

# smart mobility

traffic management and information products

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●Traffic Visior and Traffic Vision Green is a trademark of Sumitomo Electric System Solution Co. Ltd. in Japan.

●Vehicle Information and Communication System (VICS) traffic information used in the Traffic Vision is based on the road traffic information provided by VICS Center. VICS center's technology is used to create road traffic information data. Vehicle Information and Communication System (VICS) traffic information used in the Traffic Vision series is based on the data provided by the Foundation Japan Road Traffic Information Center, where the technology of the Vehicle Information and Communication System Center is used.

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# Connected Society

## Sumitomo Electric's Concept of Creating a Future City

### Mobility

New technologies for mobility, including automatic driving, bring about significant changes in society. Not only the release from operation time, but the integration of various services and social functions with mobility makes our city more unfettered and active.

### Energy

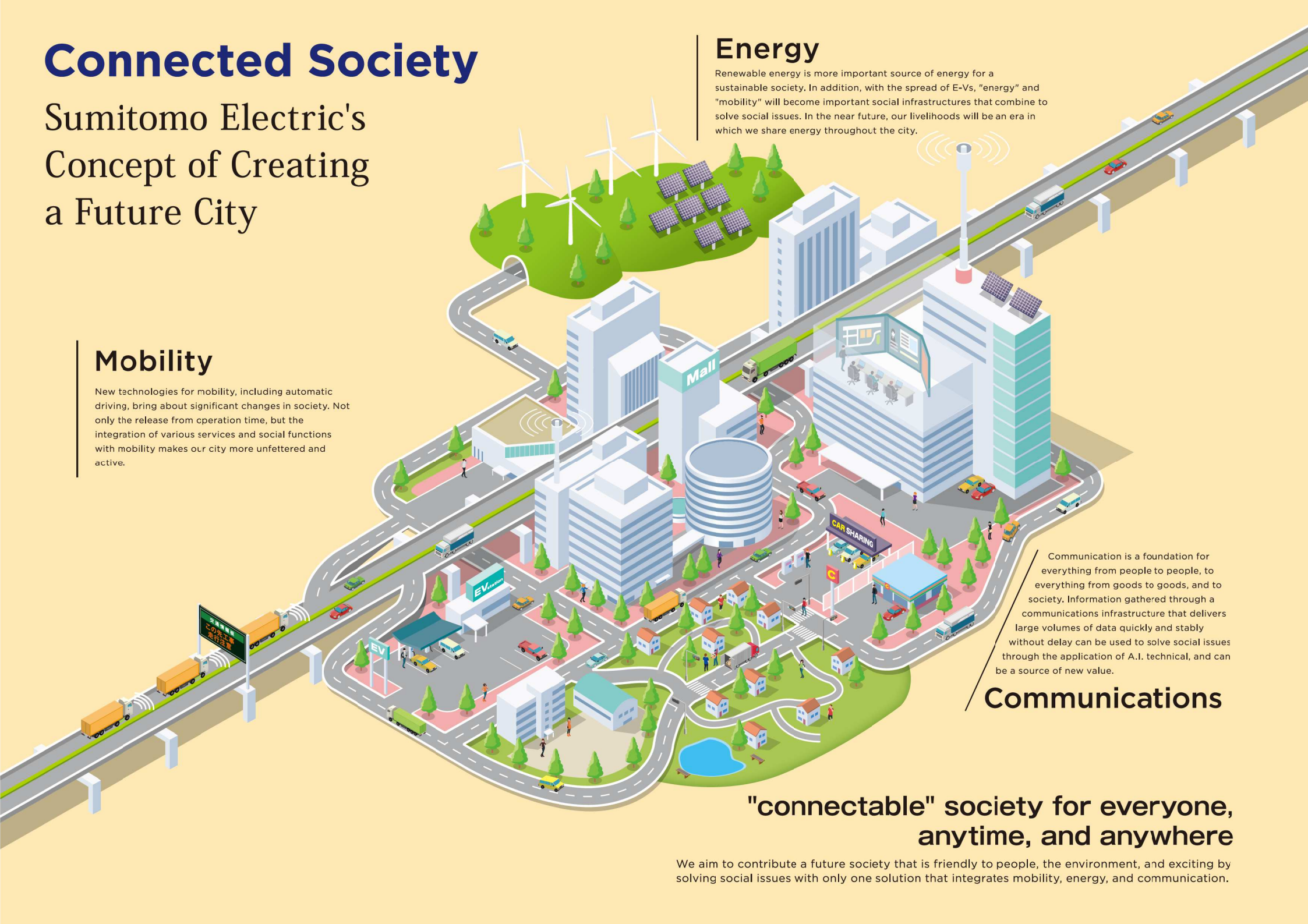
Renewable energy is more important source of energy for a sustainable society. In addition, with the spread of E-Vs, "energy" and "mobility" will become important social infrastructures that combine to solve social issues. In the near future, our livelihoods will be an era in which we share energy throughout the city.

Communication is a foundation for everything from people to people, to everything from goods to goods, and to society. Information gathered through a communications infrastructure that delivers large volumes of data quickly and stably without delay can be used to solve social issues through the application of A.I. technical, and can be a source of new value.

### Communications

**"connectable" society for everyone,  
anytime, and anywhere**

We aim to contribute a future society that is friendly to people, the environment, and exciting by solving social issues with only one solution that integrates mobility, energy, and communication.







## Traffic Control System Expressway Traffic Monitoring System

Technology development and changes in the social environment has been changing drastically the concept of "mobility".

Sumitomo Electric provides a safe, secure, and comfortable mobility by comprehensively utilizing the various ITC technologies and applications.

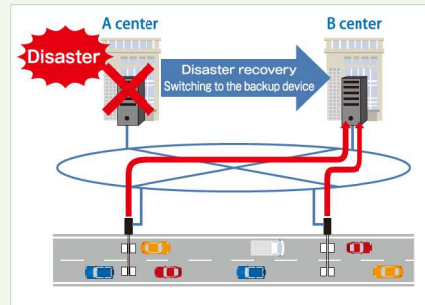
## Traffic Control System

Traffic control system contributes to safe and smooth traffic flow. Based on the analysis and simulation results of the traffic information gathered by various detectors installed along roads, the system, for example, controls traffic signals and provides traffic information via various media to realize the traffic management optimal for cities and the environment. Sumitomo Electric provides a wide range of products, such as various types of detectors, equipments for traffic control center, and data transmission devices. Sumitomo Electric has a track record in multiple cities not only in Japan but also in foreign countries, which includes Tokyo Metropolitan Police Department Traffic Control Center, one of the largest TCC in the world.



## Traffic Flow Surveillance System

The system creates congestion information from the number and speed of vehicles measured by the vehicle detector and provides it to related facilities. Respond to disaster recovery, which is a disaster countermeasure. Switching to the backup device can be performed by simple operation.

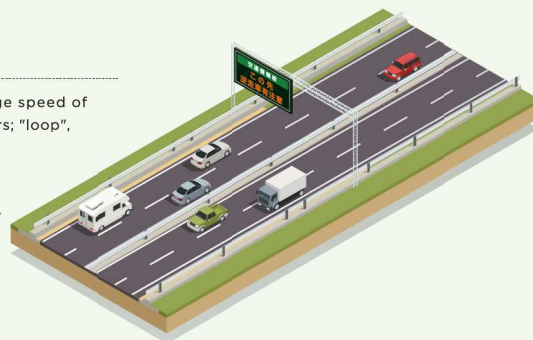


## Vehicle detector

Vehicle detector measures the number and average speed of moving vehicles. There are various types of detectors; "loop", "ultrasonic", and "image processing" type.

### [Wrong way driving detection]

The loop type vehicle detectors detect the wrong way driving vehicle with high accuracy. The loop type has a much higher vehicle detection accuracy than other types, and is almost free of false positives.



## Vehicle-to-Infrastructure (VtoI) cooperative systems

Cooperation between infrastructure and vehicles is necessary for safer and more comfortable mobility. Looking ahead to era of self-driving, Sumitomo Electric provides sensors and/or ITC devices related to Vehicle-to-Infrastructure (VtoI) cooperative systems.



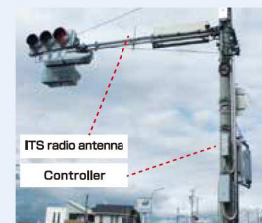
## Driving Safety Support Systems (DSSS)

This system transmits traffic events, which are not directly visible to the driver or which the driver may fail to detect, via roadside units such as ITS wireless roadside units to the in-vehicle unit and provides the driver with such information as necessary in order to reduce traffic accidents.



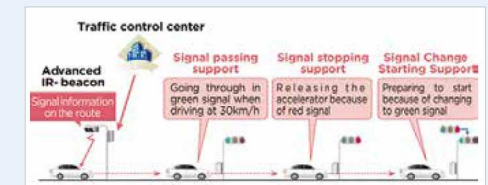
## ITS wireless communication equipment

This is a road-side equipment dedicated for 760MHz radio band, which is assigned only for ITS in Japan. This equipment enables real-time continuous communication in a wide area, suitable for Vehicle-to-Infrastructure (VtoI) cooperative systems.



## Traffic Signal Prediction Systems (TSPS)

This system provides vehicles with information (signal phase & timing information along corridor) such as traffic signal timing using infrared beacons to help vehicles smoothly pass through intersections. This system aims at safe and smooth travel and CO2 emissions reduction by, for example, providing the optimal recommended speed to avoid stopping at a red light (passing support), providing deceleration instructions early when stopping at a red light is unavoidable (stopping support), and helping avoid delay in starting (support for turning off a vehicle engine when stopped).



## Pedestrian detector (24 GHz-band millimeter-wave radar)

Our original pedestrian detection algorithm makes it possible to detect pedestrians behind passing vehicles who the driver may fail to see.







## Mobility service

Developing technologies to connect cars and clouds, we will provide traffic information and travel information as solutions in order to provide safe transportation methods and create new transportation demand.



## TrafficVision® Telematics System

For the system development of "telematics" such as driving route search and traffic information services, traffic and map-related information is needed. We have a lineup of server software by function for telematics so that various kinds of information necessary for system architecture can be incorporated into the system.



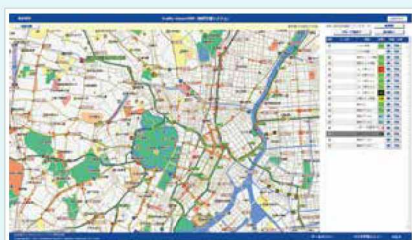
## TrafficVision®/DP Delivery planning system

Optimal vehicle allocation plans can be formulated at multiple sites. Since all data is centrally managed on the cloud, it is possible to flexibly cope with the increase in the number of operation sites. Using statistical processed data of VICS traffic information with our unique know-how, we have achieved higher accuracy in the calculation of optimal delivery routes and arrival times. This system flexibly handles various types of delivery such as operations, mixed delivery, collection, and transfer planning, grouping by location, customer, and address, and consideration of vehicle usage priorities.



## TrafficVision®/MM Location based management system

This package software acquires the position of vehicles and sales representatives, predicts their arrival at their destinations, and manages their work conditions with smartphones and GPS tracking devices in vehicle. Real-time VICS information is used to predict arrival at a destination, and this information is useful for early detection of delays in arrival, advance guidance, and other services.



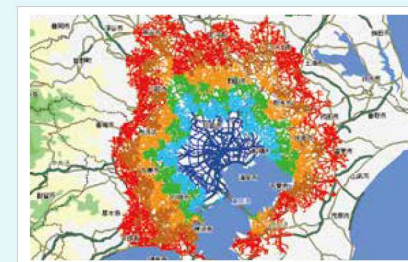
## AgentNavi® SDK for navigation app

AgentNavi is a developing kit for navigations for smartphones and tablets. We will strongly support the development of car navigation systems utilizing VICS traffic data. The latest map and traffic information are distributed in cooperation with the data center.



## Traffic Vision Green® EV range map

TrafficVisionGreen utilizes probe-information to predict traffic congestion and provide high-precision estimation of electric consumption for EV. The EV range map enables EV driver to know how far the EV can travel from the home or other place of departure without charging.



## EV charging guide

In addition to searching for the position of the EV stations, the TrafficVisionGreen provides the driver with the optimal time to charge the EV, taking into account various conditions such as traffic congestion, slope and climates. This helps to alleviate the driver's anxiety that the EV will run out of batteries on its way to the destination.

