

Global 3D Concrete Printing: Welcome to the future of Emerging Industry trends, Challenges, Economic Potentials, Opportunities

3D printing methods using polymeric materials developed since the 90's, this additive manufacturing is on rise nowadays. As formworks represent 35 to 60 % of the global cost of a concrete construction, this innovation embodies an important financial benefit, in addition to improving the construction rate and architectural liberties. The pioneers of this novelty have developed the "Contour Crafting" method aiming to construct buildings and houses on Earth and they are even envisaging applying this new technique on the moon. 3D concrete printing is a technologically advanced and innovative method used for constructing predesigned building components with the help of 3D concrete printers. The technology holds the promise of substantially optimising the construction industry in terms of construction cost, time, error reduction, flexibility in design, and environmental impact. The field of 3D concrete printing is receiving increased focus from construction companies across the globe. These companies mainly focus on experimenting with different concrete mixes and printing machines to bring about further developments in this construction technique. With construction companies making continuous efforts to bring 3D concrete printing in mainstream construction, the global 3D concrete printing market is projected to gather significant momentum in the next few years.

The rate at which construction companies, researchers, and technologists are coming together in the development of 3D concrete printing techniques is commendable. The market is expected to receive a healthy boost from developing regions such as Asia, Asia Pacific and some parts of Latin America in the near future. The construction sector in these regions is projected to lead to an increased demand for cost-effective building elements fabricated through 3D concrete printing techniques to complement the several new infrastructure development and building construction projects.