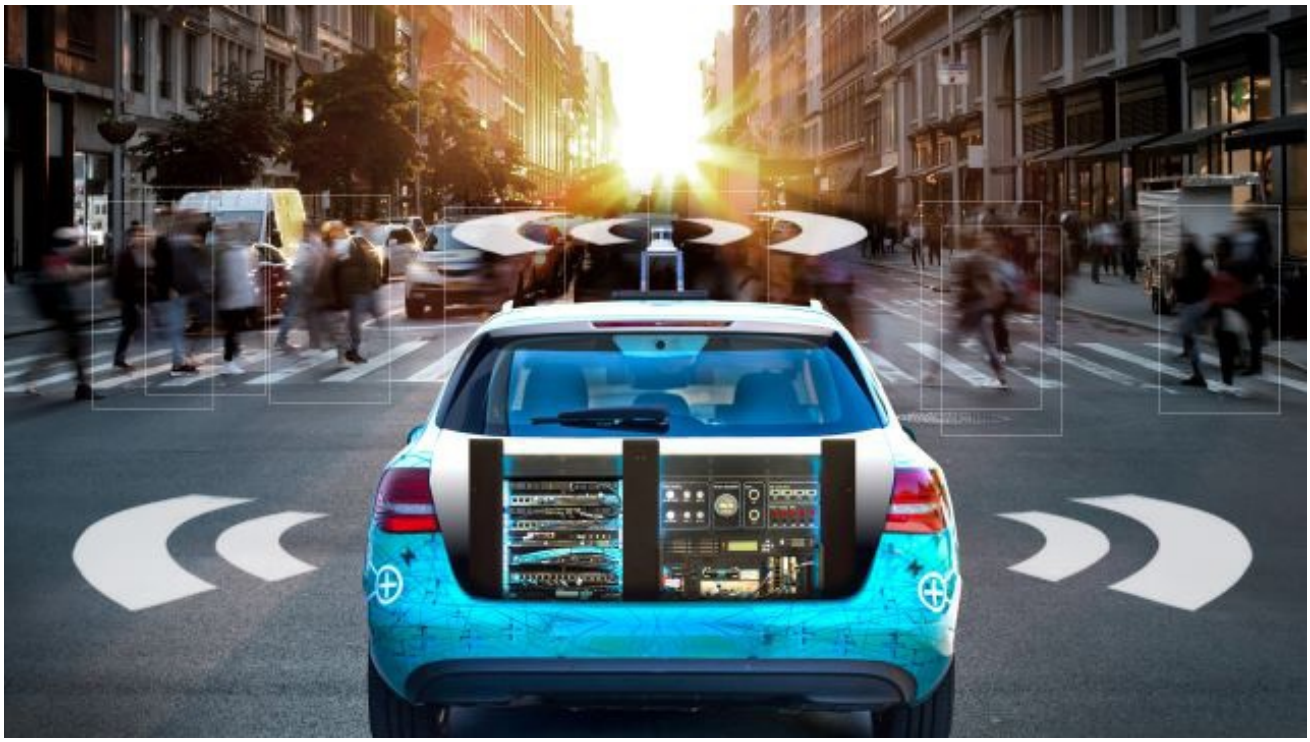
CAN Newsletter Online

RECORDER AND ANALYZER

ADAS data acquisition system

Siemens Digital Industries Software provides the Simcenter Scaptor (sensor capture) hardware and software tool chain tailored to capture, synchronize, process, and analyze the data streams inside of a vehicle.



Simcenter Scaptor helps on development of autonomous vehicles offering hardware and software to record, visualize, and replay the collected data (Source: Siemens Digital Industries Software)

The tool system simultaneously collects data from in-vehicle networks and from multiple sensors including radars, cameras, and lidars. This is useful for development and validation of advanced driver assistance systems (ADAS) and autonomous vehicles (AVs). The system hardware consists of a main recorder and further devices e.g. for recording of camera data, power supply, and data ingestion.

The modular Scapture Recorder interfaces to sensors and in-vehicle ECUs (electronic control units) to centralize, timestamp, and log the acquired data. It is based on the technology from B-Plus and consists of a storage cartridge (up to 32 TiB), a core module (processor and standard interfaces) as well as the expansion slots. One of the available extension cards handles eight independent channels for Classical CAN and CAN FD. The extension card can deactivate its acknowledge function becoming passive and only collecting data without affecting the network. Further input channel options include 1 Gbit/s Ethernet, 10 Gbit/s Ethernet, USB 3.0, GNSS (global navigation satellite system) receiver, etc. The recorder weighs ca. 5 kg and measures 320 mm x 250 mm x 110 mm.

The Scapture Recorder collects data from cameras, radars, lidars, and in-vehicle networks (Source: Siemens Digital Industries Software)

The Scapture Recorder software is a web-based application for state monitoring and configuration of the recording setup. It is accessible via a wired connection or via a Wi-Fi hotspot. Using Wi-Fi the driver can start and stop recordings from a tablet or a mobile phone, for example, during a test drive. The Scapture Analyzer software allows for visualization of sensor data and enables to analyze pre-recorded data in the post-processing phase. It is also possible to add customized plugins using the provided SDK (software development kit).

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