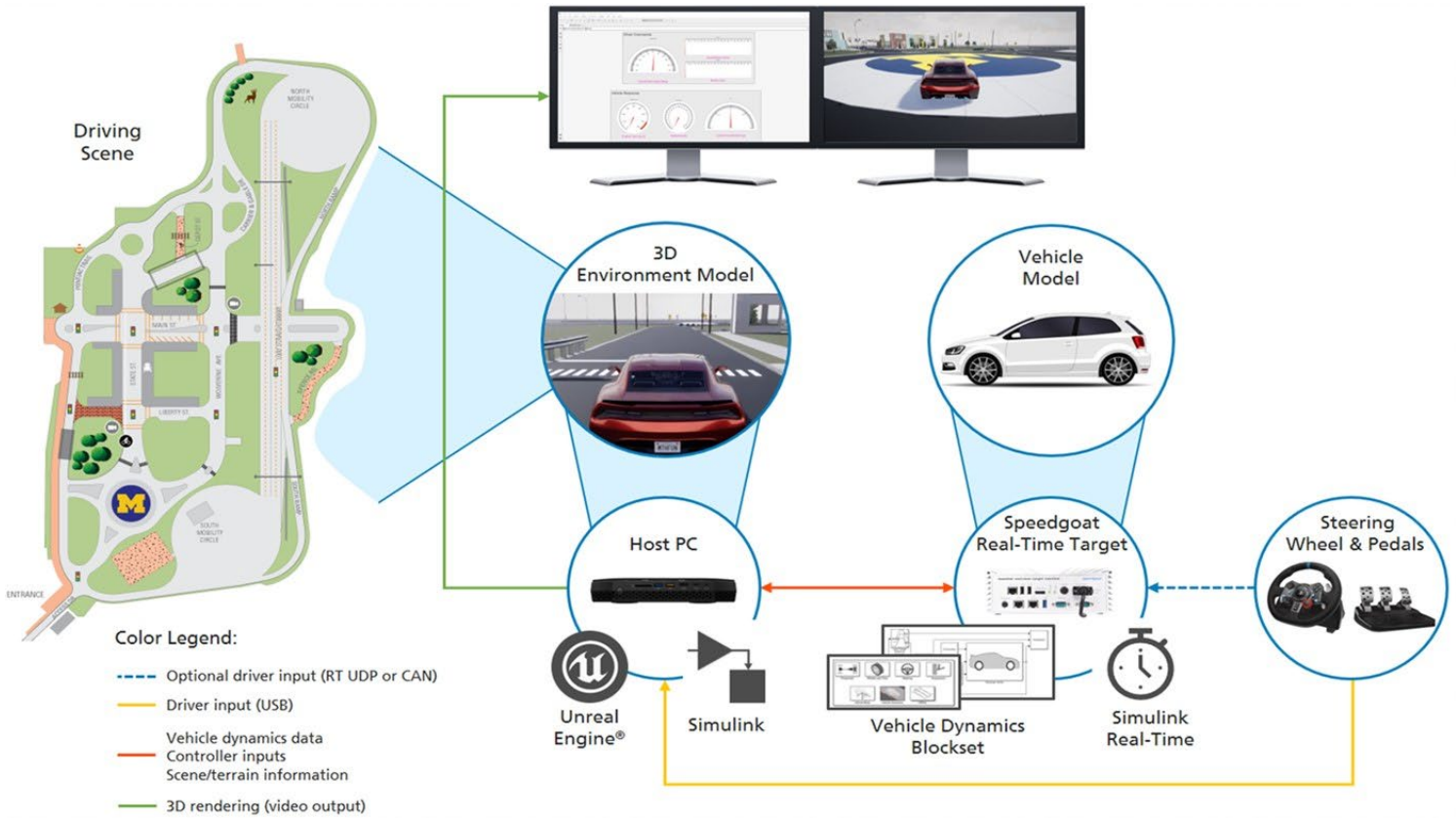




## Driver-in-the-Loop Simulation



Driver-in-the-Loop (DIL) simulators play an essential role in supporting automotive vehicle developers. They allow validation of critical components such as steering systems with virtual vehicle simulation. ADAS and automated driving features add complexity requiring tests over various scenarios at an early stage. With a real-time DIL simulator, embedded hardware and control algorithms can be tested and optimized before deploying the model to the vehicle. Automotive engineers rely on virtual vehicle simulation and DIL simulators to synthesize data for edge scenarios and to test specific assisted driving problems, for instance, control handover and platooning.

Virtual vehicle solutions can be cumbersome to use and are frequently geared towards vehicle dynamics experts. A Simulink® solution allows simple and seamless interfacing of customisable vehicle plant models to external driver input, supporting real-time testing and interfacing to embedded control units or prototyping hardware.

A typical DIL set up based on our solution can be implemented as follows:

- Simulink Real-Time™ application, generated from your Simulink model of the virtual vehicle, running on a Speedgoat real-time target machine.
- GPU-enabled Host PC running Simulink model with Unreal Engine® interface that provides photorealistic and smooth 3D renderings of the driving scenario.
- External driver input hardware capable of providing a realistic driving experience.