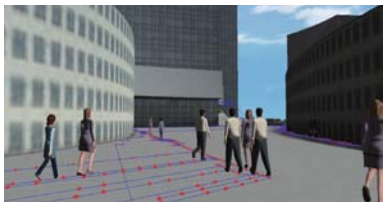
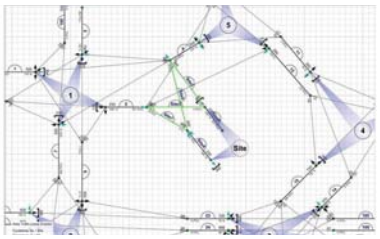
BIM&VR

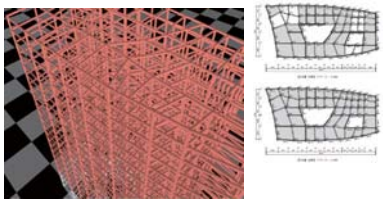
Architectural civil design solution using BIM

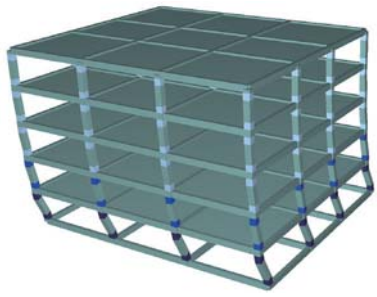
2009 Allplan

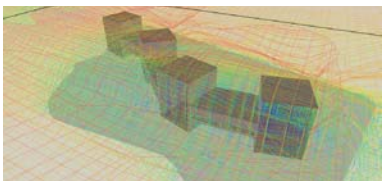
UC-win/Road

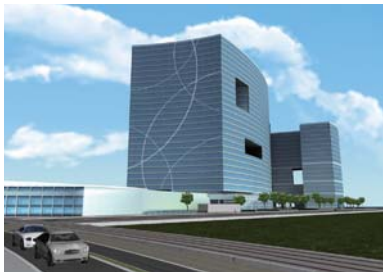


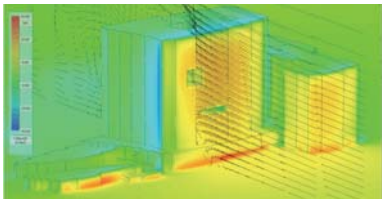












BIM & VR Solution

UC-win/Road
Simulation

SMARTFIRE
Fire analysis

EXODUS
Evacuation analysis

OSCADY
Signal and intersection planning

TRANSYT
Traffic flow analysis

xpswmm
Flood analysis

UC-1 Series
Civil design

UC-win/FRAME(3D)
3D analysis for space-framed structure

Engineer's Studio™
Dynamic non-linear analysis with 3D plate

Multiframe
3D structural analysis

AdvanceSteel
3D steel structural CAD

DesignBuilder
Energy analysis

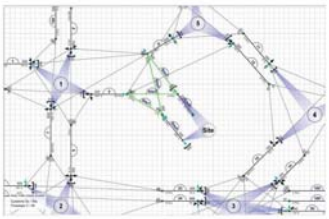
FORUM8 Co., Ltd.

Case studies of BIM architectural civil design solution

Build Live Tokyo 2009 II

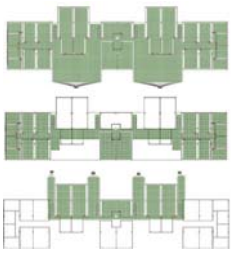
The site data in IFC format is imported into BIM integrated solution "Allplan" to model the building. The data is converted into the analysis software to simulate the wind and flood.

VR presentation image

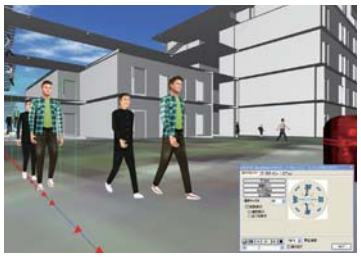


TRANSYT (Traffic simulation)

VR representation of traffic simulation



EXODUS(Evacuation simulation)

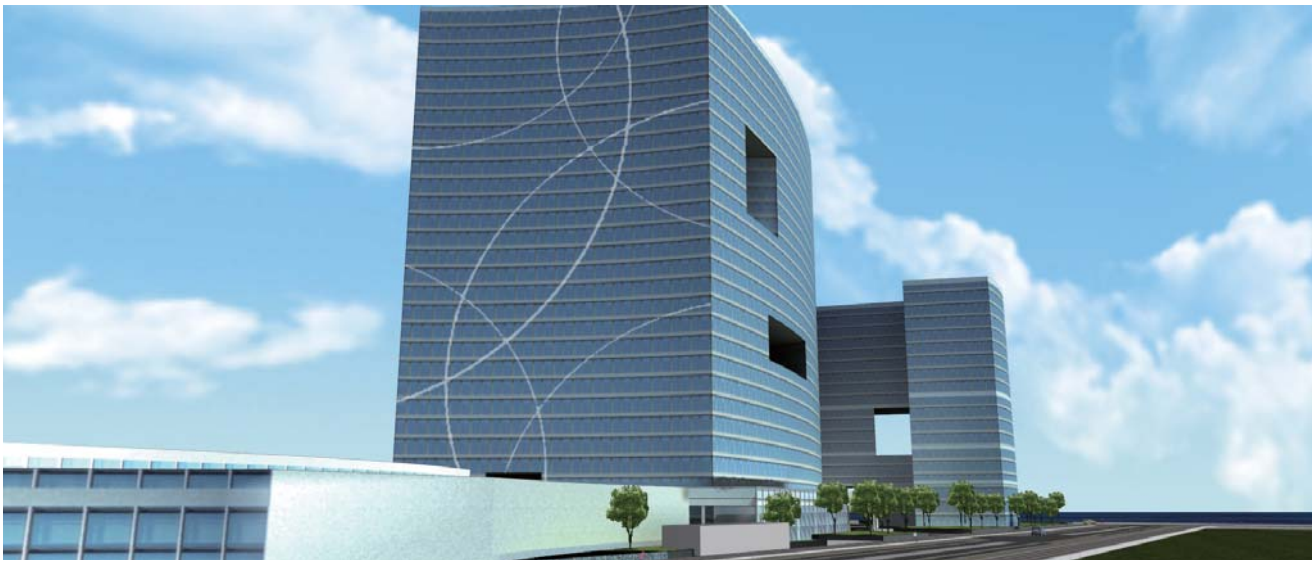


Road for EXODUS

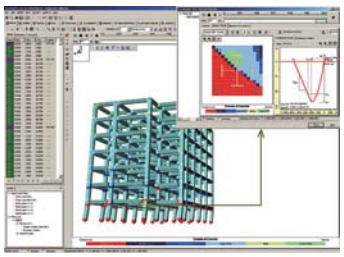
Build Live Tokyo 2009 II was held for a period of 11 days from September 9 2009. It is an architectural design competition with a 3D modeling theme. The participants were supposed to create an architectural model based on the site data in IFC format within 48 hours and give a presentation on the project. The techniques involving planning and design of buildings, structural / facility design using BIM methods as well as simulations are required. FORUM8 participated in this event as "Team F8W16" consisting of associate professor Tomohiro Fukuda, (graduate school of Osaka University), Professor Kostas Terzidis and researcher Taro Narahara (Harvard University). We received the Engineering award in recognition of the advanced technology of analysis methods used.

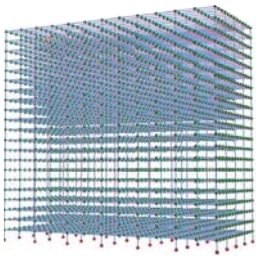
Build London Live 2009

The terrain geometry and traffic network on the fictitious island are created using UC-win/Road to set the traffic stream.

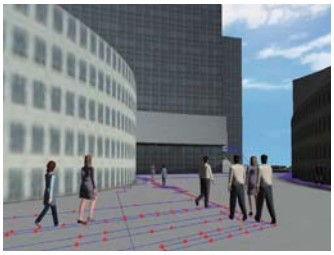


VR presentation image





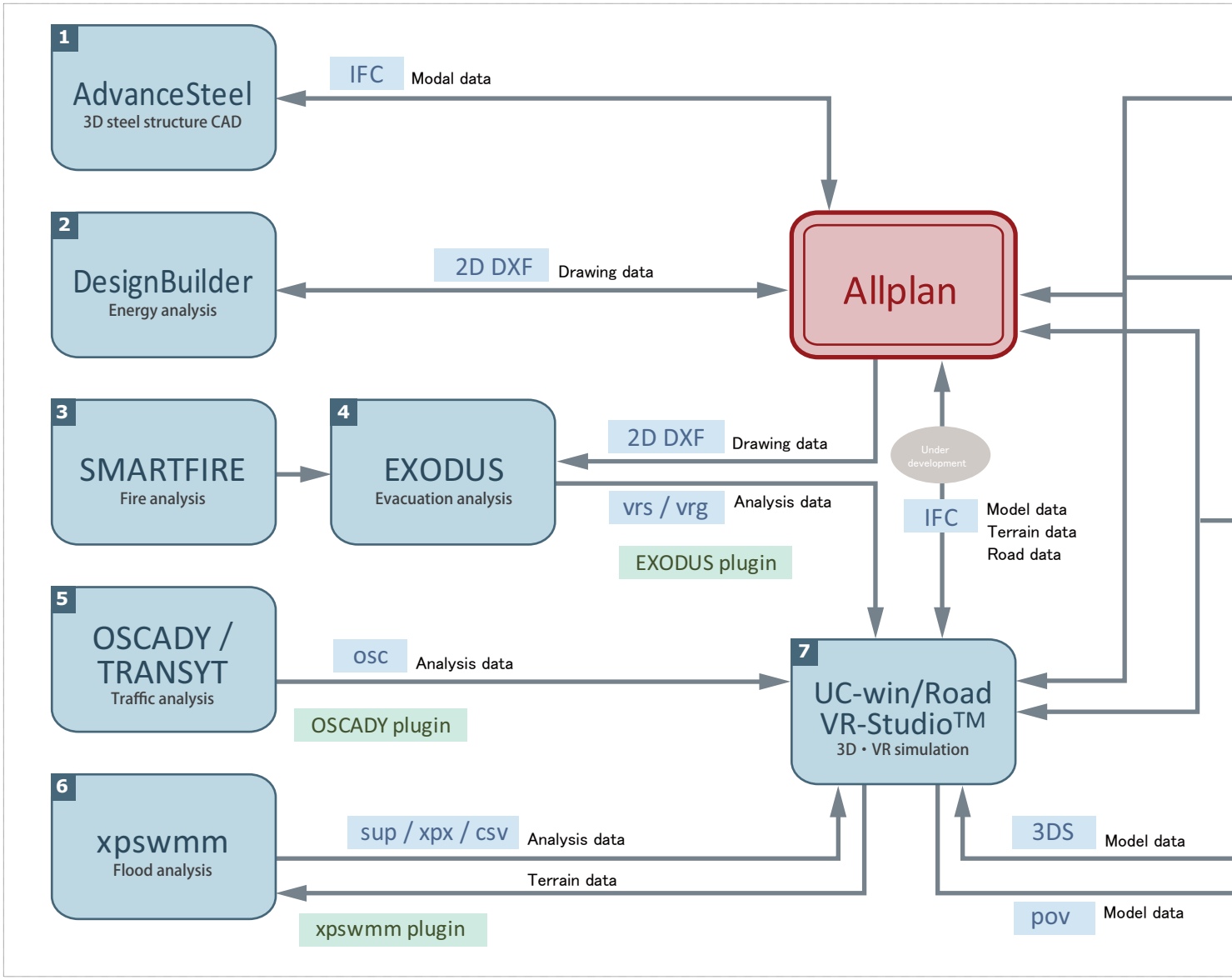
UC-win/FRAME (3D) (structural analysis)



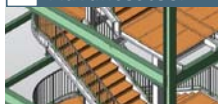
Road for EXODUS (crowd simulation)

Build Live London, an architectural design event, was held for two days from December 15-16. The 3D modeling theme of the competition was similar to that of Build Live Tokyo. 10 teams gathered from UK, Finland, India, Chile, Singapore, and USA. FORUM8 participated in this event as "Team BIM Japan". The project involved that planning of a complex facility including office, hotel, and residence and the creation of the 3D model within 48 hours. FORUM8 used evacuation software, EXODUS to perform the crowd analysis and performed structural analysis using the created model via UC-win/FRAME(3D).

Linkage image and vision of BIM solutions

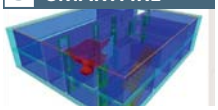


1 AdvanceSteel



2D/3D steel structure CAD for BIM

3 SMARTFIRE



Fire simulation

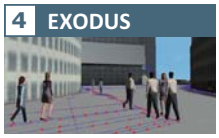
5 OSCADY／TRANSYT

Simulation of traffic signal/ network

2 DesignBuider

Building simulation
Analysis of building light, temperature, CO2

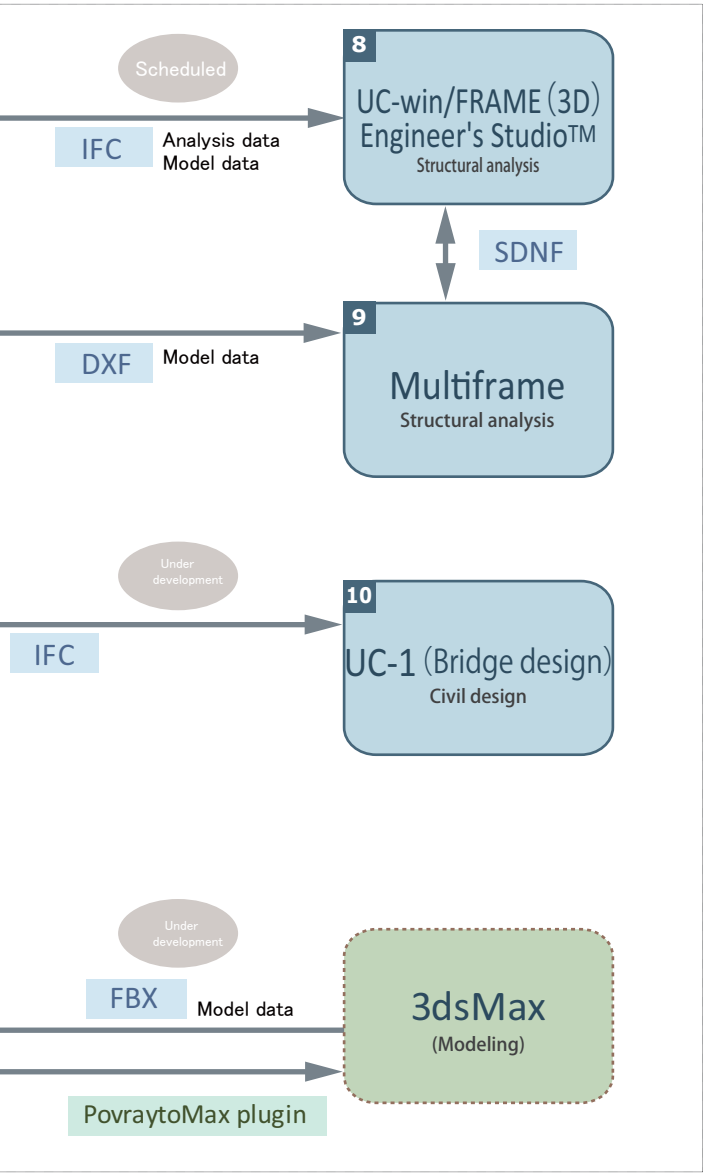
4 EXODUS



Simulation of building evacuation analysis

6 xpswmm

Rain water seepage analysis program



Linkage with FORUM8 Products

Allplan allows the data exchange between 3D and 2D file format including 3D building model data (IFC format) standardized by IAI using import/export tool.
In addition, the data exported in 3DS format can be linked with FORUM8 products such as UC-win/Road. 3D drawing created in Allplan is imported into the virtual reality(VR) space for use in a variety of purposes including landscape checks, consultation in design stages, consideration and comparison of various ideas, the proposal of technical issues.
The import function of 2D drawing between civil design solution and UC-1 series is supported (*).

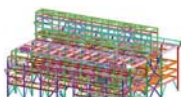
*UC-1 Series
Abundment design, pile foundation design, Temporary sheathing work design, Box culvert design, Flexible structure sluiceway design

*Third party software packages like Sketchup is required as 3DS file exported from UC-1 series cannot be read directly in Allplan.

7 UC-win/Road／VR-Studio™

3D・VR simulation: Analysis result is visualized by linking with various analysis software

9 Multiframe

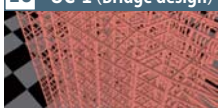


3D structural Analysis program: Can be exported to 3DS file

8 UC-win/FRAME (3D)／Engineer's Studio™

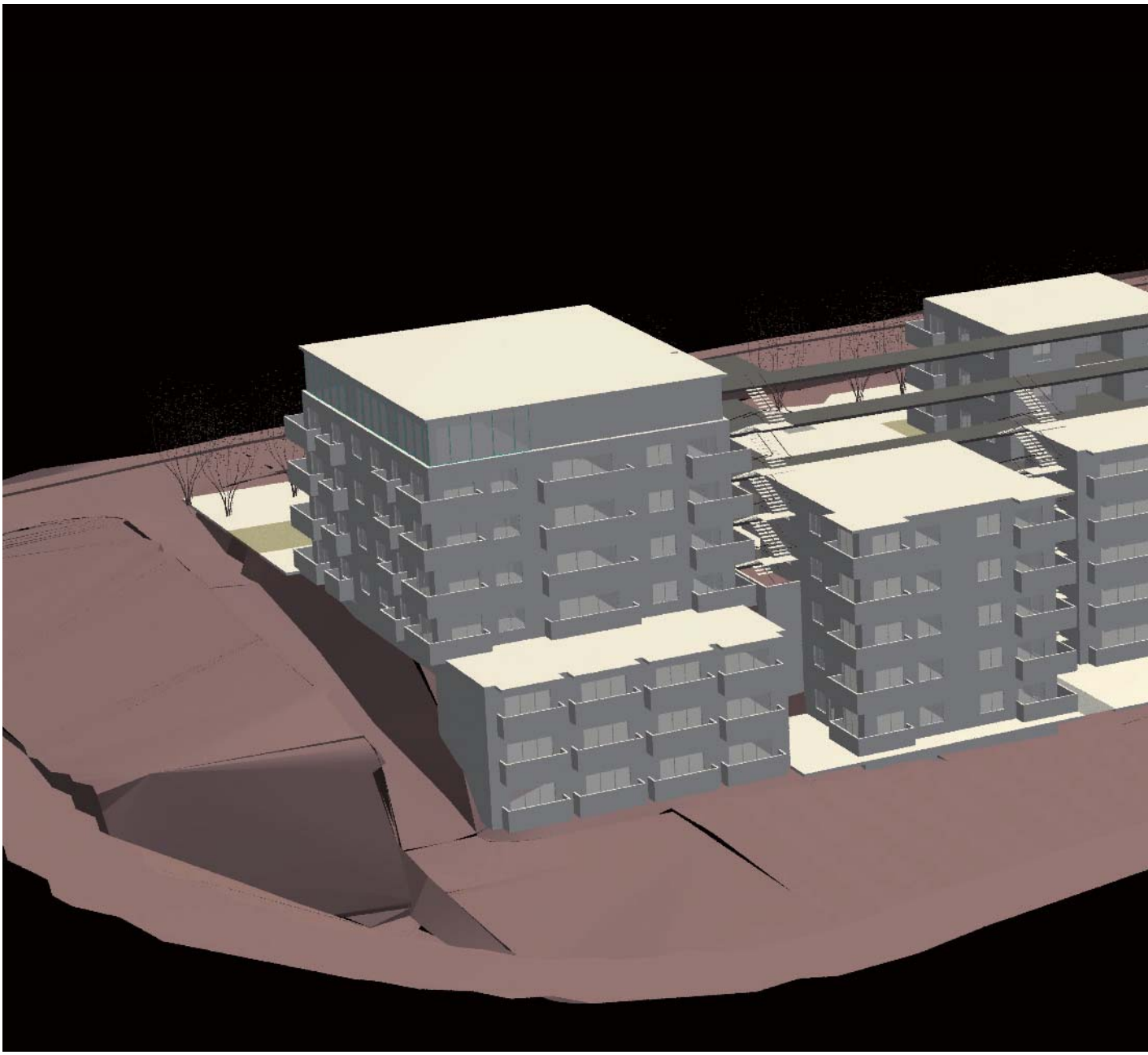
3D structural analysis program: Can be exported to 3DS file

10 UC-1 (Bridge design)



Seismic design and reinforced design of bridge pier

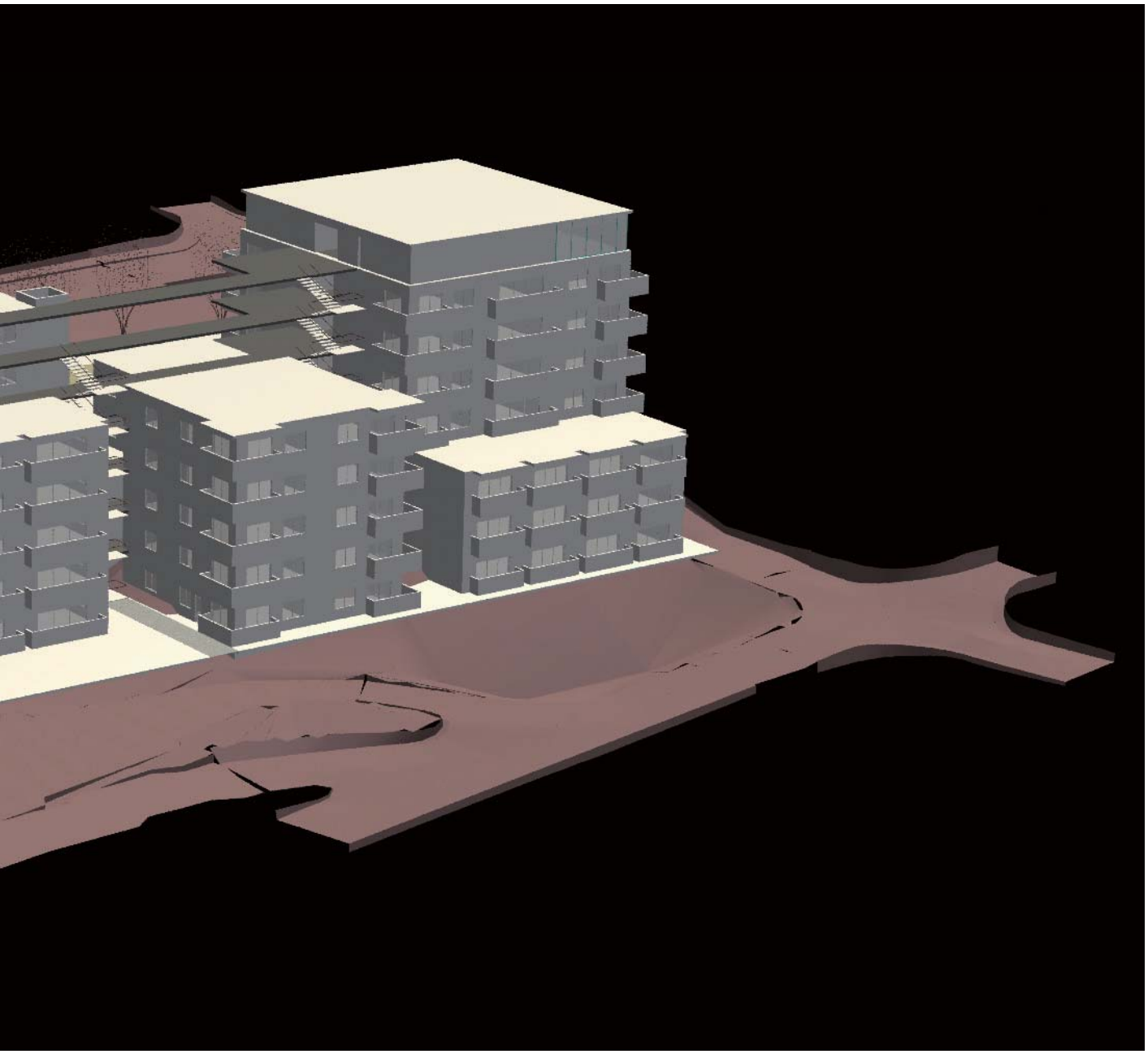
BIM building and civil design solution provided by Allplan



BIM software Allplan –Improvement of the design quality and work efficiency

Allplan is the BIM integrated solution developed by CAD manufacturer in Germany, Nemetschek. It allows the design and representation of all information required for the building life cycle including basic drawing, rendered image, presentation movies, detailed drawing, quantity takeoff. FORUM8 will expand Allplan series as the new business model in the field of civil and architecture design.

Allplan Architecture
Engineering

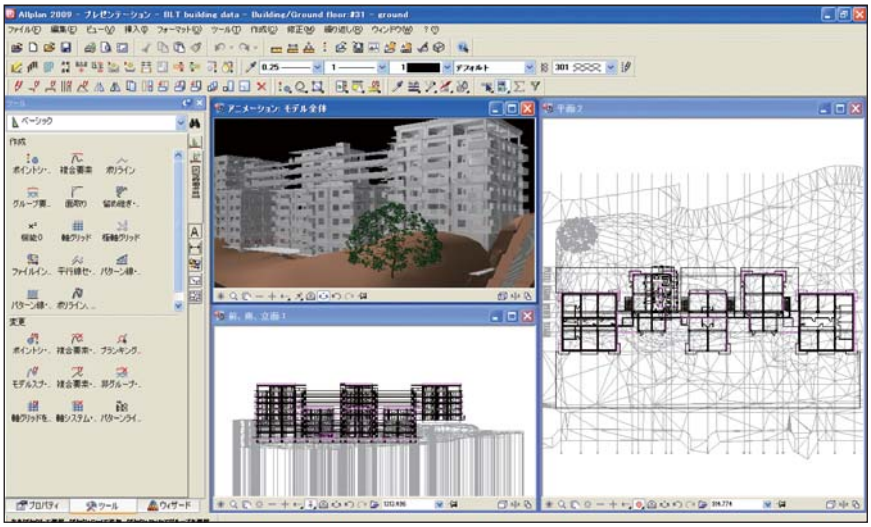


Advantage of using BIM (Building Information Modeling)

BIM is the method for creation, management, utilization of the building information and model. The stages of design, construction, and maintenance is considered as a consistent model and the all information including 3D drawing creation, material specifications, quantity takeoff, and cost management is unified to result in the efficiency of work flow in the design process.

Interface Pursuit of the user-friendliness. Free customizable interface

The user friendliness in the drawing environment is sought. The function can be selected from the menu and tool icon. Tool palette and tool bar can be customized using items such as icon display, display position according to individual' s preference. The drawing cursor with the advanced snap tool allows the improvement of the work efficiency. The work can be processed through multi window checks as the results of drawing and editing in 2D drawings will be reflected in the 3D model on screen instantly.

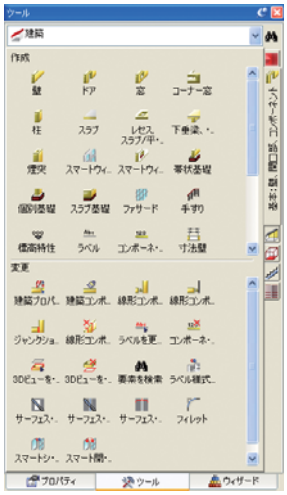


Allplan 2009 interface

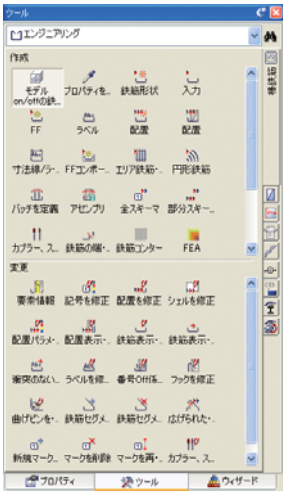
User-friendly toolbar and tool palette

The toolbar can be freely arranged in any position on the screen. Quick access to the various functions allows the improvement of your work efficiency.

In addition, tool palette is one of the most useful functions in drawing processes. The desired menu "Architecture" "Engineering" is selected from the list box on the upper corner in the palette and the module to be used is selected from the right side of tab. Browse function allows the easy-search of your desired tool.



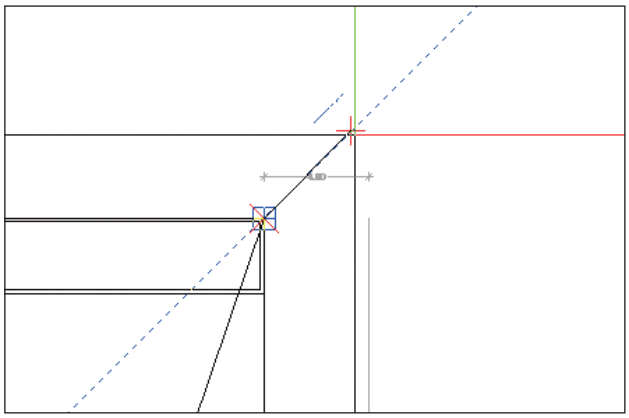
[Architecture] Tool palette



[Engineering] Tool palette

Snap tool, support for smooth drawing

Snap tool which enables the smooth drawing enables the automatic reorganization of a variety of pointer types such as cross point and midpoint. When the cursor approaches, the figure will correspondingly be changed. The settings for showing the specific points can be set using "point input option" .



45° of Track line displayed with snap tool

BIM modeling

Various advanced objects and member creation tool

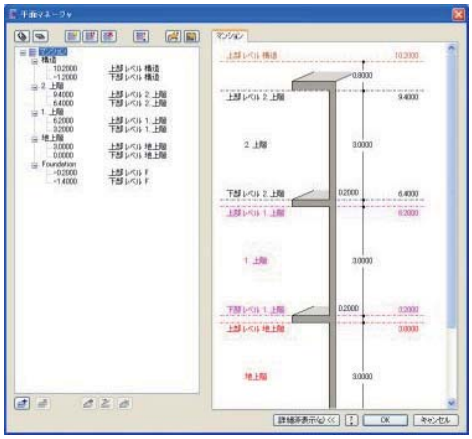
The building model is created by using the basic member creation tool (column, beam, floor, and wall) and the advanced objects (window, door, stair, façade). The advanced planning can be rapidly created by the combination of a various patterns.

The input/edit of the structural member and objects in 2D/3D view and isometric view allows the real-time reflection to the model in 3D screen to operate while checking junction, cut, intersection of the member and penetration of the member surface.

Advanced object (stair, door, handrail)

Total management of the building structure

The plane manager function allows the basic structure settings in the drawing including the floor height and the storey level to manage the building structure all at once. If the design is changed, it will be automatically be reflected in the drawing so that the accuracy and the efficiency will be improved. For example, if the floor height is changed, the wall height will be automatically edited.



Plane manager function

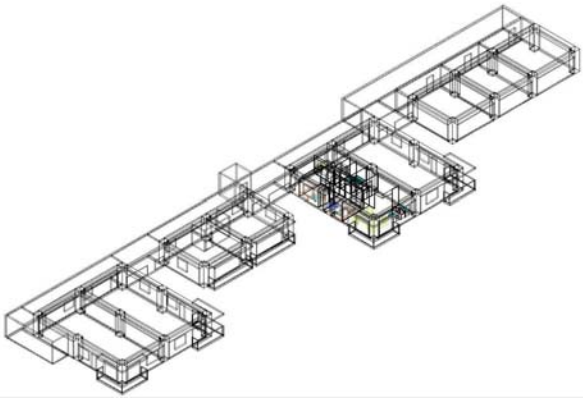
[Wall] Tool property

Quick design creation with advanced objects

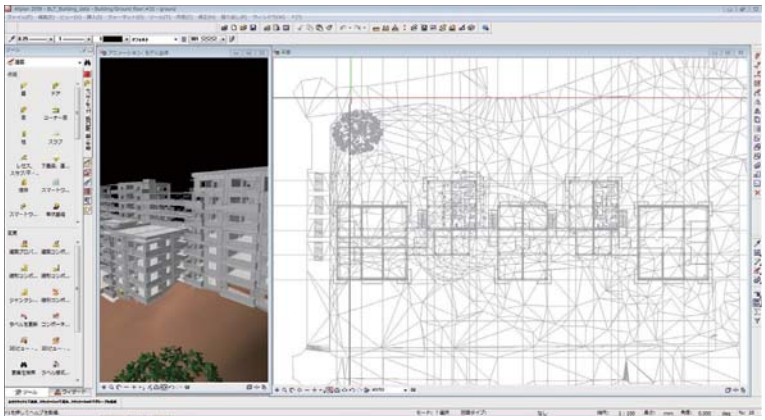
Allplan series have a number of architectural member creation tool and advanced objects. It supports for complex member shapes. The advanced design can be created easily through the combination of a variety of patterns for the advanced objects such as window, door, stair, and façade.

Intuitive drawing and easy quantity takeoff

The member creation tool allows the intuitive drawing using a variety of commands including column, beam, slab, wall, and foundation.



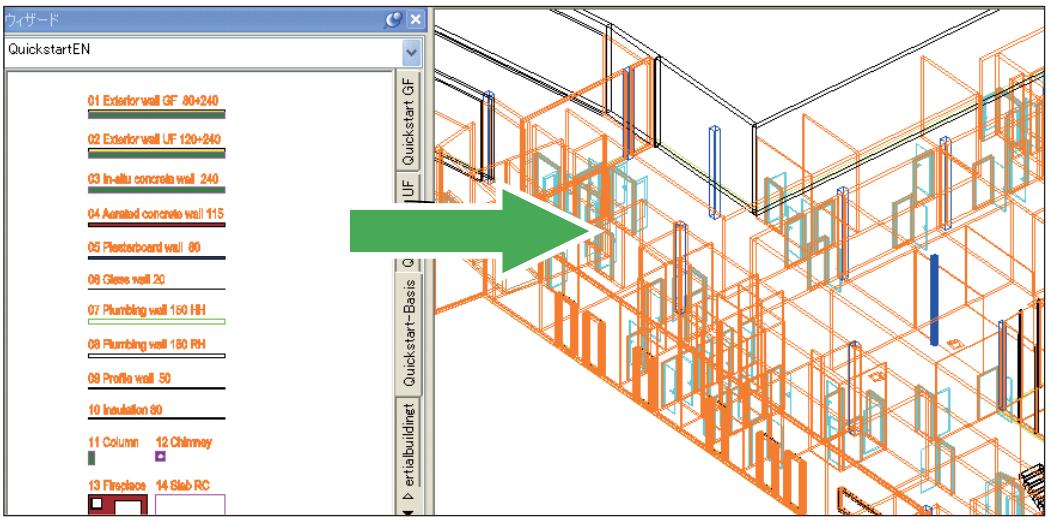
Isometric display



Multi windows: 2D drawing and 3D model can be checked simultaneously

Optimized work flow

Wizard function allows the definition of the internal standards. The work flow can be easily optimized by copying the attribution and the parameter of each element from wizard. It supports for the change of the attribution and the parameter.



Wizard function. Modeling by selecting from the defined members.

Automatic creation of stair in a variety of shapes

Allplan supports for the automatic creation of the variety type of stairs including straight stair, double quarter-turn stair, and winding stairs through the input of the storey height, dimension of riser and tread. The stair wizard function allows for the detailed definition.

Modeling with stair tool

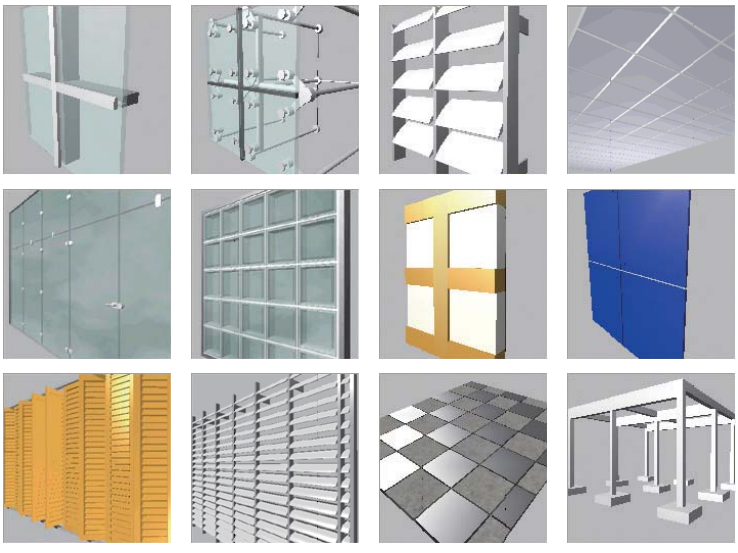
[Room] tool property

Improved efficiency of finished member arrangement and quantity takeoff with additional attributes

The outline of wall can be automatically detected by cursor to arrange the room attributes. The quantity take-off for the finished member in the room can be performed. If the covering for the wall, ceiling, and floor is set in advance, they can be arranged in the whole room at one time and can be individually set.

Creation of the complex shape, façade and handrail, with template

Allplan has a number of templates for façade and hand rail to support for a wide range of designs. There are various patterns such as curtain wall and glass block for the design of complex shapes easily by simply editing the template. Input and edit can be performed while checking the shape of object in 3D view and isometric view.

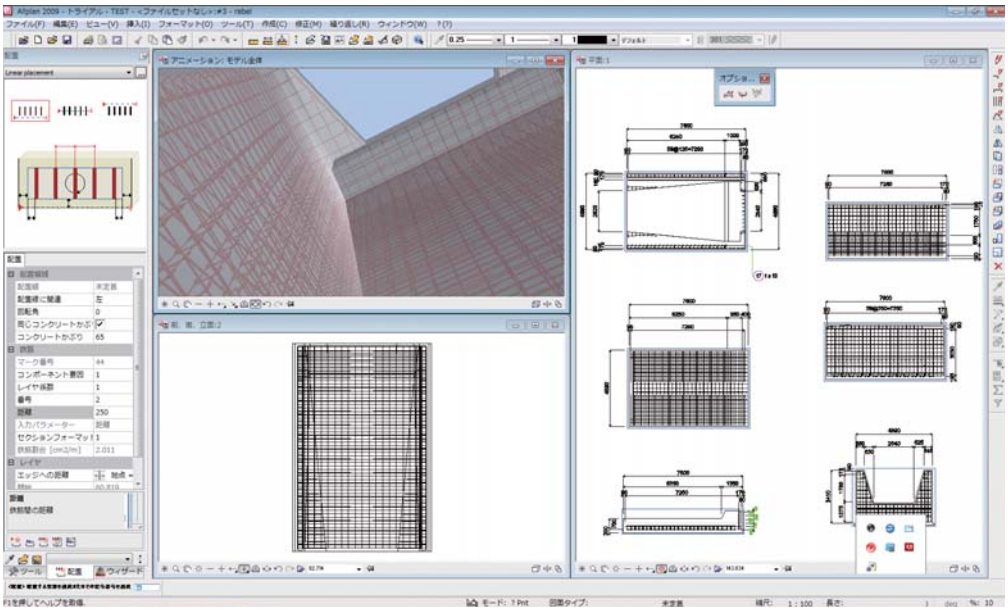


Example of façade template

Reinforcement

Rapid creation of bar arrangement drawing and processed drawing

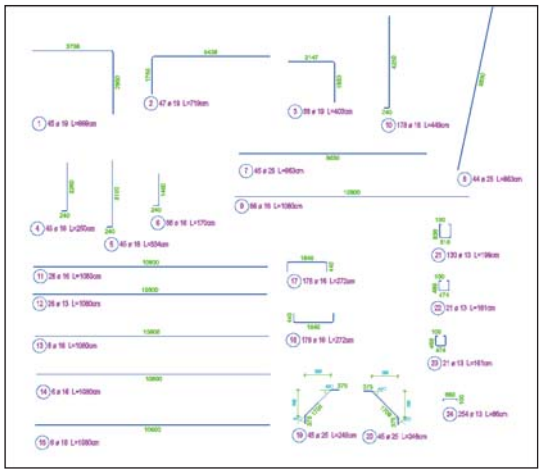
Allplan allows the creation and editing of appropriate bar arrangement drawing using the functions of the general bar arrangement based on object, automatic shell edge recognition, predefined definition of bar group, advanced texture. It will be reflected to the quantity take-off list efficiently by specifying the bar shape and information input. Wizard function allows the creation of processed drawing from the created bar arrangement drawings.



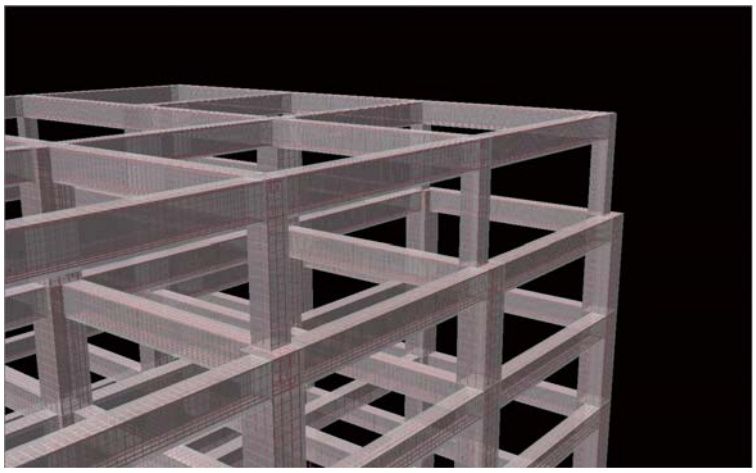
3D bar arrangement function

Creation of bar reinforcement arrangement drawing

The bar arrangement can be performed by specifying and placing the bar shape. If the information of steel specification, bar radius, bar covering is input, it will be reflected to the quantity take-off list. Main bar shape data is supported and any shape can be freely created to modify easily after bar arrangement. The bar arrangement can be created more efficiently with FF component function using predefined main bar arrangement pattern. The arranged bar can be represented as the processed drawing using the processed drawing creation wizard.



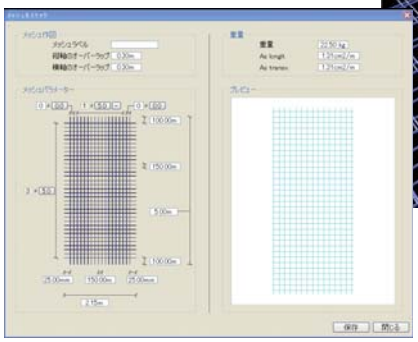
Processed drawing created from bar arrangement model in 3D



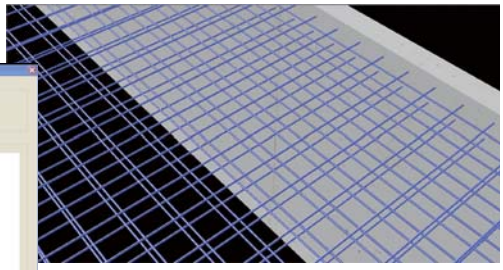
Arrangement of column and beam

Creation of mesh reinforcement arrangement drawing

The mesh bar arrangement such as slab reinforcement and wall reinforcement can be performed by information input related to steel specifications, reinforcement radius, reinforcement covering, and reinforcement space to create the required bar arrangement patterns. The bar arrangement drawing can be created for the member with opening.



Definition of mesh drawing

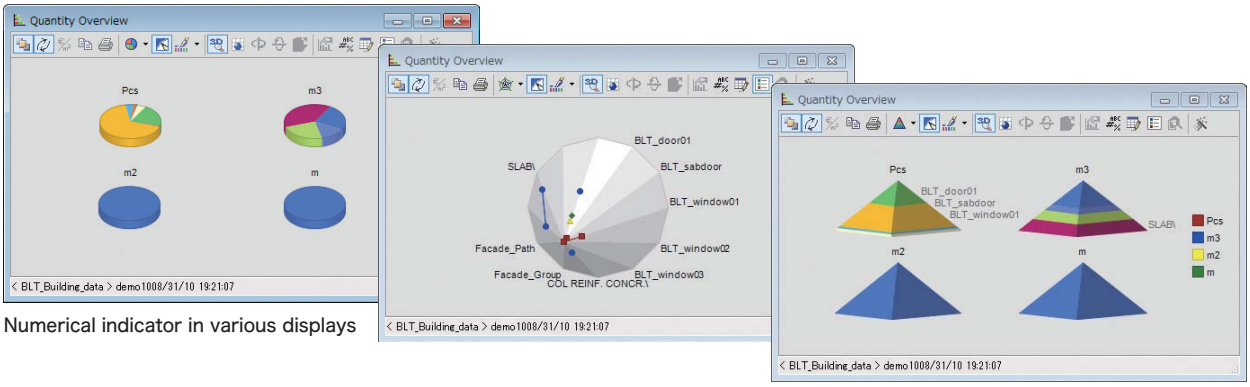


Mesh reinforcement

Quantity take-off

Estimation of construction cost with member quantity take-off

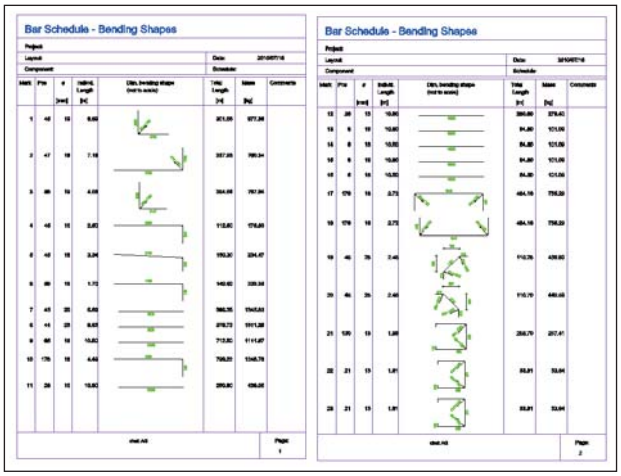
The cost can be managed as the quantity take-off of the structural member can be performed with a variety of methods for volume, area, weight from the structural quantity such as reinforcement, framework, concrete to the finished quantity such as wall and floor material.



Numerical indicator in various displays

Amount of reinforcement in numerical list format

The reinforcement amount is calculated based on the information set in arrangement. The calculated result is listed and can be customized. The unit weight, weight per reinforcement, total weight can be checked for each type of reinforcement.

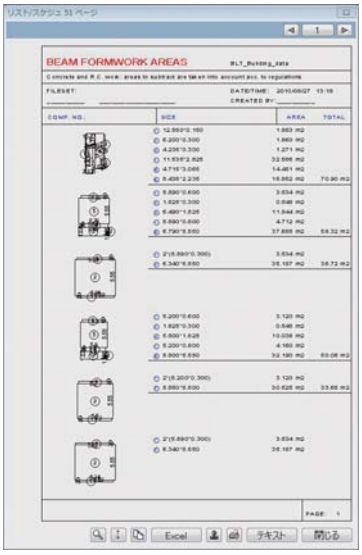


Reinforcement shape list

Definition of quantity take-off

Formwork shape displayed in graphic

The result of quantity take-off can be displayed in 2D drawing for each column, beam, slab, wall, foundation. The framework can be used as the basic drawing in creating of quantity list by its graphic function.



Formwork quantity take-off

Quantity take-off of concrete amount

The concrete amount can be calculated when you want to know the approximate volume in addition to the calculation for each member of concrete amount.

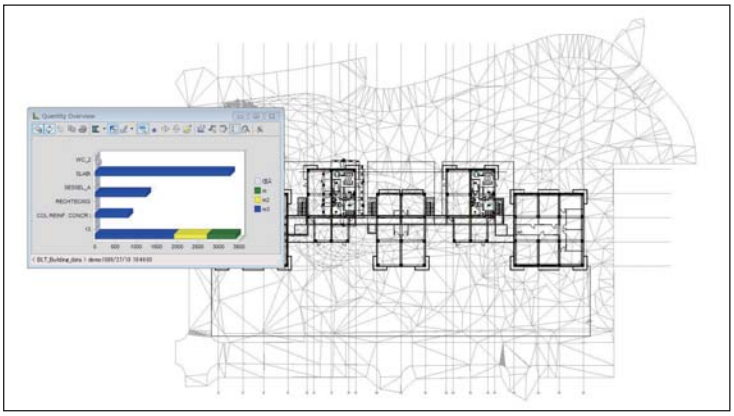
Quantity take-off of concrete amount

Quantity take-off of finished amount in each trade

The finished quantity for each trade can be calculated by allocating the trade attribution in advance. Various calculation methods can be used for each type of finished member including part number, length, area, and volume.

Trade	Item
Concrete work Plastering work Bond work Painting work Tile work Masonry work Utility work Framework Reinforcement work, steel-frame work Heat insulation work Demolition work New construction work Exterior work, plant work	Unfinished structure, finishing Room, stair Fixture Key plan Precast Survey Handrail, fence Cost manager Object manager City design Floor area

Available type for quantity list



The latest quantity indicator can be always referred

Quantity indicator

The construction cost can be visually checked by displaying the numerical and graphical data in drawing using numerical indicator (*). You can keep track of the estimated quantity and construction cost in each design stage as the graph can be displayed for each attribute.

If the drawing is changed, the latest information can be always renewed by updating the numerical indicator.

*The linkage of Allplanwith BCM is required for the constrution cost display.

2D drawing
3D model

Smooth linkage between 2D drawing and 3D model with various drawing functions

Allplan has various functions which improve the drawing efficiency including XRef function (Reference of external file in 2D drawing), smart symbol function (Easy drawing of 3D model by definition of the repeated member). Any section drawing can be cut from the created 3D model.

Creation of 3D space with the advanced objects

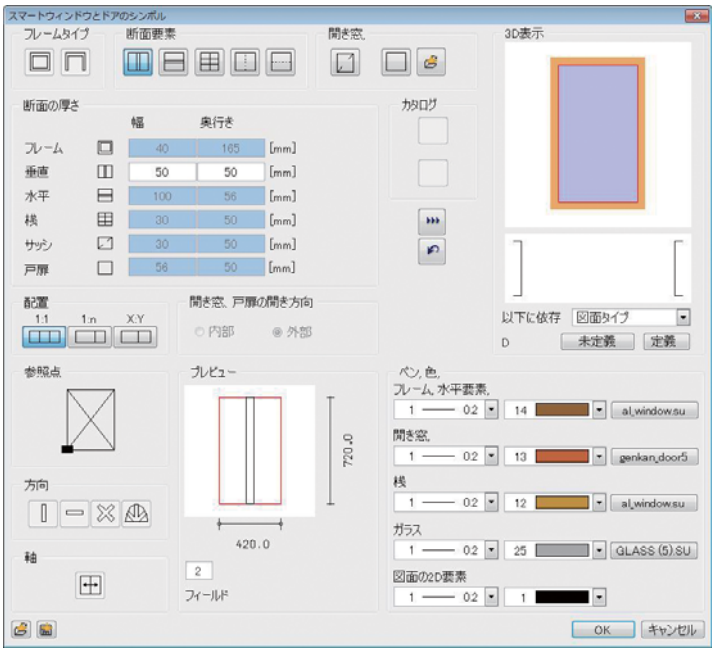
Creation of 3D space with the advanced objects

The 3D model of the member (smart symbol sash and door) which is used repeatedly can be easily created by defining as smart symbol. For example, if the sash and door are arranged in the opening, the dimension of opening is automatically is detected to create the sash and door which will suit the dimension by selecting the opening with [smart window and door symbol].

It supports for a variety type of shape by editing the predefined smart symbol.

The smart symbol can be also created by defining the imported data from [smart symbol catalogue].

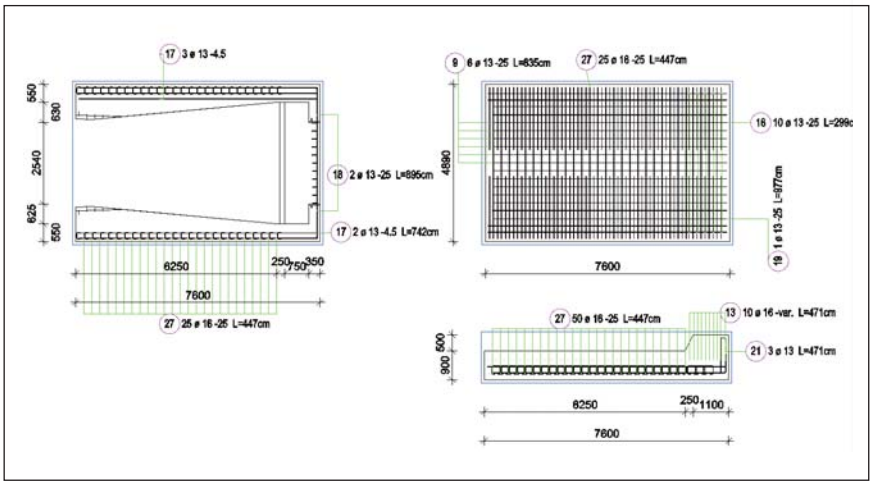
Example of smart symbol



Smart window function

Creation of section drawing from 3D model

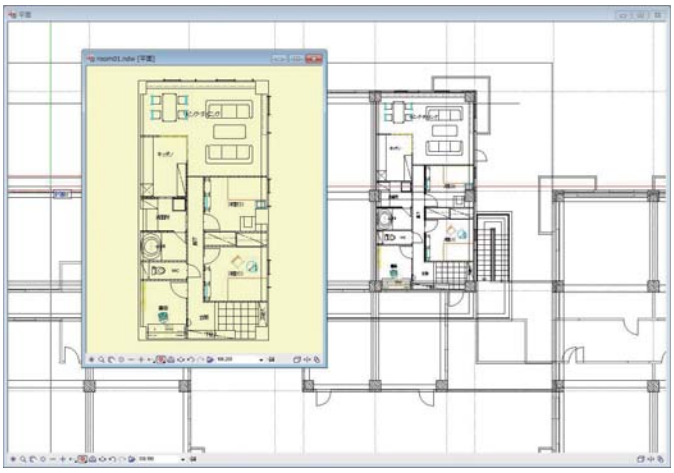
2D drawing can be checked by the section generation of the created 3D model. The dimension line and dimension value can be automatically added while creating the section depending on the setting. The section can be generated in any place to for use in the creation of section drawings.



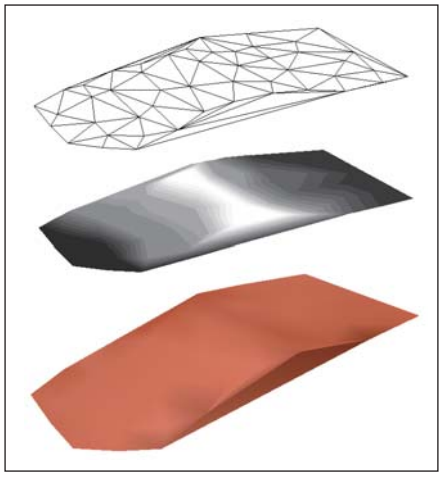
Creation of section drawing from 3D model

XRef (external reference) function

The external drawing file (NDW file or DXF/DWG/DGN file) can be referred by inserting XRef file into the created drawing. The changed content processed in the original external file is reflected in XRef file display. This function allows the update of XRef file simultaneously so that the work efficiency can be improved.



Interior arrangement in the same pattern with XRef



DTM (Digital terrain model)

DTM function

DTM (Digital terrain model) function allows the creation and editing of the terrain data. The terrain is generated using the grid consist of 3D polygon surface.

The measuring point and the height can be modified. DTM color function enables the representation of the height space in color and the drawing of contour line.

DTM elements can be converted between 2D/3D elements. The road and street can be defined on terrain with the urban planning function.

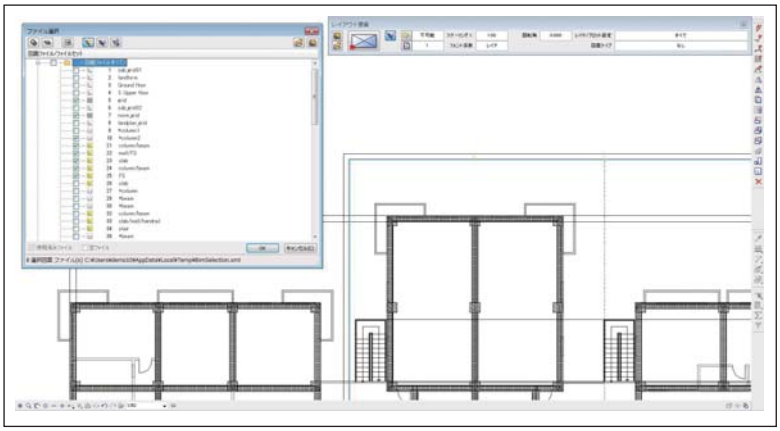
Presentation

Dynamic presentation with beautiful image

The high quality of photorealistic image can be created by rendering and the simulation of weather, season, solar calculation, light source, and lighting can be performed. In addition, CINEMA 4D modeling tool can be directly utilized. As for CINEMA 4D, the dynamic presentation can be delivered with beautiful image and sound.

Showing method of presentation documents with layout function

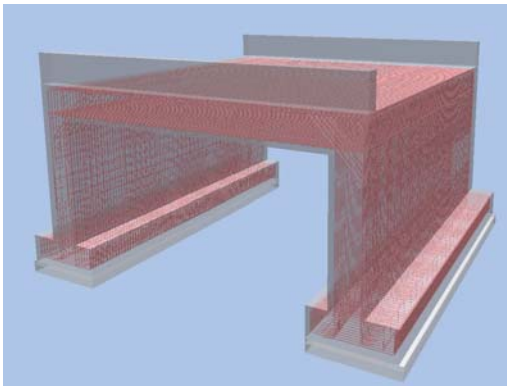
The layout editor allows the easy creation of the multiple design drawing based on a 3D model. The setting of display/non-display for the layout of 2D section drawing created from 3D model, for each layer can be selected. In addition, the created numerical list can be arranged.



Layout by selecting file

Creation of expressiveness animation

The intuitive presentation material can be created by representing the created 3D model in animation. It can be customized according to personal request; model transmission setting, color coding for each reinforcement, representation of the building texture. The scaling and rotation can be smoothly carried out using mouse and the animation representation based on view point, angle, and distance depending of the camera path settings.



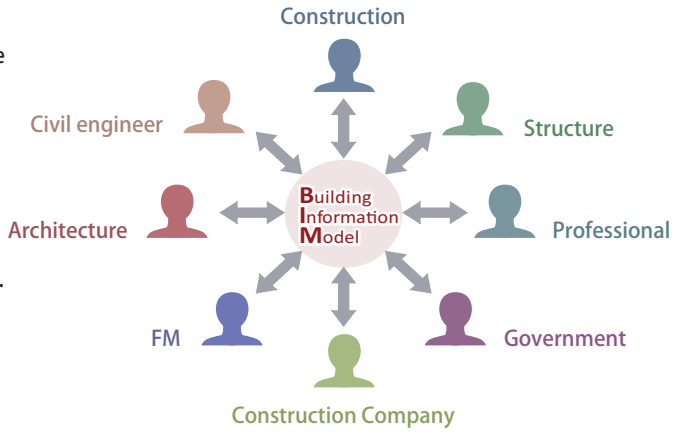
Animation of reinforced model with transparency setting

Animation display

Project management

Optimized project with work group manager

Work group manager function enables the optimization of collaborative working system in project. As multiple workers can have concurrent access to any data in project, efficiency can be attained in the event of large building project work. For example, the model can be created by other workers in each floor. In addition, the stability of project planning is increased by the improved check function. The consolidation of project makes the data uniform and efficient team work interaction between members of the project is then established.



Data linkage

Linkage with a variety of data format including IFC

In Allplan, 3D building model data format such as IFC which is directed toward standardization can be exchanged in a variety of 3D/2D file format using import/export tool. The linkage with UC-win/Road and each analysis software allow the analysis of building energy, fire and evacuation, flood, traffic network, structure and the visualized simulation using VR.

Data linkage with UC-win/Road

IFC format

IFC(Industry Foundation Classes) is the standard file format that IAI propose to the construction industry and it is 3D building model data which allows the information exchange of not only the figure data including column, beam, slab, and wall but the attribution data such as member material.

CAD format

Support for Auto CAD format(dwf, dwg, dwt, dxb, dxf)

Other data format

Import and export function allows the data linkage of 3D model with client. It supports for MicroStation, CINEMA 4D, 3D Studio Max（export）, Rhino, and VRML.

Import		
AutoCAD		dwg
		dxf
		dwt
		dxd
Other data	MicroStation file	dgn
	HPGL2 file	plt
		hp
		hpg
		hpl
		prn
		p0?
		p1?
	MicroStation V8-drawing file	dgn
PDF		pdf
IFC	IFC files	ifc
	IFC XML files	ifcxml
		xml
CINEMA 4D	CINEMA 4D	c4d
	CINEMA 4D XML	xml
SketchUp	SketchUp	skp
Rhino	Rhino	3dm
VRML	VRML/X3D	wrl
		x3d

Export		
AutoCAD		dfx
		dwg
	Web format file	svg
Other data	MicroStation	dgn
	MicroStation V8-drawing	dgn
		pdf
PDF IFC	IFC 2×3 files	ifc
	IFC 2× files	ifc
	IFC XML 2×3 files	ifcXML
CINEMA 4D	C4U-CINEMA 4D	c4u
	C4D-CINEMA 4D	c4d
	C4D-CINEMA 4D file（R10.5 format）	c4d
	WRL-Vrml	wrl
	3DS-3DStudio	3ds
	U3D-universal 3D	u3d
	MXS-Maxwell	mxs
	Rhino	3dm

File format available in Allplan

Allplan Campus

Allplan Campus is the service for students, academic institutes, and teachers. It is created for the future architecture and engineering. The trial version is available without charge. Currently more than 5,000 students use it all over the world. It includes the educational materials and video tutorial. The international internet portal site is where you can discuss the questions, advanced use, and functions.

URL : http://www.forum8.co.jp/product/shokai/AllplanCampus/Allplan_Campus.htm

Operating environment

Software environment

Windows 7
Vista
XP Pro SP2
XP Home SP2
Server 2003 SP2
2000 SP4

Hardware environment

1GB RAM

※Please see the separate volume for the overseas case studies of Allplan

- EXPO2010 Germany pavilion （China）
- Music theatre （Austria）
- Medical clinic （Germany）
- Pumping station in Katwijk （Netherland）
- Water tower in Budapest （Hungary）
- MAN east gate plant development（Germany）
- Energy building（Germany）
- Pender Basis（Australia）
- Marsyangdi Power plant（Nepal）

Pender Basis（Austria）

Medical clinic（Germany）

Medical clinic（Austria）

●3D-Real time Virtual Reality

UC-win/Road Ver.5

●3D-Large scale･Multi VR

VR-Studio™

Easy to use, real time 3D virtual reality (VR) software package.
Dynamic 3D spaces can be controlled in real time. Ability to view the surrounding landscape; provide design and construction consultation; allow the visual examination of alternative project options; animation of vehicle movements; and driving simulation. The developed 3D models can then be used for consultation with local communities and authorities.

vr.forum8.jp

Awarded Software Product of the Year, 2002.
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 variety of presentations in real-time.

Allows creation of large-scale, 3D space, Virtual Reality with easy procedures and operations in a surprisingly short time. Practical data features include our standard database, a Web/Road Database and a LandXML data exchange function.
Equipped with an excellent VR creation / editing function. Covers everything from road alignments, cross sections, terrain processing, traffic setup, model setup / processing, etc. Its visual option tools support several VR displays and presentation functions support the real-time presentation of landscape studies, design deliberations and project descriptions, etc.
It assists engineering design, development and research whilst also supporting advanced simulation by sunshine simulation, traffic flow simulation, manual drive simulation in addition to the drive simulation.
In 2009, we released VR-Studio(TM), which supports more larger-scale space and multi-functions, it will be used in a wide variety of situations. We are providing high performance solutions for users.

VR-Studio™

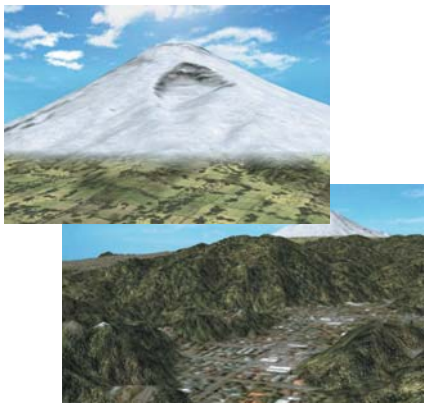
Three years and a half from the conceptualization and released on November 2009!

Ver.1.02 was released on August 2010!

Registered trademark: No.2006-120249

Large scale data

SinceVR-Studio does not have a limit on the scale of data, you can create large scale data of over 100km. It allows you to design long-driving roads and create wide areas and traffic networks. If you would like to enhance the area, you can add terrain area, it allows you to reuse the data you have created and enables efficient work. We have developed functions of terrain creation and terrain processing. VR-Studio(TM) has 50m mesh DEM data. (use of survey data is approved by Geographical Survey Institute)



Terrain LOD function

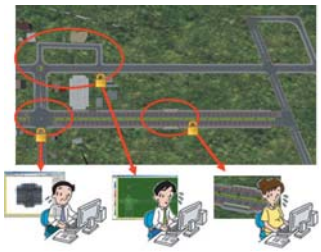
Regarding the terrain, VR-Studio is processing in parallel in each terrain at the time of triangle division and generation of LOD data. VR-Studio has adapted LOD (Level of Detail) technology, which enables better display performance even when handling a large scale terrain.

Terrain procedural texturing from large scale data

VR-Studio selects image from height and slope and alters the image to fit to the shape. It enables realistic terrain expression from DEM data or TIN data.

Multiuser editing

VR-Studio allows the editing of one project by multi users with multi-user editing function. Users can share the data with the source management server, and manage store and synchronize. When you work, get the latest status of the data from the management server, and you can update the data on the server after editing by the local machine. By using management server, complete editing history is recorded by using the management server, it allows you to return to incorrect data on the previous status and edit.

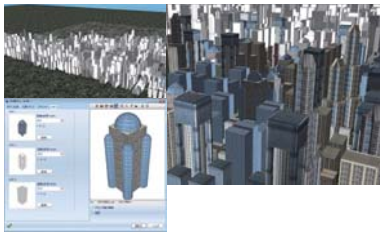


Multi reality

This function allows comparing of multiple plans at the time of presentation and assessment or comparing before and after the construction of the project for improvement. All of the models, or part of the models can be switched to another condition-reality. It allows examining multiple marking plans of intersections, comparing road alignments and comparing house developments and other plans.

3D model LOD

Three-staged resolution and texture in different qualities can be set for 3D model.



Performance

VR-Studio can process in parallel by adapting multi core CPU and multi CPU. At the time of dividing triangles and generating LOD data, VR-Studio does parallel processing. at the time of triangle division of terrain data and generation of LOD data.

Multi-processor Multi-core CPU

▼

Massive reduction of VR data creation time/Improvement in traffic simulation abilities

User interface

Multi modal screen

In VR-Studio, you can check the 3D view and edit at the same time. You can do this work by opening 2 screens at the same time. For example, you can check and edit one element from multi point of view.

Undo/Redo

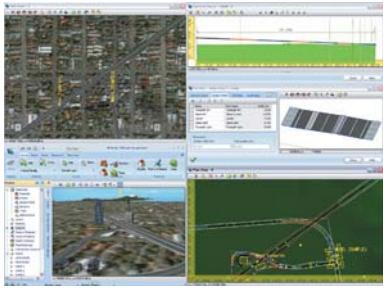
VR-Studio has strong undo/redo functions. This allows you to go back to the previous status or operate again by using undo/redo buttons for all editing operations. Since history of the edit is stored, VR-Studio does not have "confirm" and "cancel" button on each edit screen.

Data check

At the time of the creation process, input data may become temporarily invalid, VR-Studio does not require valid data input. When invalid data is input, the system does not go to the next process, however, data is saved and you can continue the inputting of data. In addition, you can see the location of the parameters where invalid data is input in order to make data correction easy with the data verification tool.

Layer

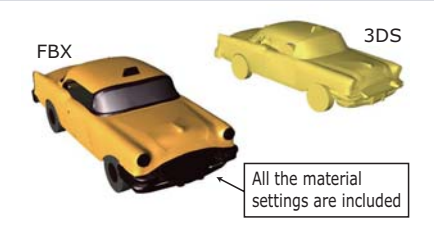
VR-Studio has a layer function and can display each element of the data by layer.



New functions in UC-win/Road Ver 5

●FBX file compatibility

Enhanced file support by UC-win/Road. UC-win/Road can import FBX files which can cover various kinds of models.



File format	Version
Autodesk AutoCAD DXF (.dxf)	Version 13 and earlier.
Collada DAE (.dae)	Version 1.5 and earlier.
3D Studio 3DS (.3ds)	All versions.
Alias OBJ (.obj)	All versions.

▲FBX compatible file formats and their versions

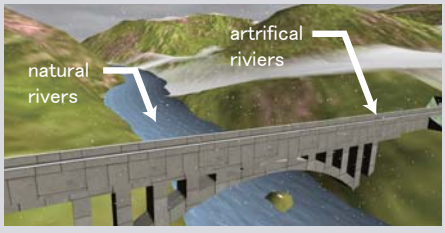
●LOD function

By lowering the resolution of smaller elements, the processing time can be reduced without badly affecting the quality of the visualization.

Original mesh Side texture Front texture

●Creating rivers

River creation is improved in UC-win/Road version 5 - just like with roads, planar and longitudinal linear alignment is now possible.

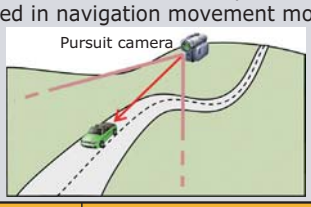


●Improvement in road section edit

Improvement in road section editor: road sections can be created in independent blocks.

●Navigation function

Simple viewpoint operation is independent from movement mode. Viewpoint can be operated in navigation movement mode.



Movement mode	Available viewpoint operations
Free movement	Roll, forwards and backwards, right -left, up-down, fly through, aerial view, jump
Travel on road, flight path and driving simulation	Roll, circle around an object, aerial view
Pedestrian	Roll, jump
Pursuit	Circle around an object, aerial view

●Tsunami function

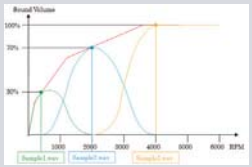
Tsunami function is added in UC-win/Road. Data can be shared with xpswmm.

▲Tsunami in urban area

▲Tsunami with spray

●Improved audio

By employing OpenAL, a variety of surrounding sound and the car's engine sound are covered.



●2D/3D texts

3D texts can be generated and placed inside the 3D environment easily.

●Video wall function

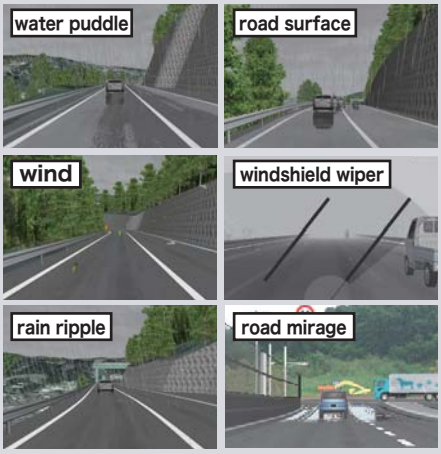
Animation video display including cylindrical screen can be reproduced as 3D object.

●Vehicle dynamics model

Improved immersion feeling, accuracy and the linkage with motion platform.

●Special weather function

The expression of rain and snow was strengthened. Fog and thunder for the limited area can be defied.



●UC-win/Road for SaaS Plugin

For the web publication of UC-win/Road. Interactive operation on client's browser.

▲UC-win/Road for SaaS Client screen

●Point cloud data modeling Plugin

Included in Advanced license. For point cloud data-imported VR modeling.

Number of point cloud

■32bit : less than 16 million
■64bit : more than 25 million

Lineup

Prices for Lineup Products / Operation Environment

●Software application

※Trial version is available for download from our website. **Supported language** **UC-win/Road:**Japanese/English/Korean/Chinese/French **VR-Studio™:**Japanese/English

UC-win/Road Ver.5 Advanced	US$9,000	Including point-cloud modeling, Civil 3D, InRoads, OSCADY PRO, xpswmm,
UC-win/Road Ver.5 Driving Sim	US$12,000	12d Model
UC-win/Road Ver.5 Ultimate	US$15,000	Including ECO drive, drive simulator, micro simulation player
UC-win/Road Ver.5 Standard	US$5,800	Top-level products including all plug-ins
UC-win/Road Ver.5 Presentation Version	US$500	Standard products without plug-in options
VR-Studio™	US$12,000	Products with presentation features such as visual option tools
VR-Studio™ Advanced	US$16,000	Standard products without plug-in options

*1 Additional options are not included (Road for SaaS, SDK, Cluster, Motion, RoboCar®).

●Plug-ins/correspondence table

Plug-in option name	Advanced	Drive Sim	Ultimate	Price	Description
ECO Drive Plug-in	—	○	○	US$3,000	Calculates fuel consumption while driving a car
Driving Simulator Plug-in	—	○	○	US$3,000	Four-wheel vehicle Drive Simulator Packaging System
Scenario Plug-in	—	○	○	US$1,500	Controls the VR environments in response
Micro Simulation Player Plug-in	○	○	○	US$3,000	Records and plays traffic simulation
S-Paramics Plug-in	—	○	○	US$800	S-Paramics linkage converting the road geometry data
Communication Plug-in	○	○	○	US$3,000	Web-based Communication system
Point Cloud Modeling Plug-in	○	—	○	US$1,500	VR modeling by using point cloud data for UC-win/Road
Civil 3D Plug-in	○	—	○	US$750	Data linkage with Autodesk's Civil 3D
InRoads Plug-in	○	—	○	US$750	Data linkage with Bentley Systems
GIS Plug-in	○	—	○	US$2,500	Convert GIS format file into UC-win/Road
OSCADY PRO Plug-in	○	—	○	US$1,000	Data linkage with TRL's OSCADY PRO
xpswmm Plug-in Ver.2 (for Tsunami)	○	—	○	US$3,000	Data linkage with XP Software's xpswmm
aaSIDRA Plug-in	○	—	○	US$750	Data linkage with SIDRA SOLUTIONS' aaSIDRA
12d Model Plug-in	○	—	○	US$750	Data linkage with 12d Model of 12d Solutions.
TRACKS Plug-in	—	—	○	US$1,500	Data linkage with Gabites Porter's TRACKS
EXODUS Plug-in	—	—	○	US$3,000	Data linkage with University of Greenwich's EXODUS
Noise Simulation Plug-in	—	—	—	Under developing	Noise analysis and 3D Visualization

●Additional options

Option name	Price	Description
UC-win/Road for SaaS	US$3,000	UC-win/Road with cloud computing environment
Cluster plugin	US$8,000	Output to multiple monitors by synchronizing PCs.
Motion platform plugin (Only for the system customization)	US$8,000	For system development, driving simulation option
RoboCar® plugin	US$3,000	Integration of car robotics platform and virtual reality.

●Academy price

*=Special price

UC-win/Road Ver.5 Advanced	US$7,200
＊5 license pack (including NetPRO)	US$10,000
UC-win/Road Ver.5 Driving Sim	US$9,600
＊5 license pack (including NetPRO)	US$13,000
UC-win/Road Ver.5 Ultimate	US$12,000
＊5 license pack (including NetPRO)	US$16,000
UC-win/Road Ver.5 Standard	US$4,640
＊5 license pack (including NetPRO)	US$6,800

●Associated products

Product name	Price	Description
UC-win/Road SDK	US$3,000	Development kit for UC-win/Road
UC-win/Road Education Version	US$380	Educational version for 3D VR creation intended for students
UC-win/Road Web Viewer	US$3,800	IWeb viewer supporting IE (Web surver setting cost US$2,000)
UC-win/Road Data conversion tool	US$1,200	Tool to support data creation in UC-win/Road
UC-win/Road data exchange tool for HICAD	US$1,500	HICAD(YTI) Data exchange tool
UC-win/Road data exchange tool for APS-Win	US$1,500	ASP(MTC) Data exchange tool
City Design Tool (UC-win/Road 3ds Max Plugin)	No charge	VR city model automatic creation tool via 3ds

●Introductory books

"VR Presentation Technique"
Book of VR presentation technique with trial CD : 3,990Yen

"Introductory book for UC-win/Road"
Introductory book of UC-win/Road with trial CD : 3,980Yen

"Programming for civil engineers"
Introductory book of Delphi for civil engineer with trial-CD : 2,940Yen

Video tutorial (Japanese/English/Chinese/Korean)
Operation guidance of UC-win/Road is recorded in video. : 31,500Yen

●Maintenance/Support contract

■Support information(free in a year)
Technical Support by phone / Inquiry by e-mail and Fax / Download / Maintenance information / Technical information
* It is free delivered the version upped product by maintenance contract option

■ "No telephone support" service
US$50 discount from fixed price per year
The cost for your Support and Maintenance Plan is based on each license.
No telephone support. (FAX, E-mail support is available). No discount from Standard telephone support.

■ "Premium telephone support" service
An additional US$150 on top of the fixed price per year
The cost for your Support and Maintenance Plan is based on each license.
Unlimited telephone support service. It is possible to upgrade from "Standard Telephone support" to "Premium Telephone support".

Object Product	Support Normal	Maintenance Contract Option		Support Contract Option
	1 Year	1 Year	2 Years	3 Years	1 Year
UC-win/Road Ver.5 Advanced	No charge	US$830	US$1,500	US$2,200	US$200
UC-win/Road Ver.5 Driving Sim	No charge	US$1,100	US$2,000	US$2,850	US$200
UC-win/Road Ver.5 Ultimate	No charge	US$1,100	US$2,000	US$2,850	US$200
UC-win/Road Ver.5 Standard	No charge	US$660	US$1,200	US$1,710	US$200
UC-win/Road Ver.5 Presentation Version	No charge	US$220	US$400	US$570	US$200

●Operation environment for products (System requirements)

■**OS:**Windows NT4.0、2000、XP、Vista、7 ■**Computer:**PC/AT or compatible system

■**System Requirements**

	Requirement	Recommendation
CPU	Intel Pentium/Celeron(2GHz)	Intel Dual Core
Memory	1GB	4GB
Hard disk	3GB	5GB
Graphic card	nVidia 256MB, OpenGL2.1	nVidia 512MB, OpenGL2.1
Display	1024×768 or greater, 32 bit colors	1280×1024 or greater, 32 bit colors
Others	DVD-ROM drive	DVD-ROM drive, sound board

*The required free space for installment of the product including the terrain data(in case of suggested system), sample data is described.
In addition the free space for saving the downloaded model/texture data from the created landscape data and special data, the recorded AVI file is required to use this product.
*Please use the default setting for window design and the font size.
More than 20 inch of display is suggested.

■**System requirements for traffic simulation**

	Requirement	Recommendation
CPU	Intel Pentium 4(3GHz)	Intel、AMD Dual Core 2.0GB or
Memory	2GB	greater
Graphic card	nVIDIA 512MB memory OpenGL2.1	4GB

The steering controller (steering wheel, accelerator pedal) for connecting computer and USB is required to be purchased separately.

3D VR Engineering Service

3D・VR Engineering Service

3D Laser Scanning and Modeling Service / 3D Physical Modeling Service / 3D Drawing Service

FORUM 8 offers the tripartite “3D VR Engineering Service”, which consists of "3D Laser Scanning and Modeling Service", "3D Physical Modeling Service and "3D Drawing Service”.

Measurement in 2DS | Completed in short time period | Light weight (12.2kg)

Approximately 200m can be surveyed using pulser method

5000 lasers can be fired per seconds

Beam thickness can be adjusted to up to 50 meters

Connect to a PC via LAN to set the scan range inside the captures images

Measure-ment tar-get → Capture image → Set the scan range → Scan → Color assign-ment based on the photo-graph

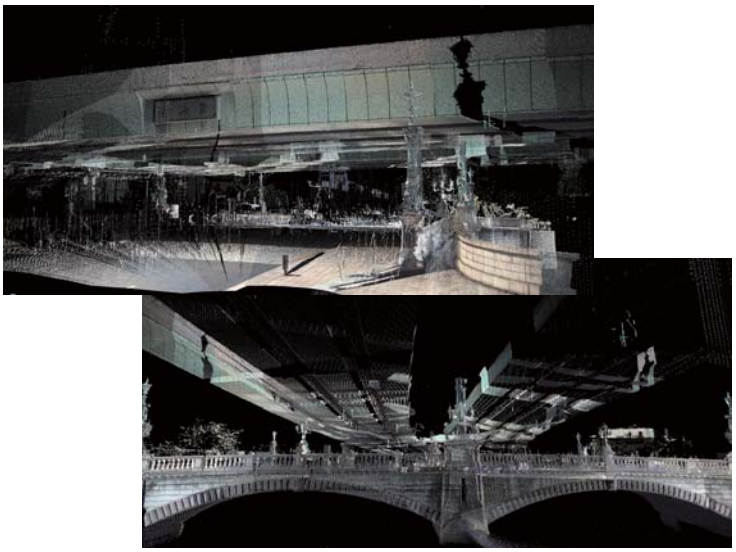
Point cloud data model in color can be acquired as above.
UC-win/Road Point Cloud Data Plug-in option can be used to generate TIN data from laser-scanned point cloud data and model the terrain using terrain patch function, as well as to import point cloud data.
Positions of the point cloud data can be adjusted by moving in parallel and rotating them inside the 3D space.
With the plug-in's data export function, users can export the terrain data, generated from the point cloud data, in Land XML to a third party program.

1. 3D Laser Scanning and Modeling Service

In the surveying and construction industries, there is a growing interest in 3D modeling using point-cloud data, which is collected using high-precision mobile GPS device. In UC-win/Road Ver.5, there is a new function that enables users to import and edit point cloud data in real time. (UC-win/Road Point Coud Modeling) There is a variety of uses for this new feature.
Previously, point cloud data was solely used as reference points to be displayed or used in converting to 3D. Whereas, the point cloud data modeled in UC-win/Road can be used in various ways, such as to verify projects with 3D models and VR models that were created during the planning stage with high precision by measuring accurately the complete 3D objects and roads.


▲3D laser scanning

FORUM 8 is launching "3D Laser Scanning and Modeling Service" using Nikon-Trimble’s 3D laser scanning device. Using this service, customers can receive assistance in collecting and modeling point cloud data. Since we start offering VR modeling service using point cloud data provided by clients at the same time, we are able to provide VR modeling service (UC-win/Road Support Service) using data provided by clients and data provided to clients. FROUM8 has already imported point cloud data and tested them, with the help of various scanner makers, thus, we can guarantee that we are able to display and edit of data with more than 20 million points in real time.
3D laser scanning service has following features, and the procedure begins with decision of the measurement position, the scanning and then the post-processing, as shown in the below diagram.


▲Point cloud data imported into UC-win/Road (Nihonbashi, downtown Tokyo)

■3D Scanning and Modeling Service: a sample quotation

3D Scanning work	
Section length	100m
Preparation time	1 hour
Survey location	4 locations minimum, 30 min per 1 location, total 2 hours
Post-processing	1 hour
Measurement precision	1.5cm at 20m ahead
Number of point cloud data	Approx. 400 million points in 100m section
Total cost	33,963 yen

※NB: quotation based on measurement of roads, sidewalks, and road side buildings only – travel time is not included

3D VR Modeling	
Road	100m (standard quotation distance for UC-win/Road)
Building	10 buildings and street furniture (streetlights, trees, road signs)

※Import of the point-cloud data into UC-win/Road, road alignment conversion, 3D model creation and arrangement, standard level of accurancy

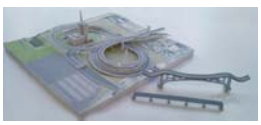
2. 3D Physical Modeling service

We are pleased to offer customers the ability to produce a variety of 3D physical models using the outputs from UC-win/Road, UC-win/FRAME(3D), UC-1 Series and Allplan on a special 3D printer.
For this service, we use a Zprinter 650, the highest spec model from Z Corporation.
Zprinter 650 can create full color 3D models using inkjet printing method. It can produce physical models with a maximum size of 254mm (w) x 381mm (h) x 203mm (d), the largest in the industry.
Larger models can also be produced by dividing up the digital model into smaller sections and then merging them to reproduce entirety of the final physical model.
The Zprinter 650 can read STL, VRML, PLY, 3DS, ZPR file formats.
Other file formats can be utilized by using other 3D modeling tools, such as 3ds Max, therefore, 3D models can be generated in virtually any 3D model formats to be modeled.
The image below shows a physical model produced by Zprinter 650, using a highway junction model data from UC-win/Road; the piers were produced based on the results from UC-win/FRAME(3D), a non-linear linear analysis program. From the physical model in the below image, the junction's entwined loop roads and the details of the steel tower and the ventilation facilities can be seen.
UC-win/FRAME (3D) can output the deformation data in standard 3ds format. The physical model shown was produced by the Zprinter 650 using the 3ds data. Deformed condition is reproduced as a physical model.
UC-1 and Allplan are both capable of exporting models in 3ds, therefore, 3D physical models can be produced using these software programs.
Using the 3ds Max Plug-in, "POV-ray to Max", which was jointly developed with Associate Professor Kobayashi of Arizona State University, UC-win/Road data and terrain data can be exported to 3ds Max; choose the region to be reproduced and adjust the model data including the cuttings. Then users can export the data in OBJ file format which is used in many CG software programs and import the data into "Magic", a special program for creating 3D physical models. Magic will correct modeling errors, configure the data for modeling and finally produce the physical model using the Zprinter.


▲Zprinter (Tokyo HQ's showroom)


▲above Ohashi JCT cross section model

■3D Modeling Service sample quotation

1 :Daishi Junction Model	
	
TotalMan-hour (Sub-totalA)	2.6(h)
Man-hour (Sub-totalB)	28,480yen
Directlaborcosts(Sub-totalC=A*B)	74,048yen
Administrationcost(Sub-totalD)	37,024yen
Materialcost,indirectcost (Sub-totalE)	37,950yen
Total(C+D+E)	149,022yen

2:Ohashi Junction model (north part)	
	
TotalMan-hour (Sub-totalA)	2.6(h)
Man-hour (Sub-totalB)	28,480yen
Directlaborcosts(Sub-totalC=A*B)	74,048yen
Administrationcost(Sub-totalD)	37,024yen
Materialcost,indirectcost (Sub-totalE)	296,010yen
Total(C+D+E)	407,082yen

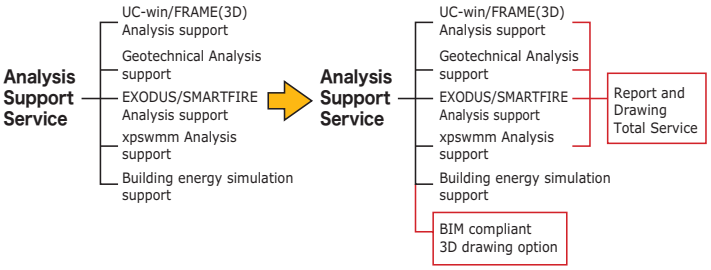
Daish Junction Model and Ohashi Junction models are created by Metropolitan Expressway and were past VR contest winners

Time that the Zprinter 650 takes to produce models varies on the size of the model (from less than an hour up to ten or more hours), but compared with the time and effort that is taken for the production of architectural models and large-scale city models, Zprinter 650 can produce models in short time period as long as all the necessary data is available. It is needless to say that 3D models can be used for various purposes including design examinations, detailed verifications and exhibitions.

3. 3D Drawing Service

●BIM compliant 3D drawing option report and drawing total service

In addition to the existing analysis support Service, FORUM 8 has launched BIM compliant 3D and 2D drawings generation services.
By using integrated BIM solution of Allplan series, 3D drawings and 2D drawings are generated.
Deliverables are by provided by finished data. >Allplan 3D data (IFC) is also available
Target structures will be architectural and civil engineering structures.



●About 3D Drawing Option, Report and drawing Total Service-

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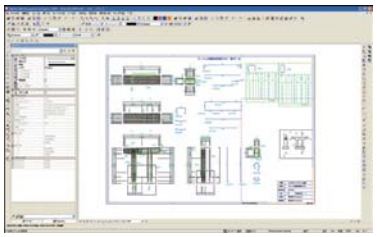
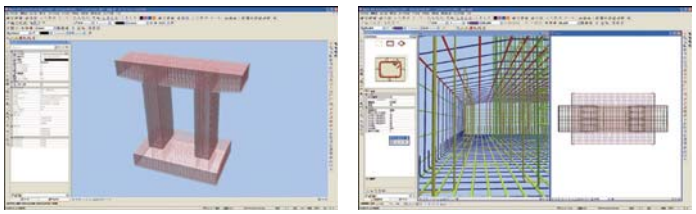
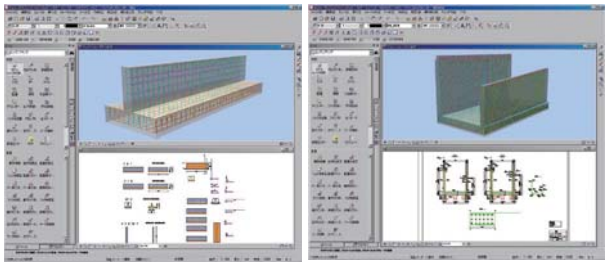

▲Sample 3D drawings of rigid frame pier (by Allplan-Engineering)

■Allplan product overview

Allplan series is integrated BIM solutions developed by German CAD software maker Nemetschek. With the integrated BIM solution, basic drawings, rendering images, presentation movie, detailed construction sheet, quantity take-off and calculation can be done continually, which allows the total design and representation of the models. Changes to the model can be reflected to all data easily. Allplan series has "Architecture", CAD for architectural structures and "Engineering", CAD for RC structures.
In addition, since 3D drawings are provided with free Allplan viewer, users can view the data any time.


▲Sample 3D drawings of rigid frame pier (by Allplan-Engineering)


▲3D Drawing Option Service (left: Abut, right: U-type retaining wall)

Use of the 3-D-based visual tools, which is the easiest tool for improved basic designs, consensus building with residents, and improved accountability for public projects, will be a standard design approach in the near future. UC-win/Road has already been utilized as a standard tool by users in diverse fields.

User introduction

Up&Coming

Excerpts from our public relations magazine user introduction
(Used by many recipients for sophisticated purposes)

Results
Up&Coming No.41-No.86

Public office・Local government

Hime ji City
http://www.city.himeji.lg.jp/ NEW
System Management Div., General Affairs Dept., Mayor's Office,Street Construction Div., Road Dept., Construction Bureau
To Emphasize Development of Environment for Utilizing IT on a Agency-wide Scale in Accordance with the Master Plan and Computerization Plan of the City *- Focusing on the potentiality of 3D Space Simulation, the Tool Supports Examination of Various Projects in Relation with Historical Resources Including Himeji-jo Castle, a Cultural Site of World Heritage*

National Agency for Automotive Safety & Victims' Aid
Safety Guidance Department http://www.nasva.go.jp/
To Aim at Contributing to Realizing Secure and Safe Society Through Automobile Accident Prevention and Support to Victims *- "NASVA Net", Internet Aptitude Diagnostic System Using 3D VR-based Driving Simulation Diagnosis as Its Core, Has Started Its Service*
- "Preventing, Supporting, and Protecting" as the Mainstay of the Services of NASVA
- The Existing Constraints and the New System Development of VR Application in an Aptitude Diagnostic System

Highway Industry Development Organization
ITS Research & Management Division Project Promotions Department
"Smartway" to Direct the Course of Next-generation ITS Society *– Fresh Potential of 3D VR and DS Shown in the Experience Demo of New Services* http://www.hido.or.jp/
- Investigating Development and Practical Application of State-of-the Art Technologies Related with National Road Policy
- Progress on ITS and Position of Smartway
- Outline of "Smartway 2007 Demo"
- Towards ITS deployment in the future

Shikoku Regional Development Bureau, MLIT
Matsuyama Office River and National Highway http://www.skr.mlit.go.jp/matsuyam/
Simulation by 3-D Real-time VR Makes a Difference At Local Meetings and the Open House
- Covering the river Shigenobu and the Ishite, and main national highways in Chuyo and Toyo region
- New congestion mitigation measure in Matsuyama urban area - Matsuyama Outer Ring Road Project
- Operating a driving simulator using "Road", diverse availability is noted

Bureau of Port and Harbour Tokyo Metropolitan Government
http://www.kouwan.metro.tokyo.jp/
They administrate Tokyo port which is one of the biggest ports in the world. They develop port facilities and control many different areas relating with Tokyo port.

Road company

Metropolitan Expressway Company Limited
Kanagawa Construction Bureau http://www.shutoko.jp
Simulation of Travelling and Construction of Daishi JCT and Daishi Ventilation Station Demonstrated the Potential of Complex VR Representation of Buildings and Civil Engineering Structures
- Tunnel Section of "Trans Kawasaki Route" is Under Construction to Be Open in the End of 2008
- Team System supports Stance to Make the Best Use of IT
- Background of Adopting 3D-VR and its Secondary Effect at Daishi Ventilation Station

Central Nippon Expressway Company Limited.
Atsugi construction office http://www.c-nexco.co.jp/
Atsugi construction office was opened for reconstructing of Tomei Expressway (Atsugi to Oimatsuda) in 1987. After finishing the reconstructing of Tomei Expressway, they deal Second Toukai Expressway.

Construction Company

Toyota Motor Corporation
http://www.toyota.co.jp/jp/tech/its/
Strategy Planning Dept., IT & ITS Planning Div
ITS Vision Painted by an Automobile Manufacturer Towards Actualization of a Sustainable Mobility Society *-Approach with Autonomous and Vehicle-Infrastructure Cooperative Systems Taking a Concrete Form, With Focus on DS of 3D VR as a Prerelease Trial Tool of Services*
- Current of ITS Promotion and Efforts of TOYOTA
- 3D VR Trial Simulator Installed at The 15th World Congress on ITS (NY)

Asahi Kasei Construction Materials Corporation
EAZET Sales Dept., Foundation Systems Div http://www.eazet.com
To Precede in Pile Construction Having Properties of Low Noise, Low Vibration, and No Surplus Soil Corresponding to Narrow Sites 3D and VR to Be Applied to Explain EAZET Construction Method *- A Rotational Pile Construction Method with a Small Caliber Steel Pipe*
- Harnessing Organizational Power, Technological Development and National Expansion Are Their Strong Points

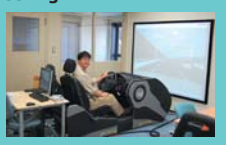
Research Institute

Japan Construction Method and Machinery Research Institute, JCMA
http://www.cmi.or.jp
Using UC-win/Road, JCMMRI Was Able to Address 3-D Display Technology of Information for Construction Robot, Expanding Availability of 3-D Real-time VR
- Researches and development commissioned by public organizations
- Examining visions, formulating procedure plans, and ISO standardization for intelligent construction

University・School

Seoul National University
http://gses0.snu.ac.kr/eng/ NEW
Transportation Management LAB., Graduate School of Environmental Studies
From Vehicle behavior to Pedestrian Behavior Simulations, with Further Development in Mind *- Developing Unique Algorithms Through a Joint Project among Industry, University, and Laboratory, and Focusing on the Possibility of UC-win/Road as a Visualization Tool*
- Positioning of GSES and the Transportation Management LAB
- Developing a Pedestrian Simulator for Analyzing the Operation of the Transfer Center
- Linking a Pedestrian simulator with UC-win/Road

University of Tsukuba
http://www.css.risk.tsukuba.ac.jp NEW
Laboratory for Cognitive Systems Science, Department of Risk Engineering, Graduate School of Systems and Information Engineering
Towards Designing New Ways of Human-automobile Interaction Through Forecasting and Controlling Risks *- Aiming to Build an Appropriate Support Method from Detecting and Estimating Drivers' Conditions with Free Use of Various Sensors and DS's*
- Position of the Lab and its Research Topics
- Putting Weight on Collisions in His Own Research



Kakogawa Higashi High School
http://www.hyogo-c.ed.jp/~kakohigashi-hs/
Kakogawa Design Group, Super Science High School
High School Students to Challenge Design Proposal of the Local Shopping Center as One Part of SSH Projects Designated by MEXT
-Expressing Functions They Expect in the Area with 3D VR Under the Guidance of a Regional Advisor Tomohiro Fukuda, Associate Professor of Osaka University
- Kakogawa Higashi High School and SSH project

Tokyo University of Agriculture
http://www.nodai.ac.jp/
Lab. of Landscape Engineering, Dept. of Landscape Architecture Science, Faculty of Regional Environment Science
Ever-expanding Applications of "OHPASS", an Optimal Highway Path Automatic Search System *-Capable of Linking with 3D CAD, Expanded DM, and 3D VR etc.; Diverse Research To be Developed Based on "JHDM" as a Solution for Landscape*
- "Landscape" as a Key to Trend Around Landscape Construction Engineering

3D·VR Simulation Contest

▼The contest has been held since 2002 after receiving the Product of the Year award. Works from the last 7 contests held in our public relations magazine Up & Coming and introductory reports on them are shown below.▼

8th 3D VR Simulation Contest by UC-win/Road

Date : 20-Nov-2009 Location : Tokyo Conference Center in Shinagawa

GRAND PRIX

"VR Data for Ohashi Junction of Metropolitan Expressway"
Metropolitan Expressway Company Limited

EXCELLENCE AWARD

"VR simulation of Design Change of Korea Namhae Highway"
Korea Road Agency (Korea)

IDEA AWARD

Simulation of Railway Bridge Beam Construction Works.
Noda Engineering Co., Ltd

ESSENCE AWARD

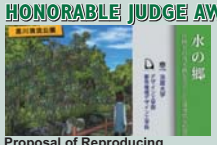
Simulation of Traffic in Kyoto City
Graduate School of Informatics Kyoto University

OVERSEA'S AWARD

VR Data of Roundabouts in US 41 Project
Ourston Roundabout Engineering, Inc.(USA)

HONORABLE JUDGE AWARD

Regional Construction Award/ Design Award/Technology Award



Proposal of Reproducing Environmentally-friendly Waterland City Hino
Hosei University

VR Project of Beijing Guomian Group (Jingmian Second Factory)
Beijing Water Cube Digital Technology Co.,Ltd. (China)

Creation of Road Which Is Suitable for Aso Kuju National ParkII
Nishitetsu C.E.Consultant Co.,Ltd

7th 3D VR Simulation Contest by UC-win/Road

Date : 20-Nov-2008 Location : Tokyo Conference Center in Shinagawa

GRAND PRIX

"Simulated driving diagnosis system using CG simulation"
National Agency for Automotive Safety & Victims' Aid

EXCELLENCE AWARD

"Sakai City Oshoji LRT Project VR data"
Osaka University, Graduate School of Engineering, Division of Sustainable Energy and Environmental Engineering

IDEA AWARD

Erection of construction girders for underground passageway construction in train stations.
Noda Engineering Co., Ltd

ESSENCE AWARD

VR utilization case in educational curriculum
Daido Institute of Technology, Department of Civil Engineering and Environmental Design

OVERSEA'S AWARD

AFRICA_SUDAN Project
CION Media Company (Turkey)

HONORABLE JUDGE AWARD

Regional Construction Award/ Design Award/Technology Award

Sancheong-Sudong VR Simulation
Busan Regional Construction & Management Office (Korea)

Simulation of an evacuation in an aging society using 3D VR
Taisei Engineering Co., Ltd.

Digital Phoenix Project by UC-win/Road III
Arizona State University (USA)

6th 3D VR Simulation Contest by UC-win/Road

Date : 21-Nov-2007 Location : Tokyo Conference Center in Shinagawa

GRAND PRIX

Ishikawa-cho Junction Simulation
Kanagawa Construction Bureau, Metropolitan Expressway Company Limited

EXCELLENCE AWARD

SMARTWAY 2007 VR Simulation
National Institute for Land and Infrastructure Management, Ministry of Land, Infrastructure and Transport / Highway Industry Development Organization

IDEA AWARD

Driving Ability Measurement for Senior Citizen VR Simulation
Meijo University, Faculty of Science and Technology, Department of Information Engineering

ESSENCE AWARD

Asuke By-pass Road Simulation
Meishi Road Buresau, Chubu Regional Bureau, Ministry of Land, Infrastructure and Transport

OVERSEA'S AWARD

Qingdao JiaoZhou bay Tunnel Project
Nepoch Consultant Co., Ltd.

HONORABLE JUDGE AWARD

Regional Construction Award/ Design Award/Technology Award

Katsunuma Station Square Park Simulation
Huyo architect office Co., Ltd.

Digital Phoenix Project by UC-win/Road II
Arizona State University

Hosei University around Ichigaya Campus VR Simulation
Civil and Environmental Engineering , Faculty of Engineering and Design, Hosei University

5th 3D VR Simulation Contest by UC-win/Road

Date : 27-Nov-2006 Location : Tokyo Conference Center in Shinagawa

GRAND PRIX

Simulation carried out at the Daishi junction and ventilation place
Kanagawa Construction Bureau, Metropolitan Expressway Company Limited

EXCELLENCE AWARD

Machida city, Aibara-Tsuruma line simulation
Bureau of Construction Tokyo Metropolitan Government Minami Tama Higashibu Construction Office/Japan Bridge & Structure Institute, Inc.

OVERSEA'S AWARD

2010, Shanghai international exhibition central axis simulation China Nepoch Consultant Co. Ltd

4th 3D VR Simulation Contest by UC-win/Road

Date : 22-Nov-2005 Location : Nakameguro GT Tower Plaza Hall, Tokyo

GRAND PRIX

Matsuyama Outer Ring Highway
Matsuyama Office of River and National Highway Ministry of Land, Infrastructure and Transport Shikoku Regional Development Bureau

EXCELLENCE AWARD

Hai River Bridge Project, Tianjin City, China - Planning methodology consideration of Chifeng Bridge.
Crisen Technol

OVERSEA'S AWARD

Donghongcheon, Korea - Yangyang Expressway plan Korea Highway Corporation BASIS Soft, INC.

3th 3D VR Simulation Contest by UC-win/Road

Date : 12-Nov-2004 Location : Nakameguro GT Tower Plaza Hall, Tokyo

GRAND PRIX

IDEA AWARD CREATIVE AWARD

Road Management Support System by using Virtual Reality(VR)
Road Management Technology Center

EXCELLENCE AWARD

Landscape simulation for street planning
Metropolitan Expressway Company, Tokyo Building Bureau, Related Street Division

Ken-Ou-Dou (Chiba) VR simulation
Japan Highway Public Corp.,Tokyo Construction Bereau, Chiba Construction Office/Daiichi Fukken

2th 3D VR Simulation Contest by UC-win/Road

Date : 1-Nov-2003
Location:Phoenix Seagaia Resort ,Miyazaki

GRAND PRIX

Sagami Longitudinal Expressway Ebina Nirth JCT/CG Model
Central Nippon Expressway Company Limited Tokyo office, Atsugi work office

1th 3D VR Simulation Contest by UC-win/Road

Date : 7-Nov-2002
Location:FORUM8 Tokyo head office

GRAND PRIX

Tokai Ring Expressway
Ministry of Land, Infrastructure and Transport, Chubu Regional Bureau, Tajimi Office of Sabo and national Highway

Design Festival

FORUM8 Design Festival 16-18 NOV 2011／Scheduled Location: MEGURO GAJOEN
●The 9th 3D VR Simulation Contest:18 NOV 2011 ●The 11rd International VR Conference:17 NOV 2011

http://allplan.jp

http://vr.forum8.jp

FORUM 8

FORUM8 Co., Ltd. http://www.forum8.co.jp/

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