



# ECO SUSTAINABILITY AND 3D DESIGN

OUR EDITOR SPEAKS TO DASSAULT SYSTÈMES' BRUNO DELAHAYE ON ECO DESIGN AT THE IMAGINA 2010 CONFERENCE IN FEBRUARY

An interview with **Bruno Delahaye, vice-president of Eco Sustainability at Dassault Systèmes**, is a thought provoking experience, considering what the range of 3D technologies can now offer to those who design and produce products that we use daily - and the very infrastructure in which we live, from single buildings to entire cities. The big question is – how to do this in a sustainable way – so that eco-design becomes a standard approach – and well accepted principle - for all types of designers. So that sustainability benefits arising from these design principles and practices can better inform the decision makers who control much of our lives, whether private sector or government.

Talking to Delahaye, you realise that 'eco sustainability' is a passion, not just a job – and although significant advances have been made and continue to be made at the technology end, stern challenges continue to exist at the people end – convincing designers across a huge range of disciplines and sectors that ecologically sustainable design leads to more sustainable production and lower impact on our already threatened environment, regardless of where you live on the planet.

Pioneers in 3D software since 1981, Dassault Systèmes offer a 3D vision of the entire lifecycle of products, from concept to production and long-term maintenance – and are now extending this vision into product use and environmental impact, as well.

Realising that 80% of a product's environmental impact is determined in the product conception phase, having access to tools that aid the designer in easily assessing sustainability impact choices is key - making these intuitive and non-intrusive to the designer is the challenge for those implementing eco sustainability toolsets or services.

Technology enhancements available today include software like SolidWorks Sustainability, introduced in 2009 – an extension to the

popular mechanical design software SolidWorks that offers designers feedback on the sustainability impact of design choices, on the fly, based on proven Life Cycle Assessment (LCA) techniques.

Designers and developers need to look at the challenges from the 'system of systems' point of view – how to understand the interconnectedness of our infrastructure and social systems, from the level of single products on up to design and maintenance of entire cities. The computing power is becoming available that permits such complex analyses. For example, crowd computing (aka cloud computing) is a possibility for offering high-power services that can manage huge volumes of data and run the complex simulations necessary help decision makers make more intelligent decisions driven not simply by cost-benefit, but by fully recognising the sustainability issues for products and projects throughout their planned lifespan.

According to Delahaye, 'eco sustainability' is not an industry, but rather a set of design principles – an ethos encompassing a way of working - that cuts across a wide range of industries. Almost any production, construction or maintenance process imaginable has eco sustainability aspects. What is needed is a wide range of good quality information covering all aspects of the design, production and maintenance process, integrated in clever ways and presented to designers in innovative, easy-to-use ways. These tools and associated services are already arriving – and will be in common use within the design world(s) within no more than five years.

From the human perspective, our world has never faced a more severe environmental challenge – and future – than it does today. Any technology that can be brought to bear on increasing eco sustainability for projects and products across the board must be welcome. The challenge now is to extend the capabilities already appearing and embed the resulting tools and principles in the design, monitoring and maintenance software used to manage our environment.