AVENCO

3D CONCRETE PRINTING SOLUTIONS



EXECUTIVE SUMMARY

Our 1K and 2K concrete extruders are built for high-performance robotic 3D printing with concrete. Delivering up to 35 L/min extrusion rates and the capability of reaching layer times under 10 seconds, we combine precision with speed. As an official KUKA systems,Beckhoff automation and M-Tec 3DCP partner, and technology partner of ENCY, Ai Build, and Adaxis, we integrate robust hardware with advanced robotic CAM solutions.

"You can produce a plethora of structures with original designs."

ABOUT AVENCO

AVENCO is a global engineering company specializing in robotic systems for additive manufacturing, milling, and automation. With exports to 40+ countries across 6 continents, AVENCO delivers solutions trusted by leaders in construction, marine, automotive, and manufacturing. As of now, AVENCO has two branches, Istanbul HQ and Dubai Branch.

Concrete Extruder System



SECTORS SERVED

BUILDING & CONSTRUCTION

Buildings

Pre-printed Walls

Print-On-Site Walls

- Rapid construction of walls & structures
- On-demand designs with digital control
- Lower labor costs & safer worksites
- Sustainable builds with less material waste
- Amorph wall surfaces without moulds

LANDSCAPING & OUTDOOR FURNITURES

Garden Furnitures

Concrete Decors

Coral Reefs

- Custom garden pieces from digital models
- Durable & weather-resistant designs
- Creative shapes not possible with molds
- Fast manufacturing for urban furniture





1K CONCRETE EXTRUDER

- Durable, no moving parts, low maintenance
- Affordable, easy to replace
- Lightweight (25 kg)
- Cost effective solution for large prints with longer layer times
- Suitable for large prints like buildings & walls

BASE CONFIGURATIONS

Fixed

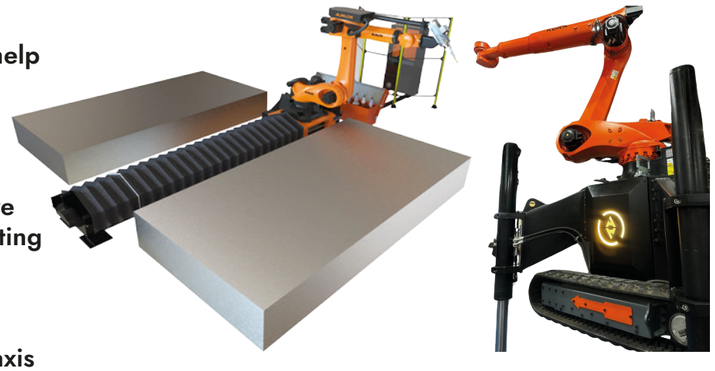
Robot requires external help to move around

Crawler

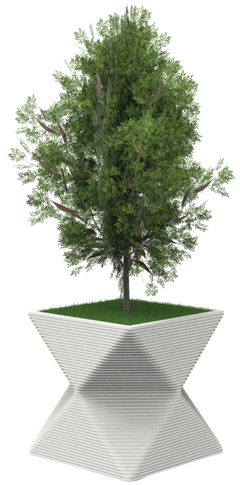
Robot is mobile, can move around while it's not printing

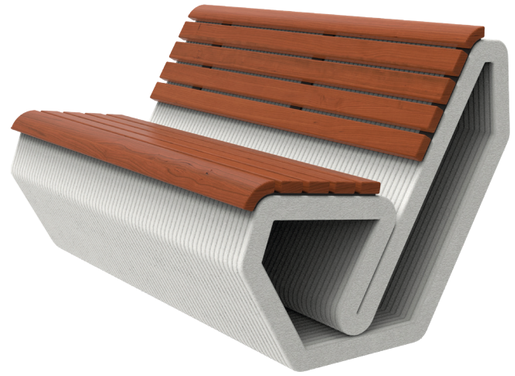
Linear Rail

Robot can move on one axis while printing









2K CONCRETE EXTRUDER

- A servo motor with a mixer is added to the extruder (Total:80 kg)
- Accelerator compound is added inside the mixing chamber
- Concrete cures faster, enabling better overhangs, suitable for complex structures and shapes like furnitures.
- Enables printing with less than 10 seconds of layer time.

CONCRETE BATCHING PLANT

BATCHING PLANT SPECIFICATIONS:

- A batching plant needs to be set up on the site for printing
- Can be operated with one operator
- M-tec Pumps automatically dosages the material to achieve the required recipe
- The process is optimized to prepare fresh and accurate batches



Pumping Capacity	35 L/min
Concrete Layer Heights	5-30 mm
Maximum Print Speed	20.000 mm/min

Concrete Extruder System

FAST PRODUCTION

Our robotic 3D concrete printers remove the need for formwork and manual labor, enabling automated construction that's faster and more cost-efficient than traditional casting or masonry methods.

MOBILITY

Our mobile solutions enable you to easily move your workshop wherever you want and carry out your production in a short time or print larger structures

WORK SAFETY

The manufacturing sector with the highest loss of limbs and lives in the world is the construction sector. We can prevent possible work accidents with a much faster production approach with our robotic solutions.

COST / SAVINGS

Our technology reduces overhead items calculated in all areas of construction, such as formwork, labor and material costs. This way, your projects become much faster and more economical while keeping the original designs.



CONSTRUCTION SAFETY

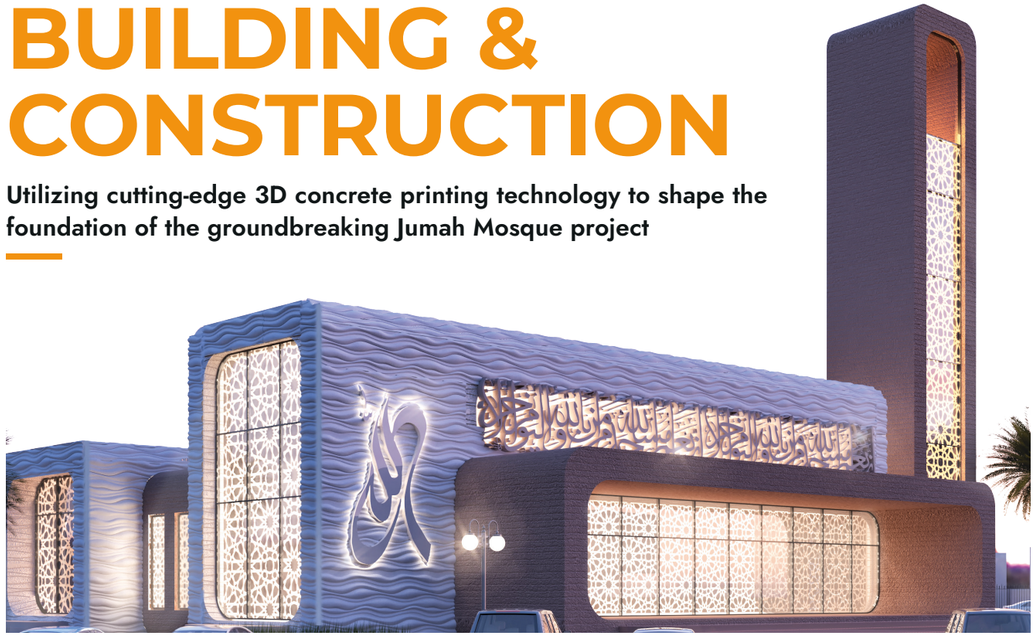
The structures we produce have a homogeneous integrity. All parts are produced with the same materials and the same processes. This production approach prevents the formation of weak points compared to traditional construction methods.

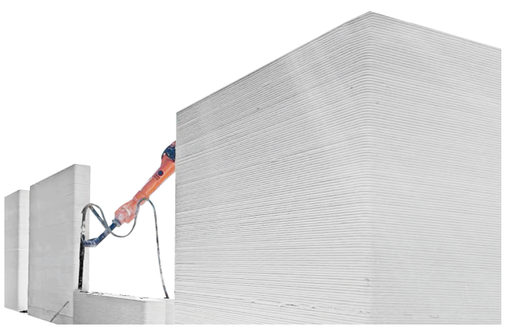
SUSTAINABILITY

Thanks to the nature of additive manufacturing methods, our technology reduces concrete waste and increases energy efficiency. We protect the environment by producing structures that can be used for years to come with less material.

BUILDING & CONSTRUCTION

Utilizing cutting-edge 3D concrete printing technology to shape the foundation of the groundbreaking Jumah Mosque project







Abu Dhabi Baps Hindu Mandir Harmony Wall











LANDSCAPING & OUTDOOR FURNITURES







AVENCO

AVENCO
Istanbul – Headquarters
& Production
Dubai – Office & Workshop

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Avenco

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