

# Rhinoceros for Architects & Engineers

Free-form Modelling Software with Grasshopper as tightly integrated graphical algorithm editor

> www.rhino3d.com www.food4rhino.com www.grasshopper3d.com



"A requirement for the design, development and realization of the complex morphology of the pavilion is a closed, digital information loop between the project's model, finite element simulations and computer numeric machine control. Form finding and structural design are closely interlinked."

CAD

Software

Direct.com



ICD/ ITKE Research Pavilion University of Stuttgart 2011

Rhino and Grasshopper are heavily used for **freeform roofs, parametric facades, repetitive components, versatile building shapes or complex structures** in architecture and engineering.





Grasshopper



### **BIM & Documentation**

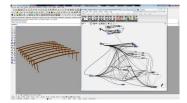


VisualARQ, Flexible BIM Plug-in for Rhino and Grasshopper



Flexible BIM (building information modeling) features link geometry and object data and support import and export from and to the IFC file format to exchange Rhino models with other AEC applications.

## **Design & Drafting**



Rhino/ Grasshopper UI

Rhinoceros in combination with Grasshopper is an ideal addition for all 2D and 3D applications in architecture and engineering in order to generate **complex associated geometries such as NURBS surfaces, meshes and solid models**.

## Visualization & Animation



Many popular rendering and animation plug-ins work in Rhino. They help generating **high-quality images** of unparalleled realism and **animating objects.** 



Render, V-Ray Plug-in

## **Analysis & Simulations**



Karamba



ICD/ ITKE Research Pavilion

Stuttgart 2014



Kangaroo Physics





Rhino and Grasshopper have a rich ecosystem of **plug-ins** for structural analysis, simulation, visualisation and fabrication of your design.

## **Fabrication & Construction**



Robotic and Digital Fabrication, 3-D Printing, and Rapid Prototyping Rhino and Grasshopper can be tightly integrated in any step of the manufacturing process.



HAL, GH Add-On