

## *Automotive Safety Systems Driving Growth in Automotive Sensor Cable Assemblies*

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As a young boy in the 60's, my brother, sister and I would stand on the rear seat of Dad's Oldsmobile and hang onto the top of the front bench seat. That was our idea of automobile safety back then. The National Highway Safety Bureau, now the National Highway Transportation Safety Administration (NHTSA), was created in 1966 and one of their first initiatives was to mandate the installation of seat belts in all American made cars. Driver side airbags were mandated in 1992 and dual front airbags were mandated in 1995. In 2005, the NHTSA mandated that all passenger vehicles be equipped with tire pressure sensors to detect if any tire was 25% below the recommended inflation pressure. In 2011, a mandate requiring Anti-lock Brakes (ABS) and Electronic Stability Control (ESC) in all passenger vehicles and light duty trucks went into effect.

Looking forward and being discussed now, one of the next likely mandates will be Vehicle to Vehicle Communication (V2V). V2V is a collision avoidance technology that transmits data between vehicles to help warn drivers of potential crashes. This technology would improve safety by allowing vehicles to communicate with each other and exchange basic safety data, such as position and speed and warn the driver of potentially dangerous situations.

All of the safety systems mentioned above require specialized sensors. These sensors measure everything from temperature, pressure, speed and direction to inertia, radar sensing and image sensing. A typical vehicle today may have up to 100 sensors. As cars get smarter, the number of sensors (for all systems including emission control, infotainment, passenger comfort, etc.) could increase to nearly 200 sensors per vehicle. Every one of these sensors must be connected to a controller in some way, usually via a hardwired cable connection. Most sensors are connected with 2 or 3 conductor cables that are terminated with a crimped or welded connection.

With the safety of the occupants in mind, reliability and lasting quality of the cable assemblies are of utmost importance. This type of repeatable quality can only be achieved with automatic assembly equipment equipped with integrated quality monitoring. Schleuniger is proud to be a key supplier of fully automatic wire and cable assembly equipment for the automotive safety market segment and we look forward to continued growth in that area.

**To Be Precise.**