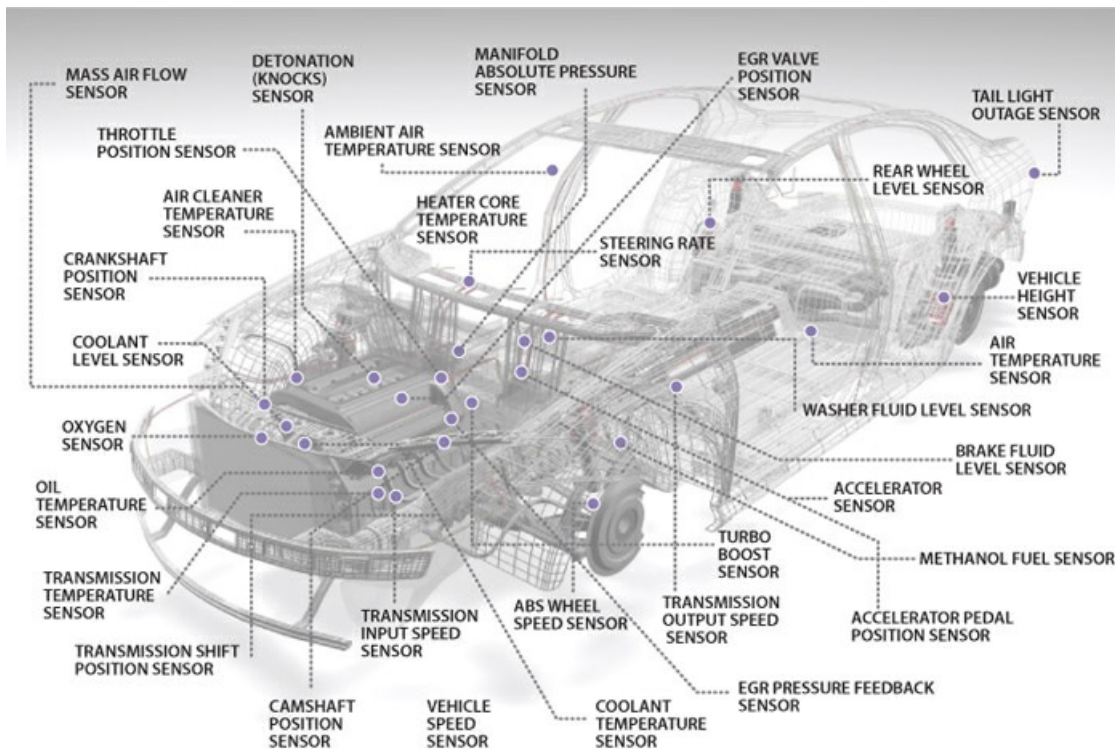
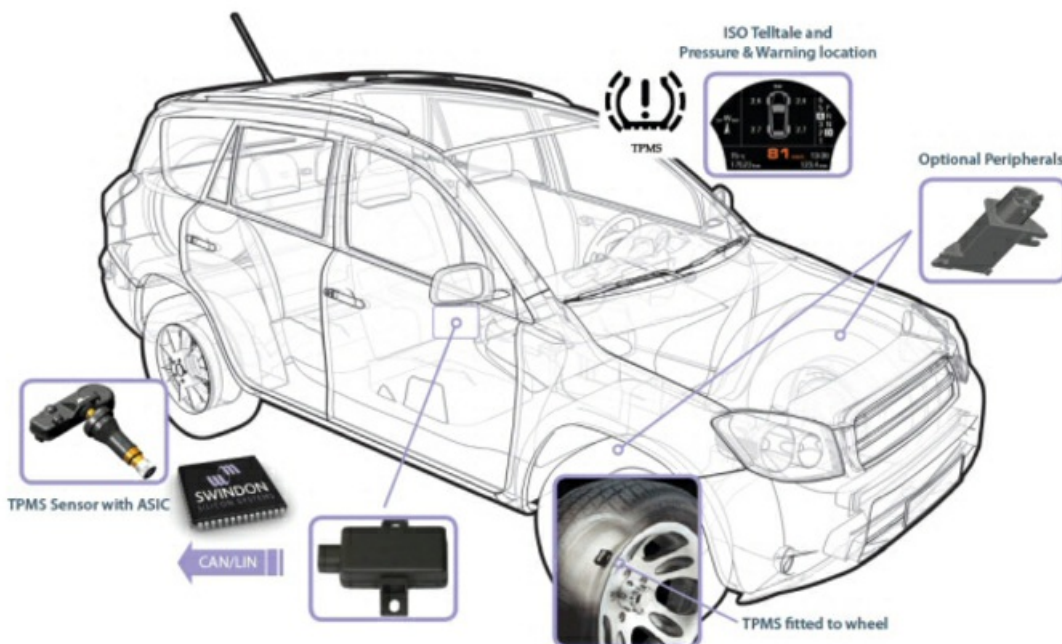


CAN-capable automotive ASICs

Swindon Silicon Systems (United Kingdom) provides application-specific integrated circuits (ASICs) for automotive, industrial, consumer electronics as well as medical applications. Automotive ASICs provide CAN and LIN connectivity.



THE AUTOMOTIVE ASICs ARE APPLIED IN VEHICLE sensor systems, driver assistance systems and driver safety systems. ASIC-based sensors measure data from air and coolant to oil and washer levels. Over thirty systems concerned with safety, comfort and driver information use such sensors. The company developed several projects for market leading OEMs improving the monitoring of the information coming from the performance of the car.



The ASICs contribute to the driver's safety allowing monitoring of vehicle speed, tyre pressure or light outages to crank and throttle positions monitoring. In particular, company's tyre pressure monitoring systems (TPMS) provide the car, commercial vehicle or truck drivers with safety and reliability. The battery-powered TPMS ASIC family meets the demands of operation in the harsh environment. The designs comprise a custom micro-controller with embedded software, which control several peripheral functions used in the process of measuring pressure, temperature and RF (radio frequency) transmission. Each chip has a polled motion detector circuit, which provides a wake-up feature to the micro-controller. The embedded software dictates the sequence of events thereafter, which can vary depending on customer requirements. Typically a pressure and temperature measurement would occur, any

change from the previous value would activate the PLL-based (phase-locked loop) RF transmitter and deliver encoded data for reception by an RF receiver. Currently, the manufacturer supplies over 50 % of the global demand for TPMS ASICs. TPMS is standard on cars and light trucks in the USA.

The ASICs for driver assistance enable the driver to be aware of all aspects of the vehicles performance. The driver may see and act on information coming from the car. A mixed-signal ASIC was developed for truck ABS (assisted braking systems) and odometer application. The chip is the interface between the wheel sensors and the controlling functions of the braking system. The odometer function counts the wheel speed pulses and transmits this data to the CAN micro-controller. Corrections for wheel speed sizes are carried out via software. The system runs on stoplight power i.e. the module is only powered when the brakes are applied.

Since 1978 the company provides design, test and supply of mixed-signal and analog ASICs. End of April 2012 the firm announced that Madison Dearborn Partners (MDP) have purchased and now wholly own the Schrader International Group, of which Swindon is a part. Schrader International is a global manufacturer of sensing and valve solutions for automotive and industrial applications.