

AC3D

Construction 3D printing

**Construction 3D printing brings transformation
to the \$14T construction industry**
Welcome to the future of the built environment!



Company Overview

AC3D is the developer of a vertically integrated 3D printing construction automation technology that is making construction cheaper, greener, and more productive

Our mission is to use sustainable 3D construction printing to tackle the global housing crisis, eliminate construction waste, and reduce the production of greenhouse gas emissions

What We Do

- 3D construction printers including on-site printers and factory printers
- Proprietary 3D printing materials including 100% cementless geopolymers
- Advanced construction automation software
- 3D printing-compatible home designs and digital models



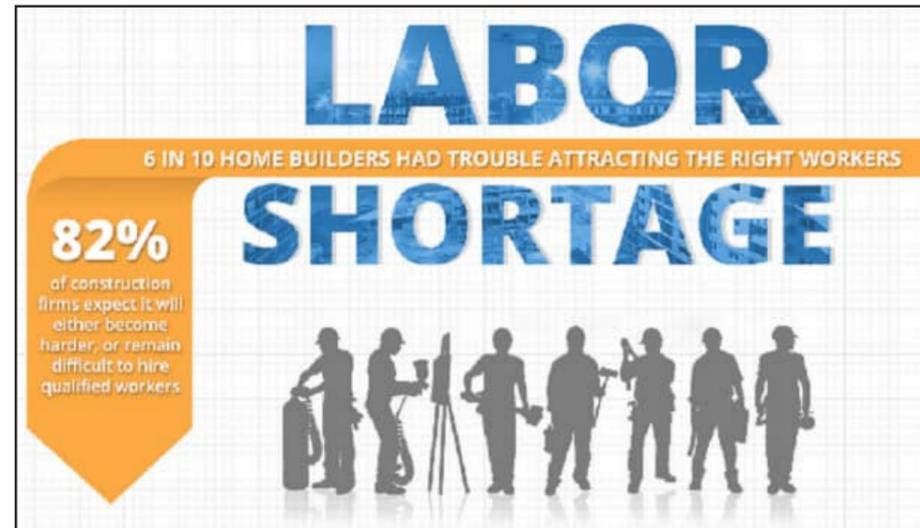
Global challenges of construction industry



Housing shortage

Facts:

- **1,6 Bln** humans don't have adequate housing
- Short 12,5 Mln houses/year globally
- Short 4 Mln houses in the US



Construction workers shortage

Facts:

- **10 Mln** workers yearly shortage worldwide
- Workforce shortage of 0.65 Mln in the US



Ecological problems

Facts:

- Construction generates **~47%** of annual global CO2 emissions
- Construction is the **#1** World's waste producer

AC3D advantages vs traditional construction:

1.5×

cheaper

- 25-50% reduction in labor costs
- 3 workers needed on-site
- 50% reduction in material costs

4×

faster

- House framing is ready in days
- One 3D-printer builds up to 100 buildings / year
- Streamline design to production

NEW

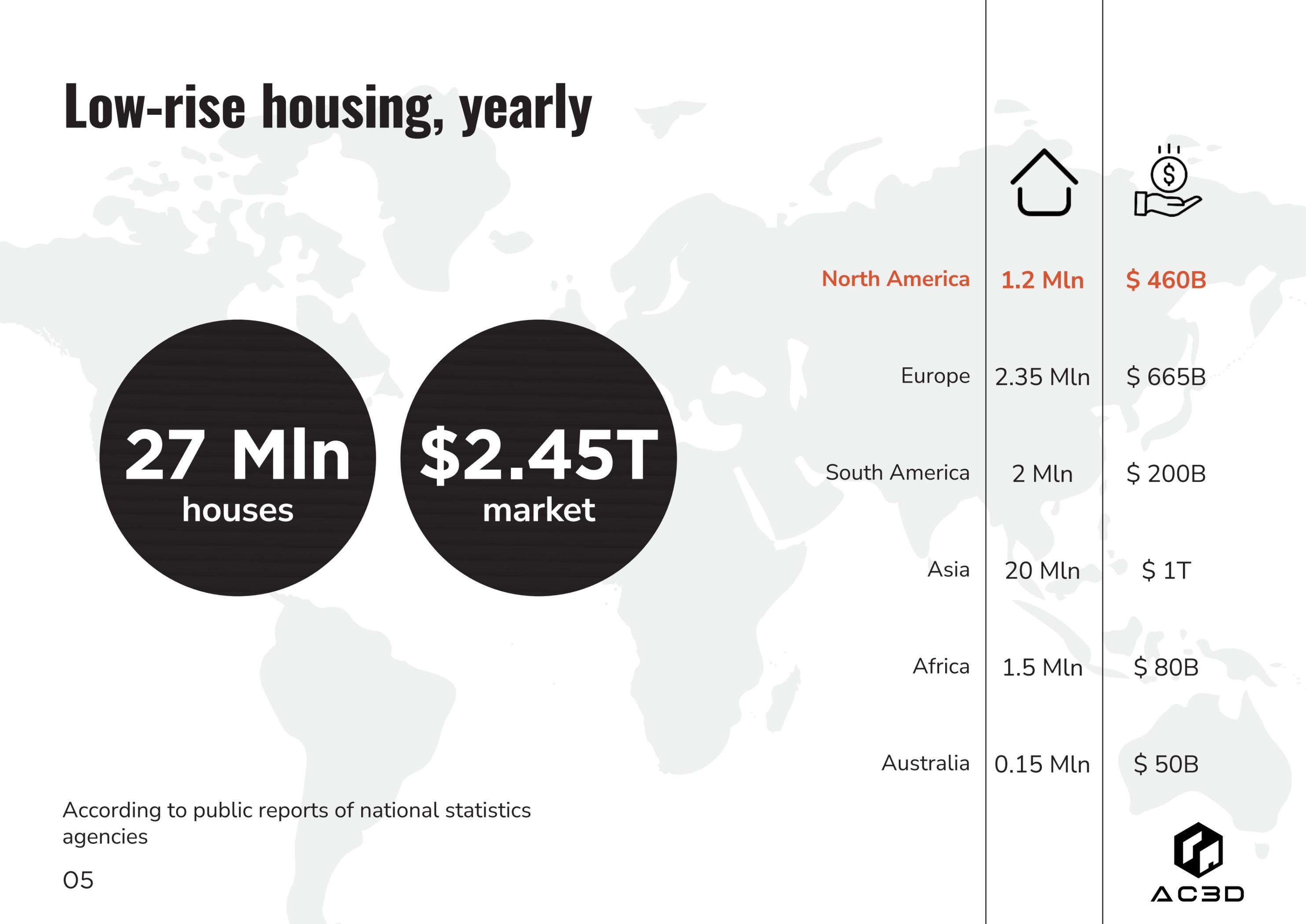
quality

- CO2 reduction
- High energy efficiency
- Low-cement materials
- 80% less on-site waste in framing process
- Free-form architecture
- Resistant to disasters

Low-rise housing, yearly

27 Mln
houses

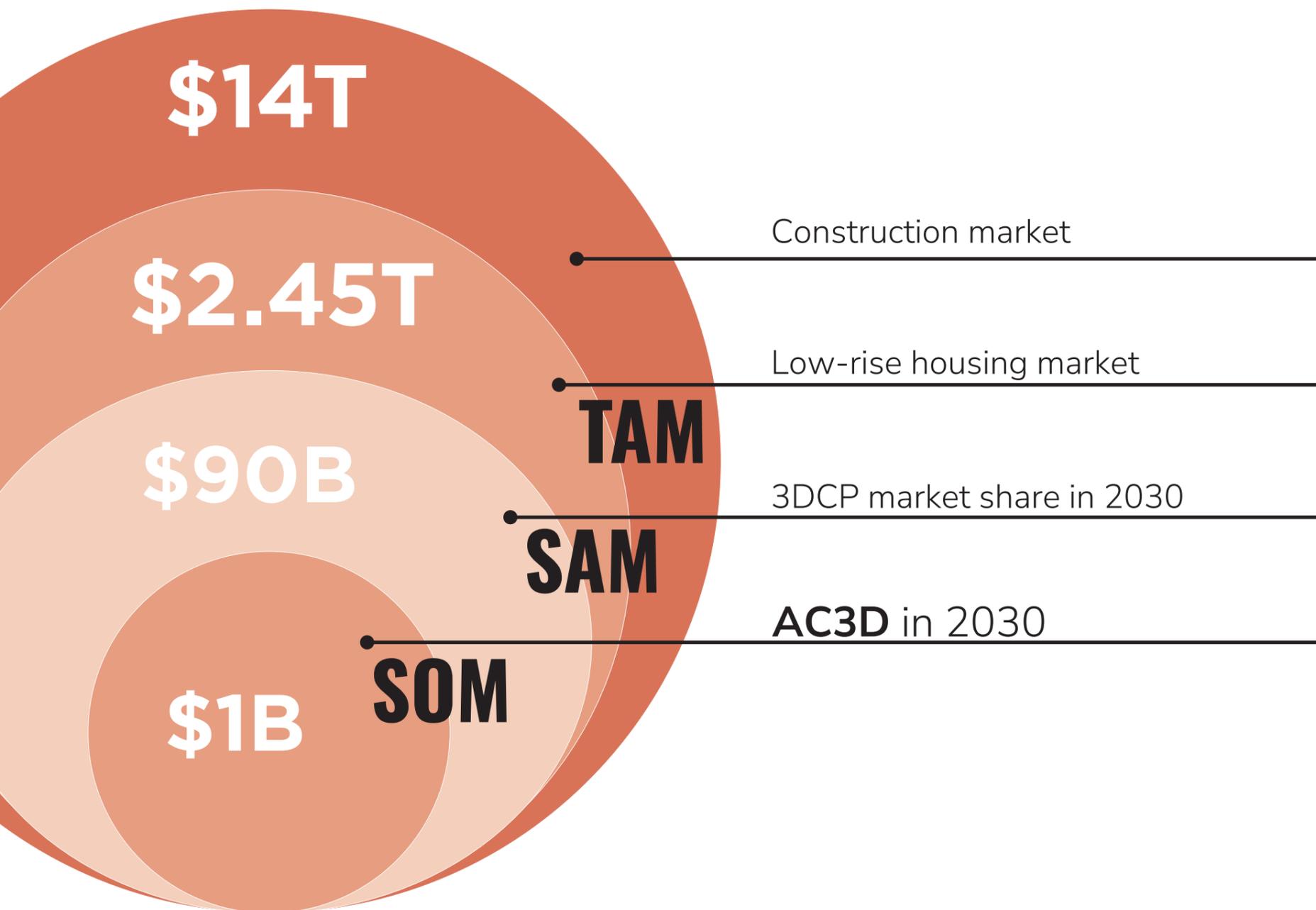
\$2.45T
market



		
North America	1.2 Mln	\$ 460B
Europe	2.35 Mln	\$ 665B
South America	2 Mln	\$ 200B
Asia	20 Mln	\$ 1T
Africa	1.5 Mln	\$ 80B
Australia	0.15 Mln	\$ 50B

According to public reports of national statistics agencies

Global market size



3DCP market dynamics:*

- 2020 – \$50M
- 2022 – \$500M
- 2027 – \$11B
- 2030 – \$90B

3DCP in 2030:

- 400 000 houses will be printed
- 10 000 3D-printers will be needed
- Lesser than 2% of TAM

AC3D

OUR 3D PRINTERS LINE-UP

On-site 3D printer Codemason 2.0 is ready

Build area (W × L × H)
14 × 11 × 9.5 m
(45' × 36' × 31')
– ready to print 3-story
houses

Modular design
(scalable printing area)

High printing speed
0.4 m/sec (19"/sec)

Next gen on-site printer Codemason 3.0



- Already in production – to be supplied in **September 2024**
- Aerospace grade Aluminum alloy frame 3X weight reduction with no decrease in rigidity
- Increased printing area:
Unlimited length x 12 x 8 m (45' x 36' x 31')
- Faster installation time (less than 1 day)
- Upgraded printhead with flaps for smooth surface (layer look will be eliminated) and capable of printing various material groups including geopolymers and standard concrete with up to 10mm aggregate size

Off-site 3D printer: Codemason Micro Factory

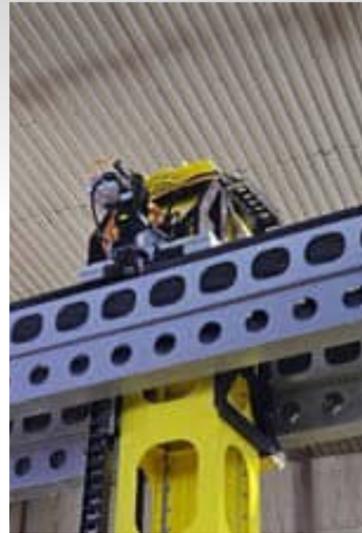
Can be used as mobile facility/workshop

Ready for stationary and mobile facility

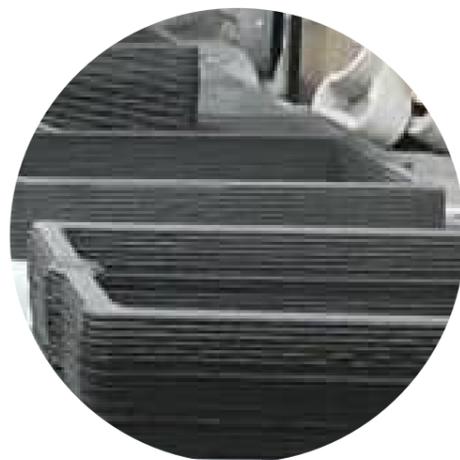
Modular - printing area adjustable on demand

Large printing area - 6x4x3 m (20' x 13' x 10')

Scalable - multiple printing head on one rail system



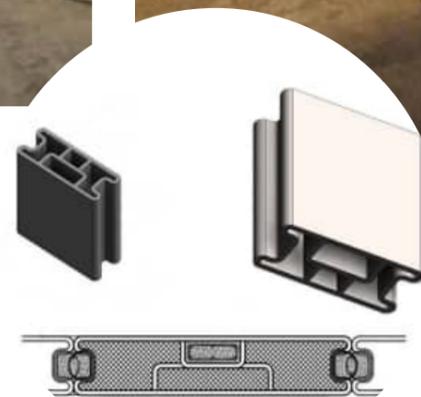
Applications:



10 3D Formwork



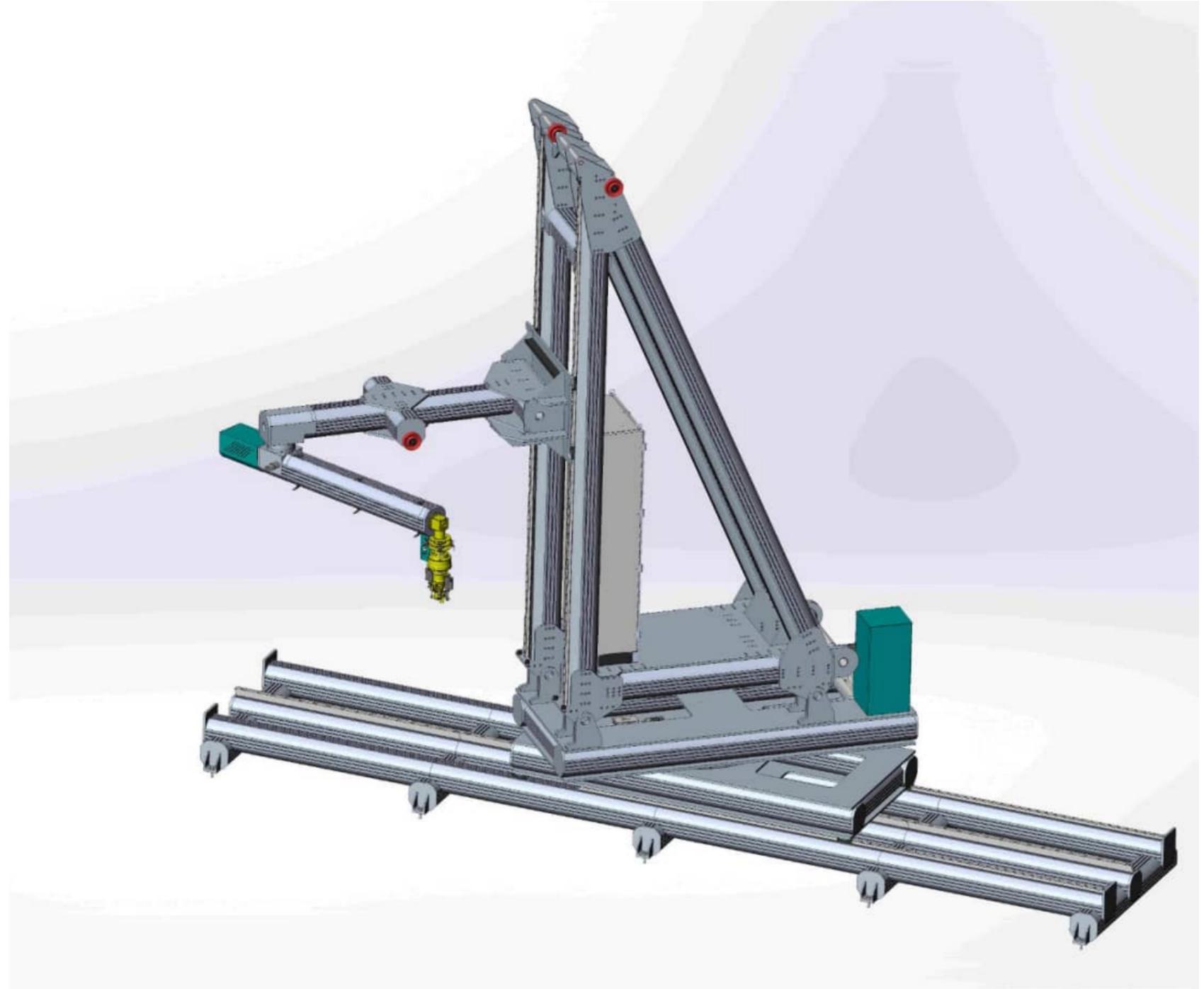
Concrete parts



Prefabs

Mobile 3D-printer: Archer

- Versatile solution for stationary and mobile prints
- Cheaper than standard robotic arm 3D printers
- Can be mounted on tracks or caterpillars
- Variable printing area: from small concrete parts to small houses
- Ideal for print-on-demand studios and mobile printing services



Codemason Lab

- Our entry model 3D printer for R&D and education purposes (1,5x1,5x1,5m printing area)
- Affordable price
- Ideal for students and scientists
- Designed as for material testing purposes and small concrete parts
- Quick production time (2 months)
- Easy installation, intuitive usability
- Interchangeable trolley for fast switching from part to part



Print Quality

Our specialized printing head is able to print a “**Green Concrete**” that is a **100% cementless geopolymer**

This printing head is able to produce a high-quality finish that is a dramatic improvement compared to our competitors

Printer in action:

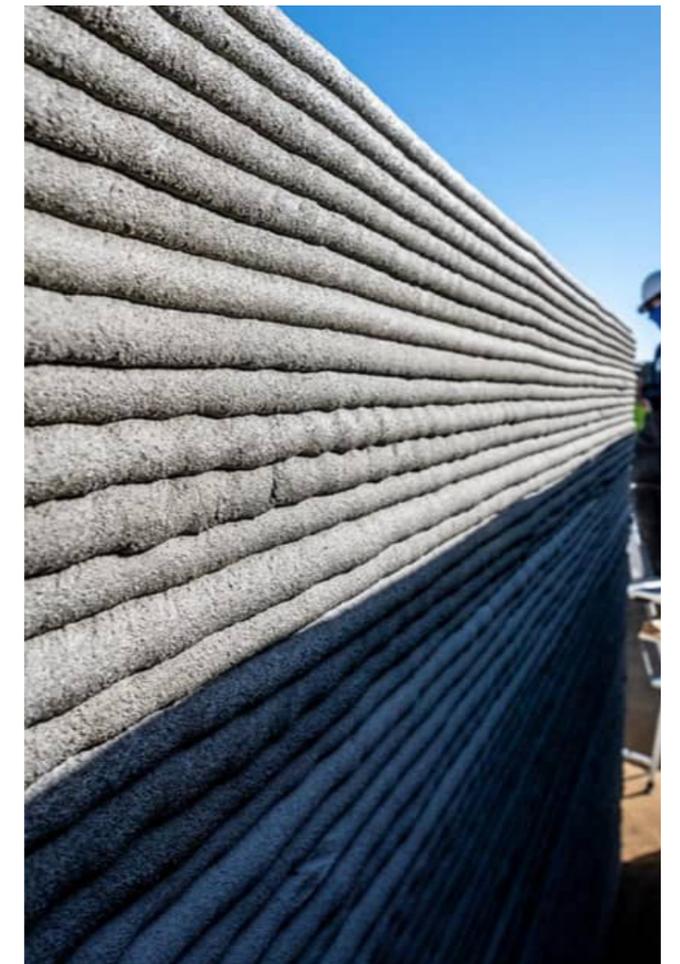
- www.youtube.com/shorts/4QyZkNSWPjU
- www.youtube.com/watch?v=G2VAiCJ0Yik
- www.youtube.com/watch?v=oCO8-2fEjX0



Competitor 1

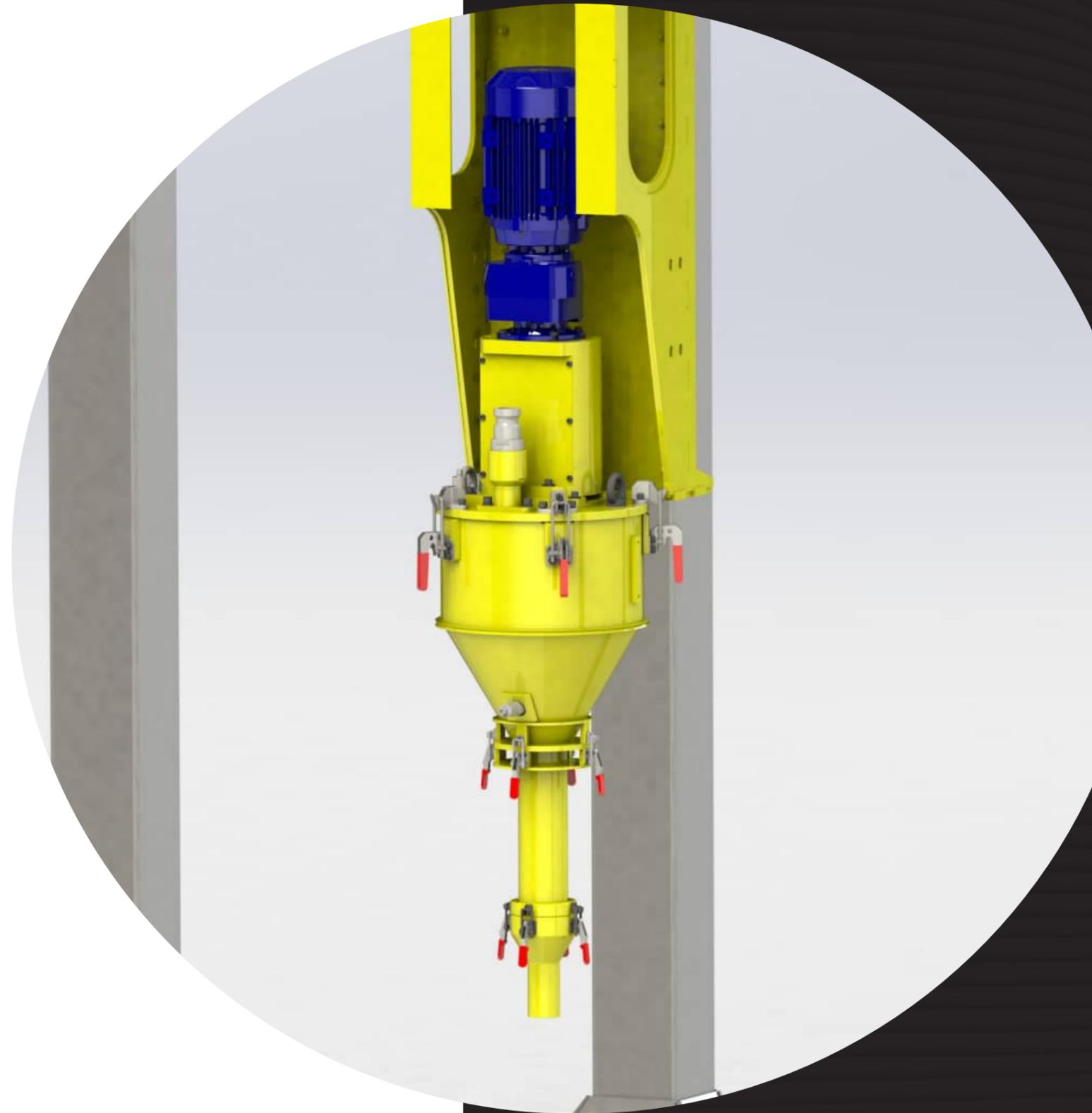


Competitor 2



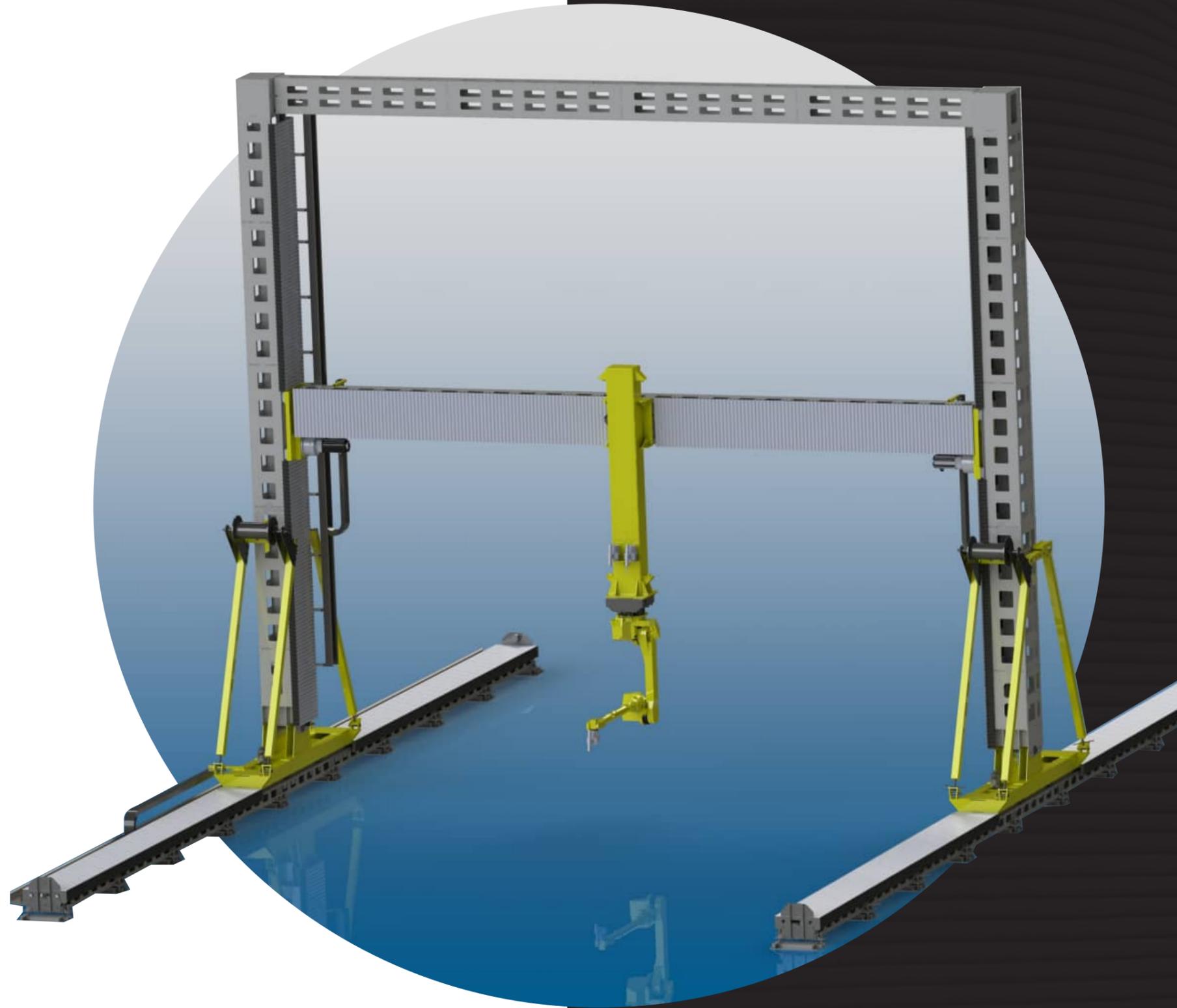
Ongoing R&D

- Advanced material supply system with 2-Component printhead - multi-material printing
- Multi-nozzle printing head (patented) - 3x printing speed increase
- Machine vision-based automatic printing quality system
- Sustainable Low-cement 3D-printing mixes



Ongoing R&D

- Foundation and ceiling printing (on-going tests)
- Interchangeable tooling system for finishing and supplementary works
- 3D printed modules / prefabs
- 3D printer for skyscrapers



Competition

						
Gantry Rigidity PATENT <ul style="list-style-type: none"> High surface quality High printing speed No need in additional finishing 	✓	✗	✓	✗	✓	✗
Printing area (L:W:H), feet	Unltd. x 39' x 28' modular	46' x 40' x 28' modular	Unltd. x 36.5' x 10.5'	52' x 26' x 10.5'	28' x 10'9"	26'3" x 26'3" x 26'3" modular
Modular & scalable design (adjustable printing area)	✓	✓ expensive	✓ only length	✓ only length	✓	✓
Green concrete materials (Adopted geopolymers as printing material)	✓	✗	✗	✗	✗	✗
Material supply system with material mixing inside printhead R&D in progress PATENT	✓	✗	✗	✗	✗	✗
Ability to print with regular concrete and large aggregate (10 mm) R&D in progress	✓	✓	✗	✗	✗	✗
Wide range of 3D printers (gantry, scara-type, off-site, on-site, lab version)	✓	✗	✗	✗	✗	✗
2/3-nozzle printhead and multimaterial printing option R&D in progress PATENT	✓	✗	✗	✗	✗	✗
Tangential module with integrated screeds for flattening (flat printed surface with no layers)	✓	✓	✗	✗	✓	✗
Winches for gantry lifting (no need in heavy construction vehicles for installation)	✓	✗	✗	✗	✗	✗



COST COMPARISON 3DCP vs traditional construction

Joshua Tree pilot house evaluation – 1,867 SF

	AC3D	Traditional method (timber)
Foundation, \$	32 000	32 000
Walls, \$	35 000	88 800
Roofing, \$	95 000	95 000
Utilities, \$	126 000	126 000
Finishing (incl. windows/doors), \$	137 936	137 936
Overhead, \$	42 593	95 947
Total Construction Cost, \$	468 529	575 683
TCC per sq. feet, \$	250	308

20% cheaper than
traditional method

Benefits of 3DCP house vs traditional (completed house before finishing):

- Significant upside to unit economics in comparison to traditional construction methods
- Up to 50% total construction cost house reduction
- **4x-20x*** faster framing time
- **8x-12x*** higher operational EBIT

Unit economy of 3D printed walls per cubic foot:

- COGS - \$11.7
- Overhead - \$1.2
- Gross profit - \$10.5

**Depends on compared traditional technology*

AC3D FUTURE VISION

STAGE 1 (2024-2025)



Walls printing (1-3 story buildings)



Foundation printing



Ceiling printing



Printing materials with no steel reinforcements needed



Achieving homogenous, even surface quality (no excessive stucco needed or zero stucco depending on customer's preference)



All-climate materials available with reduced shrinkage / greater plasticity



Eco-friendly, low-carbon footprint materials

STAGE 2 (2025-2026)



Multimaterial printing
Printing multifunctional layers
Printing supports (for overhang structures)
Printing insulation



Automatic installation of doors and windows



Automatic painting, stucco, drywalls

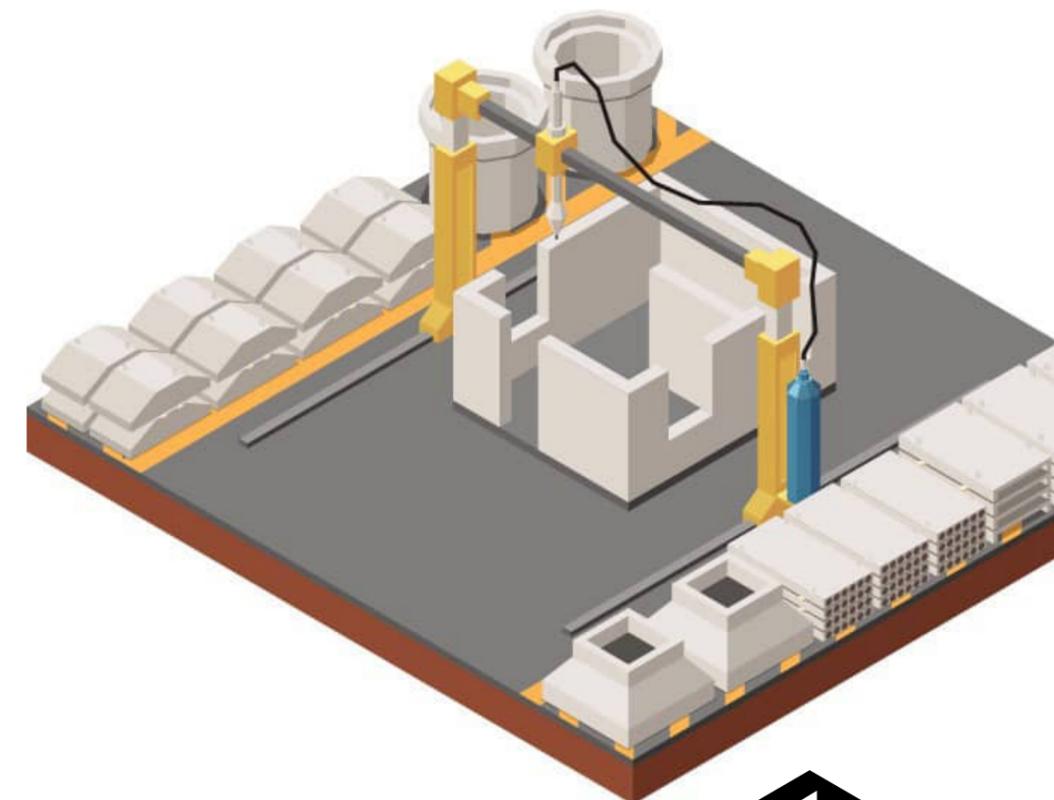


Automatic plumbing and electric runs

STAGE 3 (2026-2030)



Multistoried buildings 3d-printing



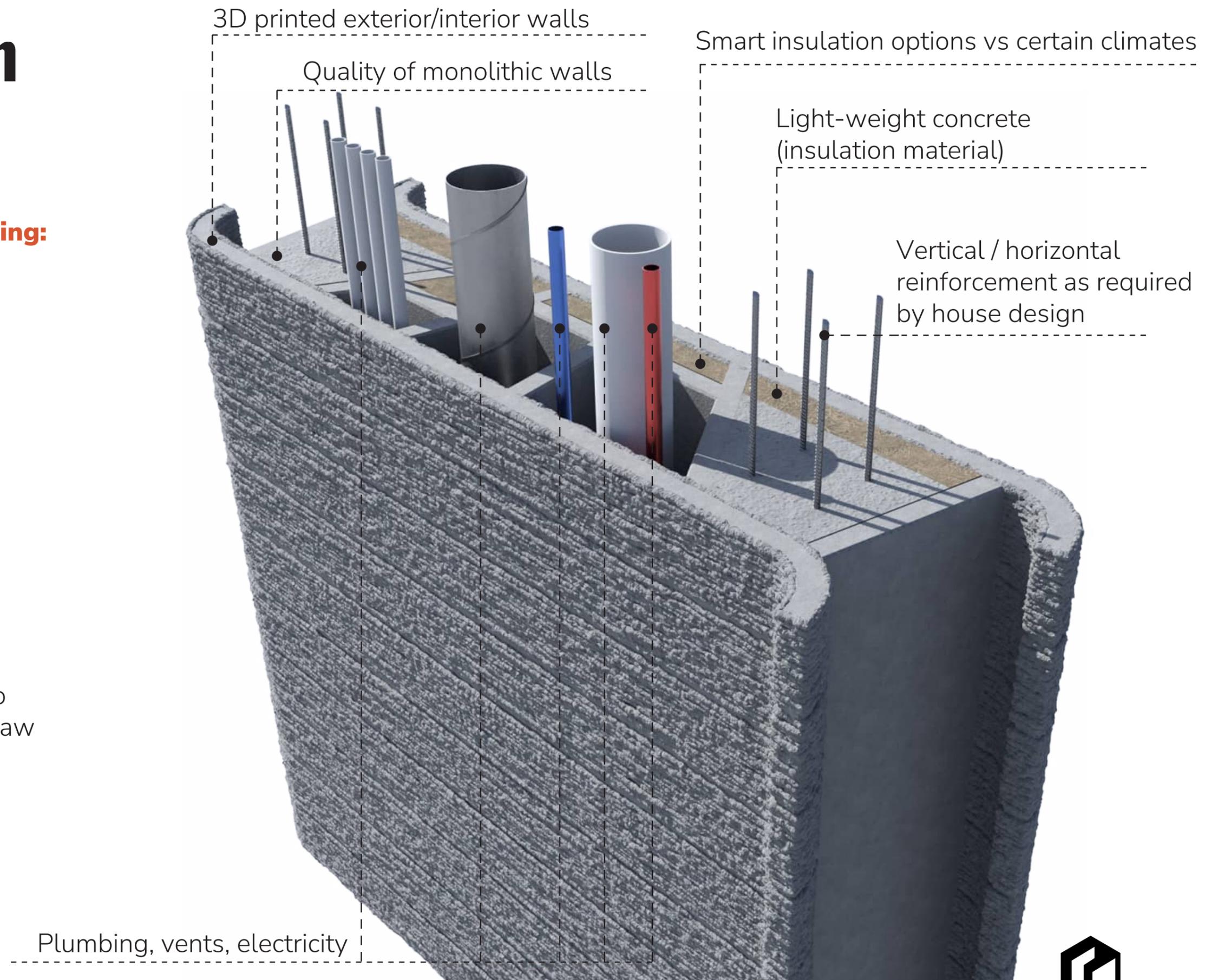
Wall section

3D-printed walls providing:

- Structural integrity
- Thermal performance
- Sound insulation
- Waterproofing
- Frost resistance

Advantages:

- Custom design allows to reduce amount of used raw materials
- Variable finishing and customization options



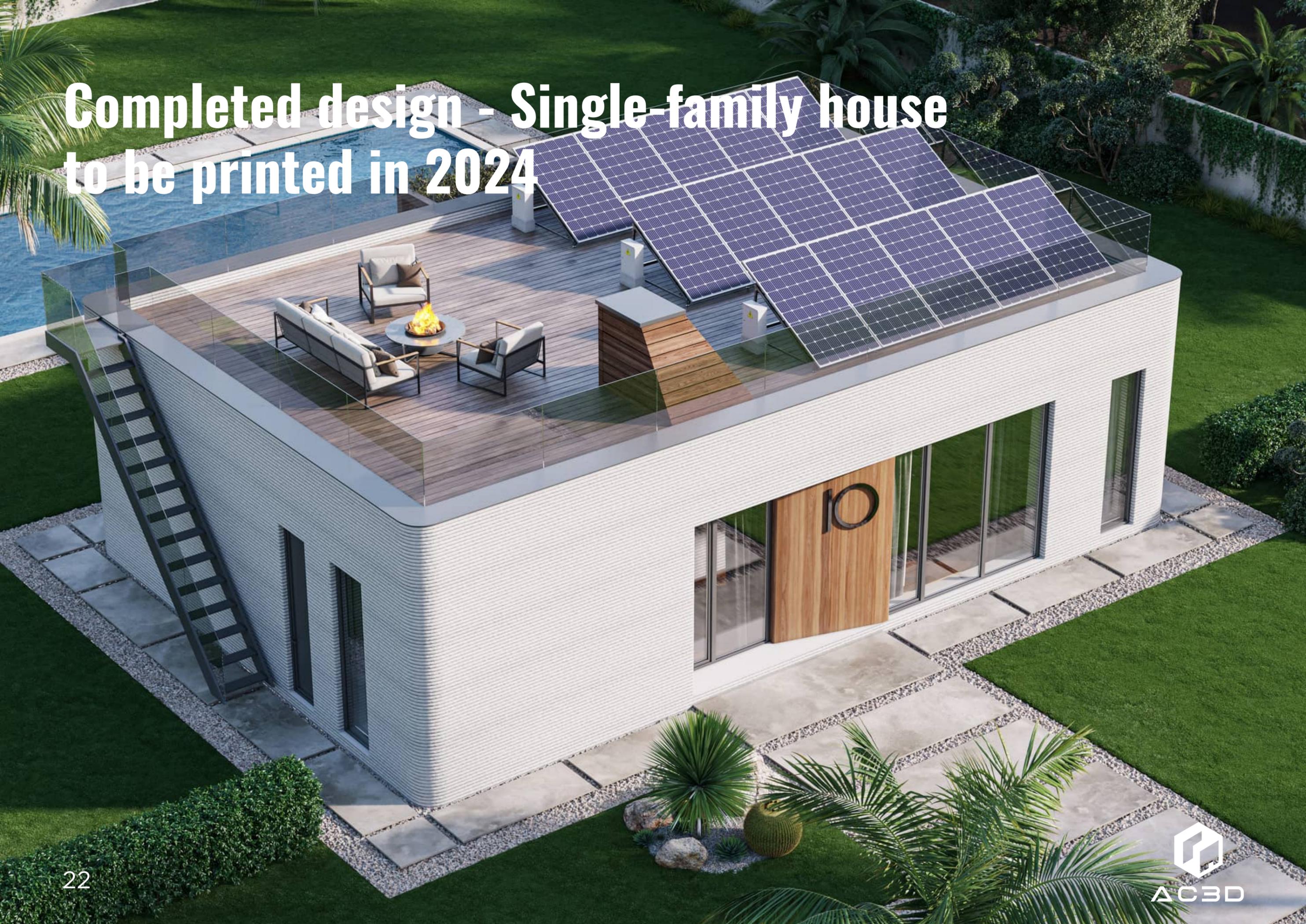
Completed design - Single-family house to be printed in 2024



Completed design - Single-family house to be printed in 2024



Completed design - Single-family house to be printed in 2024



Completed design - Premium house



Completed design - Premium house



Product / Business Model

Products strategy:

Stage 1 – 3D printers / turnkey 3D facilities

Stage 2 – AC3D Branded houses / Buildings / Modules / Parts / Digital Library

Our customers portfolio:

B2B / B2BC – development and construction companies, infrastructure-based enterprises

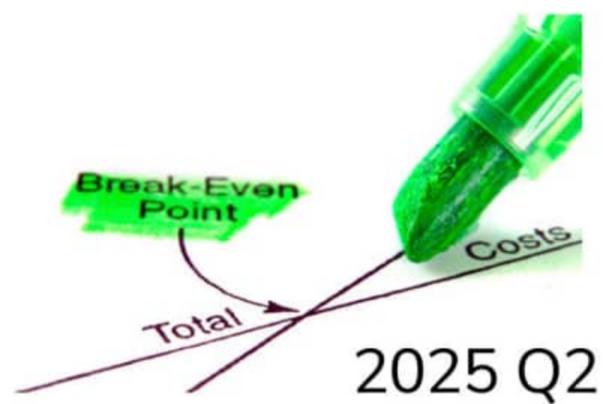
B2G – local authorities (affordable housing, cities infrastructure and decoration)

	2024	2025	2026	2027
Houses / Buildings	2	3	9	20
Revenue AC3D houses/buildings, \$ M	0.15	0.4	1.75	4.9
3D printers	3	9	28	65
Revenue 3D Printers, \$ M	1.2	3.8	9.5	37.25
Revenue modules / parts, \$ M	0.2	0.5	1.75	4.85
Recurring revenue*, \$ M	0	0.3	2	8
Annual revenue, \$ M	1.55	5	15	55

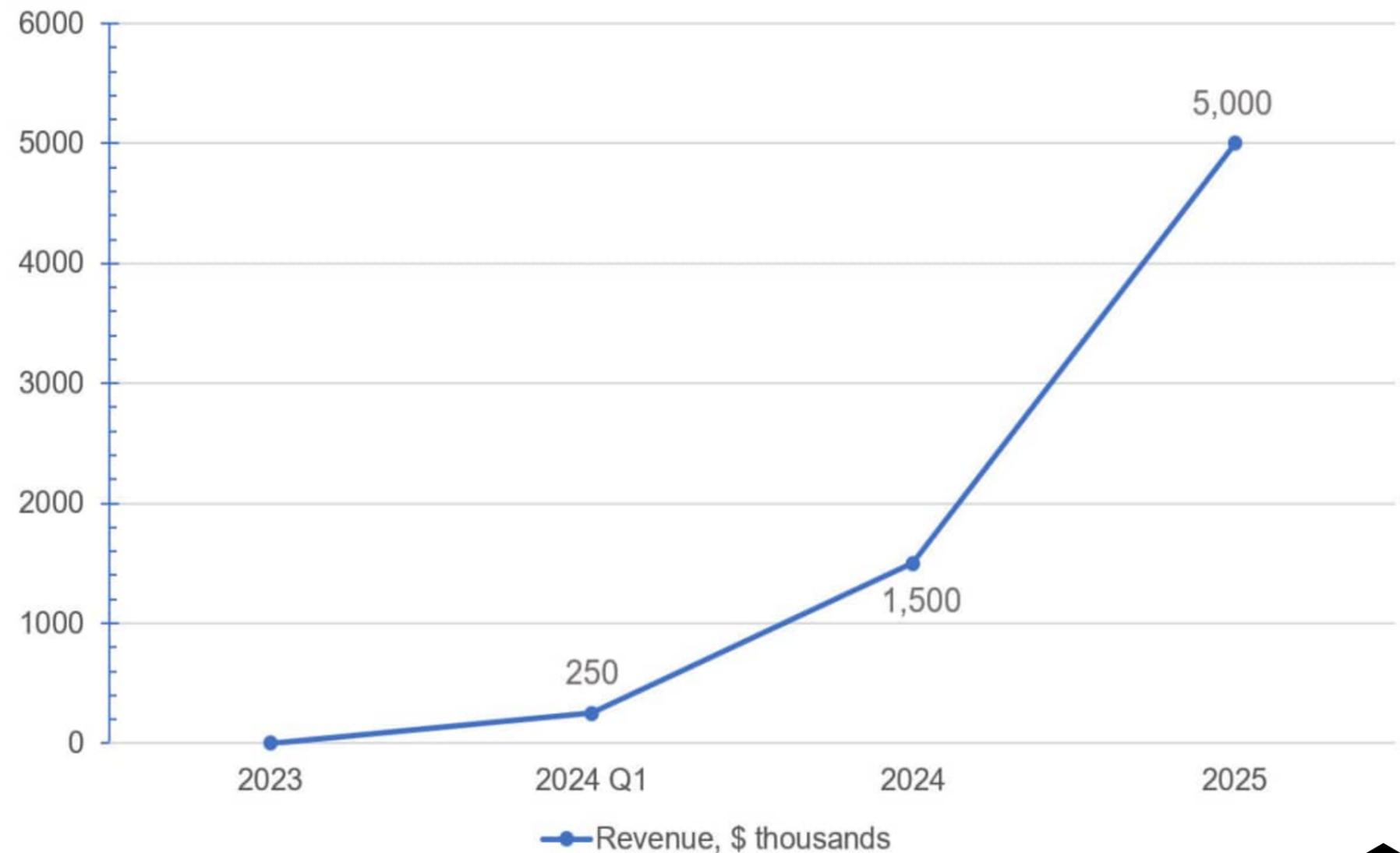
*Printing material supplies, **subscriptions** (Printers + Software)

Financial Dynamics

AC3D demonstrates impressive traction in revenue growth in 2024, with positive financial projections to follow and more projects being secured both in the US and UAE



Financial projections



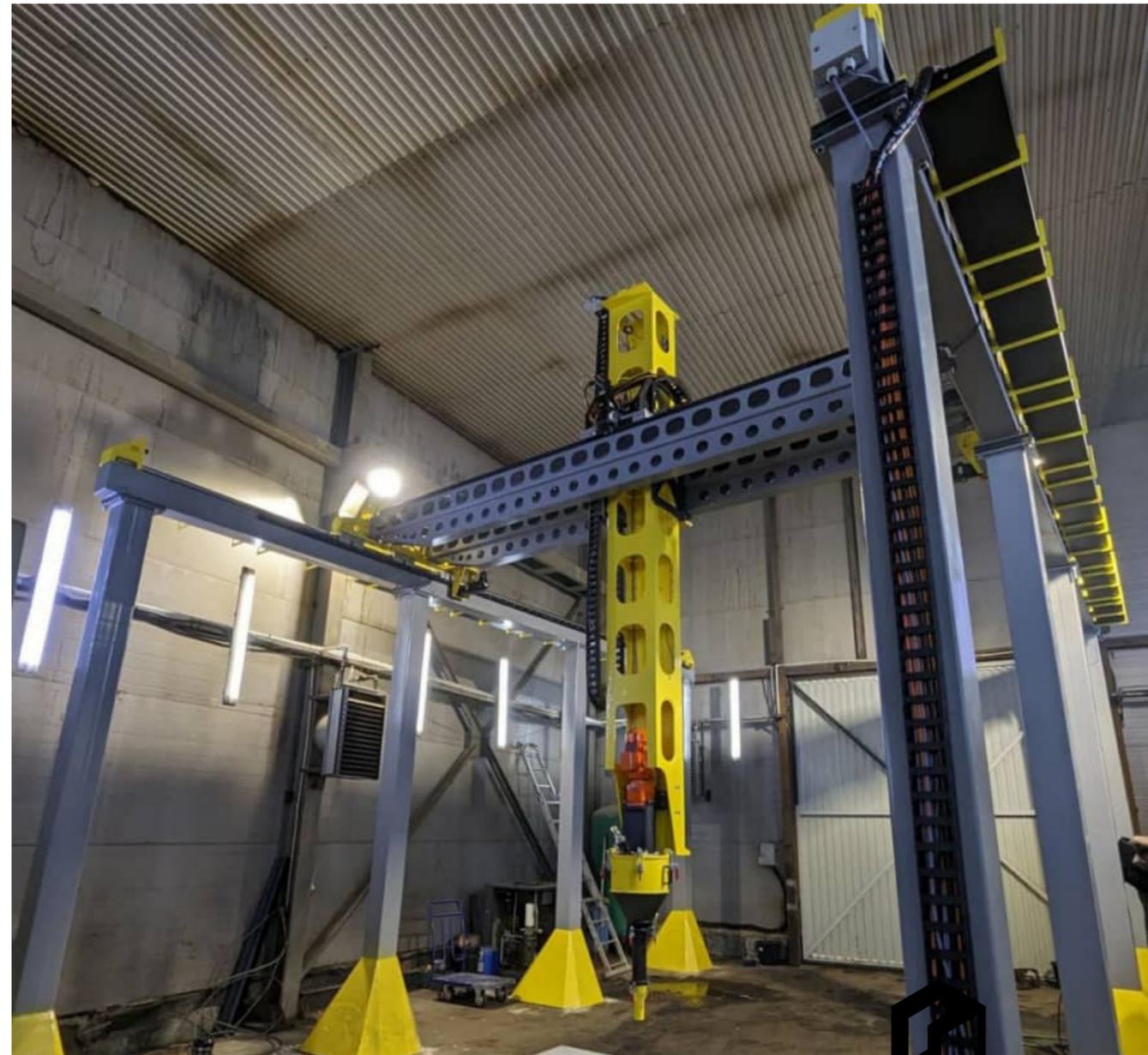
Traction

- 4 patents
- 3 Codemason 3D printers completed
- 4 pilot projects confirmed (**Montana, Nevada, Dubai**)
- **Successful** test printing **with green concrete** (geopolymer)
- Raised **\$1M investments at \$20M** post-money **valuation**
- Raised **\$700k out of \$1.5M at \$30M** post-money **valuation**
- In Q4 2024, we are planning to launch a Series A round and raise \$10M–\$15M to fuel our growth
- Portfolio of **pre-orders from 20 countries** (US, Germany, GCC, Portugal, Spain, Croatia, Turkey, Egypt, etc.)
- **1st house** in the **US in Q3-Q4 2024**
- AC3D is in talks and preparing MOU with one of the biggest users of concrete printers in the world
 - Name of the company is not disclosed because of NDA
- We were **selected** by several top tier US accelerators **Alchemist** (class XXXIII), **Masschallenge** (US early-stage 2023), **Plug and Play** and **TechCrunch Disrupt 2023**



Traction 2024

- We are proud to announce that the first AC3D demo house was printed in the UAE
 - It took just 11 hours to finish the test unit
- Signed 2 contracts (\$1,2M), **\$250K received in down payments**
- 2 printers to be supplied to customers including US
 - [Watch video from the US customer](#)
- 2 commercial printing services projects launched (including the project for Dubai Municipality)
 - Our first commercial printing services project was launched for the Dubai Beautification Department, **20 pilot benches will be placed in Al Khazan Park in Dubai's Downtown**
- **3 new 3D printer models revealed**
- New web-site launched (ac3d-us.com)



CORE TEAM

15 FULL TIME EMPLOYEES



Eugene Korshakov

Director of operations

- 10 years in managerial positions at a global leader in measurement instrumentation



Max Bezrukov

COO

- 15+ years on executive management positions in additive, FMCG & Telecom
- CIMA and MIT certified



Dmitry Kon'shin

CTO

- 10+ years experience as a chief design engineer
- Expert in advanced automation



Boris Kozlov

CEO, Founder

- 18 years as executive professional in additive technologies & global business development



Tom Nugent

Architect

- 40 years experience in field of architectural design
- Leadership positions in TOP-100 global architectural company

Investment Opportunity

Bridge round: \$1.5M | Valuation cap \$30M | Minimum check size \$100K



USE OF FUNDS

- 20% Workforce expansion
- 10% Operations, IP portfolio, certification
- 30% Ramping up production of 3D printers
- 30% Printing the first house in the US
- 10% Marketing, showrooms, sales

ROUND STATUS

- \$0.7M funds raised
- \$0.8M allocation available
- \$1.5M oversubscribe allocation option

Contacts



Contact us:
Max Bezrukov, COO
+1 929 379-1990
max@ac3d-us.com



Boris Kozlov, CEO
+1 (760) 447-2010
boris@ac3d-us.com

Website:
AC3D-US.com