

Austrian Doka Ventures starts with mobile 3D construction printing on an industrial scale

Doka Ventures, a subsidiary of Austria's Umdasch Group, is joining forces with inventor of deployable 3D construction printing Behrokh Khoshnevis. His company will start delivering the first series-ready robotic 3D construction printers early next year. These robots reduce the time it takes to construct buildings to mere hours or days. This will help meet the rising global demand for socially acceptable accommodation and infrastructure. The company is already generating revenue by offering technology and solutions to major entities such as NASA.

Amstetten, Austria. Earth's population, according to scientific forecasts, will rise to eleven billion by the year 2100. There will also be an enormous increase in urbanisation. Right now half the people in the world live in cities; by 2050 the figure will be in the region of 75 percent. These developments pose huge challenges for the building industry. Affordable accommodation and infrastructure will have to be built rapidly. Conventional methods of construction will be unable to deliver.

Now, things could change. As first in the field, Contour Crafting Corporation from the US is poised and ready to start series production of first-generation deployable robotic 3D construction printers. The man behind the high-tech company is none other than the pioneering inventor of this technology, Behrokh Khoshnevis. And Khoshnevis has taken a strong partner on board: Doka Ventures, a subsidiary of the Austrian Umdasch Group from Amstetten.

Doka Ventures is taking a 30 percent stake in Contour Crafting Corporation. Doka Ventures' role of core shareholder is long-term and is reflected in personnel appointments to the positions of Chief Financial Officer (CFO) and Chair of the Board of Directors. Behrokh Khoshnevis remains majority shareholder and CEO of the company. Khoshnevis, a professor at the USC Viterbi School of Engineering, developed the Contour Crafting technologies at the University of Southern California. He worked with the USC Stevens Center for Innovation, the technology transfer office for the university, to obtain a license for the technologies to further develop them within his own company.

"Very soon, we'll have the first series-ready deployable robotic 3D construction printer" are the words in which Behrokh Khoshnevis, President and CEO of Contour Crafting Corporation, describes the company's unassailable unique selling point. Deployed in the field, the robot 3D printer will be able to initially print building shells layer by layer and so construct entire developments. The process massively reduces the time needed for erecting an entire building to mere hours or days. Depending on the model, the first generation commercial construction robots will have a reach of between eight to twelve metres and a user selectable length which could have a substantially larger size. Tipping the scales at less than 400 kg (882 lbs.) in all, it is very light for a large construction machine. It is also very simple to put together and take apart, remarks Khoshnevis. An ordinary truck or a standard marine-freight shipping container has ample space for several of the robots. Only one or two operators certified by Contour Crafting Corporation are needed to monitor progress on the build.

The robotic 3D construction printers are designed for use wherever accommodation and infrastructure have to be provided rapidly and affordably. Alongside social housing construction, that also covers disaster relief, for example print-building the new structures needed in a hurry after an earthquake. "The first orders are already in the books", confirms Werner H. Bittner, newly appointed Chairman of the Board of directors of Contour Crafting Corporation. The future customers include construction companies and real estate developers.

The robots are manufactured in El Segundo, which is a district of Los Angeles, USA. Contour Crafting Corporation moved into a large new premises there in the middle of May. The first series-ready 3D construction printers are scheduled for dispatch at the start of 2018. As well as manufacturing and selling robotic 3D construction printers, Contour Crafting Corporation also intends to provide on-site building construction as a service.

Contour Crafting Corporation sets its sights on space

Dr. Khoshnevis invented the technology for deployable 3D construction printers capable of automated construction of structures and infrastructure in the field. Since 1996 he has held numerous globally effective key patents on virtually all the technical aspects of 3D construction printing. In 2014 he won the international competition grand prize awarded by the US National Aeronautics and Space Administration, NASA. In 2016 he won another grand prize awarded by NASA, this time for his patented Selective Separation Shaping (SSS) 3D printing technology. Contour Crafting Corporation sees correspondingly wide horizons for its future activities. Alongside terrestrial 3D construction printing, the firm has been working with NASA on the construction of infrastructure elsewhere in the solar system, particularly on Mars and on the moon. Materials-independent applications with SSS inside and outside the construction sector is another field of activity for the company.

Doka Ventures

A wholly owned subsidiary of Umdasch Group AG, headquartered in Amstetten, Austria, Doka Ventures concerns itself with potentially disruptive technologies and business models along the construction process chain. Contour Crafting Corporation is Doka Ventures' first strategic investment. Doka Group, the sister company of Doka Ventures, is one of the world's leading manufacturers of formwork technology for the construction sector. Their big-volume markets are primarily in Europe, North America and the Middle East.

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Photos:

You can download all photos on the following link: <https://www.doka-ventures.com/en/index#news>

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Behrokh Khoshnevis, President and CEO Contour Crafting Corporation

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Werner H. Bittner, Chairman Board of Directors Contour Crafting Corporation and Member of Executive Board Doka Ventures

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