



SIEMENS

Ingenuity for life

Simcenter Prescan

Accelerating time-to-market for ADAS and autonomous vehicles

Benefits

- Accelerate time-to-market by significantly reducing the amount of work needed to develop ADAS and AV
- Perform design iterations rapidly and cost-effectively
- Fully quantify and control conditions
- Deliver robust initial designs
- Rapidly optimize the product in the development phase
- Deliver a fast launch in the confirmation phase

Summary

Simcenter™ Prescan™ software provides a physics-based simulation platform to develop, test and validate advanced driver assistance systems (ADAS) and autonomous vehicles (AV). In contrast to real-world circumstances, conditions in Simcenter Prescan are quantifiable, controllable and repeatable.

Design iterations can be performed in a quick and cost-effective way by modifying the system's parameters and running the simulation. Therefore, by using Simcenter Prescan you can significantly reduce the amount of work needed to bring ADAS and AV functionality to the market.

Using Simcenter Prescan enables you to deliver robust initial designs in the concept phase, rapid optimization in the development phase and a fast launch in the confirmation phase.

Simcenter Prescan plugins

- Aimsun plugin: Allows the connection of Prescan to Aimsun.NEXT, enabling massive traffic simulation via cosimulation
- Vissim plugin: Allows the connection of Prescan to PTV Vissim, enabling massive traffic simulation via cosimulation
- IDC Importer plugin: Import real-world data scanned with the Ibeo Automotive Systems GmbH lidar. By using Ibeo's software development kit (SDK), road and road-user data can be transformed into a Simcenter Prescan scenario. Users can then virtually test their applications in the same real-world scenario
- Physics-based camera plugin: Camera sensor model that reproduces the pipeline of a lens system, including the images and electronics to generate physically correct images with high dynamic range (HDR), high color depth and wide spectral range
- Unreal plugin: Physics-based camera model using the Unreal engine
- Physics-based radar plugin: Physics-based radar model that reproduces the pipeline of a radar system by providing the analog to digital converter (ADC) that is needed to test and develop signal processing algorithms

Simcenter Prescan

- Vehicle-to-everything (V2X) communication plugin: Communication sensor model with a statistical approach for simulating packet loss in V2X communication based on line of sight, typical scenarios and vehicle distance
- German In-Depth Accident Study (GIDAS) plugin: Import cases out of the GIDAS-based, pre-crash matrix for building Simcenter Prescan scenarios (subscription to GIDAS database not included)
- Chinese In-Depth Accident Study (CIDAS) plugin: Imports the proprietary CIDAS database format into Simcenter Prescan (subscription to CIDAS database not included)

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