

Catching the BIM bus – a challenge ahead

Christophe Castaing is chair of the EFCA task group on BIM.

David Eades spoke to him about where the industry stands on this issue

Thinking of building information modelling (BIM) as a revolutionary 3-D tool which can transform the way construction companies, consulting engineers, contractors and governments can prepare and manage their building and infrastructure projects, would be right – and it would be wrong.

Christophe Castaing, director of digital engineering planning at EGIS, and chair of EFCA task group on BIM, said, "It is not a 3-D tool. I could have had a 3-D mock-up of a construction plan 25 years ago. That is not the key with BIM.

"It is the capacity to share information. It is a process for delivering information. It is digital, and it is collaborative."

However it is defined, BIM has long reached the point of no return.

"Delivering construction in BIM, you have the information plus the information of the information, and the status of the information. Plus the possibility to make decisions at any moment at very low cost because you can just modify the design. It's the surest way to save time, effort, money."

This is why he believes it has to be Europe's business-as-usual template for construction, and that is not just applicable within the EU, but when competing across the globe for infrastructure projects.

"At the moment the UK, China and also Korea are ahead of the game," he said.

In fact, UK experts lead the European Commission's Taskforce on BIM – an irony not lost on Castaing as Brexit (the UK's decision to leave the EU) finds a way to send shivers of concern through every corner of EU business.

"There is some investment in France, though not as much as in the UK, and some in Germany," he added. "But the Chinese will lead the way in the next five years, and Korea will not be far behind."

"If you want to build a new airport in an African country, for example, one of the first questions will be, 'Are you able to manage with BIM?'"

"This is partly because the finance behind it may well be China's. And take a look at what is happening in other fields. The French nuclear power plant industry in the Middle East has already lost out – to Korea.

ALL MARKETS

Castaing added, "This will be the same for all markets on the big stage. Even if you take China out of the equation, if you are going to work in almost any developing country, you will be looking at World Bank funding – and the World Bank expects the highest levels of standardisation, with BIM."

"For EFCA, it is crucial to be part of the ISO meeting for setting those standards."

He said, "If you don't go this way, you will be defeated by the engineering industry in Asia."

Castaing is equally insistent on the need for standardisation within the European Union.

"We need CEN standardisation across our borders. At the moment, that is not being achieved. It is a vital part of creating competition on a level playing field."

Of equal importance, he believed, was the need for a common set of tools for working with BIM – a Data Dictionary for the European Community – where countries and industry share ways to define the property of each object to be constructed."

EFCA has decided to put together a handbook for members to explain how to understand the implication of the ISO 19650 as an international standard.

That handbook, which will be ready by June 2017, will explain the BIM maturity levels compared to 2D, 3D, 4D, and so on.

It will also highlight the impact that a common data environment will have on a contract, as well as how to consider a BIM execution plan, requirements regarding Information Exchange and other important areas.

"The business model for construction has now been altered forever," said Castaing. "The model we have today is based purely on construction. The new model will be based also on virtual construction, digital building, how to manage information and deliver new services."

And to accompany that, there should also be a way to ensure the data system, the digital platform for BIM, is applicable not just today but for the next 50 years.

"You cannot leave it to Google or another software provider to create your system for you," he cautioned, "because if there is one thing we can be certain about it is that we will not have the same software providers in 20 years from now. So this independence from the software companies is a matter of utmost importance."

And the added values BIM bring are going to be essential, given the changing challenges for construction.

Castaing is not one of those who believes construction productivity has stood still in the last decade. Design time, he argued, had already reduced by around one third. And now time spent on the drawings is being cut, while the quality of the design is on the up.

"Let's recognise now that construction is going to be anything but flat over the next 20 years," he added.

PARADOXICAL

Castaing describes the prospects for consulting engineers, and for small and medium-sized enterprises (SMEs), as a paradoxical opportunity.

"Big companies are clearly less flexible than smaller ones, which means there is a big opportunity for them. The down side is that there may also need to be an investment in research to get the full BIM approach. And maybe a small or medium company can't manage that."

"I am upbeat or downbeat depending on what day it is," he said. "At the last annual EFCA Conference, no more than 16% of engineering companies were exercised by BIM. It remained poorly understood."

However, that is a figure he also believed was changing fast, which he said was a good thing, too – "because we have no choice".

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