Virtual reality design studio

UC-win/Road

Ver.14

VR|NEXT®

VR-CLOUD®

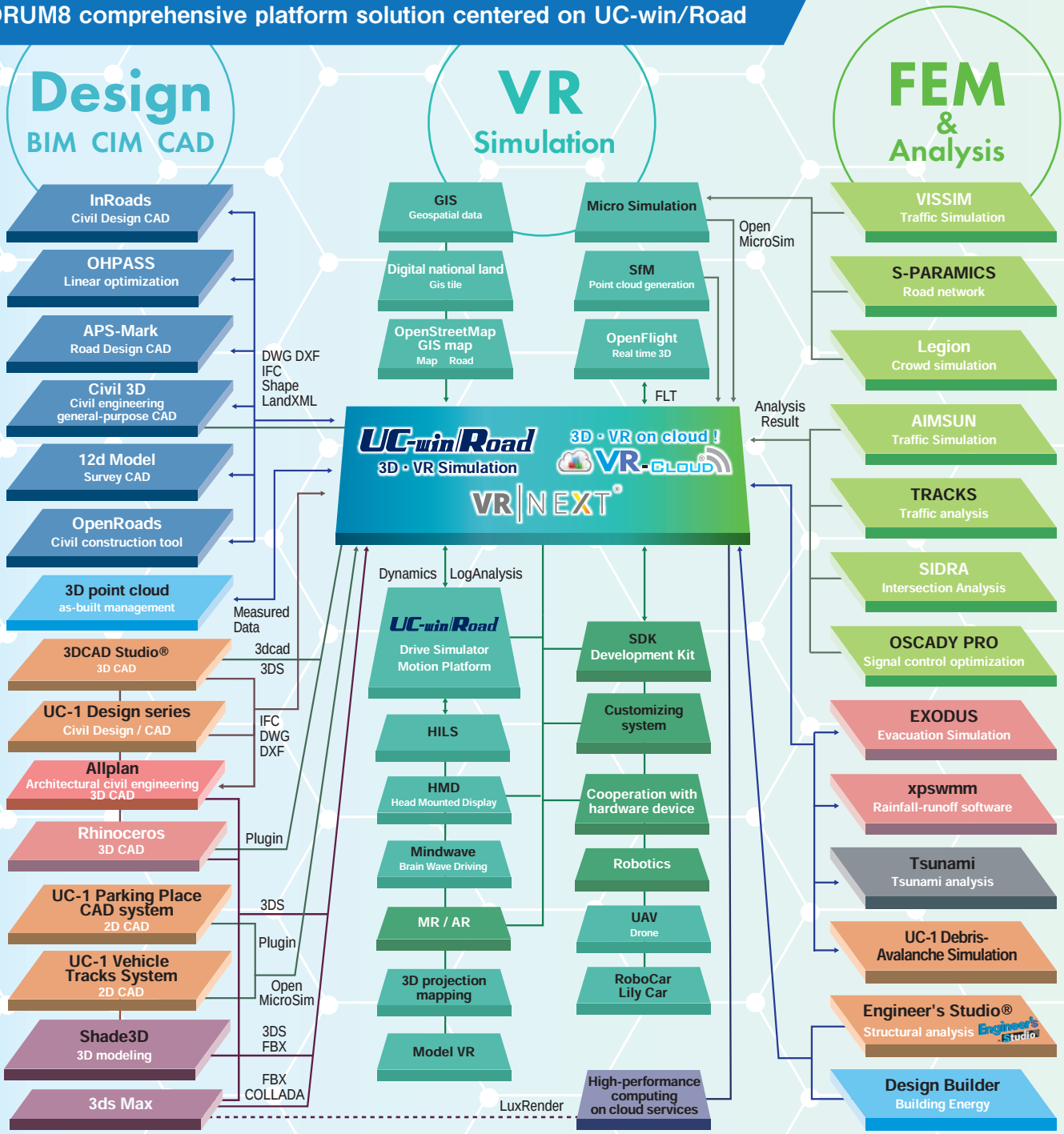
Ver.14

FORUM8®

www.forum8.co.jp

3D VR Solutions

FORUM8 comprehensive platform solution centered on UC-win/Road



VR simulation platform

Connect each phase of design, construction, and maintenance not only between products but from the aspect of time axis to encourage BIM/CIM workflow

IM & VR Information Modeling & Virtual Reality

Design solution for building and civil engineering by BIM/CIM

UC-win/Road・VR-Cloud®
VR Support Service

UC-win/Road・12d Model
xpswmm

3DCAD Studio®・Allplan
UC-1 Series

1. Design meeting

2. Check ground and survey data

3. General map (model) creation

UC-1 Series／Draw Tools
3D Bar Arrangement CAD／for SaaS

4. Check structures (bar arrangement interference)

Virtual Reality Design Studio UC-win/Road
VR/FEM/CAD/Cloud UC-1 Engineer's Studio®

Software and technical service provided as solutions at each stage of CIM.

5. Drawing, mapping, simulation

3D Drawing Service
UC-win/Road
3D・VR Engineering Service

6. Verification

Engineer's Studio®
GeoFEAS3D・FEMLEEG
ES・Geo Technical Analysis Support

7. Quantity calculation / Quantity take-off

UC-1 Engineer's Suite
Suite Addition・
Construction Accounting Software Suite

8. i-Construction

VR-Cloud®
3D Bar Arrangement CAD
／for SaaS

Develop a linkage between software, cloud, and system of civil architecture, structure design, and analysis.
Suggest "IM&VR Solution" that is an integrated solution by BIM/CIM&VR on VR platform

IM & VR

National resilience / Municipality solution

UC-1 Cloud
Auto design series

Available on multiple devices and browsers. Auto selection of framework size and bar arrangement. Detailed design in the UC-1 product by data cooperation.

CG/Modeling
Shade3D

Comprehensive 3DCG software corresponding to The Certification of 3D CAD engineer Grade-1

Support of survey / Use of point cloud

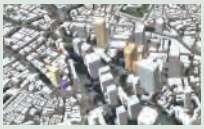
Imports point cloud for terrain patch and 3D modeling. Streamlines the processing of hundreds of millions of point cloud thanks to the enhanced LOD display.

Standard terrain data

Imports terrain data and aerial photos from electronic land map

OpenStreet Map

Import of terrain, road, building, and tree

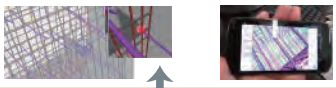


UC-1 design series

Creation of drawing, 3D model, and 3D bar arrangement from structural designs

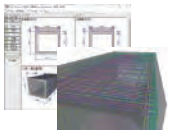
3D bar arrangement CAD

Bar arrangement display, interference check



Rebar data　2D drawing data

UC-1 series



Civil engineering design 2D/3DCAD

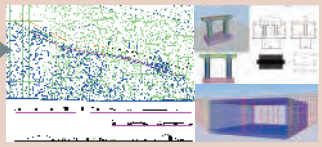
Data cooperated with the addition software

UC-1 Engineer's Suite Addition

Construction Accounting Software Suite

ALLPLAN

3D architectural civil CAD for BIM/CIM



Other simulations
<Medical / manufacture / agriculture>

Testing senior driving

Institute review

IT agriculture

UC-win/Road

Virtual reality design studio

Road planning / improvement of intersection

Traffic simulation

City planning / review of scenery

City planning / redevelopment

Road optimization / measures for traffic safety

Undergrounding

Plan of disaster prevention and disaster reduction

Immersion and flood 3D hazard map

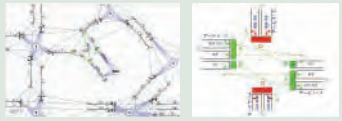
Tsunami simulation

Construction planning and management

UAV

Evacuation drill simulation

Traffic analysis　OSCADY/TRANSYT



Import and visualize analysis result of traffic lights and vehicle location

Test and training by using drive simulator

8DOF traffic safety simulator

VR-Cloud

Cloud type VR application for Android

Utilize for 3D VR navigation, drive simulation, and design discussion

VR|NEXT

VR engine for next-generation cloud computing

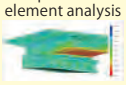
Display 3DCAD data on cloud and manage all data, Real-time rendering of simulation and analysis result

FEM analysis series

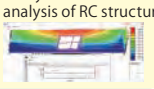
Engineer's Studio

64bit support. Dynamic nonlinear analysis of 3D laminated plate and cable

FEMLEEG
Comprehensive finite element analysis

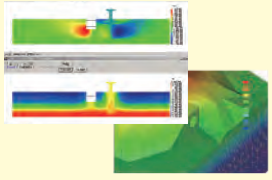


WCOMD Studio
2D dynamic nonlinear analysis of RC structure

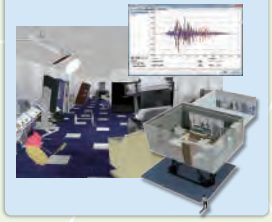


Geotechnical FEM analysis series

Geotechnical analysis using topographic data



Earthquake simulation



Analysis of flood and tsunami / evacuation / debris avalanche

MAIN FUNCTION

UC-win/Road Ver.14 Basic Functions

Virtual reality design studio

UC-win/Road Ver.14

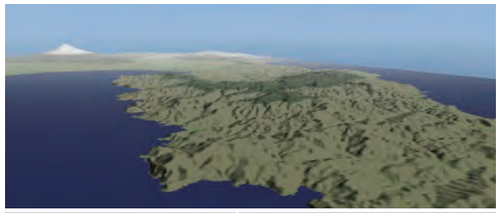
3D Realtime Virtual Reality Software UC-win/Road is advanced software that enables the creation of large scale 3D spaces for all sorts of projects by simple PC operations and with which you can give a variety of presentations in real-time.

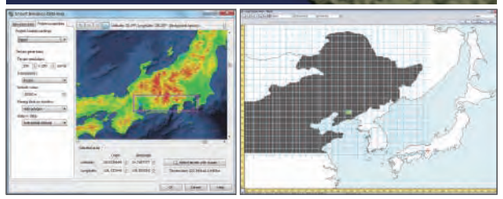
UC-win/Road Awards

- **Won the Special award of the 8th CSAJ Alliance Award**
  Awarded product: UC-win/Road for SaaS (Current name :VR-Cloud®)
- **Awarded with "Outstanding Technology Award" at the Construction Technology Expo, Kinki, 2003**
- **SOFTWARE PRODUCT OF THE YEAR Awarded**
  in "Social/life category / public category"

Standard data / CAD data

- Terrain data and map are included in the database.
- Arbitrary terrain and world geographic coordinate system conversion
- Pasting of satellite photos, DXF-XML conversion, 3D and 2D terrain editing
- Exchange of 3D and 2D data with CAD by Shape, IFC, and DWG





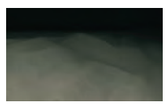
Digital map of Geospatial Information Authority of Japan

50m mesh (elevation)
Geographical Survey Institute
Authorization (2000, #173). 5m mesh (elevation), GIS map import

Import of GIS tile

Geographical features of the world

- 50m topographic mesh of New Zealand
- "CGIAR-CSI SRTM 90m Database" for all parts of the world geographical features of China and Australia
- SRTM(90m mesh) / ASTER(30m mesh)
- BlueMarbleNextGeneration (500m mesh) (Support the topography of the seabed)
- World geographic coordinate system conversion tool authorization (#603)
- Highly accurate terrain can be created whilst specifying its resolution



Efficient VR data creation assistance through the use of standard models/textures and an extensive download DB

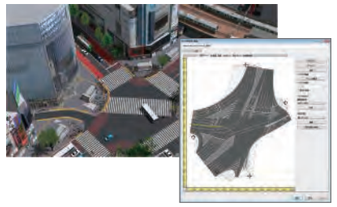
In addition to the standard data including 3D models and textures, extensive downloads are available directly from the UC-win/Road DB

Also, useful editing and movement tools are available, allowing scaling up and down, movement, rotation, inclination and arrangement of models. Action setting offers generation and motion control of moving models.

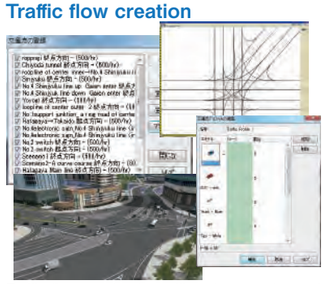
Creating a complicated road is made easy in UC-win/Road

All sorts of lines such as roads, rivers, lakes or flight paths can be set up with parameters or free hand drawing and roads, tunnels, bridges, rivers or walking routes can be automatically created.

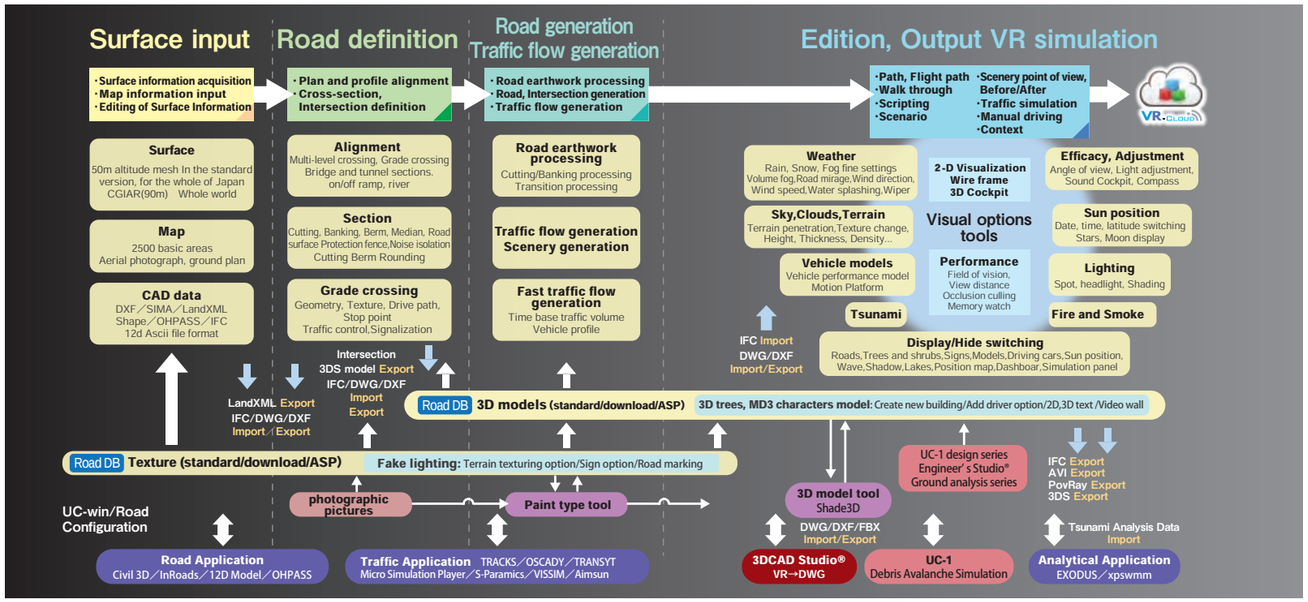
Tunnel and bridge sections are set by the definition of a horizontal road alignment and the vertical alignment. A cross section can be defined very accurately in that cutting and embankment can be processed taking berm into account, not to mention textures can also be assigned. Alignment / cross section generation feature helps you create roads with complicated geometry very easily.



Traffic flow creation

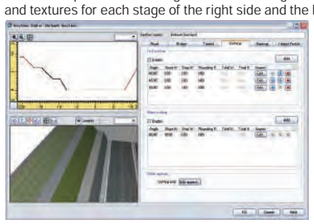


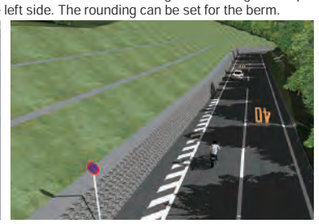
Traffic flow creation by traffic volume setting and ratio of Traffic Generators / Flow by vehicle type. Control of collision.



Improved cuttings and banks and rounding of a small stage

We have improved the setting method of cuttings and banks. It allows the setting of width, angle of slope and textures for each stage of the right side and the left side. The rounding can be set for the berm.





Related patent

- Patent related to VR and DS (1.20.2017)
- Algorithm to predict user input intentions on a mobile devices and reflecting this onto driving simulation (3.27.2015)
- Simulation software programs that allow driving simulation through mobile devices (3.13.2015)
- Virtual space information-processing system (1.24.2014)
- a3S Cloud Transmission Library (9.20.2013)
- Cloud computing architecture (10.25.2013)
- Input device for driving simulation (12.7.2012)

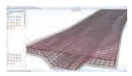
Various data linkage

IFC, Shape, LandXML, and DWG. Other data cooperation expands the engineering world infinitely.

- **Data combination with IFC**
- **Data Link with Road CAD**
  - UC-win/Road for Civil 3D
  - UC-win/Road data exchange tool for APS-Win
  - UC-win/Road for 12d Model
  - UC-win/Road OHPASS Plugin Option

- **Data link with UC-1 Design Series**
  - 3 dimensional bar arrangement simulation, for SaaS
  - 3DCAD Studio®

- **Data link with road applications**
  - OSCADY PRO
  - TRANSYT
  - Aimsun
  - VISSIM
  - S-PARAMICS
  - TRACKS
  - SIDRA
- **Data link with simulation software**
  - UC-win/Road for EXODUS
  - UC-win/Road for xpswmm
  - Debris flow simulation
- **Data link with GIS applications**
  - UC-win/Road for GIS
- **Data link with 3DCAD**
  - Shade3D
  - Allplan



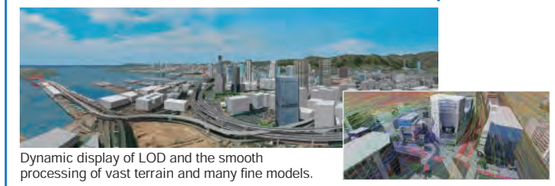
UC-1 Compatible with 3D annotations (3DA) based on "Standard specifications for the creation and representation of 3DA Annotated Models (draft)" set forth by the Ministry of Land, Infrastructure, Transport and Tourism of Japan.

Supports 3D annotations that help you understand at a glance the dimensions of the structure by looking at its 3D model from each direction on the main screen.
All UC-1 design series products will be supported sequentially.

Large-scale VR support

64bit native support

It's possible to create data from the size of a dice to several hundred kilometer road structure in the same space.



Dynamic display of LOD and the smooth processing of vast terrain and many fine models.

Various displays with the Visual Options Tool. Traffic simulation of road hazards are also available.

Also available are real-time control of time,weather, and lighting. You can display day and night scenes with a range of lighting conditions using the artificial light feature. Generating traffic streams based on traffic volume, vehicle profiles, traffic light configurations, as well as simulating traffic obstructions, disasters and accidents can also be carried out.

Real-time VR operation by simple operations. A variety of functions helping presenters

Driving simulations

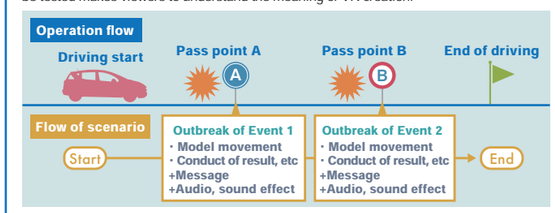
UC-win/Road supports several driving modes (speed of car, lane changing, height of viewpoint, viewpoint switching in 8 directions) and dynamic movement of viewpoint (from other cars, up and down, turn head).
Automatic flight and walk-throughs are available with the flight path setting (editing in the 3D display is supported). More advanced simulation can be performed with manual driving and support for a 3D cockpit and multi-monitors.

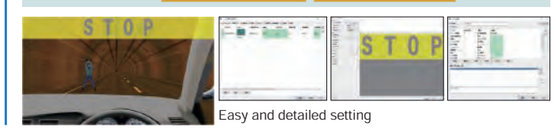
Camera position switching by Before/After

Before, After, and user specified display of model, sign, and tree up to 20 patterns

Scenario

Set various moves to models and simulate scenarios with possible events and conditions to be tested makes viewers to understand the meaning of VR creation.





Easy and detailed setting