



# Automotive Solutions for Chassis and Safety



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# Smart Mobility

It is estimated that 80% of all innovations in the automotive industry today are directly or indirectly enabled by electronics. With vehicle functionality improving with every new model this means a continuous increase in the semiconductor content per car.

With over 30 years' experience in automotive electronics, ST is a solid, innovative, and reliable partner with whom to build the future of transportation.

ST's Smart Mobility products and solutions are making driving safer, greener and more connected through the combination of several of our technologies.



## SAFER

Driving is safer thanks to our Advanced Driver Assistance Systems (ADAS) – vision processing, radar, imaging and sensors, as well as our adaptive lighting systems, user display and monitoring technologies.

## GREENER

Driving is greener with our automotive processors for engine management systems, high-efficiency smart power electronics at the heart of all automotive sub-systems and devices for hybrid and electric vehicle applications.

## MORE CONNECTED

Vehicles are more connected using our infotainment and telematics processors and sensors, as well as our radio tuners and amplifiers, positioning technologies, and secure vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2X) connectivity solutions.

ST supports a wide range of automotive applications, from Powertrain for ICE, Chassis and Safety, Body and Convenience to Telematics and Infotainment, paving the way to the new era of car electrification, advanced driving systems and secure car connectivity.

**80%**  
of all innovations  
in the automotive  
industry today  
are enabled by  
electronics

# Chassis and Safety



**ST**  
offers a range  
of both standard  
and dedicated  
devices to enable  
all chassis and  
safety applications

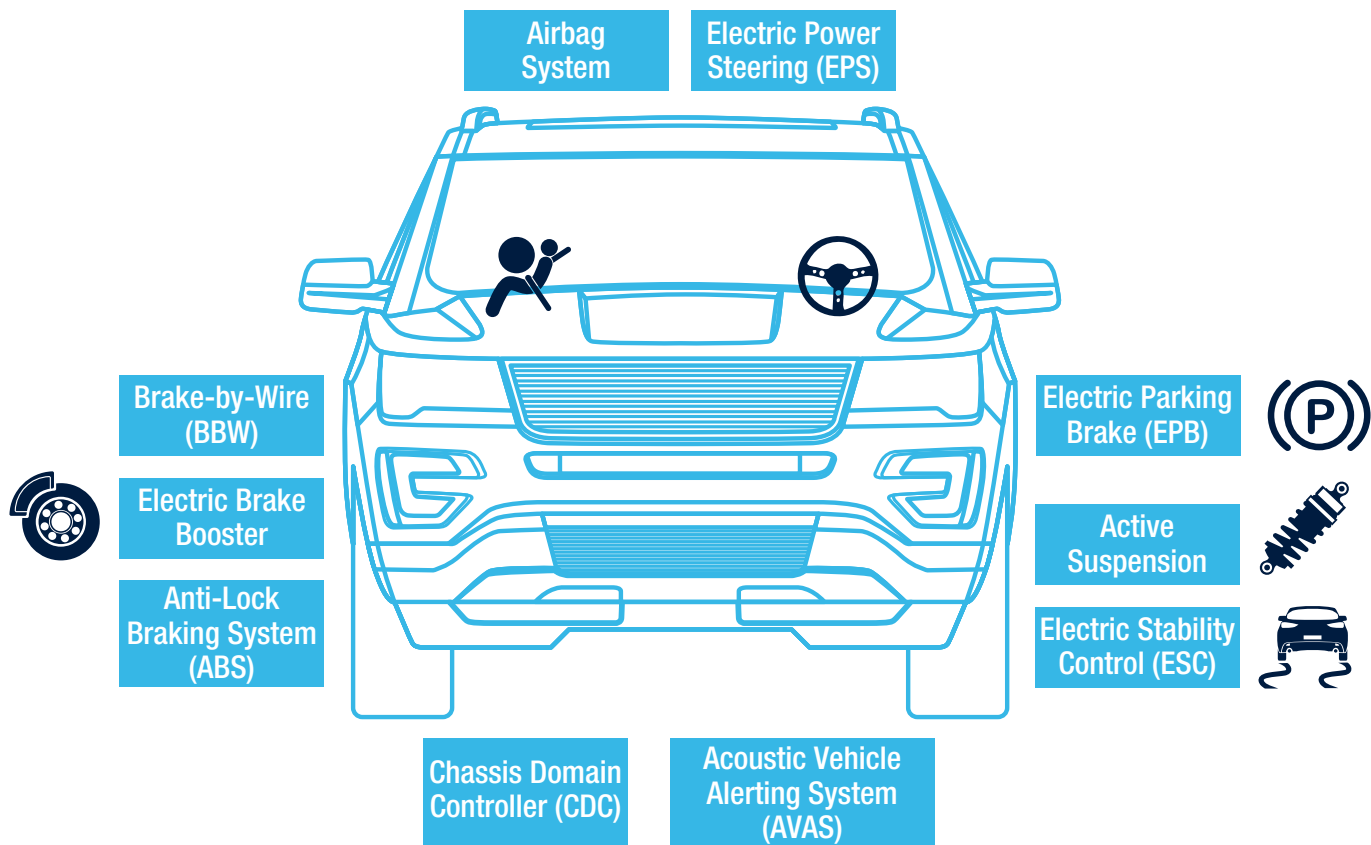
Active and passive safety systems that reduce the risk of accidents, as well as their consequences, are becoming more sophisticated with an increasing electronic component count.

Active safety applications such as electric power steering, electric parking brakes, increasingly rely on sensors, brushed and brushless motors and microcontrollers to improve performance and reliability. Passive applications like seat-belt tensioners and airbags also benefit from the latest technologies.

ST offers a range of both standard and dedicated devices to enable all these chassis and safety applications. In addition to standard low-side, high-side, bridge and pre-drivers, ST offers Smart Power devices for driving solenoids, brushed, brushless and stepper motors; dedicated ICs for actuator driving and one of the industry's broadest ranges of Power MOSFETs whether in traditional Silicon based or new Silicon Carbide (SiC) technology. We also supply System Basis Chips (SBC) for fully integrated smart-power solutions, MEMS accelerometers and gyroscopes combined in a monolithic 6-axis IMU solution, and powerful 32-bit automotive microcontrollers to provide reliable control.

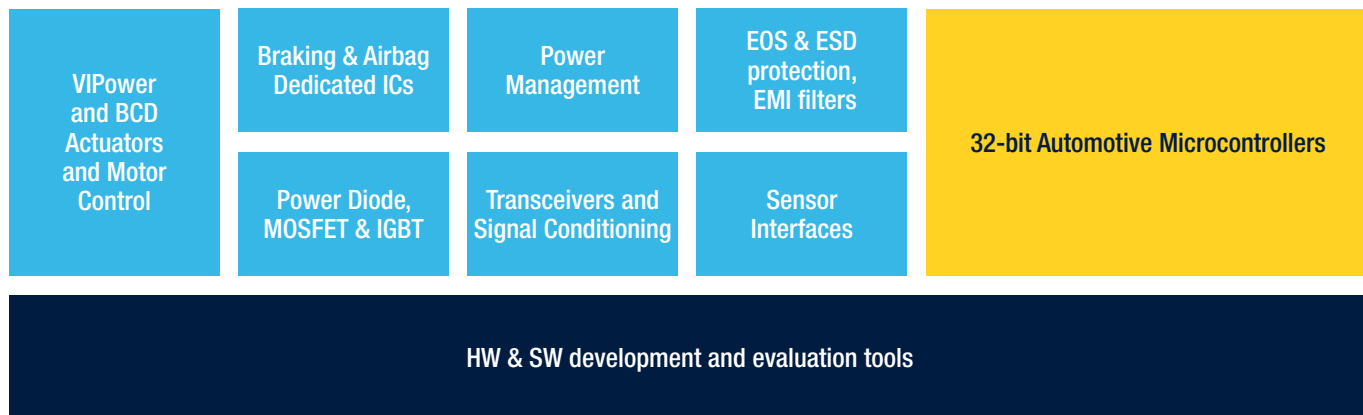


## KEY APPLICATIONS



## SOLUTIONS

ST's key products and solutions for Chassis and Safety applications include:



### FIND OUT MORE

[www.st.com/chassis-and-safety](http://www.st.com/chassis-and-safety)

Electric Power Steering  
Electric Parking Brake  
Electric Brake Booster

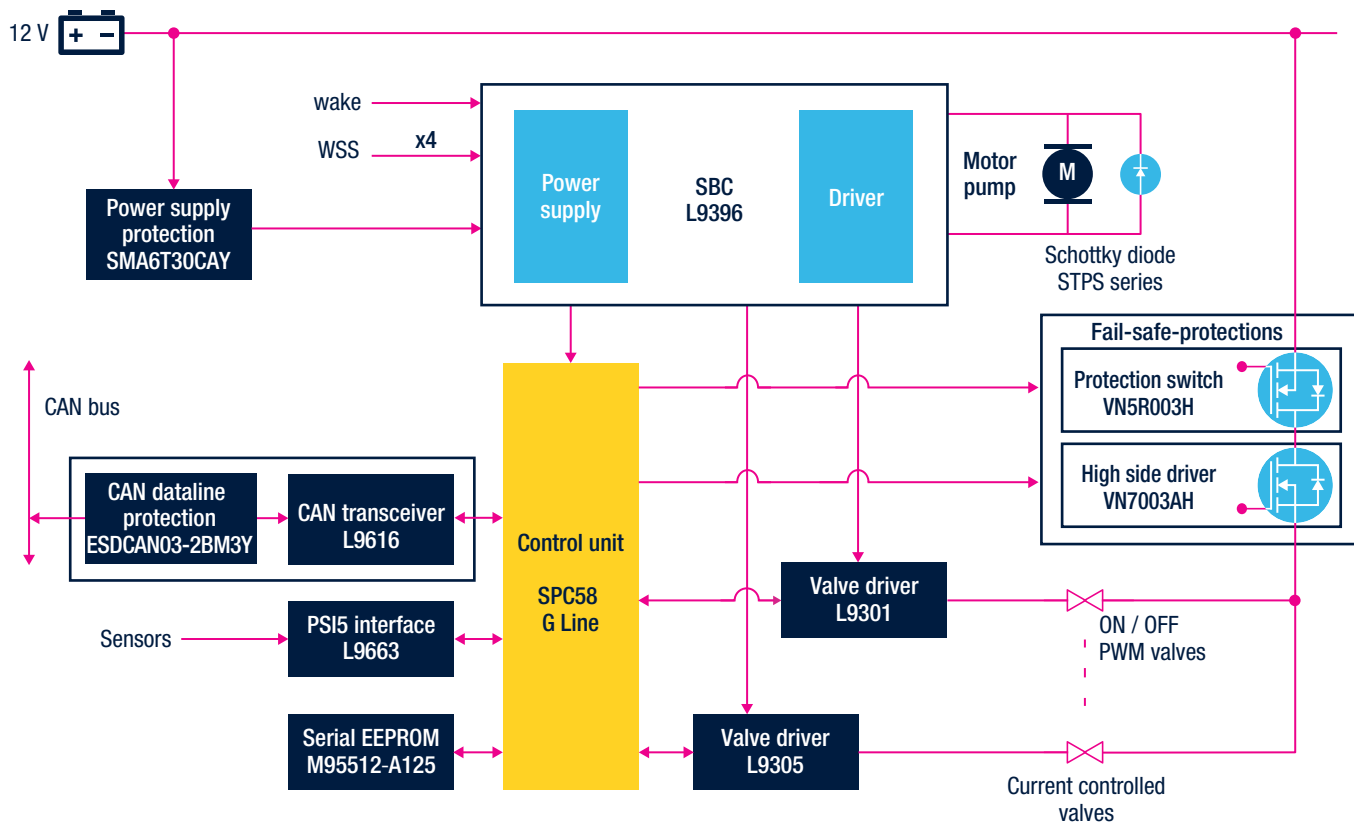
Airbag System  
Active Suspension  
ABS and ESC

AVAS  
Brake-by-Wire BBW  
Chassis Domain Controller

## ANTI-LOCK BRAKING SYSTEM (ABS)

Anti-lock Braking Systems (ABS) are today a standard safety feature in any passenger road vehicle, even in entry-level cars designed for emerging markets.

To help manufacturers meet their design targets, we have an extremely wide offer that includes SPC5 32-bit automotive microcontrollers, dedicated valve drivers and highly optimized System Basis Chips (SBC).



FIND OUT MORE

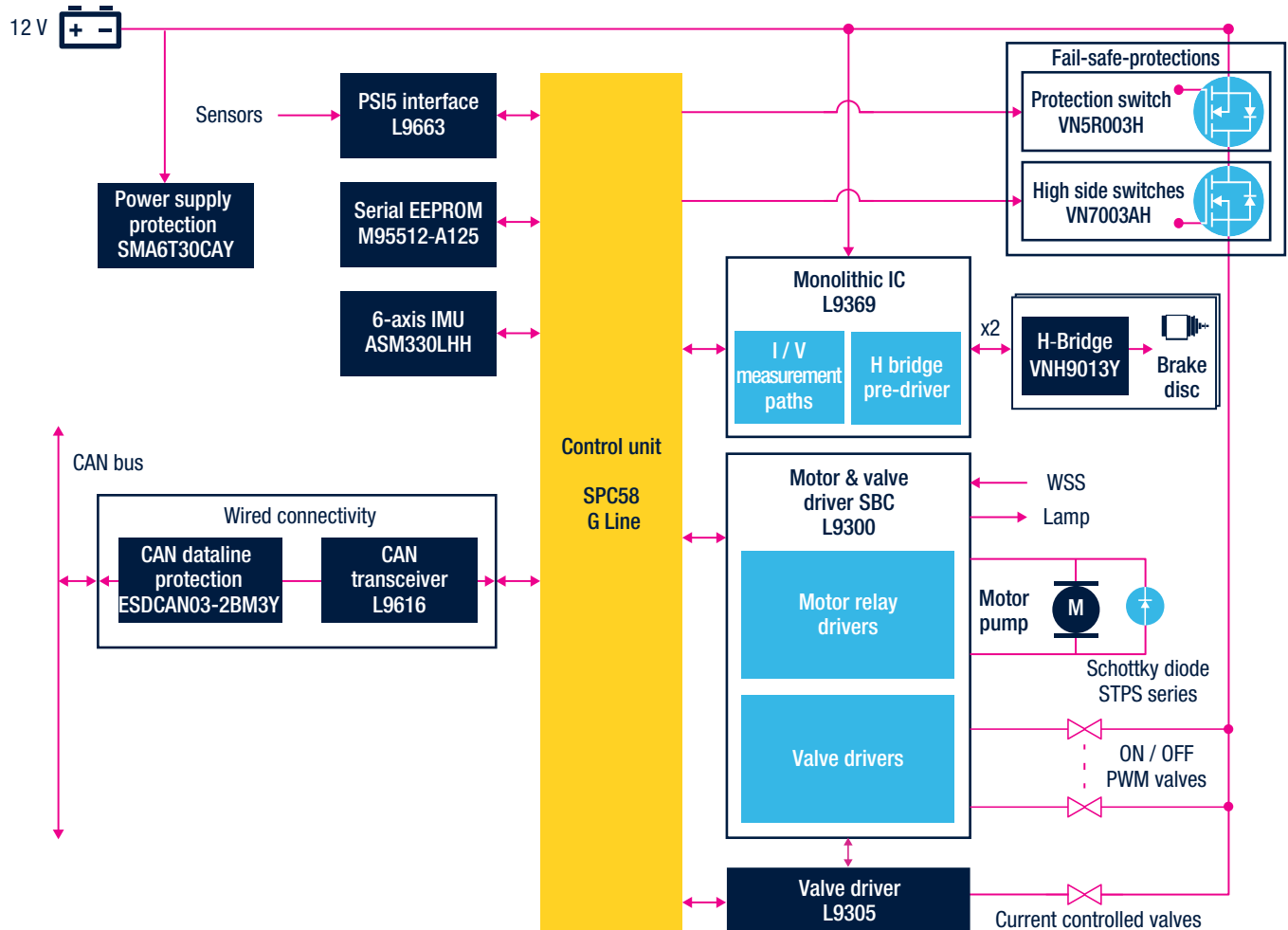
[www.st.com/abs](http://www.st.com/abs)



## ELECTRONIC STABILITY CONTROL (ESC)

Electronic Stability Control (ESC) systems are designed to detect and reduce loss of traction to prevent skidding. By applying the brakes to the vehicle's wheels individually, ESC systems counter over- and under-steering to help ensure the comfort and safety of drivers and passengers. This proven technology is increasingly included as a standard feature in many vehicles.

ST's solutions for ESC include a full range of three-phase gate drivers and Power MOSFETs for driving BLDC motors, including 48 V domains. Dedicated power management ICs and CAN transceivers as well as a wide range of flexible and innovative Application-Specific Standard Products (ASSP), cover all possible system partitions. SPC5 32-bit automotive microcontrollers provide the overall system control.



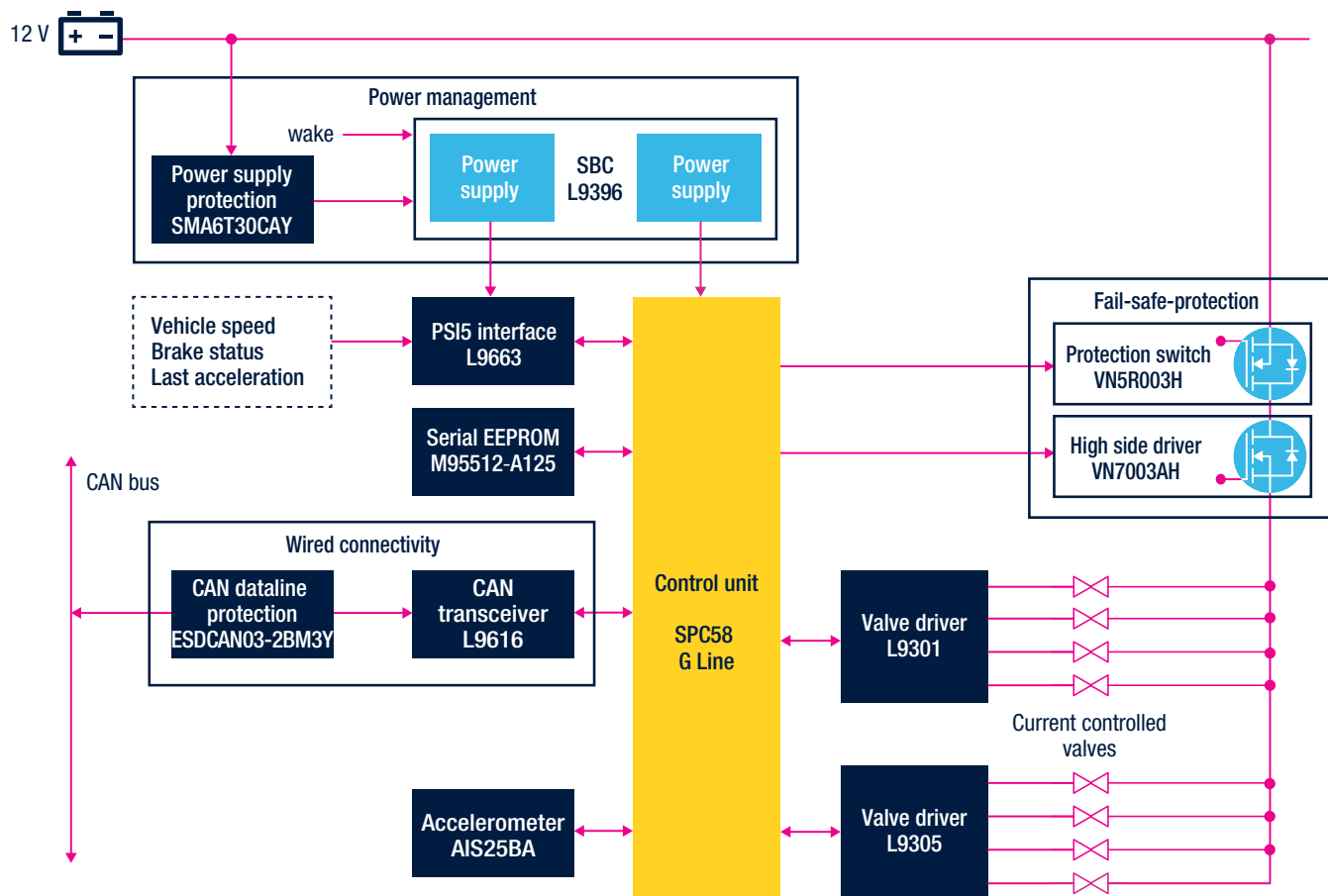
**FIND OUT MORE**

[www.st.com/electronic-stability-control](http://www.st.com/electronic-stability-control)

## ACTIVE SUSPENSION

An advanced technology that enhances comfort for drivers and passengers, active suspension systems also allow carmakers to define an engaging driving experience. Found in Premium cars, they require a wide range of semiconductor content for their implementation.

ST has an extremely wide offer that includes SPC5 32-bit automotive microcontrollers, dedicated valve drivers, CAN transceivers and highly optimized System Basis Chips (SBC).



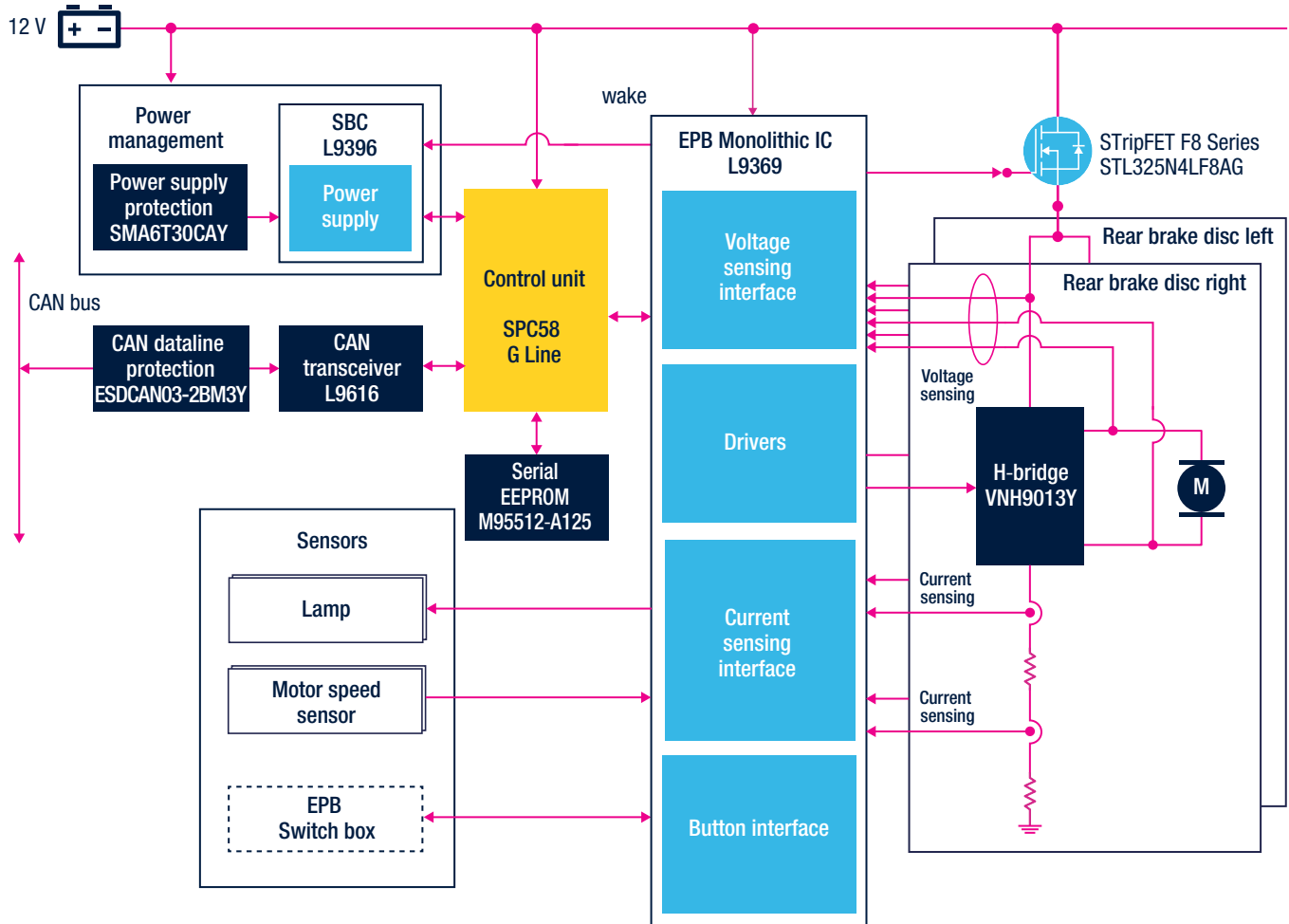
FIND OUT MORE

[www.st.com/active-suspension](http://www.st.com/active-suspension)



## ELECTRIC PARKING BRAKE (EPB)

Providing an additional level of safety in today's vehicles, Electric Parking Brake (EPB) systems also improve driver convenience by ensuring driver-assist functions including automatic brake release when moving off and a hill-hold function for incline starts. ST's offer includes SPC5 32-bit automotive microcontrollers, H-bridge drivers, CAN transceivers and highly optimized System Basis Chips (SBC) which will help designers achieve their reliability, and cost targets, for these systems.



**FIND OUT MORE**

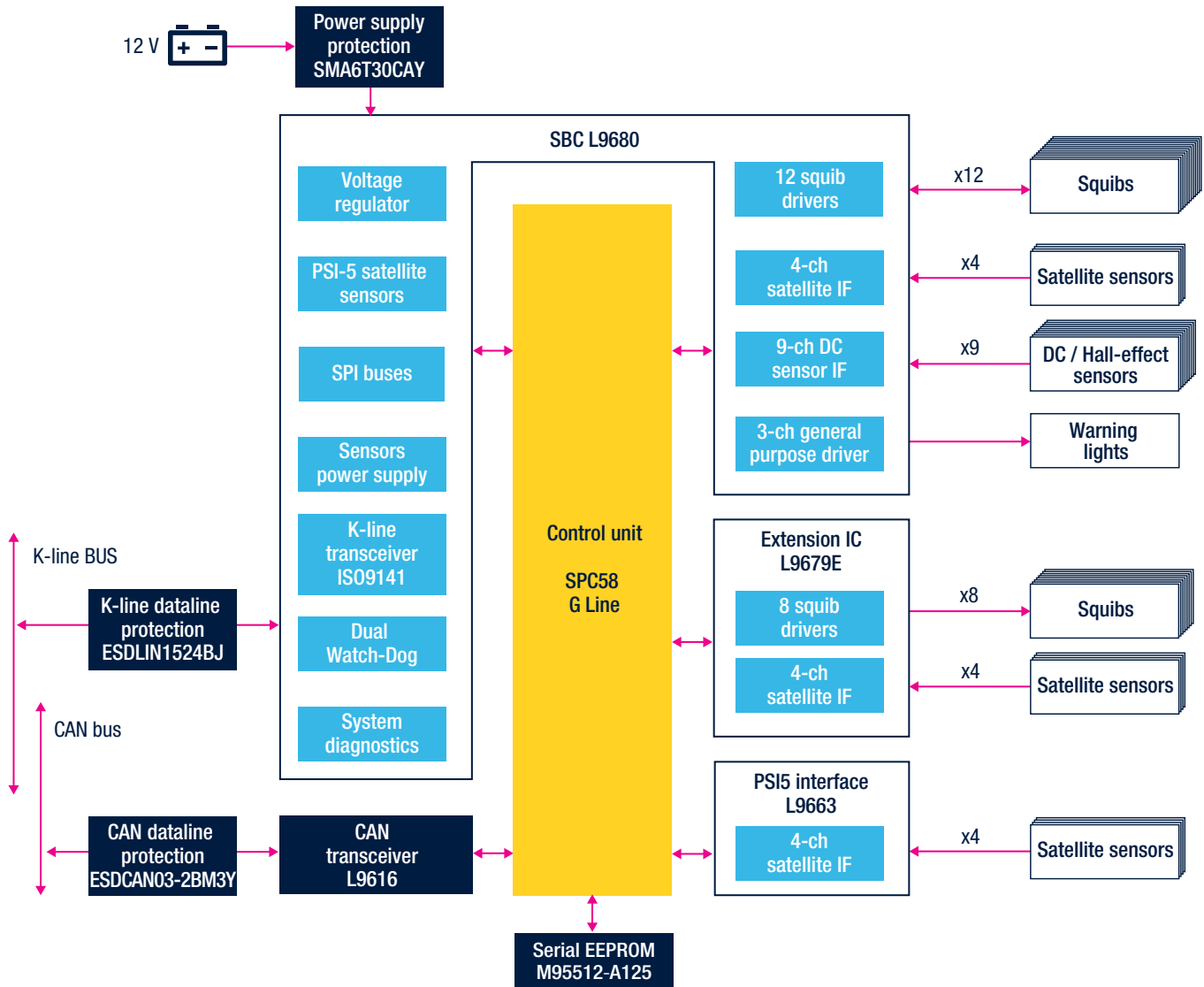
[www.st.com/electric-parking-brake](http://www.st.com/electric-parking-brake)

## AIRBAG SYSTEM

As concern and legislation for driver and passenger safety continues to increase, airbags have become a standard feature in motor vehicles from small city cars to luxury SUVs.

Automakers need a range of scalable solutions that are feature- and cost-optimized yet meet the highest reliability standards for the different models in their range from entry-level vehicles to extremely complex solutions, with an increasing number of squib ICs (for airbag deployment) and acceleration satellite sensors (intelligent crash sensors), enhanced extensive features for Premium vehicles.

Our offer includes SPC5 32-bit automotive microcontrollers, power supply modules, efficient boost and buck converters, accurate ADC voltage references and highly optimized System Basis Chips (SBC). We also have squib drivers with relative diagnostics and programmable deployment profiles and PSI5 satellite sensor interfaces.



**FIND OUT MORE**

[www.st.com/airbag-system](http://www.st.com/airbag-system)

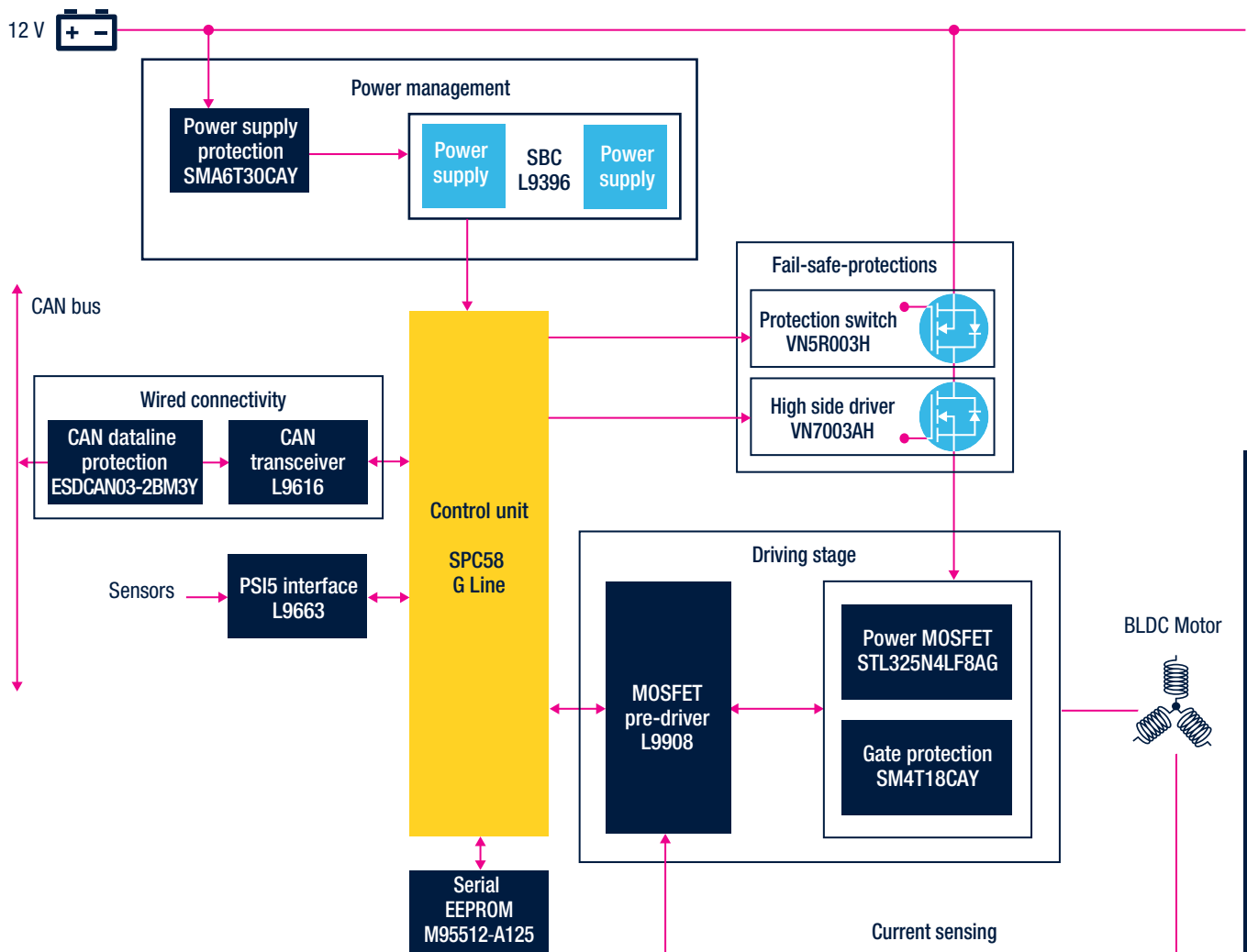


## ELECTRIC POWER STEERING (EPS)

By assisting driver effort in controlling a vehicle's steering wheel, Electric Power Steering (EPS) systems improve directional control and passenger safety while reducing engine loading, thus improving fuel efficiency.

Electric Power Steering (EPS) systems use an electric motor – typically a three-phase brushless DC (BLDC) motor – to replace the hydraulic actuation mechanism. An EPS can improve the driver's directional control of the vehicle and reduce engine loading. It also enables variable-assist power steering where the level of assistance is greater at lower speeds when it is needed most and reduced at higher speeds.

ST's solutions for EPS include a full range of three-phase gate drivers and Power MOSFETs for driving BLDC motors, including 48 V domains. Dedicated power management ICs and CAN transceivers as well as a wide range of flexible and innovative Application-Specific Standard Products (ASSP), cover all possible system partitions. SPC5 32-bit automotive microcontrollers provide the overall system control.



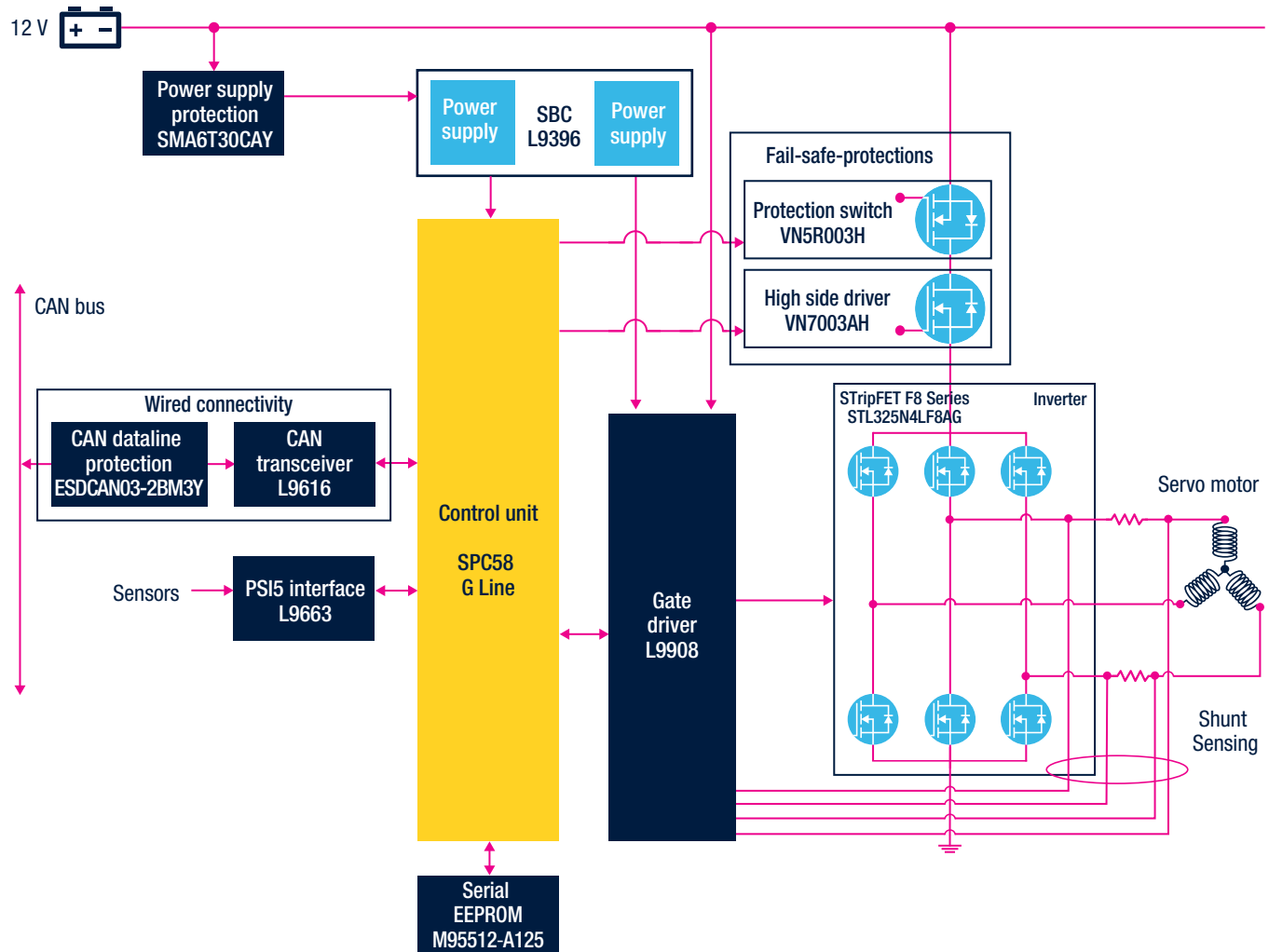
FIND OUT MORE

[www.st.com/electric-power-steering](http://www.st.com/electric-power-steering)

## ELECTRIC BRAKE BOOSTER (EBB)

Designed to reduce the amount of pedal pressure needed for braking, electric brake boosters, which use a sensor in the brake pedal to read a driver's actions, are progressively replacing mechanical vacuum brake booster systems.

Increasingly used by carmakers to enhance driver comfort and passenger safety, these electric brake boosters use a dedicated electronic system to process the signals from the brake pedal and operate the master cylinder by means of a brushless DC (BLDC) motor.



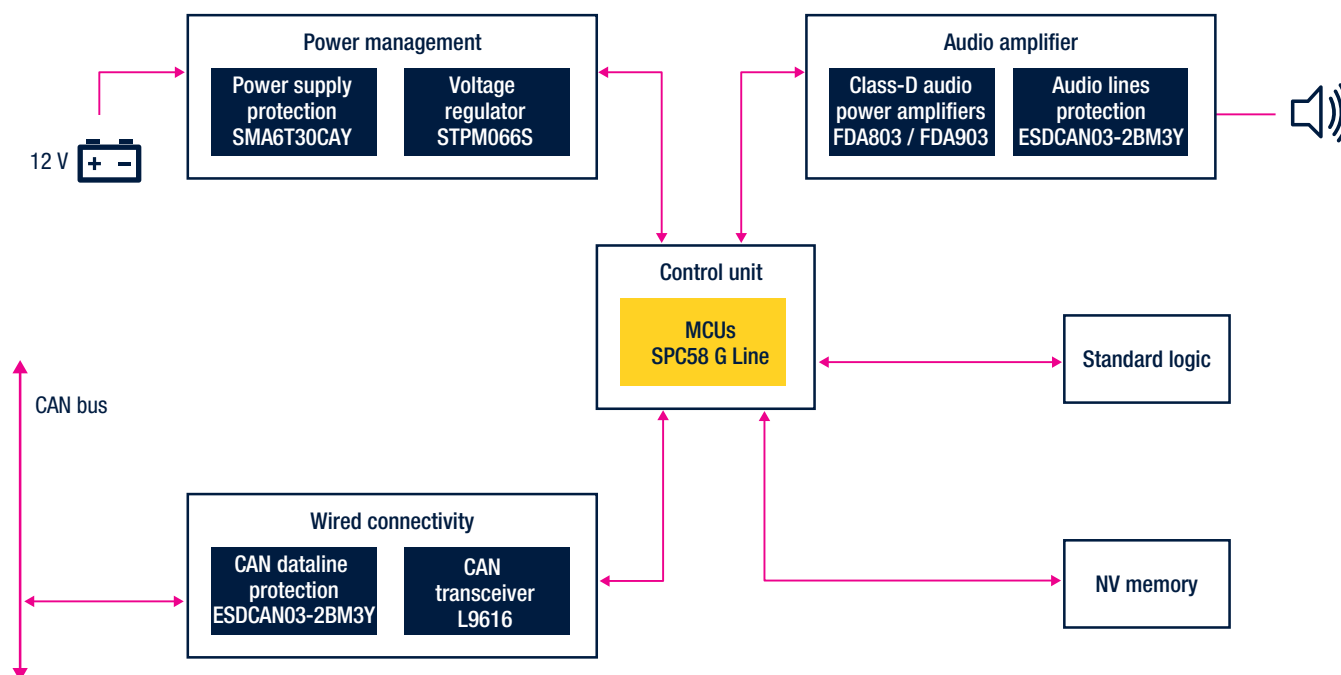
FIND OUT MORE

[www.st.com/electric-brake-boosters](http://www.st.com/electric-brake-boosters)



## ACOUSTIC VEHICLE ALERTING SYSTEM (AVAS)

While electro-mobility is bringing evident benefits for greener driving, it also admittedly hard to hear electric cars driving at low speeds in front of schools, at pedestrian crossings or traffic lights for instance. With the clear duty to ensure traffic safety and to protect people, especially those who are visually impaired or rely on their hearing, the automotive industry is asked to meet international requirements as positively as possible, providing electric cars with an Acoustic Vehicle Alerting System (AVAS). An AVAS is designed to emit vehicle warning sounds and alert pedestrians to the presence of electric drive vehicles. These include hybrid (HEVs), plug-in hybrid (PHEVs), and full battery electric vehicles (BEVs) travelling at low speeds, especially in the lowest speed range beyond which the noise generated by rolling tires can be easily heard.

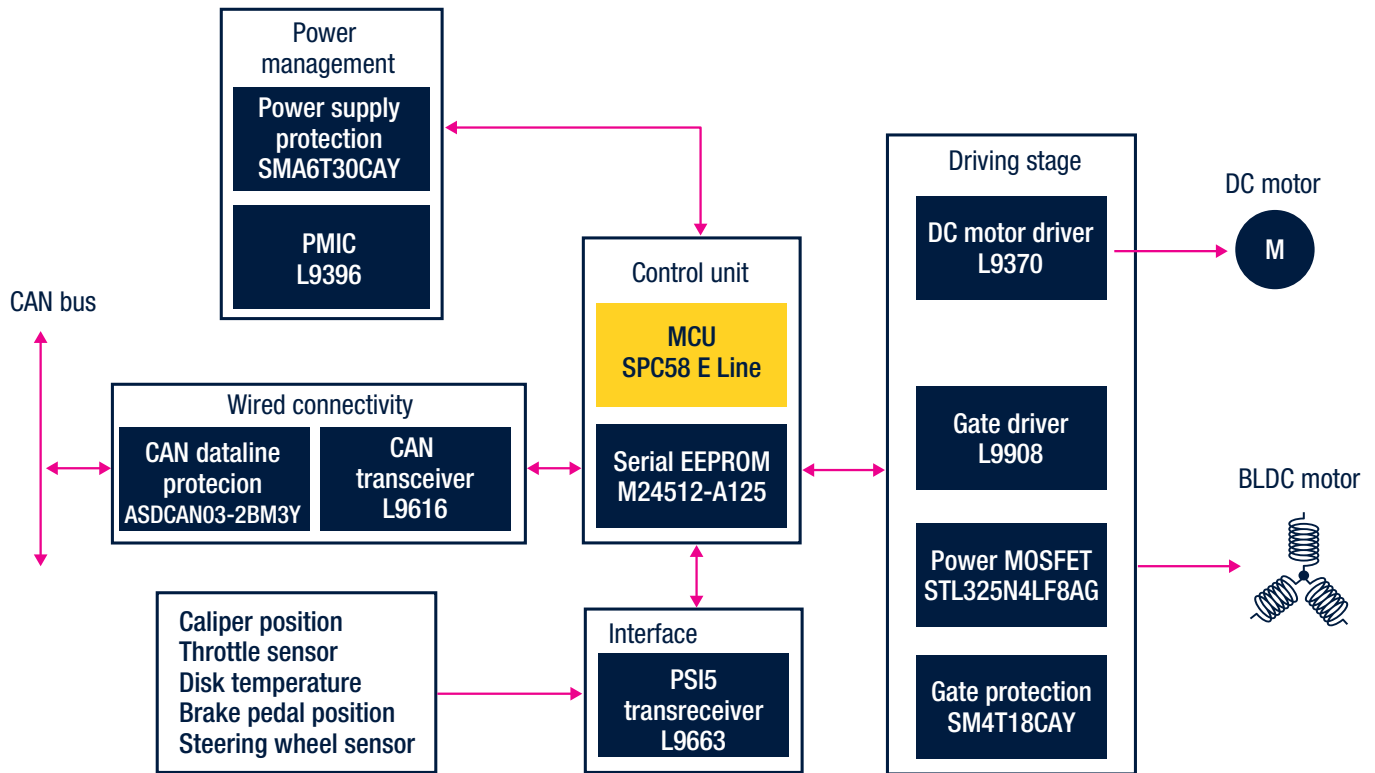


**FIND OUT MORE**

[www.st.com/en/applications/chassis-and-safety/acoustic-vehicle-alerting-system-avas.html](http://www.st.com/en/applications/chassis-and-safety/acoustic-vehicle-alerting-system-avas.html)

## BRAKE-BY-WIRE (BBW)

Today's automotive brake-by-wire (BBW) technology is a promising braking control system that enables many new driver interfaces and enhanced performance without a mechanical or hydraulic backup. Consisting of electro-mechanical actuators and communication networks instead of conventional hydraulic or electrohydraulic devices, brake-by-wire technology offers several advantages over traditional hydraulic braking system. In addition to enhanced safety and improved integration with existing systems, BBW systems reduce maintenance costs, improve fuel efficiency and lower CO<sub>2</sub> emissions.

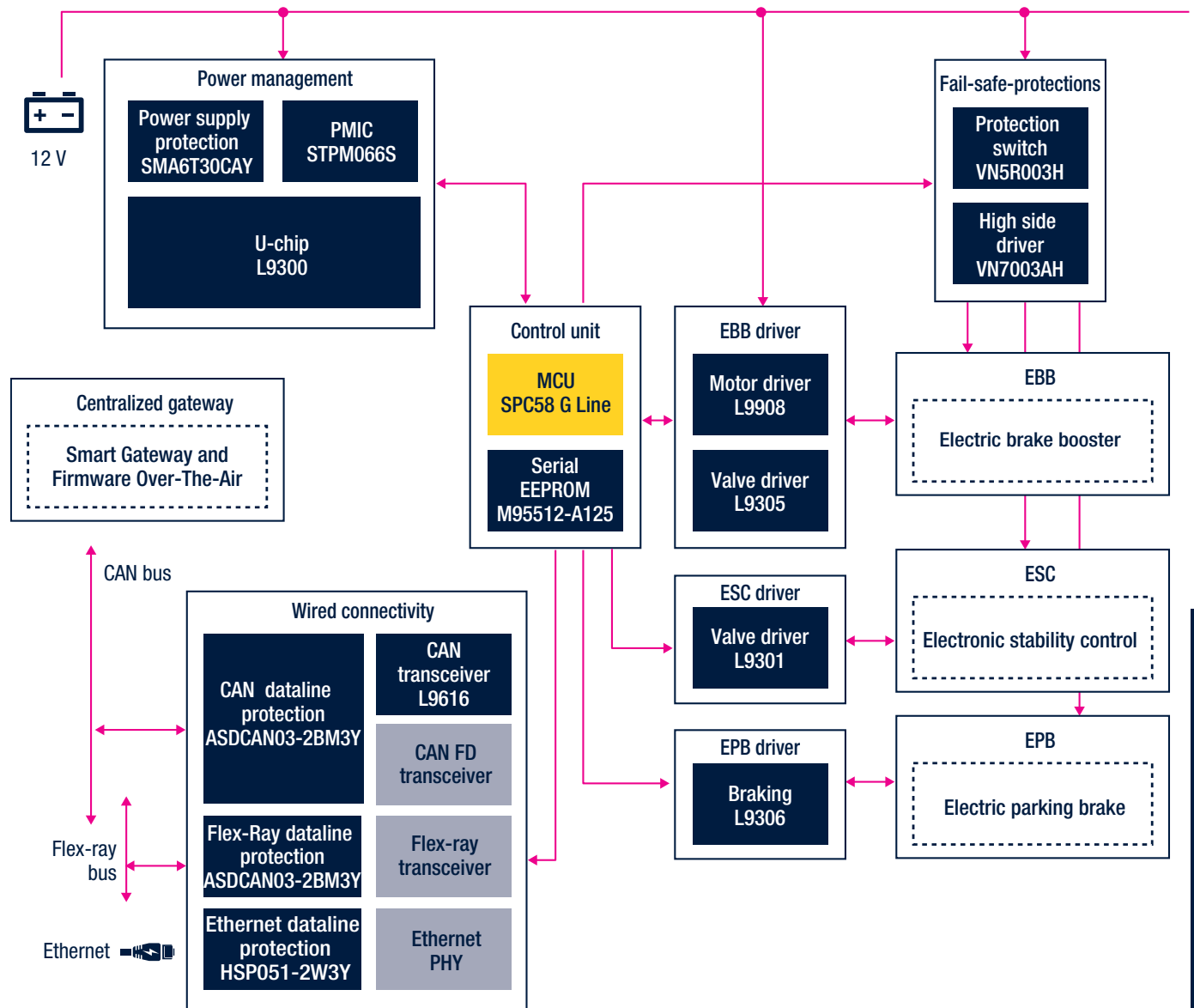


**FIND OUT MORE**

[www.st.com/en/applications/chassis-and-safety/brake-by-wire-bbw.html](http://www.st.com/en/applications/chassis-and-safety/brake-by-wire-bbw.html)

## CHASSIS DOMAIN CONTROLLER (CDC)

The latest trend in the evolution of Automotive E/E architectures is the move towards a new domain-based concept. In this architecture, the vehicle is divided into separate domains, each controlled by a Domain Control Unit (DCU) that acts as a domain gateway and is connected to a centralized DCU control system.



**FIND OUT MORE**

[www.st.com/en/applications/chassis-and-safety/chassis-domain-controller-cdc.html](http://www.st.com/en/applications/chassis-and-safety/chassis-domain-controller-cdc.html)



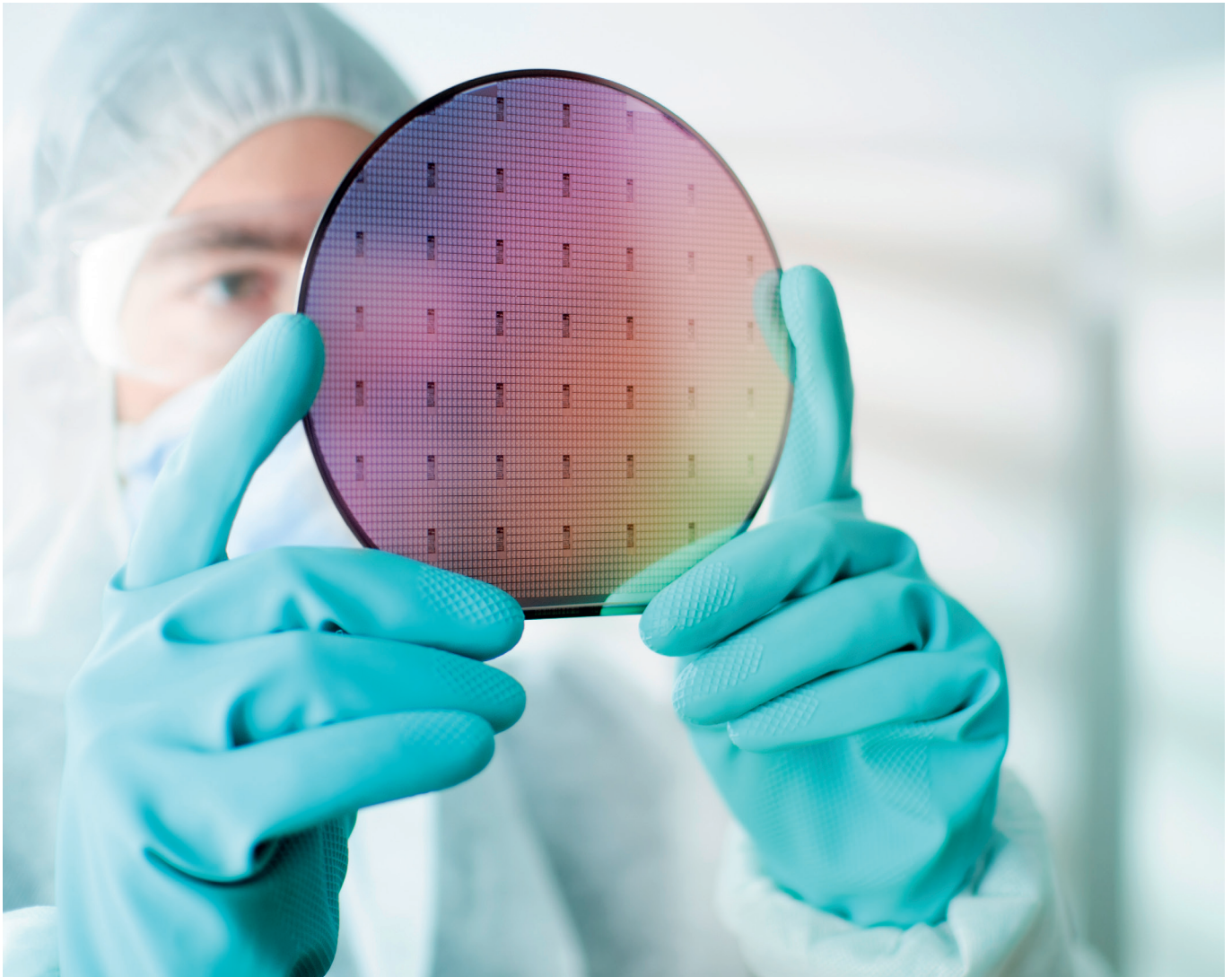
# Key Technologies

## RESEARCH & DEVELOPMENT AND MANUFACTURING

To keep its technology edge, ST maintains a strong commitment to innovation, with approximately 9,000 people working in R&D and product design and spending about 12% of its revenue in R&D. Among the industry's global technology leaders, ST owns and continuously refreshes a substantial patent library with over 19,500 active and pending patents. The company also uses its over 200 R&D partnerships to further foster its innovation.

ST draws on a rich pool of chip-manufacturing technologies, including advanced FD-SOI (Fully Depleted Silicon-on-Insulator) CMOS (Complementary Metal Oxide Semiconductor), differentiated Imaging technologies, RF-SOI (RF Silicon-On-Insulator), BiCMOS, BCD (Bipolar, CMOS, DMOS), Si MOSFET, SiC MOSFET, Si IGBT, VIPower, Transil, Trench Schottky Diodes, and MEMS technologies.

ST believes in the benefits of owning manufacturing facilities and operating them in close proximity to its R&D operations. ST has a worldwide network of front-end (wafer fabrication) and back-end (assembly and test and packaging) plants. ST's principal wafer fabs are located in Agrate Brianza and Catania (Italy), Crolles, Rousset, and Tours (France), and in Singapore. These are complemented by assembly-and-test facilities located in China, Malaysia, Malta, Morocco, the Philippines, and Singapore.



## KEY TECHNOLOGIES FOR AUTOMOTIVE PRODUCTS

### CMOS (Complementary Metal Oxide Semiconductor)

CMOS (Complementary Metal Oxide Semiconductor) is a pure digital technology invented in the 60's. It is largely used in digital products for processing purposes. Starting from CMOS, other technologies have been set up including BCD (Bipolar-CMOS-DMOS) used for mixed signal products, FD-SOI that allows to reduce silicon geometries below 28 nm, and embedded NVM at the heart of MCUs. The robustness and versatility of this technology, present in billions of devices, makes it very suitable for all automotive applications.

### FD-SOI / RF-SOI

Fully Depleted Silicon-on-Insulator, or FD-SOI, is a planar process technology that delivers the benefits of reduced silicon geometries while actually simplifying the manufacturing process.

The buried oxide layer, specific to FD-SOI MOS, lowers the parasitic capacitances and efficiently confines the electrons flowing from the source to the drain, dramatically reducing performance degrading for leakage currents. This is a key advantage for pure digital products, especially when required to operate at high temperature, allowing very innovative power management techniques. The advanced ADAS platforms are based on this technology and produced in Crolles 300 facility on a 28 nm node. Moreover, thanks to the tight electrostatic control of the transistor, FD-SOI is recognized as a leading technology for low-power, RF and millimeter-wave applications.

Associated with the high-density PCM embedded non-volatile memory, ST offers a unique platform for automotive applications.

Key applications include ADAS, RF switches and tuners, low-noise amplifiers, power amplifiers, monolithic integrated RF and FEMs (switches, LNAs, PAs and passives).

**FD-SOI**

### NON-VOLATILE MEMORIES (eNVM)

ST has a strong background in non-volatile memories (NVM) and has developed embedded NVM technologies to enable real-time MCUs and other products that benefit from real-time access to NVM. Today, automotive volumes are at 90 nm and 40 nm technology nodes, and the new Stellar MCU family uses phase-change memory (PCM) to exploit the features of CMOS FD-SOI technology. This evolution to PCM places ST at the forefront of automotive MCUs.

ST standalone non-volatile memories (NVM) are also highly regarded in the industry, especially our automotive serial EEPROM, which is ideal for high-quality and flexible parameter storage, with a wide portfolio ranging from 1 Kbit to 4 Mbits. The automotive Serial EEPROM is robust, high-performance, and designed for intensive operation at high temperatures, making it suitable for all high-reliability applications. The EEPROM is AEC-Q100 qualified, screened through a specific high-reliability testing flow, and PPAP Level 3 compliant. The EEPROM is manufactured in 150 nm technology nodes and is progressively extending to 110 nm. The I<sup>2</sup>C, SPI, and Microwire buses are supported for three packages: SO8N, TSSOP8, and DFN8 up to 150 °C.



## BCD (BIPOLAR-CMOS-DMOS)

BCD (BIPOLAR-CMOS-DMOS) is a key technology for power ICs. BCD combines the strengths of three different process technologies onto a single chip: Bipolar for precise analog functions, CMOS (Complementary Metal Oxide Semiconductor) for digital design and DMOS (Double Diffused Metal Oxide Semiconductor) for power and high-voltage elements.

This combination of technologies brings many advantages: improved reliability, reduced electromagnetic interference and smaller chip area.

BCD has been widely adopted and continuously improved to address a broad range of products and applications in the fields of power management, analog data acquisition and power actuators.

## VIPower

Vertical Intelligent Power (VIPower) is a technology developed by ST and in production since 1991.

VIPower technology provides control, protection and diagnostics for medium/high power automotive loads.

The technology combines Vertical Double Diffused MOS Power devices with their own temperature and current sensors and CMOS and HV components for power, analog, and mixed-signal designs.

VIPower technology plays a key role in the move towards electric vehicles. The smart 48 V networks used in mild- and full-hybrid cars require intelligent power switches to drive high- and low-sided loads and electric motors, with very low losses and high current sense accuracy, all monitored via the connections to the ECUs microcontroller.

The new VIPower M0-9 SPI drivers feature full digital diagnostics with embedded ADC for load current sensing. These new devices implement sophisticated software logic that also simplifies AUTOSAR compatibility.

Designed to replace standard melting fuses in automotive power distribution systems, our new STi<sup>2</sup>Fuse smart switches feature wire harness protection on top of the typical high-side driver functions for additional savings on component and production costs, while extending EV range and reducing the carbon footprint of vehicles.



## TRANSIL

TRANSIL is a key planar technology for our Automotive transient voltage suppressors (TVS) designed to protect automotive sensitive circuits against surges as defined in ISO 7637-2 and ISO 16750 also called load-dump (battery lines), ISO 7637-3 (data lines) and ESD as defined in ISO 10605. Protection is also provided against other perturbations generated by elements like ignition, relay contacts, alternators, injectors, SMPS, etc.

This technology is compatible with high-end circuits where low leakage current and high junction temperatures are required to provide reliability and stability over time.



## Data line ESD protection

ST's automotive data line ESD protection devices include transient voltage suppressors (TVS) and application-specific discrete devices that provide system level protection against ESD surges according to standard IEC 61000-4-2. ESD protection devices are manufactured using automotive-grade processes and qualified to AEC-Q101 standards. As such, they can address all automotive applications and domains including advanced driver-assistance systems (ADAS), vehicle-to-everything (V2X), CAN-FD, SerDes (serializer/deserializer), and Ethernet Base-T standards to name just a few, in order to achieve immunity with the very low clamping voltage. Moreover, ST offers innovative, miniature wettable flank DFN packages to ease Automatic Optical Inspection (AOI).

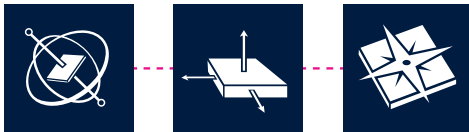
## A growing and diversified portfolio of MEMS and sensor solutions

Enabling the transition to a sustainable Onlife era, ST offers an extensive MEMS sensor portfolio based on more than 25 years of experience and innovation. Moreover, our new generation of MEMS sensors features an embedded intelligent sensor processing unit (ISPU) to help meet the challenges of incorporating AI into energy-saving Edge-based applications.

Our sensors offer three key attributes:

- Capable of directly processing the data they capture and delivering meaningful insights in the local device, **smart sensors** reduce transmitted data and cloud processing requirements, thus lowering power consumption at the system level.
- Able to interface with other sensor applications, our **open sensors** let third parties benefit from ST's in-sensor processing innovations, while building an ecosystem to jointly create value for customers.
- Providing high-precision data that allows better quality decisions and makes interactions smoother and more natural, our **accurate sensors** also reduce factory calibration time and resources, which also reduces energy needs.

To reduce design costs and effort for a more rapid time to market, our comprehensive ecosystem includes helpful developer resources with ready-to-use boards as well as software tools and real-life example code.



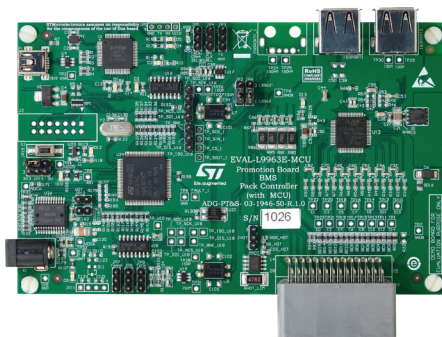
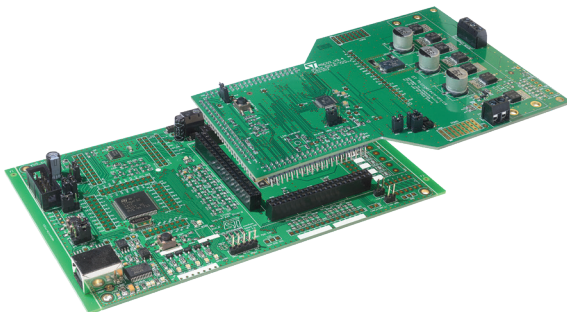
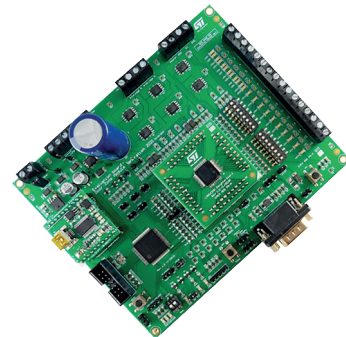
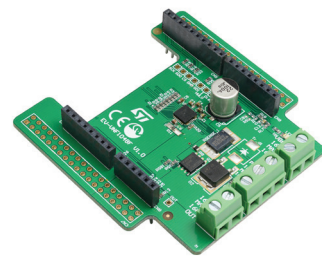
# Development Tools

## EVALUATION BOARDS eDESIGN SUITE, AND SOFTWARE TOOLS

ST provides a set of eDesign suites tuned to the needs of the Automotive Industry. Once the appropriate products have been selected, a wide range of samples and evaluation boards are available to help you get started and reduce your development times. In addition to boards, ST provide schematics, BOM and Gerber files to facilitate your hardware design and demonstration software packages are also available.

### Evaluation kits

Product evaluation kits help you to test, calibrate and design your automotive application. A wide range of boards is available to evaluate the specific features of products and solutions in their applications. A complete set of documents and resources including circuit diagrams and bills of material as well as reference guides is available. Additional software including ready-to-use example code and user-friendly GUIs complete our offer.



FIND OUT MORE

[www.st.com/automotive-evalboards](http://www.st.com/automotive-evalboards)



## eDesignSuite

eDesignSuite is a comprehensive set of easy-to-use design-aid utilities ready to help you streamline the system development process with a wide range of ST products.



### TwisterSIM

TwisterSIM is an off-line Electro-Thermal simulator for our VIPower automotive power devices. It helps shorten design solution cycle by enabling complex evaluations including load-compatibility, wiring harness optimization, fault condition impact and diagnostic behavior analysis and Dynamic Thermal performance.



### STPOWER Studio

The STPOWER Studio dynamic electro-thermal simulation software offers comprehensive power and thermal analysis for a growing number of STPOWER devices. It helps users select the best power device for the specific application mission profile and predicts device behavior under given operating conditions.



### Rectifier diodes simulator

With just a few clicks our on-line FERD & Schottky diode simulator lets you estimate power losses based on application waveforms and select the best components for your solution.



### AC switch simulator

Our AC switch simulator provides graphs of estimated temperature and voltage blocking capabilities to so you can quickly determine the best switch for your solution.



### TVS simulator

Simply specify the surge input waveform and system ratings to be protected and this intuitive simulator lets you sort and select the best TVS protection for your design.



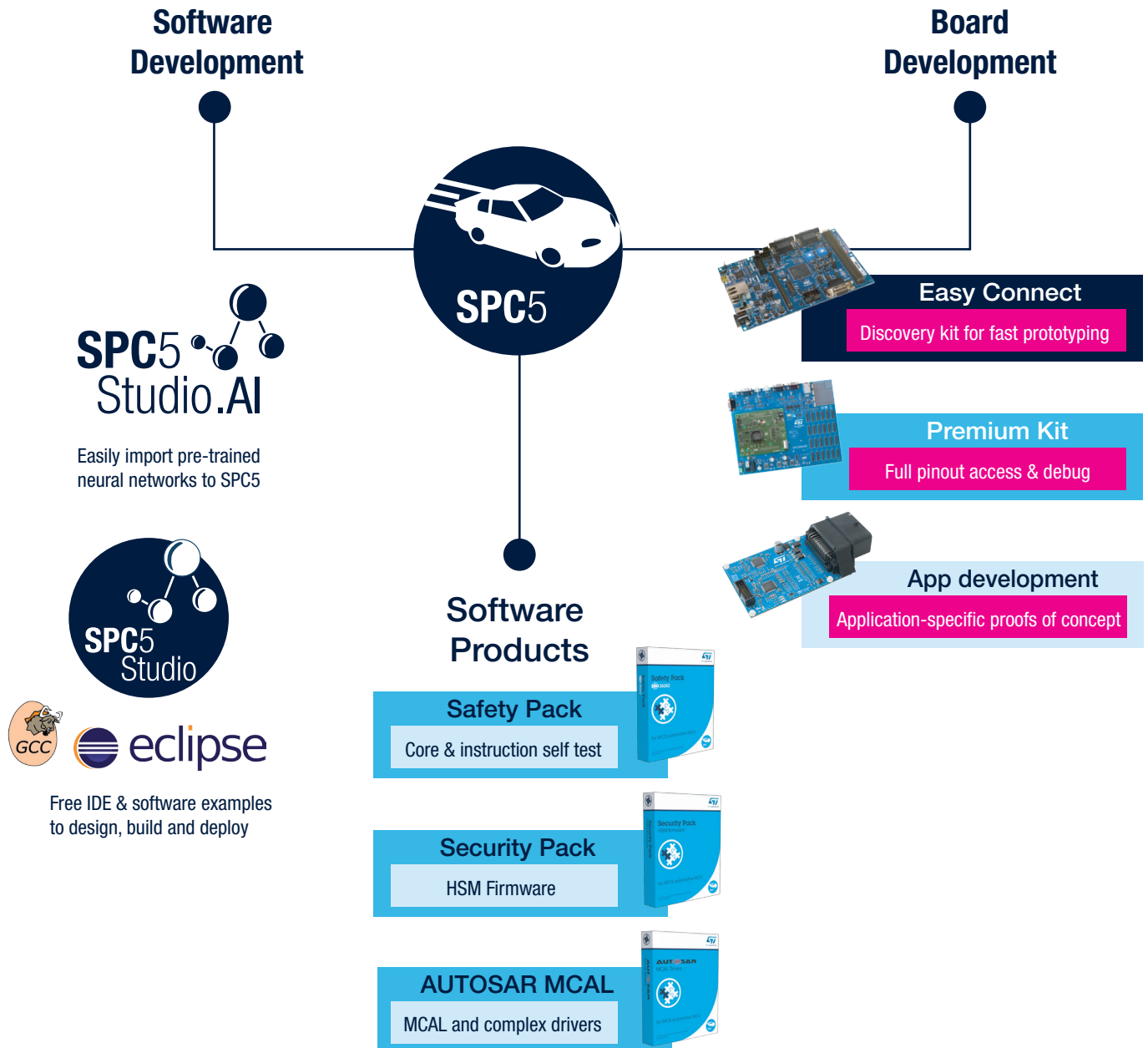
**FIND OUT MORE**  
[www.st.com/edesign](http://www.st.com/edesign)

## COMPREHENSIVE SPC5 AUTOMOTIVE MCU DEVELOPMENT ECOSYSTEM

A rich ecosystem with a full set of hardware and software tools allows developers to save time, simplify implementation, quickly prototype their application and benefit from ready-to-use boards and example code. ST offers a wide set of hardware kits ranging from quick evaluation tools to modular and professional boards for developing final proofs-of-concept.

Together with free downloadable SPC5Studio Integrated Development Enviroments (IDE), engineers can easily set up application projects in a short time. SPC5Studio contains a wide selection of example code for starting projects. Additionally, ST offers a set of licensed software packs addressing Safety, Security and AUTOSAR MCAL components.

ST's network of 3<sup>rd</sup> parties and partners complement the offer with hardware, such as debugger probes, and software tools including compilers and other services.



**FIND OUT MORE**  
[www.st.com/auto-sp5-mcu-evaltools](http://www.st.com/auto-sp5-mcu-evaltools)

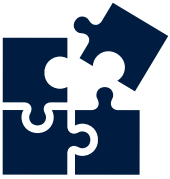
## STELLARLINK FAST PROTOTYPING FOR AUTOMOTIVE MCUs

StellarLINK is a USB to JTAG passive debugger dongle for Automotive MCUs. It supports SR5, SR6, and SPC5 automotive microcontrollers and their evaluation boards. StellarLINK is Integrated into StellarStudio and SPC5Studio

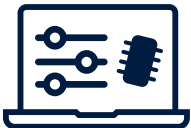
### ST programmer & debugger



Supporting Stellar SR5, SR6, and SPC5 MCUs



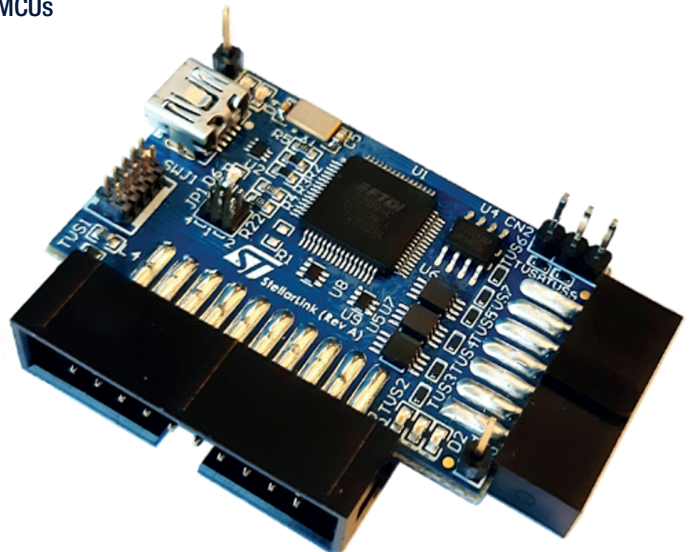
Plug & Play with evaluation boards



Extending Stellar & SPC5 ecosystem



Eco-friendly packaging



**FIND OUT MORE**

[www.st.com/en/development-tools/stellarlink.html](http://www.st.com/en/development-tools/stellarlink.html)

## SPC5 SOFTWARE TOOLS



SPC5Studio is a built-on Eclipse plug-in development environment offering a very intuitive and customizable framework to build and deploy embedded applications for SPC5 Power architecture 32-bit microcontrollers.

Integrating software development tools, device configuration tools and examples, SPC5Studio is a complete solution to speed up project development.

Available free for download on the [st.com](https://www.st.com) website.



SPC5Studio includes **SPC5Studio.AI**, a plug-in for Artificial intelligence-based applications, a seamless way to generate, execute and validate pre-trained NN models on automotive MCUs.

Pre-trained neural networks can be automatically generated into an efficient “ANSI C” library that can be compiled, installed and executed.

Pre-trained neural networks can be easily imported by SPC5Studio.AI from the most widely used deep learning frameworks, such as Keras, TensorFlow Lite, Lasagne, Caffe, ConvNetJS, and ONNX.

## SOFTWARE PRODUCTS



**SPC5 Security Pack** provides basic capabilities to support root-of-trust (RoT) where private encryption keys are kept secret during the microcontroller lifetime using a dedicated location inside the OTP space. To further ensure application security, encryption and decryption functionalities are fully executed on the HSM core.



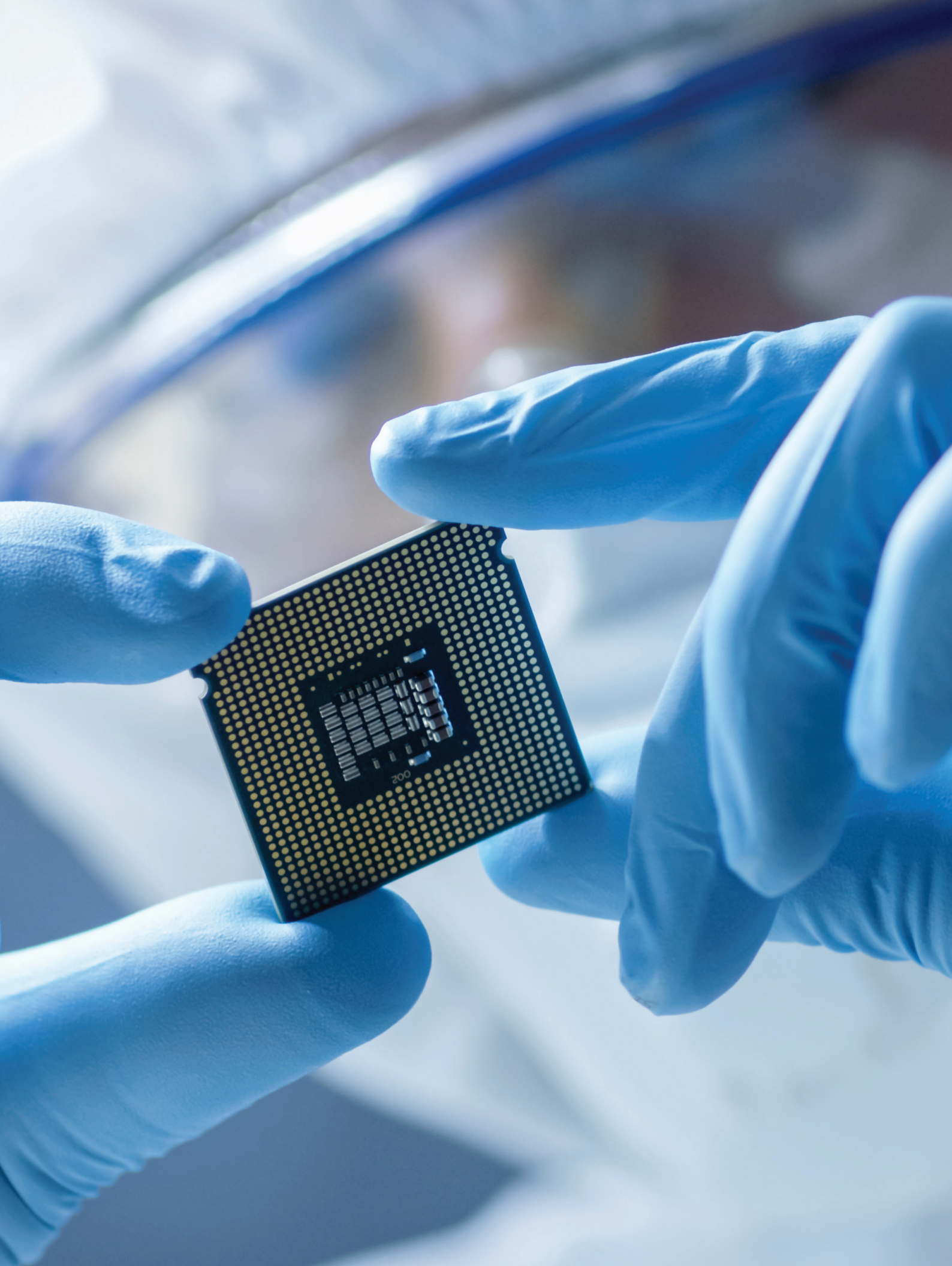
**SPC5 Safety Pack** is a comprehensive software package rigorously developed according to an ISO 26262-compliant development process, and helps developers achieve the required safety target, up to the most rigorous ASIL-D level. It includes a Safety kit for the Microcontroller Abstraction Layer (MCAL) as well as Core self-test programs that implement safety counter-measures to ensure compliance with MCU ASIL level requirements.



**SPC5 AUTOSAR MCAL Driver** offers a full set of Microcontroller Abstraction Layer software components in addition to Complex Device Drivers (CDD) to support specific hardware peripherals. MCAL software components are developed in house, through an ISO 26262-certified development process. ST's CDD and MCAL drivers are integrated by 3rd party partners with all the components required for the AUTOSAR architecture including basic software layer and OS, offering a complete off-the-shelf AUTOSAR solution.

*ST Security Pack, Safety Pack and AUTOSAR MCAL Pack are licensed products.*







## AUTODEVKIT AUTOMOTIVE DEVELOPMENT INITIATIVE

AutoDevKit is a fast growing toolset for Automotive & Transportation Application Development. It allows design engineers to quickly build their prototype combining hardware, firmware and software in an easy way and fully supported by our community.

Our ecosystem offers a wide selection of Automotive MCU and devices covering several automotive applications:

- Battery management systems (BMS)
- Logistics and delivery robots
- AI on standard MCUs
- Internal and external lighting
- Power distribution
- Audio generation and AVAS
- Motor control: door control, side mirror, tailgate and seat adjustment
- HVAC, ventilation, and air quality
- USB type-C power delivery



Once the MCU platform and the functions needed for the application are selected, the developer can start from existing demo codes and customize them using high-level programming, without going into deep technical details.

The automatic pin configuration and the visual procedure enable an easy board assembling with the correct wiring and the embedded debug allows to get a working prototype quickly.



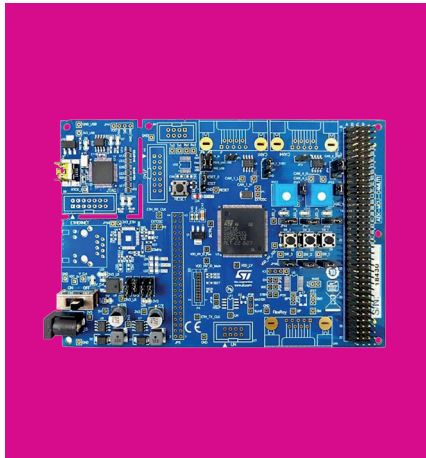
**FIND OUT MORE**

[www.st.com/autodevkit](http://www.st.com/autodevkit)

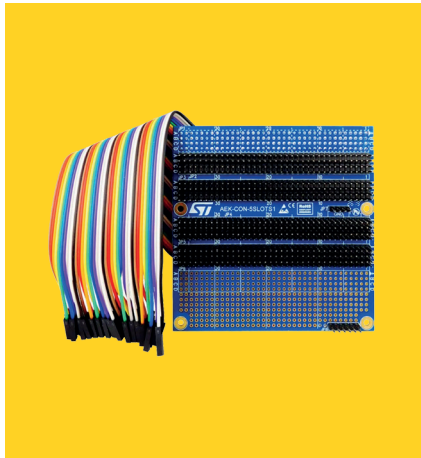
## THE AUTODEVKIT ECOSYSTEM INCLUDES:

- MCU Discovery and Functional boards
- System solution and demonstrators
- Embedded software and firmware components and tools

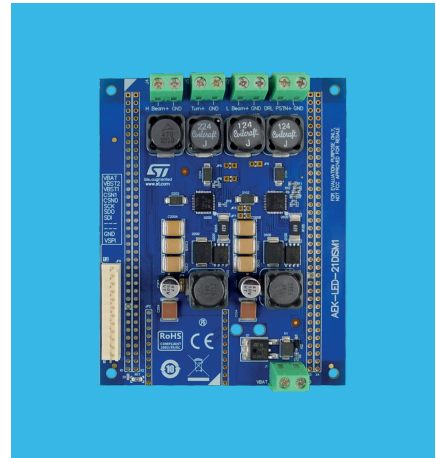
### MCU Boards



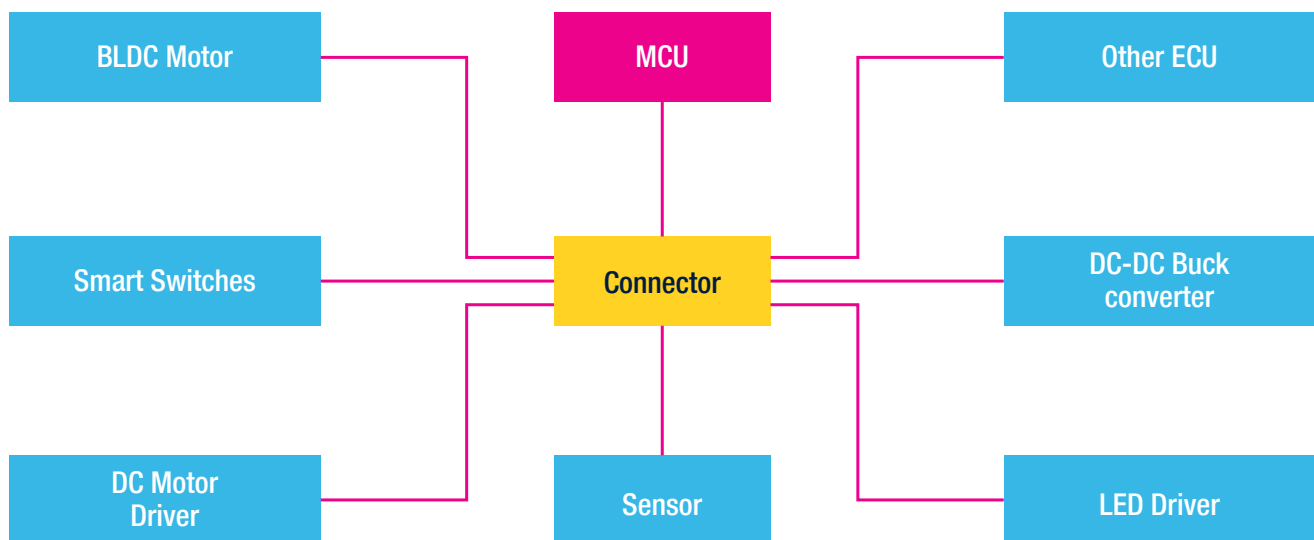
### Connector Boards



### Functional Boards



## Solution /Demonstrator KIT



MCU + Connector + Functional boards

At STMicroelectronics  
we create  
technology that  
starts with You



Order code: **BR2311AUTOCs**

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