DIGITAL CONSTRUCTION & TRENDS

How do you imagine cities of the future? Is it an integrated system with AI controlling traffic, street lights, smart buildings made of strong but light materials with vertical gardens and solar panels on the roof? We are moving towards this point and even further. Changes have already started in the AEC industry, though not as rapidly as in other spheres. During the pandemic, the ice broke and the construction management software market is expected to increase at a rate of $2.73 billion by 2027, with a GAGR at the level of 8.7%.

Digital Twins

It is a full-fledged digital replica of real physical objects, such as buildings or entire cities. Digital twins unite all sorts of objective and environmental data into one project by means of 3D laser scanners, drones, IoT sensors, and cameras. Technology encompasses the complete life cycle of an object–from a design to its potential reuse. As it is permanently synchronized with a true-life twin, all changes occur automatically in real time. The main aim of the digital twin technology is to provide a predictive function. Virtual models enable us to estimate risks and prevent mistakes at the idea stage. Also, in simulation mode, it is possible to check how a building will behave in certain circumstances, for example, in a natural disaster or fire. As a result, the software provides information about the interrelation between the created infrastructure and users, which is a good basis for research and AI analysis. Further development of the digital twin is seen in smart city engineering, where modern pain points such as population growth and climate degradation will be considered. It is estimated that the digital twin market will be worth $48.2 billion by 2026.

The Metaverse

As the Metaverse is a fairly new concept in our reality, and we still have a very vague idea of its opportunities, the list of impacts on the AEC industry with time cannot but be supplemented. It is evident that there is huge potential for upgrading 3D modeling with the power of VR and AR, making this process natural and simple in the Metaverse. The result will amaze clients with the finest details

and full sensory experience in contrast to any excellent model presented within the walls of the office. Engineers, designers, and architects will get a chance to strengthen cooperation with colleagues all over the world. And this is more prosperous than zoom-meetings. The whole urban environment could be created and thoroughly checked out because, as we know, problems occur just at the time of commissioning or a bit later during the operation. All stakeholders can walk through the streets, discuss agreements, and watch the whole future city functioning around them, while in the real world, the excavator bucket hasn't even remotely dug the ground. To make the impression more immersive, haptic hardware takes responsibility for the tactile experience, and now you are able to feel surface roughness as well.

The Metaverse enables us to break the templates of conventional opinions, freeing architects' hands and imagination. Nowadays, it is vital for engineers and architects to be proactive and acquire new skills to keep pace with changing working places and tools. We should use new technologies for the benefit of the Earth here and now.

Magora understands the importance of a comfortable workflow and is sure that perfect working tools improve productivity. We develop advanced bespoke software for the AEC industry in order for you to stay competitive and create more challenging projects. AR/VR, digital twins and your office in the Metaverse are inextricably linked to data-driven software. Incidentally, data nowadays is highly valued, but to truly become gold it should be sorted, analyzed, hierarchically organized, and carefully stored in one central place with multiple access points. Magora provides the required software development for you to be ahead of the game and be, maybe, an explorer of the greatest unsolved opportunities of the Metaverse.