

**ZAHA
HADID
ARCHITECTS**

Gehry Technologies

By **Nick Lerner**

Grandly innovative icons

Zaha Hadid Architects deploys over 30 seats of CATIA based Gehry Technologies Digital Project software to accelerate design visualisation and development of some of the world's most grandly iconic advanced building projects.

DESIGNING A VISION

Zaha Hadid Architects is a London-based practice of more than 400 professionals that pushes the boundaries of architecture and urban design. The practice's work experiments with spatial quality, extending and intensifying existing cities and landscapes in the pursuit of a visionary aesthetic on a huge and complex scale.

Revolutionary facades and the use of glass, steel and composites in entirely new structural ways require unique processes and special methodologies. Functional, environmental and sustainable aspects of the buildings are equally complex with novel designs that must accord with practical and planning needs as well as provide significant visual and emotional responses.

Taking these designs through to project delivery is a significant challenge. As building designs develop,

Gehry Technologies Digital Project allows us to tackle projects better, faster and in more detail to explore a greater range of solutions.

Cristiano Ceccato
Associate, Zaha Hadid Architects

a multitude of designers, contractors, engineers, planners, clients, project managers, fabricators, and other stakeholders need availability to, and interaction with, accurate current project status in 2D and 3D formats to suit their needs.

Cristiano Ceccato, Associate, Zaha Hadid Architects, explained the process of developing a design into a

built environment. "We explore a range of solutions from the primary gesture through the use of digital tools within the overall creative process. Numerous, often overlapping data sources are used for our work and these must be assembled and centralised, formalised and integrated, into a cogent whole. On projects of this scale and complexity, accuracy is as crucial as flexibility and speed because 3D data is a critical component of project execution."

BUILDING A METHODOLOGY

To handle this level of complex diversity, Zaha Hadid Architects deploys Gehry Technologies Digital Project (DP). Digital Project is a 3D Building Information Modelling (BIM) system developed by BIM consultancy, software and services firm, Gehry Technologies, using CATIA as a core engine. Currently more than ten major schemes are being developed at the practice using DP. These include the 360,000 square meters Soho Galaxy mixed office and retail site in Beijing and the radical 85,000 square-meter Seoul Dongdaemun Design Plaza that includes a museum, library and educational facilities.

Cristiano Ceccato explained how the software functions as a digital master system for its work. "These unique, highly innovative structures, and the mechanical and other services that they house, are modelled in 3D using DP, which becomes a central reference point for the design and all data associated with it. DP is an ideal repository for data from multiple sources and provides access from a single unified platform. The design principles of DP are the same as CATIA. This makes it very appropriate for our work and its operation enables speedy multiple iterations while automatically updating the central model geometry.

"We are a 3D digitally oriented practice using diverse systems to explore and represent a wide range of often complex solutions. DP's interoperability allows us to draw together a variety of design and engineering inputs then rapidly move projects onto a formal design and contractual basis with DP as a single, unified 3D software platform.

"DP enables work practices that retain design integrity and engineering accuracy through the construction and project delivery process. DP's precision minimises error and reduces risk by accurately assessing

costs and complexity while adding control. The software also facilitates concurrent working practices, which accelerates our design time. DP amplifies and stimulates our design vision fulfilling a central, permanent infrastructure role. These factors help build confidence allowing us to leapfrog potential delays so that more time can be dedicated to creativity."

CREATIVE REVIEW

Ceccato continued, "DP allows us to creatively evolve digital 3D models while retaining original design intent. It introduces a high level of concurrent design automation that increases productivity to levels than would be difficult to achieve with any other methodology. DP builds confidence at Zaha Hadid Architects by allowing us to design innovative, sophisticated, elegant structures on a grand scale in the knowledge that what we design can be constructed. It also provides the methodology that assures quality and accuracy throughout project processes. Risk can be accurately assessed and reduced by avoiding errors from design clashes or inaccuracy.

"As a 3D tool for concurrent collaboration and facilitator of formal centralised methods DP helps overcome the hold-ups experienced in the conventional delivery process while giving us more time to concentrate on innovation and problem solving. CATIA methodology lets us explore more 'what-if' options and this amplifies and acts as a catalyst for innovation."

For more information:
www.zaha-hadid.com

About Gehry Technologies

Gehry Technologies provides building information modelling (BIM) technologies and services for construction project planning, analysis, control, and evolution. The company has provided digitally guided construction practices to a broad spectrum of professional organizations and project typologies, from commercial and institutional building projects to large-scale infrastructure works. Gehry Technologies develops Digital Project™, a suite of integration, modelling and analysis applications. The company offers Digital Project training and consulting services, and provides comprehensive, cross platform project strategies implementing a range of building information modelling (BIM) software products and custom solutions. www.gehrytechnologies.com

