ROBOTIC CONCRETE PRINTER

SALES & LEASING

Source Local Concrete.
Print Anywhere.

FOUNDER'S MESSAGE

We didn't launch Coral to play with 3D printers. We launched it to industrialize construction. By combining ICE's 15 years of automation leadership in the automotive sector with HSF System's decades of general contracting expertise, we have created a unique technology.

We don't just sell machines. We sell the certainty of a €3 billion industrial alliance.

Tomáš Vránek
CEO & Founder of
Coral Construction Technologies

85 Companies
€3B Revenues
3000 Employees

THE INDUSTRIAL ALLIANCE

Coral is not a standalone startup; it is a strategic joint venture between two European market leaders. We combine the financial power and industrial know-how of MTX Group with the on-site construction expertise of Purposia Group.

MTX GROUP

39 Companies
€2.3B Revenue

ICE INDUSTRIAL SERVICES

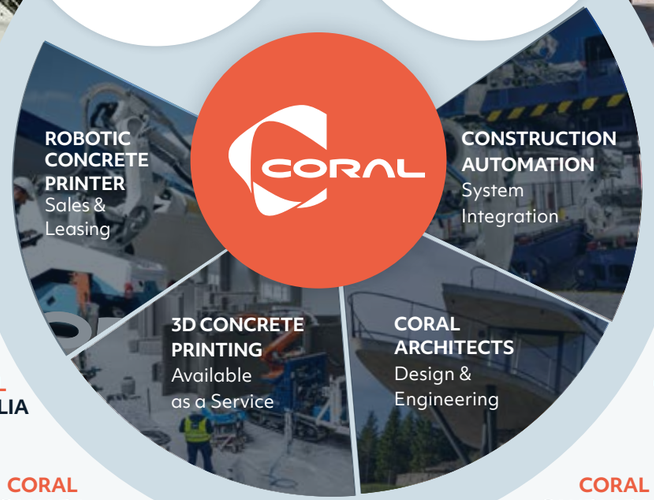
2000+ Automation Projects Delivered
40 Countries Worldwide

purposia

46 Companies
€153M Revenue

HSF SYSTEM
PURPOSIA GROUP

1200+ Construction Projects
10 Countries Worldwide



CORAL AUSTRALIA
CORAL USA
CORAL CANADA
CORAL SAUDI ARABIA
CORAL EUROPE
CORAL MEXICO
CORAL JAPAN

THE CONSTRUCTION **CRISIS**

The industry is at a breaking point. Labor is scarce, productivity has stagnated for decades, and material waste is eating your margins. You cannot hire your way out of this problem.

You must automate.

+0% Productivity

Growth

While manufacturing productivity has skyrocketed, construction productivity has flatlined for 50 years.

500k Labor Shortage

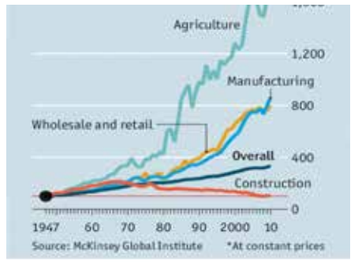
Unfilled Jobs

The workforce is aging, and young talent isn't replacing them. In the U.S. alone, the industry lacks over half a million skilled workers right now.

30% Environmental Cost

Global Waste

Up to 30% of all global waste comes from construction and demolition—mostly wood formwork and cut-offs.



THE ECONOMICS OF **AUTOMATION**

Stop paying for uncertainty. Start owning your efficiency. By eliminating formwork and reducing labor, the **Coral Nomad cuts operational costs by 35%.** This isn't just a machine—it's a high-yield asset that pays for itself in just one year of standard operation.

12 Months ROI

With 1,200 m³ printed, the machine pays for itself. From month 13, you are generating pure margin.

+80% Speed

Vertical wall construction speed increased by 80% compared to traditional CMU or cast-in--place methods. Finish the shell in days, not weeks.

-80% Labor

Automation reduces dependency on manual labor by up to 80%. One operator replaces a crew of 8.

-70% Material

Topological optimization places concrete only where physics requires it. No solid blocks where a hollow lattice structure suffices.

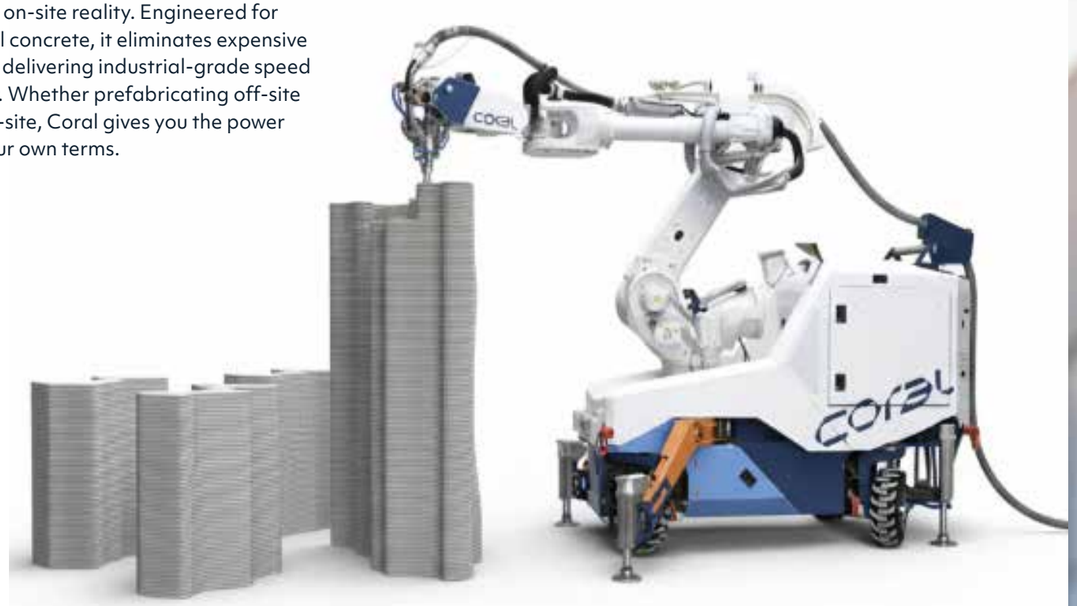
-60% Carbon

Formwork accounts for up to 50% of the cost of a concrete structure. We eliminated it.

THE NEW INDUSTRIAL STANDARD FOR 3DCP

Real Concrete. Robotic Precision.

Our patented technology bridges factory precision with on-site reality. Engineered for standard local concrete, it eliminates expensive mortars while delivering industrial-grade speed and reliability. Whether prefabricating off-site or printing on-site, Coral gives you the power to build on your own terms.



Printing range
Length: 6 m (20 ft)
Height: 3.4 m (12 ft)

Layer thickness & height
Typical layer width: 40–80 mm (1.6–3.2 in)
Layer height: 10–30 mm (0.4–1.2 in)

Printing speed
Head speed: 180–600 mm/s (7–24 in/s)
Output: 0.9–2.0 m³/h (32–70 ft³/h)

TRANSPORT CONCRETE

PATENTED PRINTHEAD

INDUSTRIAL AUTOMATION

SOFTWARE ECOSYSTEM

12 mm

MAXIMUM SIZE OF AGGREGATE
Our proprietary pump and print system handles standard locally sourced ready-mix.

600 mm/s

MAXIMUM SPEED OF PRINTING
Speed that maximizes capacity up to 24 in/s.

2K

PRINTHEAD MIXING
Better geometry, predictable and controllable output, for clean walls and no surprises on the site.

UNIQUE SOLUTION FOR
3D CONCRETE PRINTING

CORAL
3DCP
ECOSYSTEM

AUTOMATION

Lasers, scanners, sensors, and a world-class control system ensure ultimate quality. With decades of automation know-how, we have developed a truly unique machine for 3D concrete printing.

TRANSPORT CONCRETE

We are among the first in the world to print with locally available materials. Our unique print head mixes concrete with standard additives, ensuring fast setting and efficient material use.

MECHATRONICS

Our 3D printer combines cutting-edge electronics and mechanics – a unique integration that makes the system both powerful and precise.

CONSTRUCTION

Coral does not force new technology into old building habits. Instead, we shape our building elements to fit the possibilities of 3D concrete printing. This way, Coral creates a smarter, more natural and efficient system for modern construction.

SOFTWARE

From design to final output, our software controls the entire process. Our custom-built engine manages print data preparation, supports advanced features such as tilting, and allows real-time control of every print, each layer, inch by inch. From planning to execution.

ARCHITECTURE

We approached 3DCP architecture from a new perspective, free from prejudices and established notions. Instead of copying the forms of log cabins or bungalows, we developed our own design logic, rooted in digital design and robotic production. Thanks to our curiosity and ability to get to the core of the problem, we are able to design solutions that respect the material, the technology, and their true applications.

THE EXPLORER FLEET

NAVIGATING THE FUTURE OF CONSTRUCTION

BASE

Industrial Foundation. Maximum Stability.

$380,000

High printing accuracy; straightforward integration into existing production line.

6 × 3.3 m (19.7 × 10.8 ft)

LANDER

Rapid Deployment. Efficiency that lands anywhere.

$480,000

Deployable outriggers for rock-solid printing; quick relocation with any standard forklift.

6 × 3.3 m (19.7 × 10.8 ft)

ROVER

All-Terrain Mobility. Where no gantry can go.

$560,000

Self-propelled crawler base handles soft or uneven terrain; positions the printer without extra lifting gear.

6 × 3.3 m (19.7 × 10.8 ft)

NAVIGATOR

The Flagship. Autonomous & Limitless.

$598,000

Fully steerable wheels give 360° maneuver crab motion; precise placement even in tight sites.

6 × 3.3 m (19.7 × 10.8 ft)

HORIZON

Infinite Reach. Expanding the boundaries of scale.

from **$530,000**

Track + lift for both long and tall prints; suited to large-format components.

Custom built

Prices shown are indicative and subject to final configuration, specifications, and delivery terms. Excludes VAT, customs duties, shipping, and installation. Final pricing will be provided in formal quotation. Coral Construction Technologies reserves the right to modify specifications and pricing without notice.

CONSTRUCTION SITE FLEET

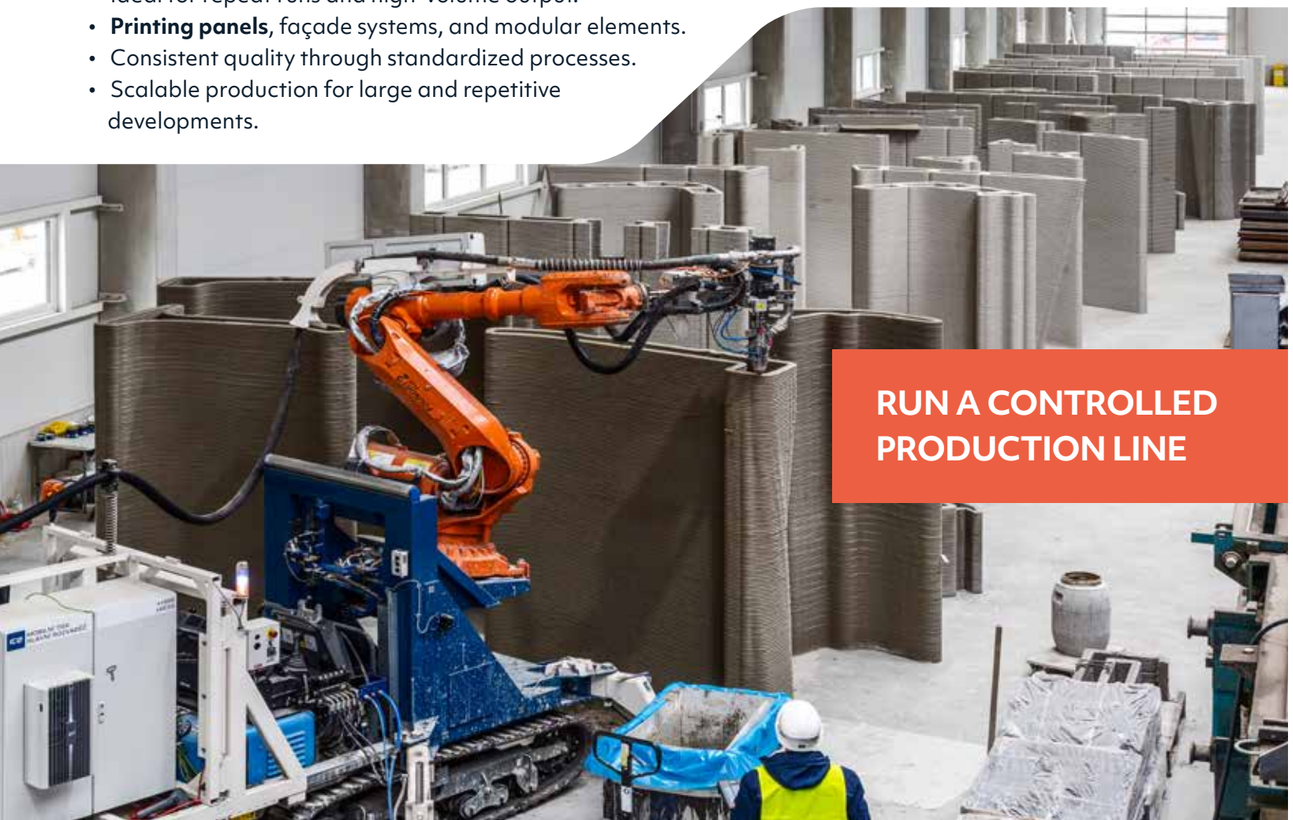
Excellent for both on-site and off-site production

CORAL NAVIGATOR

CORAL ROVER

FACTORY-BUILT CONSTRUCTION

- **Controlled factory-based production environment.**
- Ideal for repeat runs and high-volume output.
- **Printing panels**, façade systems, and modular elements.
- Consistent quality through standardized processes.
- Scalable production for large and repetitive developments.



RUN A CONTROLLED PRODUCTION LINE

BRING PRODUCTION TO THE BUILD

FIELD-BUILT CONSTRUCTION

- Best for schedule compression and site-driven geometry.
- Print walls, cores, site elements, and shells.
- Reduce logistics and dependency on prefabricated SKUs.

THE FACTORY FLEET

Command a precision production hub

CORAL BASE

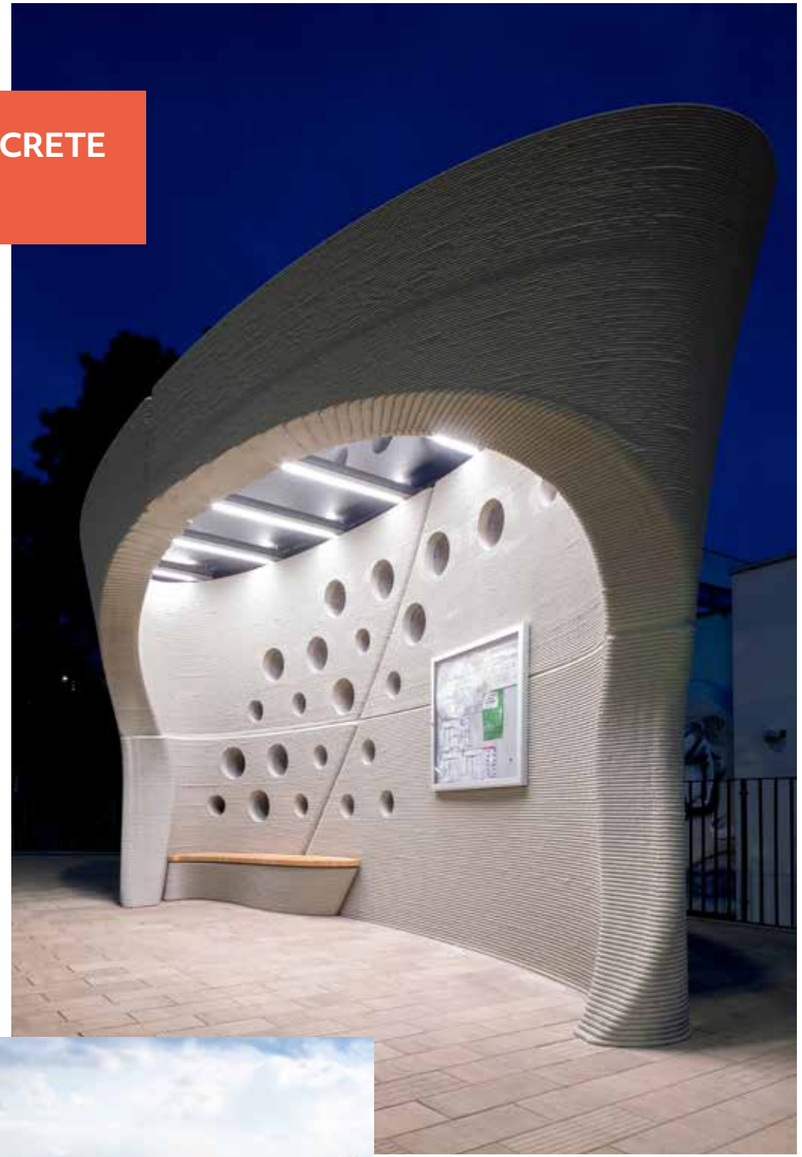
CORAL LANDER

STATIONARY FACTORY PRINTER

Your precast line, upgraded. Bolt it down and run in shifts. Factory-grade stability with fast serial output and measured quality every cycle.

SMALL SIZE CONCRETE PRODUCTS

3D PRINTED BUS STOP



PARKOUR PLAYGROUND OLYMPIC FESTIVAL

CORAL HORIZON

CUSTOM-BUILT LARGE-SCALE PRINTING

Coral Fixed Reach expands your printable envelope in two directions, so you can produce longer parts and higher builds without compromising factory stability. It is a high-output setup for repeatable precast production, with precision control and traceability baked in.

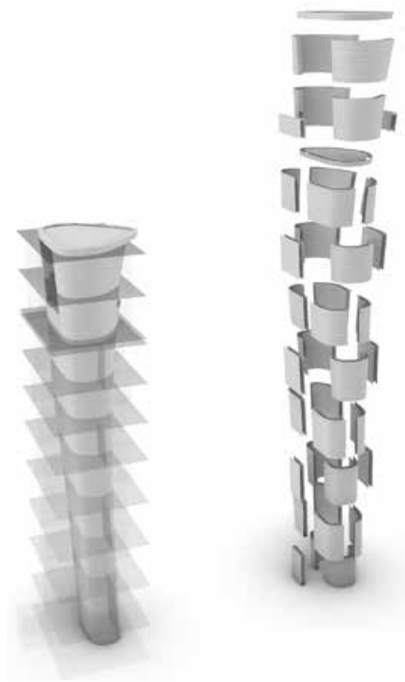
CUSTOM-BUILT SOLUTION FOR EXTRAORDINARY PROJECTS

CHURCH OF HOLY TRINITY
2025–2027

The main nave of the church will be assembled from 3D-printed components that integrate several traditional elements – formwork for the supporting structure, acoustic panels, interior relief, etc.

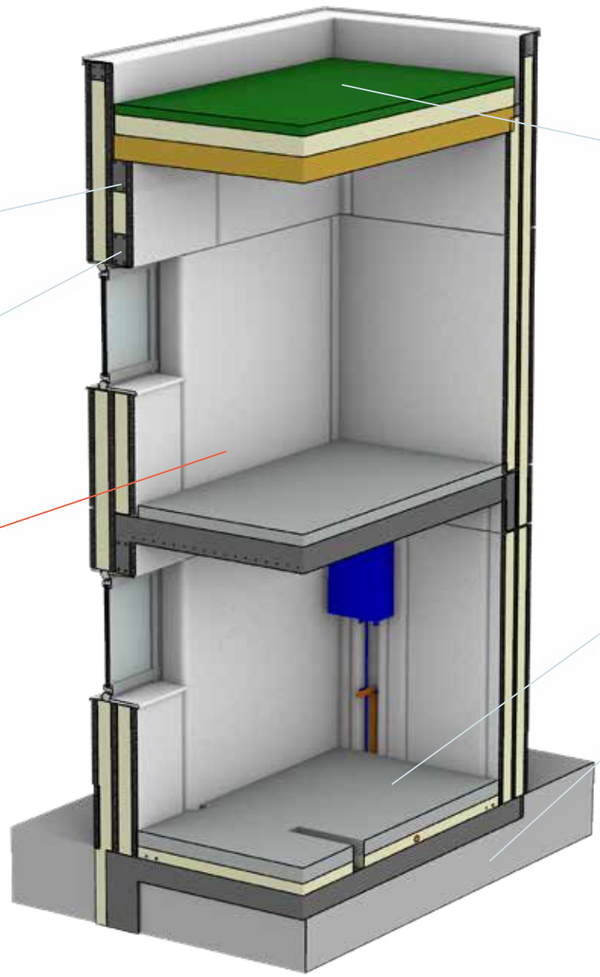
CENTRAL EUROPEAN FORUM

Large-scale printer designed to the needs of the customer 40-meter-long printer on a track, custom-made for the project.



CORAL STRUCTURAL SYSTEM

A code-compliant hybrid design. The 3D printed shell acts as an integrated formwork for a reinforced concrete core, ensuring structural integrity while providing optimized cavities for thermal insulation and MEP integration.



SCALABLE PREFABRICATION

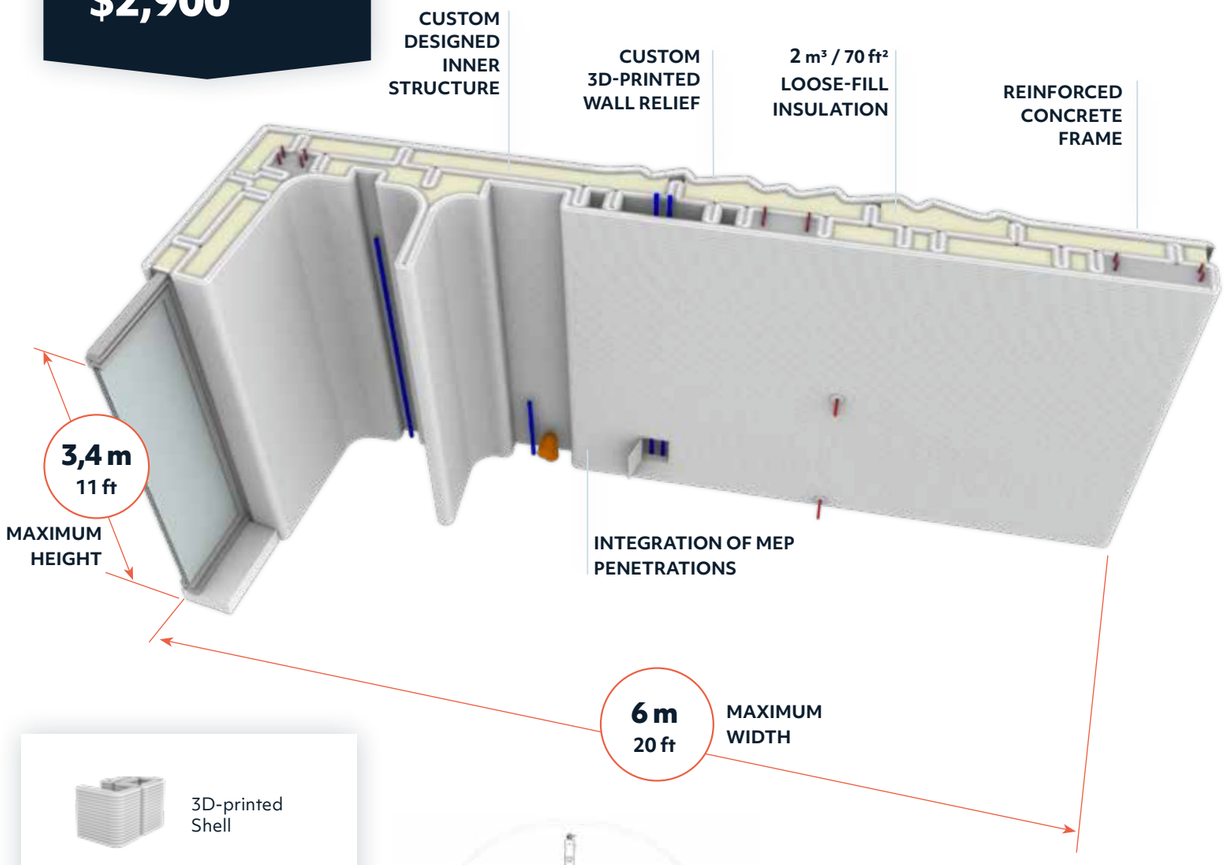
CORAL SMART WALL

180 min
TIME OF PRINT

4 m^3 / **170** ft^2
CONCRETE

$2,900

Optimized for profitability. The Coral wall system reduces raw material usage by 70% while delivering a load-bearing shell ready for standard reinforcement.



3D-printed Shell

Structural RC Core

Cavity Insulation

PRINTING RANGE

PRINTED SHELL COST

$13.40 per ft^2

€135 per m^3

DIRECT PRODUCTION COST

INCL: Concrete, Additives, Labor, Machine Time.
EXCL: Rebar, Insulation, Core Filling, Markup.

THE ECONOMICS OF EFFICIENCY

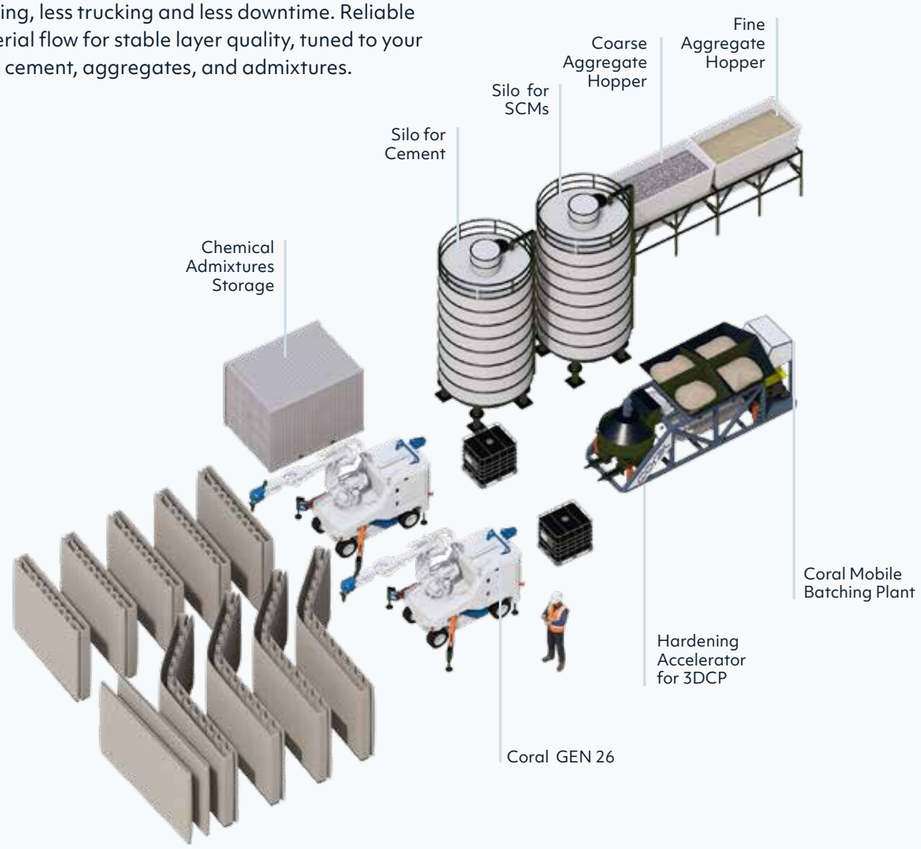
PARAMETER	CORAL 3DCP	TYPICAL COMPETITORS	BUSINESS IMPACT
MATERIAL COST	**$350–$450 per yd³** (€392–€504 per m³)	**$1,200+ per yd³** (€1,344 + per m³)	• About **50% lower material cost** • Higher margin
MATERIAL TYPE	**Local concrete** + 2K additive	Proprietary bagged dry mixes	• Less vendor dependency • Lower logistics risk • Lower material costs
PLACEMENT TECHNOLOGY	**2K**, chemical solidification	1K, drying, thixotropy	• Prints overhangs • **Higher speed** • No formwork
DEPLOYMENT SPEED	Setup **under 1 hour** mobile setup	Couple of days (gantry systems)	• Faster project turnaround • Less downtime
CREW REQUIREMENT	**One operator**	Often requires a technician team	• Addresses **labor shortages**
ACCURACY	±0.5 mm positioning (±0.02 in)	Lower accuracy around ±1 cm (±0.4 in)	• **Less finishing work** • Precise window and door installation
COMPANY BACKGROUND	Industrial automation heritage	Construction startup	• **Reliability** • Service • Spare parts support • Longer machine life

CORAL EQUIPMENT

CORAL FUSION
MOBILE BATCHING PLANT

FOR YOUR OUTPUT TO STAY CONSISTENT

On-site concrete production for continuous printing, less trucking and less downtime. Reliable material flow for stable layer quality, tuned to your local cement, aggregates, and admixtures.



EDGE SMOOTHING PRINTHEAD

Up to 15% of the material for 3DCP can be saved by smoothing the edges of the print path. This can save approximately 30% of the surface treatment material compared to a traditional 3DCP surface.

ROBOTIC CORE DRILLING

The mixing head can be exchanged for other tools. Core drilling, milling and other work can be performed by the same machine.

PERFORMANCE

DETAILS THAT SET A NEW BAR

We turn standard concrete into controlled, formwork-free output with repeatable precision and surface consistency you could never achieve with conventional construction.

GAME-CHANGING CAPABILITIES

- Patented printhead injects liquid accelerator precisely at the nozzle for rapid stiffening and formwork-free builds.
- **Up to 600 mm/s (24 in/s) in high extrusion speed mode** for repeatable output.
- Positioning accuracy ±0.5 mm (±0.02 in) for consistent wall dimensions.
- Layer height accuracy ±1 mm (±0.4 in) via automated calibration and laser sensing.
- A digital twin of every wall.

THE ECONOMICS OF EFFICIENCY

- Conventional cast-in-place with formwork at: ~$750/m³ (High labor & formwork costs).
- **Coral 3DCP: ~$550/m³** (Automated process).

ADJUSTABLE LAYER RESOLUTION

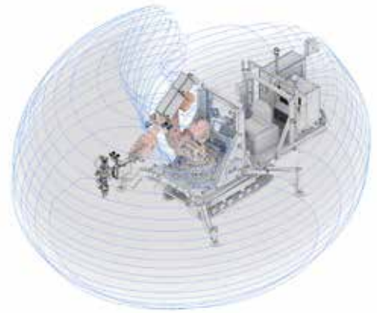
- Nozzle sizes range from 30 to 50 mm (1 to 2 in)
- Layer resolution between 10 and 30 mm (0.4 – 1.2 in)
- Layer width between 40–80 mm (1.6 – 3.2 in)
- Ideal aspect ratio of the layer: 3:1

VERSATILE PRINTING SPEED

- From 180 to 600 mm/s (7–24 in/s) depending on the object, material, and environment
- Standard speed of 330 mm/s with a flow rate of 1.2 m³/h
- Printer volume output 0.9–2 m³/h (32–70 ft3/h)

BUILD SIMPLY. SMART. PRECISE.

We create a wide range of structures using a single system without special materials, complex processes, or specialized crews. Our approach integrates optimization and customization, responding intelligently to site conditions and developer requirements. **Digital execution reduces reliance on 2D drawings, minimizing human error and reducing the need for on-site supervision.**



3DCP CONSTRAINTS

3DCP Constraints – Geometric Parameters (Coral)

- **Layer thickness**
  Defined by nozzle diameter and structural requirements.
  Nozzle diameter: 30–50 mm (1–2 in)
  Typical layer width: 40–80 mm (1.6–3.2 in)
- **Layer height**
  10–30 mm (0.4–1.2 in)
  Ideal layer aspect ratio ≈ 3:1 (width : height)
- **Overhang angle (unsupported)**
  Depends on the geometry type; with curved path of layer and gradual inclination, unsupported overhangs of up to 20° are achievable.
- **Tolerance & precision**
  Positioning accuracy: ±0.5 mm (±0.02 in) (laser-controlled system)
- **Printing speed (geometry-dependent)**
  Head speed: 180–600 mm/s (7–24 in/s)
  Output: 0.9–2.0 m³/h (32–70 ft³/h)
  Typical operation: ~1.2 m³/h (42 ft³)
- **Supports nonplanar printing and printhead tilting**
  Used for terrain compensation and special geometries. With continuous printing and stable material behavior, structures can be printed up to their full design height in a single process.
- **Wall connections**
  There are multiple ways to connect walls either by linking them through openings such as windows or doors, or by printing one wall directly next to another. This creates a joint that can be concealed or intentionally used as a design feature.
- **Robot envelope / printing range**
  Length: 6 m (20 ft)
  Height: up to 3.4 m (12 ft)

CORAL CONSTRUCTION TECHNOLOGIES ECOSYSTEM

ROBOTIC CONCRETE PRINTER
SALES & LEASING

3D CONCRETE PRINTING
AVAILABLE AS A SERVICE

CORAL ARCHITECTS
3DCP DESIGN & ENGINEERING

CONSTRUCTION AUTOMATION
SYSTEM INTEGRATION

Coral Construction Technologies
Global 3DCP Ecosystem

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