friendly vehicles is forecast to grow substantially due to tighter environmental regulations to be enforced in many countries.

core” for its automotive segment. The Automotive Business Unit will continue to develop new products by taking advantage of expertise the Group has accumulated in the power, communications, and materials technology fields and of collaborations with external parties, based on its comprehensive strength in wiring harnesses and the global presence of the trinity system comprising Sumitomo Electric Industries, Ltd., Sumitomo Wiring Systems, Ltd., and AutoNetworks Technologies, Ltd.

1. Policy and Growth Strategy for Our Automotive Business Unit

The Sumitomo Electric Group has set out, in its mid-term management plan VISION 2022, an ideal future state of “a mega-supplier with the wiring harness business at the

2. R&D Areas and Pursuing the CASE Strategy

2-1 Extensive R&D areas of the Sumitomo Electric Group

The Sumitomo Electric Group has diverse management resources including in-house-developed technologies

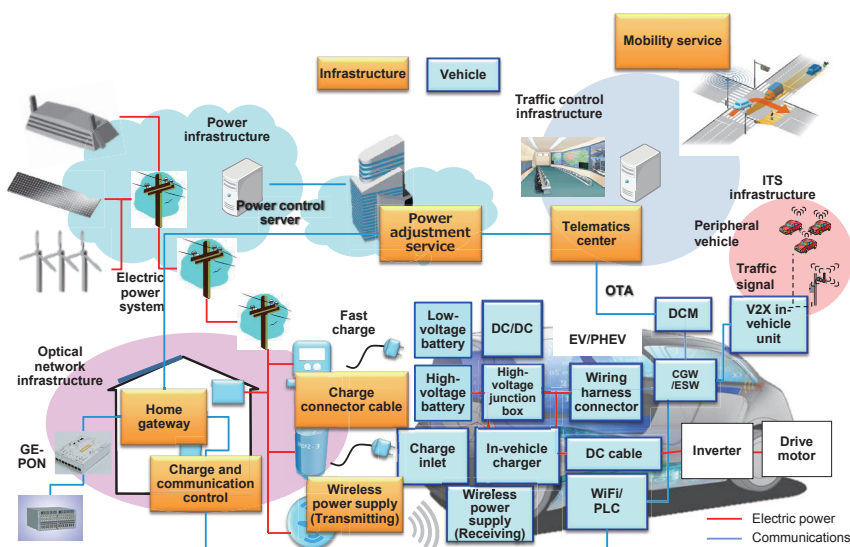


Fig. 1. R&D areas for linking in-vehicle devices and infrastructure

and products, without a reliance on a specific business, as shown in Fig. 1. This implies substantial strength against the backdrop of advances in technological innovation and integration, and accelerating cross-industry projects in the areas of mobility, energy, and communications, into which Sumitomo Electric has long put its energies.

Making the most of these resources, Sumitomo Electric intends to offer proposals from a comprehensive perspective for linking vehicles and infrastructure, as well as to work on development of in-vehicle applications. We will aim at further growth, offering novel technologies, products, and services.

2-2 Pursuing the CASE strategy

In line with the trend towards **autonomous vehicle** technology, Sumitomo Electric is accelerating its R&D efforts for electronic platforms and the components thereof, with the creation of future wiring harnesses in mind. We are endeavoring to improve vehicle and high-speed communications-related simulation technology as a fundamental technology.

To serve the needs arising from **vehicle electrification**, we promote sales of high-voltage wiring harnesses and connectors and underfloor pipe-shielded wiring harnesses, which are low-noise and provide superb scratch resistance and heat dissipation, and are used to connect the battery in the rear to the motor in the front. Meanwhile, advances in vehicle electrification are expected to lead to the interconnection of vehicles with the power infrastructure. Sumitomo Electric is actively working on the development of battery management systems that monitor and control the state of the in-vehicle battery working in concert with the power infrastructure, battery wiring modules, and high-voltage converters for 48V applications.

To support **connected vehicles**, Sumitomo Electric promotes the development of both software and hardware to apply our Ethernet and other high-speed communications technologies, fostered with consumer products, to in-vehicle applications and to ensure automotive security.

Sumitomo Electric's **materials** R&D efforts include reactors taking advantage of our material technologies such as magnetic core and rectangular wire, high-current compatible charge connectors, automotive air-conditioner power cables, rectangular wires for drive motors, and high-current silicon carbide transistors.

3. Creation of Innovative Products through an Enhanced Management Framework and Collaboration within and outside the Company

In April 2018, to strengthen our connected vehicle business, the Systems & Electronics Division in charge of development and manufacture of road traffic control systems was placed under the Automotive Business Unit. In addition, the Software Business & Technology Planning Division was newly established to enhance our software development capability.

Meanwhile, due to increasingly sophisticated automobiles, development of in-vehicle/embedded software has become more complex and is being pursued on a massive

scale. As such, to speed up software development and maximize the business opportunities in the rapidly changing automotive sector, Sumitomo Electric entered into a business collaboration with NEC Corporation in February 2018.

Additionally, in September 2017, to promote the realization of advanced driving assist systems, Sumitomo Electric and NTT Docomo Inc. commenced a field test for collection and analysis of road traffic information at real time, using a 5th generation mobile communication system (5G) and sensors incorporated in automobiles and road traffic infrastructure including roads and buildings (Photo 1).



Photo 1. Test bed at Yokohama Works, Sumitomo Electric

The goal is to create a business that provides advanced driving assistance and walking assistance respectively for automobiles and pedestrians via the collection and analysis of road traffic data in their vicinity, such as of moving automobiles, pedestrians, and road conditions, providing a real-time picture of road traffic conditions over a wide area.

This issue introduces virtually all relevant technologies except for those unable to be included due to the release schedule. Also described are anti-vibration rubber, hoses, and sound-damping/insulating parts and materials manufactured by a member of the Group, Sumitomo Riko Company Ltd., a new type of diamond-like carbon films produced by Nippon ITF Inc., and humidity-aging resistant steel cords for tires. The editor welcomes your wide-ranging comments on the articles.