# Version 12
## Real-Time Interactive 3D Simulation & Modeling Software

### Supporting 64bit native

- **This 64 bit support utilizes full PC resources**
  - Over 4GB memory is now available with an anticipated concomitant increase in speed

- **Expansion of terrain space and improvement of resolving performance**
  - Simulation of long roads in a vast terrain is now available. Finer mesh settings enable the description of more realistic terrain
  - The terrain map has been expanded from 20 x 20km maximum to several hundreds of kilometres



### Improved Visualization

- **Expansion of the number of arranged models**
  - The geometry of multiple models can be displayed. Buildings can be displayed smoothly in a simulation of urban 3D space even though they are modelled individually

- **High qualified texture**
  - The limit on the amount of available textures, such as: ground surface, road surface and 3D models is greatly increased and multihued descriptions are possible

- **Visualization of analysis results**
  - It is possible to perform a long-haul visualization simulation including animation steps



FORUM 8®
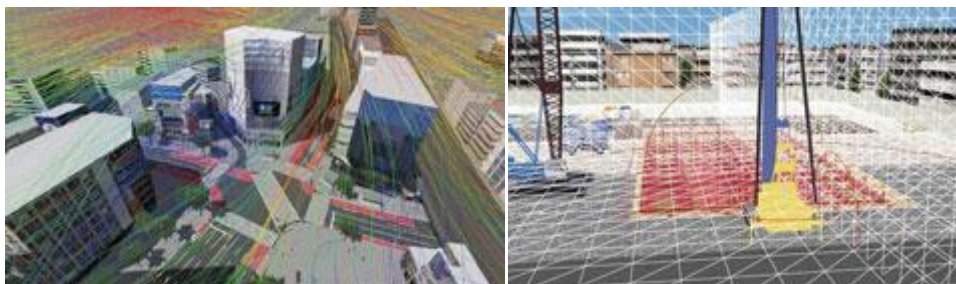
- **Calculation frequency control and SILS function**
  - In vehicle R&D, it is common to run simulations of the automobile and its equipment at regular intervals. Until now, VR-Design Studio synchronized both the visualization and the simulation calculation at the same cycle, depending on the PC's computation power. The cycle is variable according to the VR data content. In past versions you can run simulations flexibly regardless of what kind of content is used, but it is difficult to calculate in the accurate frequency. In Ver.12 the calculation cycle and image update cycle can be set separately. A variety of patterns are available according to user's simulation needs (calculation and display, calculation only). The internal timer can also be customized with SDK.

- **Simulation real-time linkage plug-in**
  - In R&D of ITS, ADAS and autonomous driving simulation, a real-time plug-in is provided in V12 as a new option to satisfy the simulation demands of general V2X communications such as car-car, car-infrastructure, and car-pedestrian
  - This plug-in sends real-time traffic and car simulation information to a third party application and receives own car control commands and superimposed display commands to the driver. Because it uses the TCP/IP general-purpose communication protocol, it can be used easily in a user's development environment. In addition, by using the multi user cluster feature, simulations combining multiple vehicle information can be run and a variety of autonomous and normal vehicles can be simulated. V2X communication simulation is not included this time, but linkage with special applications and development of simple communication features are planned.

- **Expansion of Vehicle Control Features**
  - The ability to simulate different types of car lights (lamps) has been expanded and the user can now describe and control: rear lights, backlights, fog lamps, side lights and 10 extension lamps. This is in addition to brake lights, indicators (winkers) and hazard lights.
  - The Micro Simulation Player feature plays previously recorded vehicle motion when such motion needs to be replicated. However the following vehicle controls must be added:
    i. Speed designation: car follows a specified speed which can be applied to any direction of travel
    ii. Acceleration: follows a specified acceleration and deceleration in any direction of travel
    iii. Keep distance between other vehicles: car travels while keeping distance with the object vehicle
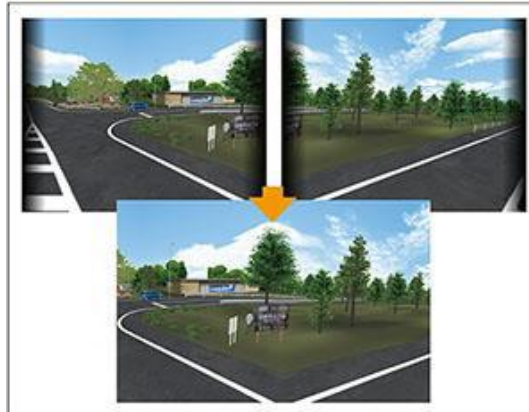    iv. Keep distance along the road's centre line
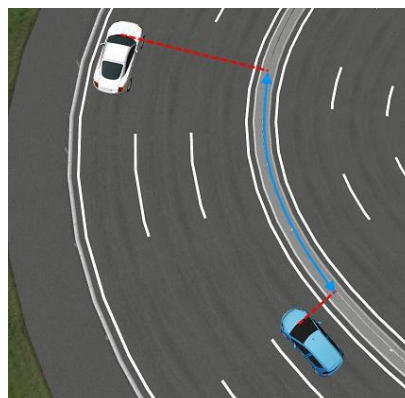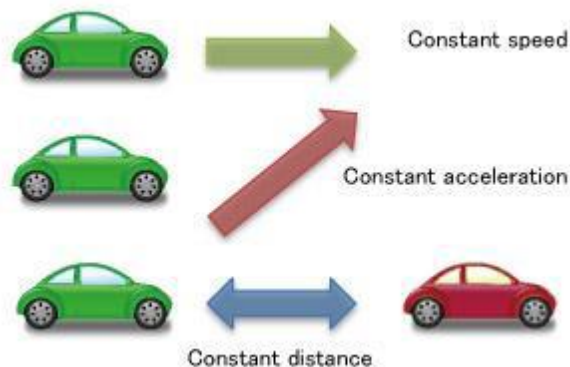
- **Enhancement of 2D View**
  - Frames and information of 3D models, roads and vehicles can be displayed. The simulation status can be seen at a glance
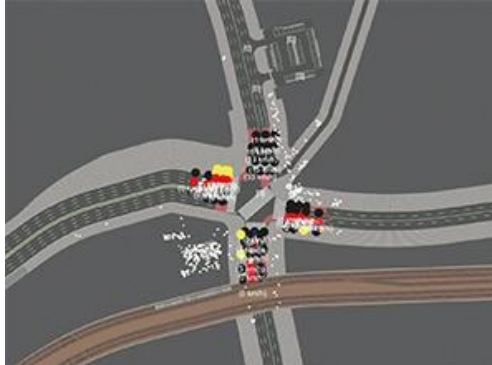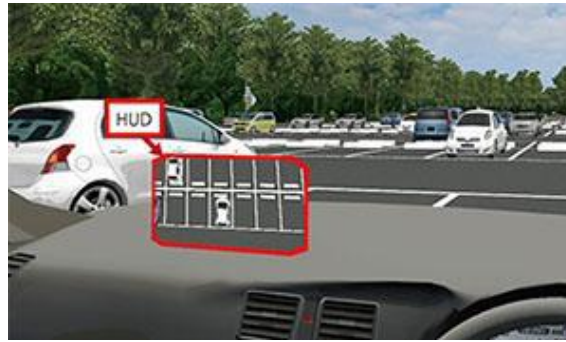


- **Edge Blending & Mask**
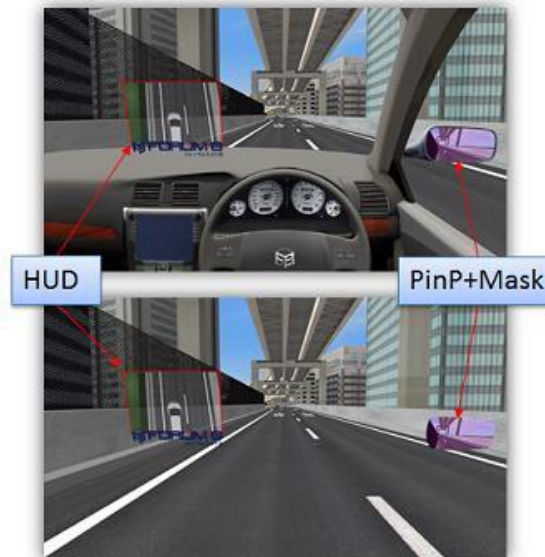  - Edge blending is supported when using multiple projectors. It can be used as a mask.
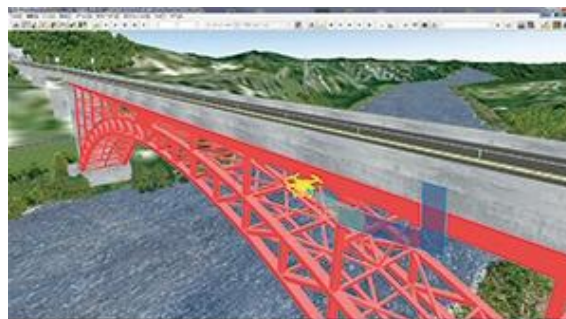


- **PinP & HUD Simulation**
  - Images in car mirrors, or other view points, can be displayed on the main screen (Paid plug-in)

- **UAV plug-in**



- Display of short range management of multiple UAVs, flight manager and selection of media file

**FORUM 8**®