

World first in southern hemisphere: Australian company 'Luyten' builds 3D printed concrete house in Melbourne

Luyten has built the world's first 3D printed house in the southern hemisphere. It is building code compliant and built with highly robust eco Ultimatecrete.

SYDNEY, NSW, AUSTRALIA, December 31, 2021 /EINPresswire.com/ -- Cutting-edge Australian 3D printing building and construction company, [Luyten](#), has built the world's first 3D printed house in the southern hemisphere. Highly respected for its 3D printer and building and construction innovations, Luyten is already taking orders for the house from across the world.

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The Heptapod printed house only takes two days to build and costs less than 70% compared to traditional building methods. It is weather and climate resistant and ideal for all types of living.”

Ahmed Mahil, Cofounder and CEO of Luyten



Luyten 3D Printed House 'Heptapod'

The house has been built in Luyten's manufacturing warehouse in Melbourne, Australia. Called the '[Heptapod](#)', the structure is Australia and New Zealand building code (AS/NZ 1170) compliant and has been built using Luyten's highly robust and eco-friendly Ultimatecrete 3D printable concrete which results in 82.5 MPa compressive strength after 28 days, four times stronger than the 20 MPa residential building code requires.

Founded in 2020, Luyten is focused on bridging the technological gap in large-scale and manufacturing industries through the introduction of robust construction automation technologies such as cutting-edge 3D printing

and additive technologies. The company designs and manufactures custom large-scale three dimensional construction printers for domestic and commercial construction. The entrepreneurs and cofounders behind Luyten are Ahmed Mahil, Dr Godfrey Keung (Chief Scientific Officer), Dr

Michael Stanley (Chief Technology Officer) and Shaun Heap (Chief Information Officer).

Since launching in 2020, the business has expanded its remit and forged a key partnership with the University of New South Wales, to build structures and base camps on the moon and on other planets including Mars.

"We are absolutely ecstatic with the 3D printing of our first house. The structure looks great and it only took three business days to build. It is a fine example of the type of structure that can be built using our innovative 3D printing technology and will provide people with the ability to see and touch a 3D printed home in person before they order one," Luyten 3D cofounder and CEO, Ahmed Mahil said.

"The Heptapod elements were printed in two days and assembled on day three. Printed elements were ready to handle and be moved within only five hours of being printed. This is the great thing about our special concrete mix, it cures quickly and delivers results that supersede what is currently available at four times less cost.

"In addition, the build cost 70 percent less in comparison to traditional methods. We got quotes from four different continents when making the cost analysis."

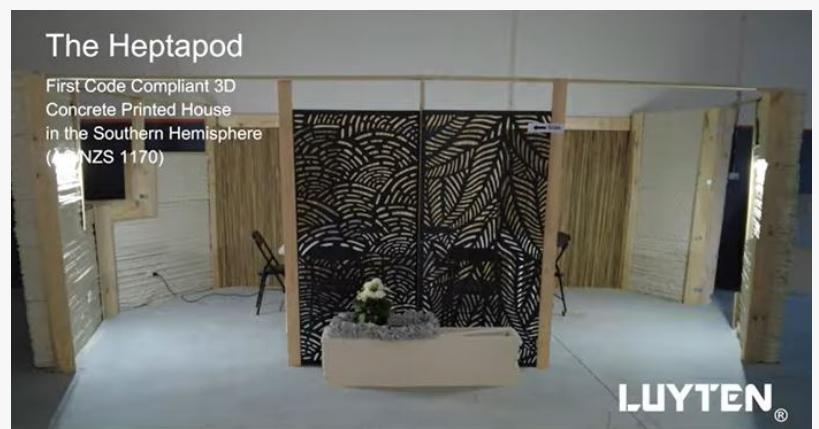
According to Mahil, the Heptapod is designed to give residents a more immersive experience with nature. It also complements and supports the fast growing tiny houses movement.

"The Heptapod is a very versatile and aesthetically pleasing home that can be built to any size, requirement and style," Mahil added.

"The concrete walls can be retained in their natural state, or they can be painted or even smoothed further.

"Light fixtures and fittings can be tailored depending on the style requirements of the owner. Because of the load capacity of the structure, the Heptapod is ideal for remote locations as it works well with changing temperatures, harsh climate and weather events.

"We have already taken many orders for the Heptapod where they will be used for affordable housing in regional areas of the country, through to the establishment of schools and accommodation offerings as well. We are also receiving enquiries for orders from overseas which is very exciting."



Luyten 3D Printed House 'Heptapod'

Since launching, Luyten's mission has been to make construction easier and more sustainable across a broad range of industries by reducing the time and cost to build, the amount of construction waste generated, and the impact of build activities on the surrounding environment.

Luyten's cutting-edge 3D printing and additive technologies have become a world-wide success story as companies across the globe scramble to purchase its printers.

"Luyten transforms construction projects that traditionally take months or years to complete, and finishes them within a number of days. The [3D concrete](#) printing revolutionary technology reduces 60 percent of construction waste, 70 percent of production time, and 80 percent of labour costs when comparing hands-on construction projects," Mahil explained.

"In addition, the technology is proven to increase construction site efficiency with 60 percent guaranteed costs savings, 300 to 500 times shorter execution times, and an 80 percent total reduction in monetary expenses without formwork in concrete construction. The world has never seen capabilities like this before.

"We are the first start-up of its kind in the southern hemisphere. Luyten has a number of unique selling points that are also unmatched internationally, such as its capacity to incorporate acoustic and optical based artificial intelligence for data driven concrete printing. Our invention also has a patented anti-clogging printer head, which means that the technology can produce state-of-the-art results time after time."

According to Mahil, a focus area that has surfaced throughout the last ten years in the construction industry is the environmental impact of the sector's practices.

"When forming Luyten, we were cognisant of the construction industry's carbon footprint, and determined to create construction solutions for generations to come that reduce emissions. Our unmatched technology employs up to 40 percent less carbon dioxide emissions through propriety mixes that reduce use of cement, and the robotic systems reduce construction site and logistics carbon dioxide footprints by 50 to 70 percent," Mahil added.

Luyten designs and manufactures custom large-scale three-dimensional concrete printers that cater for all project needs on site from conceptual design through to the final product. The business offers 3D concrete printing solutions for the incorporation of three dimensional membranes on traditional construction sites, as well as on-site concrete printing consultations, operational assistance, and rental service offerings. Luyten is already in advanced talks with overseas businesses keen to utilise the technology.

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