

Leading Spanish University Invests in 'Engineer's Studio' Earthquake Analysis Software from FORUM8

The University of Granada, founded in 1526 by the Holy Roman Emperor Charles V, has invested in FORUM8's premier nonlinear analysis and engineering design software system 'Engineer's Studio'.

Prof. Amadeo Benavent-Climent was first introduced to FORUM8 and its world class 3D software at the World Conference on Earthquake Engineering in Beijing in 2008. He was particularly impressed with FORUM8's FEM structural analysis software, UC-win/FRAME(3D) and with the fact that FORUM8 was working with one of his ex-tutors from the University of Tokyo, Professor Koichi Maekawa.

FORUM8's technical team work closely with Prof. Maekawa in developing **Engineer's Studio**, the only software in the world to fully include the Maekawa Concrete Model in its analysis.

Engineer's Studio is an evolution from the popular UC-win/FRAME(3D) software. FRAME(3D) is a piece of software for material and geometrical nonlinear analysis of beam structures using Moment Curvature and Fibre elements. It is very popular with Japanese engineers due to its ability to accurately simulate the response of a target structure in an earthquake.

Another popular feature is its ability to be used for design checks – FRAME (3D) already supports Japanese Civil Engineering codes (with plans to include more).

Engineer's Studio extends the FRAME(3D) system into full finite element analysis with the Mindlin Plate element included. Engineer's Studio is also the only software that utilises the renowned Maekawa nonlinear concrete model.

In earthquake engineering, Japan is synonymous with accuracy and reliability and FORUM8's structural engineering analysis software Engineer's Studio is the best that Japan can offer.

At Granada, Engineer's Studio is used for research at the Higher Technical School of Architecture (Escuela Técnica Superior de Arquitectura). Aware of the eminence of Professor Maekawa in the field of structural engineering, Professor Benavent insisted that Granada University start using this software. Now Granada has three copies of Engineer's Studio, which are used for extensive research on structural analysis on various design of buildings. The latest research entails using a shake table to test the structures that were previously modelled in Engineer's Studio.

There are also plans to invest in a super-computer to allow them to carry out highly accurate structural analysis on buildings with many floors. There are also plans to establish an Engineer's Studio lab at Granada to lead the teaching and research into highly accurate structure modelling and analysis.

Editors Note:

FORUM8 produces state-of-the-art 3D VR and Engineering software.

Two of its premier products, **UC-win/Road** and **Engineer's Studio** are at the forefront of 3D Visual Interactive Simulation technology.

Established in 1987, this award-winning Japanese company has offices and partners on every continent and is a member of the ITE and an associate of the TRB visualization group in the USA.

UC-win/Road is the ideal solution for urban and transport planning and design projects, either on its own or linked with third-party 3D design tools and micro-simulation applications.

It is also used extensively to visualise rail, road and pedestrian-based situations and environments, including evacuation analysis as well as emergency and security planning scenarios.

Due to the high visual quality of the software and its high level of interactivity, UC-win/Road powers many different Drive Simulators in use throughout the world. From VR-Drive, the classroom based Road Safety and Driving simulator for school children, to professional highly sophisticated systems used by leading vehicle and train manufacturers.

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