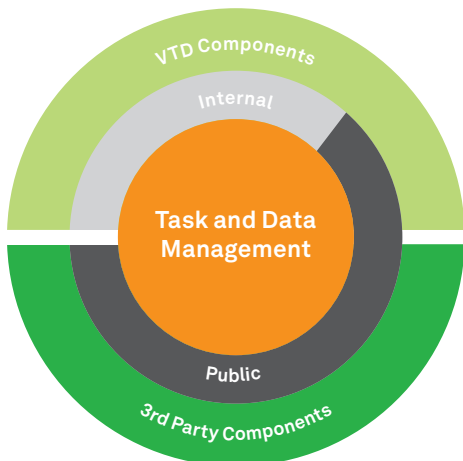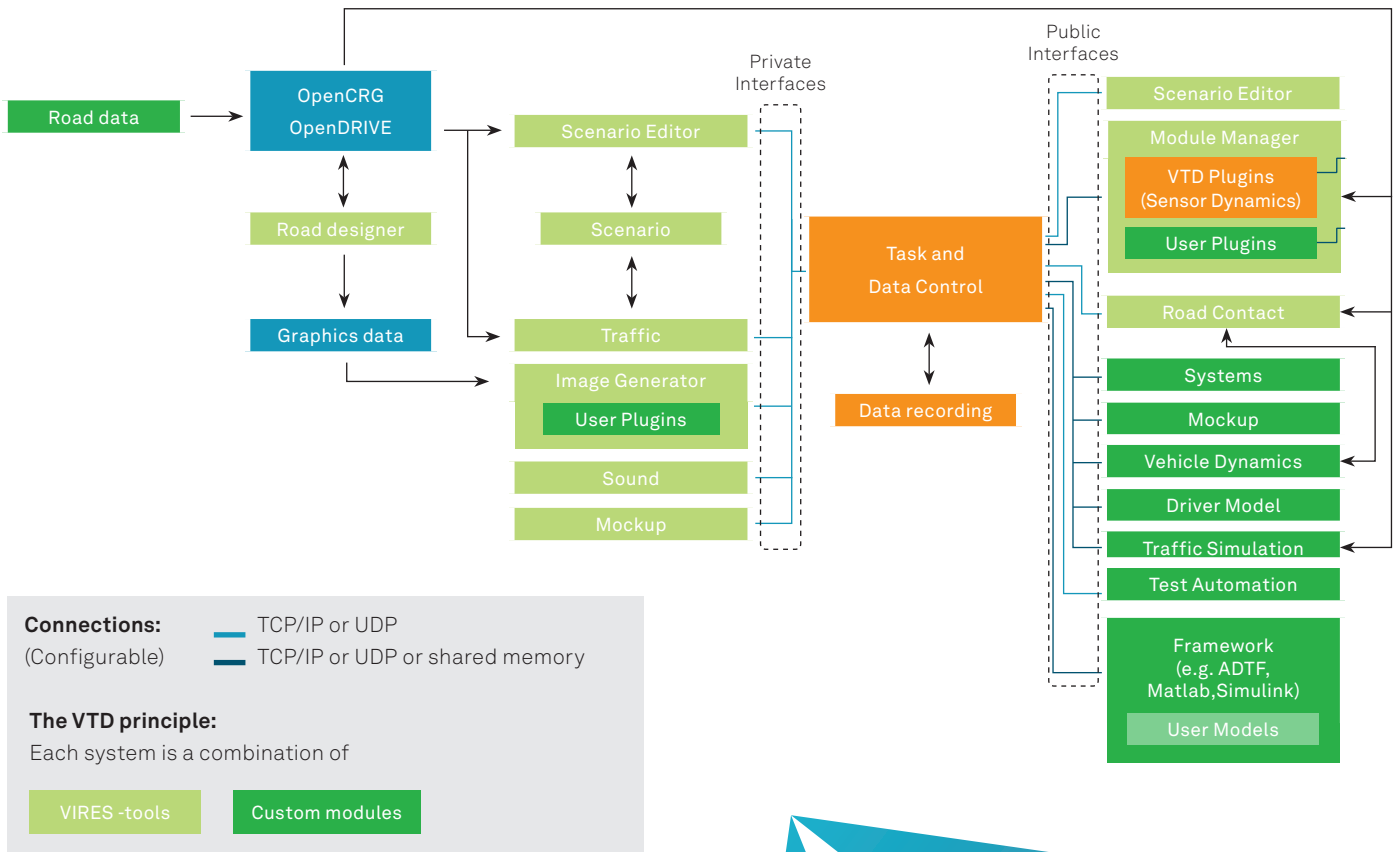# VIRES Virtual Test Drive®

VIRES Virtual Test Drive (**VTD**®) is a complete toolchain for driving simulation applications

VTD provides a modular toolset for road generation, scenario definition, traffic and sound simulation, simulation control, image generation etc. It uses established standard file formats.

VTD provides open interfaces for 3rd party components and a plug-in concept with API for 3rd party modules.

VTD is an established software package which is in service at numerous installations in the automotive and railroad industry.

Connections:
(Configurable)

—— TCP/IP or UDP
—— TCP/IP or UDP or shared memory

The VTD principle:
Each system is a combination of

VIRES -tools   Custom modules

Road data

OpenCRG OpenDRIVE

Road designer

Graphics data

Scenario Editor
Scenario
Traffic
Image Generator
User Plugins
Sound
Mockup

Private Interfaces

Task and Data Control

Data recording

Public Interfaces

Scenario Editor
Module Manager
VTD Plugins (Sensor Dynamics)
User Plugins
Road Contact
Systems
Mockup
Vehicle Dynamics
Driver Model
Traffic Simulation
Test Automation
Framework (e.g. ADTF, Matlab, Simulink)
User Models

VTD Components
Internal
Task and Data Management
Public
3rd Party Components

The components in detail

Road Designer ROD®

Interactive road network editor
- Road design for roads in Europe / USA / China etc.
- Extensive libraries of 3d objects, textures etc.
- Creation of tiled databases

v-TRAFFIC
v-SCENARIO

Traffic / scenario editor, monitor and simulation module
- Autonomous and deterministic traffic
- Custom trigger options / simulation control
- Pedestrian simulation

v-IG

High-end image generator
- Real-time shadows / sun-glare / weather effects
- Environment mapping
- Fish-eye distortion / warping / blending
- Real-time ray-tracing
- High-dynamic-range rendering
- Infrared module
- High quality headlight visualization
- On-the-fly video generation

v-TaskControl

Core module
- Task and data management
- Simulation control
- Record/playback functionality
- Gateway for 3rd party modules

Add-on modules

- Sound
- OpenDRIVE Gateway
- Interfaces to Simulink®
- Interface to ADTF®
- Simplified GUI
- Data Recorder
- Sensor Plug-ins:
  - Perfect Sensor
  - Camera Sensor
  - Crash Sensor
  - Lidar Prototype
  - Radar Prototype
- etc.

Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications.

Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Manufacturing Intelligence division provides solutions that use data from design and engineering, production and metrology to make manufacturing smarter. For more information, visit hexagonmi.com.

Learn more about Hexagon (Nasdaq Stockholm: HEXA B) at hexagon.com and follow us @HexagonAB.