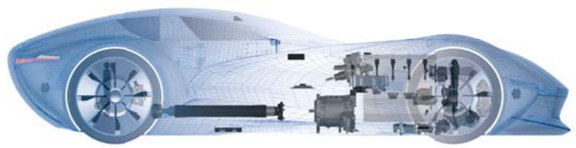
HITACHI
Inspire the Next

Product Catalog

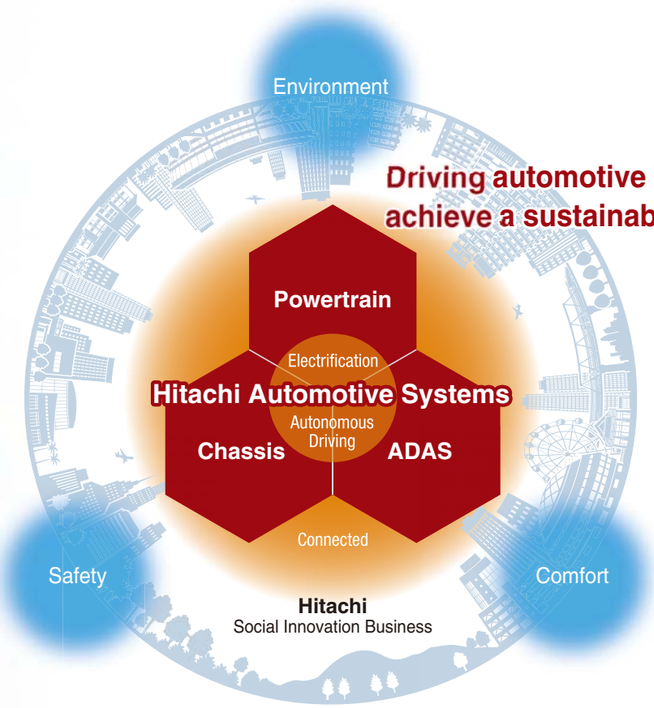


Hitachi Automotive Systems, Ltd.

By delivering our products and system solutions throughout the world, we can realize an affluent society by creating new value for people, vehicles and society.

Vehicles are evolving as a means of mobility by offering increased social value in areas such as the environment, safety, and comfort. Leveraging our competitive edge in mechatronic control technologies, Hitachi Automotive Systems is providing ever-greater value through our core business areas of powertrain systems, chassis systems and advanced driver assistance systems (ADAS). At the same time, we are developing and introducing new technologies to support the critical technical fields of electrification and autonomous driving.

Furthermore, by leveraging the technologies of the Hitachi Group such as Internet of Things (IoT), Artificial Intelligence (AI), and information and security technologies, Hitachi Automotive Systems will provide systems solutions for connected cars to support a next-generation mobility that will create a more prosperous society with greater connectivity between humans, cars, and society.



Driving automotive innovation to achieve a sustainable society

Moving Forward

Powertrain Systems (Engine)

In order to meet increasingly stringent environmental regulations around the world, there is a need to efficiently convert fuel into kinetic energy, and reduce emissions of gases such as CO_2. We have developed engine technologies such as direct injection and valve timing control that greatly increase the efficiency of internal combustion engines. In addition, we use simulation and analysis technologies to continually refine our components, improve engine thermal efficiency, and produce clean engines with a reduced environmental burden.

Control Systems

Engine Control Unit for DI

Engine Control Unit for PFI

Control Unit for CVT

On Mission Control Unit
for CVT

Control Unit for
Four-speed Automatic Transmission

In-pan Transmission
Control Module

Intake / Exhaust Systems

Multi Function Mass
Air Flow Sensor

Airflow Sensor

Differential Pressure Sensor

Hall Effect Type
Revolution Sensor

Pressure Sensor

Electronic Throttle Body

Electronic Throttle Body
for Diesel

Fuel Systems

High-Pressure Fuel Pump

Injector for DI

Injector for PFI

Ignition Systems

Plug Top Coil

Engine Components and Subsystems

Piston for DI

Piston for PFI

Cooling Channel Piston

Valve Timing Control
System

VTC Solenoid Valve

Electromotive VTC

Variable Valve Event and Lift
(VEL)

VCR Actuator

Variable Displacement Vane Pump
(Front Cover Integrated Type)

Variable Displacement
Vane Pump
(Chain Drive Type)

Water Pump
(Single Bearing Type)

Water Pump

MCV

Balancer
(Oil Pan & Oil Pump Integrated Type)

Balancer
(VDVP Integrated Type)

Chain Case Module
(Oil Pump & Water Pump Integrated Type)

Water Pump
(with Housing Type)

Electrical Equipment Systems

Planetary Gear Reduction Starter

Twin Axial Gear Reduction Starter

CVT: Continuously Variable Transmission
DI: Direct Injection
MCV: Muiti-waterways Control Valve
PFI: Port Fuel Injection
VCR: Variable Compression Ratio
VDVP: Variable Displacement Vane Pump
VEL: Variable valve Event and Lift
VTC: Valve Timing Control

Powertrain Systems (Electric)

In recent years, vehicle electrification has seen remarkable progress, due in part to environmental regulations on zero-emission vehicles. In addition to Hybrid Electric Vehicles (HEV), Plug-in Hybrid Electric Vehicles (PHEV), and Electric Vehicles (EV), Mild Hybrid Vehicle systems using 48 Volt electricity are starting to appear.
Vehicle electrification systems will prove essential for meeting environmental regulations. In addition to the main electric powertrain components of electric motors and inverters, we are developing other technologies to maximize eco-friendliness and driving performance.

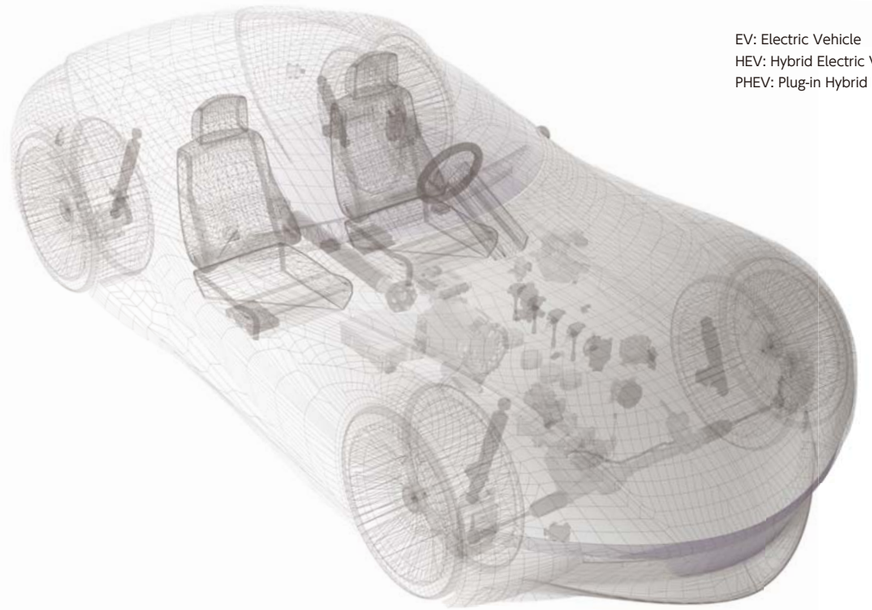
Hybrid Vehicles / Electric Vehicle Systems

Motor for HEV

Inverter for EV

Inverter for HEV / PHEV / EV

Inverter for HEV / PHEV / EV



EV: Electric Vehicle
HEV: Hybrid Electric Vehicle
PHEV: Plug-in Hybrid Electric Vehicle

Advanced Driver Assistance Systems

Expectations are increasing for safe, comfortable, and highly efficient autonomous driving systems that can eliminate accidents, reduce driver workload, and resolve traffic congestion, thereby helping to achieve a smart mobility society.
In order to realize a safe and secure autonomous driving system, we are developing a sensor fusion system that can detect the surrounding situation by integrating sensor data from sources such as stereo cameras and radars.
Data from this system is used by our autonomous driving ECU to make instantaneous decisions on acceleration, deceleration, and lane-changing.

Autonomous Driving Systems / 360 Degree Sensing Systems

Stereo Camera

Millimeter-wave Radar
(Mid-range)

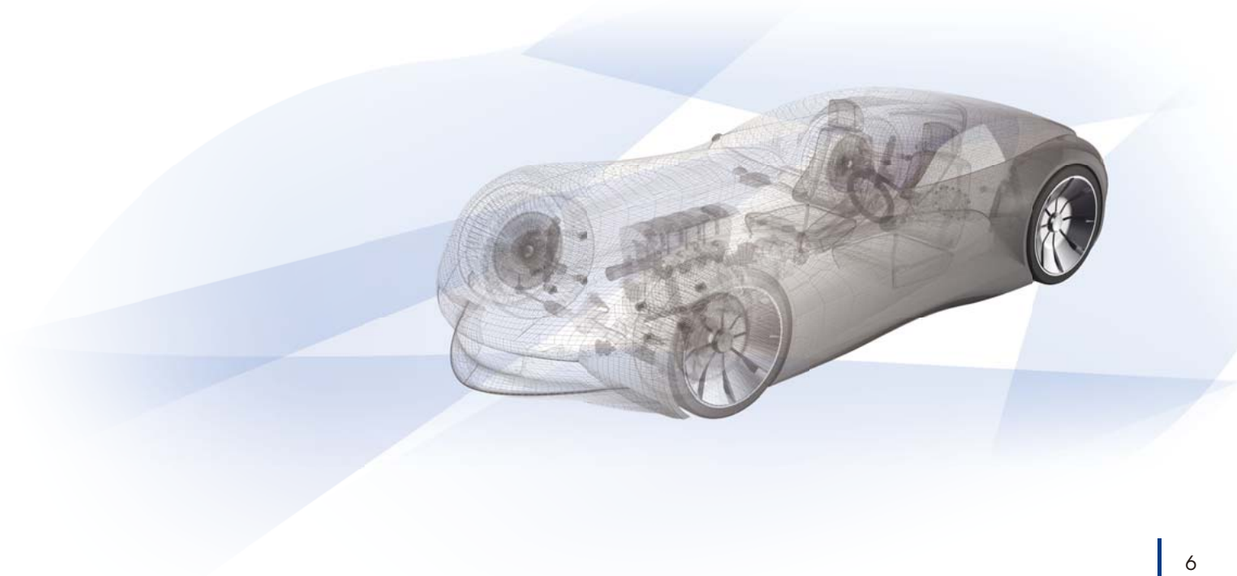
ADAS ECU

AD ECU
(Prototype)

Central Gateway

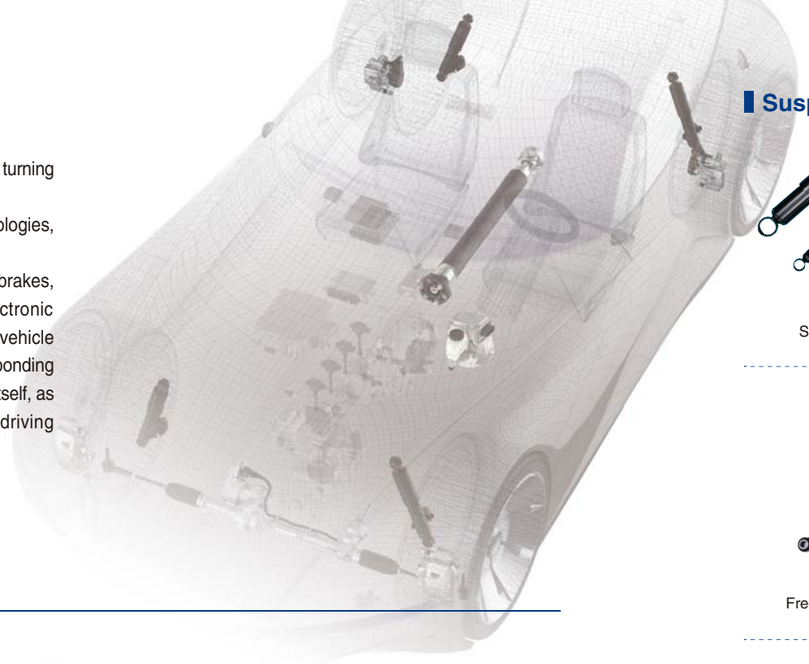
Map Positioning Unit

AD: Autonomous Driving
ADAS: Advanced Driver Assistance System
ECU: Electronic Control Unit



Chassis Systems

Chassis products determine the basic functions of automobiles - moving, turning and stopping.
By coordinating and harmonizing the chassis with various control technologies, we can count on improved safety and comfort.
In order to aim for an even higher level of safety, the core elements of brakes, steering, and suspension have been electrified and subjected to electronic control. We created a system that completely integrates all aspects of vehicle motion. The aim of this system is to improve motion performance by responding in real-time to changes in the state of tires, road surface and the vehicle itself, as well as to achieve autonomous driving, which requires coordinated driving control.



Steering Systems

Electric Power Steering System
(Belt Drive Rack Assist Type)

Electric Power Steering System
(Pinion Assist Type)

Manual Steering Gear
for Column Assist EPS

Rack & Pinion Power Steering Gear
(Speed Sensitive Type)

Electric Power Steering Control Unit
(Column Assist Type)

Power Steering Pump
(Variable Displacement Type)

Variable Displacement Power Steering
Pump for Heavy-duty Truck

Drive Power Transmission Systems (Propeller Shaft)

Impact Absorbable CVJ Type

Direct Connection Interface (DCI) Joint Type

Rubber Coupling Type (with Lobro Joint)

CFPR Tube Type

Aluminum Tube Type

CFRP: Carbon Fiber Reinforced Plastics
EPS: Electric Power Steering

Suspension Systems

Shock Absorber

Suspension Strut

Suspension Unit

Mono Tube Shock Absorber

Aluminum Shock Absorber

Frequency Reactive Damper

Hydraulic Type Height Adjustment
Suspension System

Air Suspension Strut

Semi-Active Suspension System

Hydraulic Cylinder
for Roll Control

Self Levelizer

Air Levelizer

Air Compressor
for Height Adjustment

Control Unit
for Height Adjustment

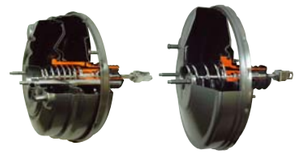
Brake Systems

Disc Brake Caliper

Disc Brake Caliper
for Motorcycle

Electric Parking Brake

Brake Master Cylinder



Vacuum Booster

Electrically-Driven
Intelligent Brake

Control Unit for Other Purposes

Anti-Lock Brake System

Electronic Stability Control
(ESC)

Electric 4WD
Control Unit

Aftermarket Products / Applied Technology & Industrial Equipment

Over many years, Hitachi Automotive Systems has developed and cultivated advanced automotive technologies that have extensive secondary applications in the world around us. For instance, from our manufacturing technologies, we have derived anti-vibration and hydraulic components, home appliance technologies that support modern lifestyles, and industrial equipment and social infrastructure including railcar components, anti-seismic products, and many other useful technologies. Moving forward, we will continue to pursue secondary applications for our technologies in order to realize a more comfortable society.

Aftermarket Products & Maintenance Accessories

Brake Pads

Brake Rotor

Shock Absorber

Power Steering Gear

Power Steering Pump

Water Pump

Fuel Pump

Injector

Electronic Throttle Body

Air Flow Sensor

Ignition Coil

Hitachi Diagnostic Monitors

Ignition Coil Checker

Battery Checker

Portable Power Source (12V, 24V)

Applied Technology & Industrial Machinery

Railcar Components

Vertical Damper

Horizontal Damper

Yaw Damper

Yaw Damper between the Car

Variable Damper System

Leveling Valve

Anti-seismic Products

Seismic Isolation Oil Dampers

Anti-vibration Oil Dampers

ATSUGI Hydraulic Press

Toggle Type Vibration-proof Damper

Vibration-proof Damper for Housing

Learn more about replacement steering parts on our website.