



CONSTRUCTION 3D PRINTER FACTORY2SITE

2-IN-1

One system for factory production
and on-site printing

100,000 m²

of walls printed

1,000+

completed 3D-printing projects

up to 4

print heads on a single printer

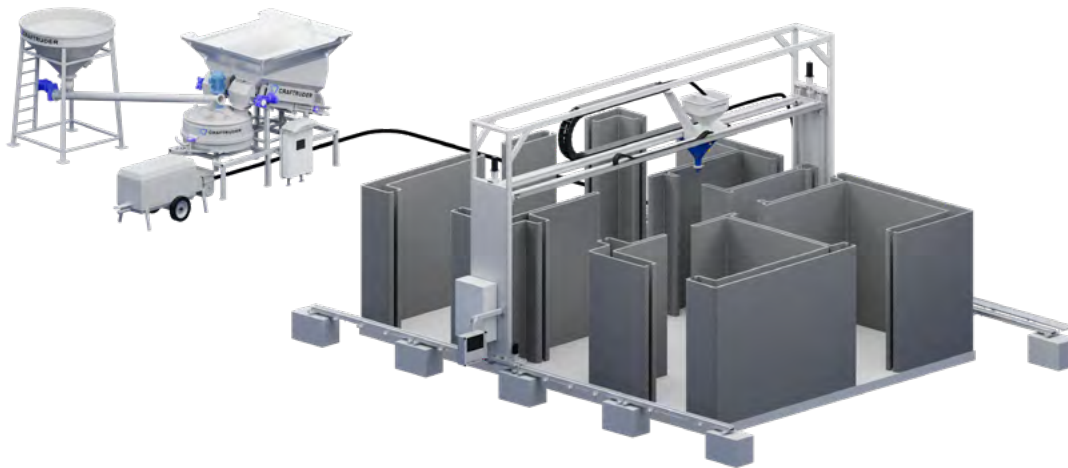
10 mm

maximum aggregate size in
printable concrete



TWO SCENARIOS - ONE MACHINE

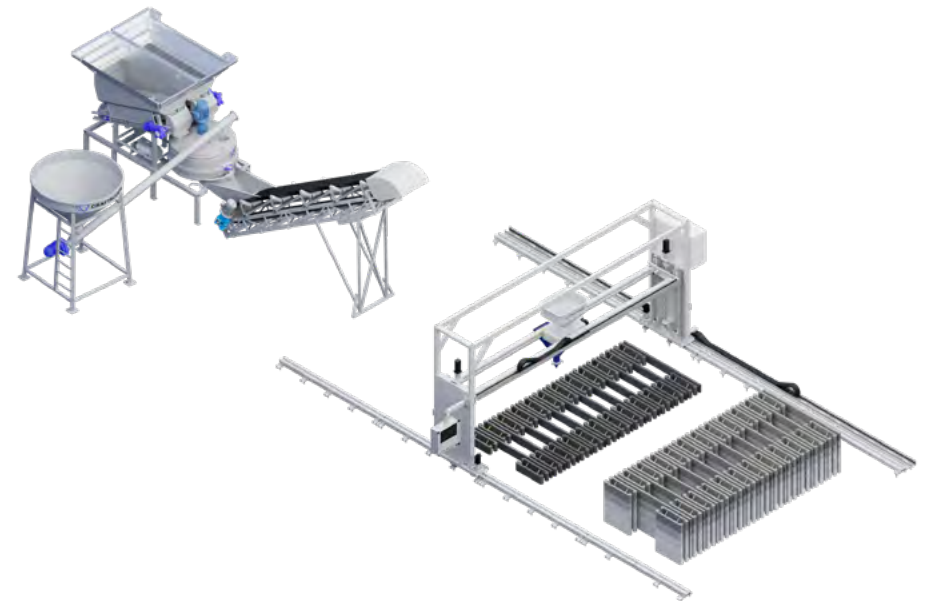
Two business models let you adapt your product range to market demand and operate year-round.



OUTDOOR / ON-SITE

PRINTING DIRECTLY ON THE FOUNDATION

A single extruder, increased gantry height, a concrete pump and a concrete batching plant (CBP) make it possible to print the shell of a single-storey building directly on site.



INDOOR / PREFAB

FACTORY PRODUCTION

Multiple components are printed layer by layer on a prepared print bed. Dual-extrusion modules, conveyor feeding and underfloor heating create a consistent, repeatable production cycle.



ON-SITE PRINTING

MAXIMUM AUTOMATION



DECORATIVE SURFACE ON BOTH SIDES

This enables durable, thin-walled structures to be produced without additional finishing costs.



FLEXIBLE PROGRAMMING

The technology makes it easy to adapt the print path to any project.

FACTORY PRINTING

24/7 PRODUCTION OF PREFABRICATED BLOCKS

**CONSISTENT RAW MATERIALS**

We use clean, washed 2-5 mm aggregate with no dust, ensuring consistent concrete strength and durability.

PRINT QUALITY CONTROL

We monitor component geometry, interlayer bonding and structural integrity so that the printed layers form a monolithic element

**CONTROLLED CURING**

A solid-fuel steam generator, retractable steam-curing chamber and industrial underfloor heating system ensure uniform curing and achievement of the specified design strength.

INTERCHANGEABLE MODULES

Increase the number of print heads without modifying the base machine structure



x4



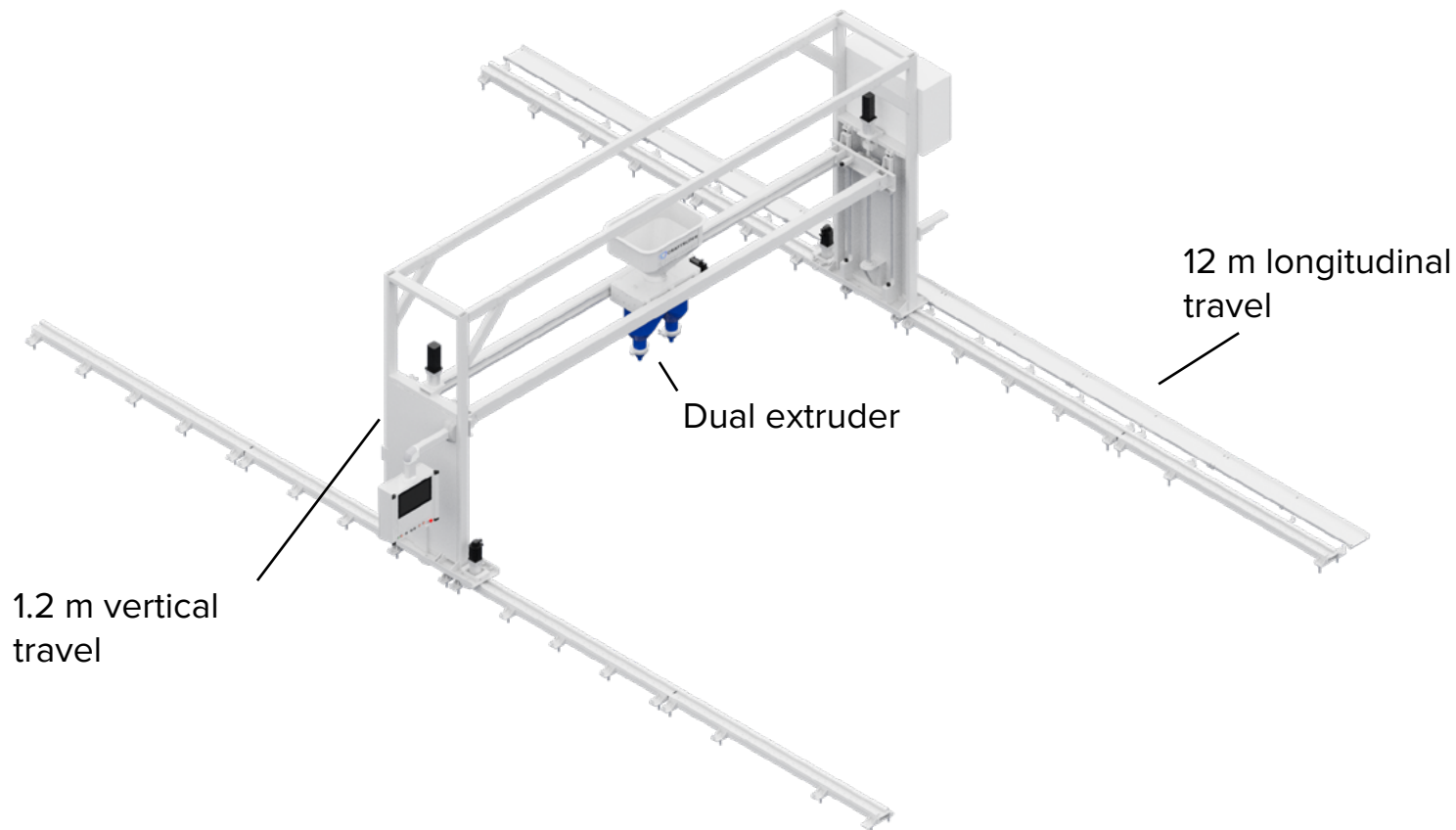
x2



x1

BASE CONFIGURATION

EVERYTHING YOU NEED TO START PRODUCTION



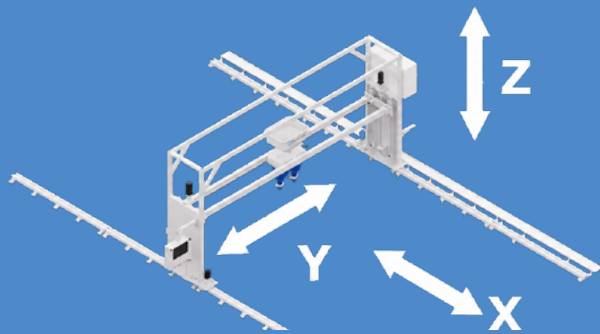
Single extruder for printing custom shapes



Two concrete hoppers for stacker handling

OPTIONAL EQUIPMENT

SCALE UP YOUR PRINTER



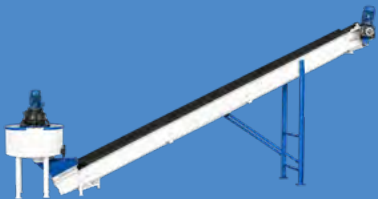
Longitudinal, transverse or vertical travel extensions in 3 m increments



Additional dual-extruder module to scale up to four print heads



Sealed retractable steam-curing chamber



Planetary mixer and belt conveyor with brushes for feeding concrete to the printer



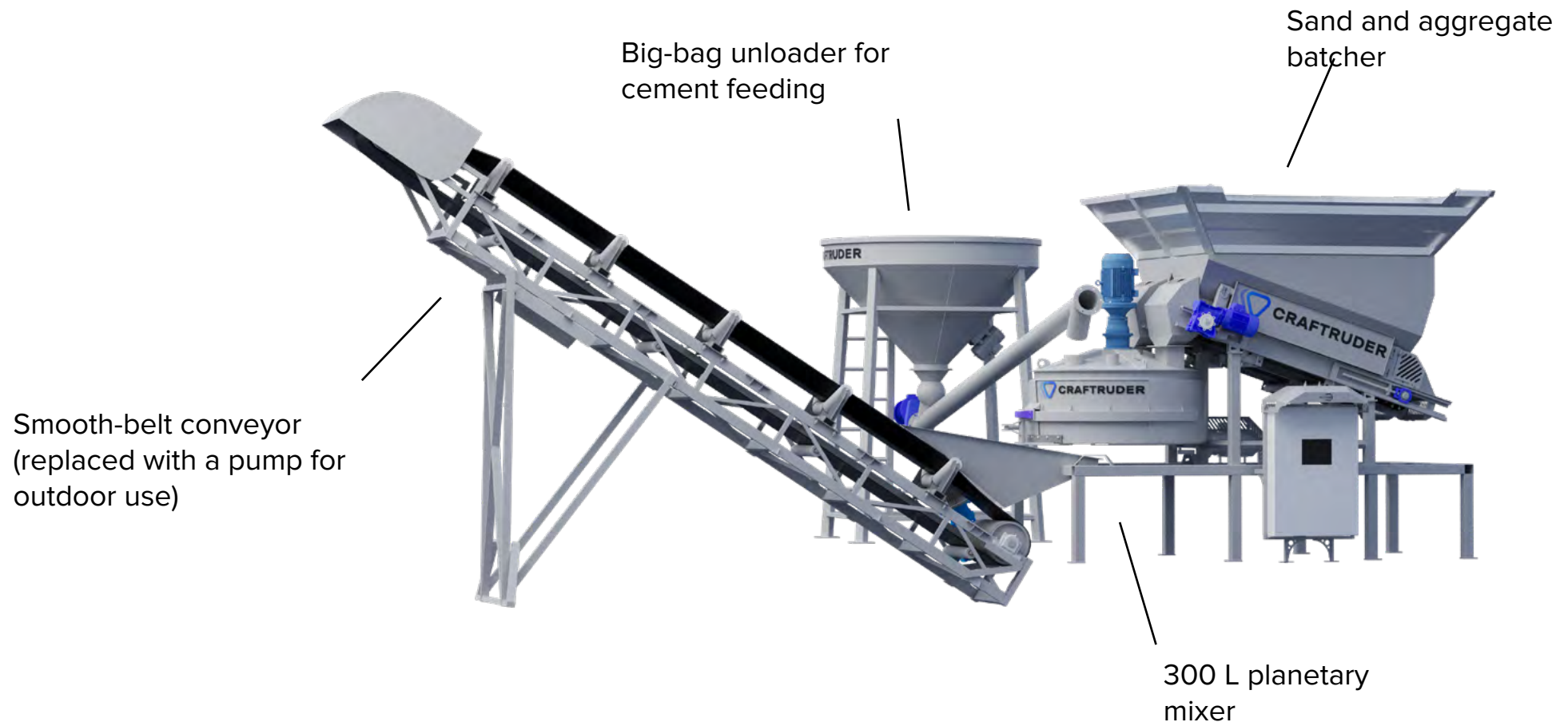
Pump and concrete delivery system for on-site printing



Solid-fuel steam generator for steam curing of components and heating aggregates, the print area and mixing water

AUTOMATION

CONCRETE BATCHING PLANT



CONCRETE DELIVERY

IN THE FACTORY, THE MIX IS TRANSFERRED WITHOUT COSTLY CONSUMABLES

CBP — CONVEYOR — EXTRUDER

batching and mixing

smooth belt + brushes

200 L



WHY IT MATTERS

In a fixed factory setup, long concrete delivery lines, rotor-stator pumps and peristaltic hoses are not required. After each pass, the extruder returns to its starting point, the hopper is refilled, and the cycle repeats.

CNC

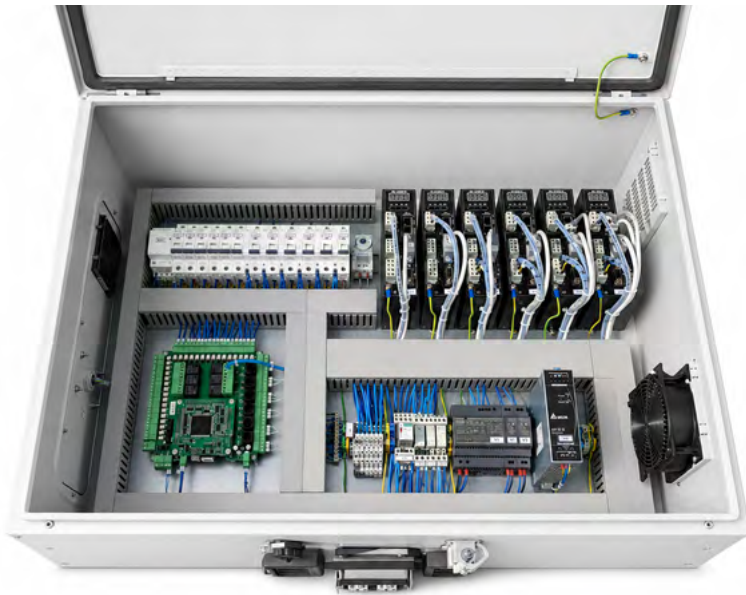
RUGGED INDUSTRIAL CONTROL CONSOLE

- Travel speed synchronised with auger rotation speed
- Independent control of each print head
- CAM-based generation of the control program
- Bluetooth remote control and remote support via Wi-Fi



OTHER COMPONENTS**QUALITY IN EVERY
DETAIL**

Flexible energy chains fitted with highly flexible igus cables are engineered to operate for years in harsh environments: concrete dust, abrasive particles, moisture and lubricants. Unlike low-cost alternatives, they do not crack or crumble. Their abrasion-resistant jackets and stable conductors are designed for millions of cycles in energy chains.



Niob Fluid quick-release clamp connections for fast extruder servicing



HepcoMotion linear guides for contaminated environments. The V guide and rollers provide a self-cleaning action that expels dust and abrasive concrete particles, preventing them from entering the rolling contact zone.



Weidmüller HDC industrial connectors

PRODUCTIVITY

MORE PRINT HEADS INCREASE OUTPUT

0.3 m/s

extruder travel speed

0.3 m³/h

output of a standard dual module

approx. 6 m²/h

0.6 m³/h

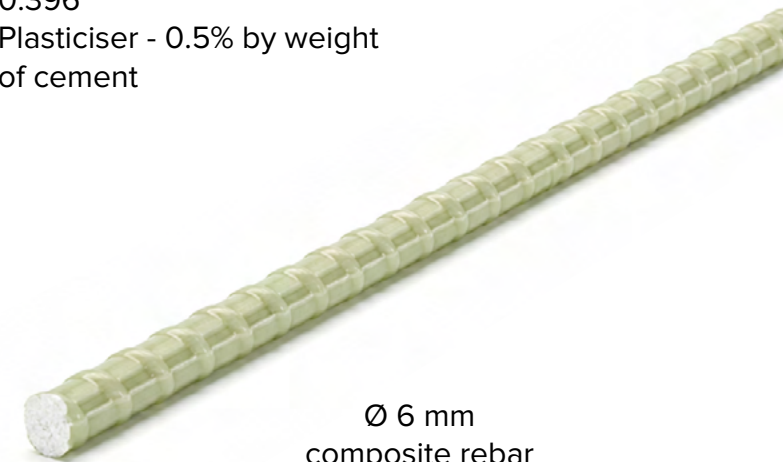
total output in the X4 configuration

approx. 12 m²/h

Actual output depends on layer parameters, geometry, pauses, non-printing travel, mix design and shift organisation.

MATERIAL**LOCALLY SOURCED MATERIALS**

42% - sand

21% - M500
cement37% - 2-5 mm
aggregate**Water and admixtures**water-to-cement ratio =
0.396Plasticiser - 0.5% by weight
of cementØ 6 mm
composite rebar**M250 CONCRETE GRADE****M250**
Grade**2270 kg/m³**
Density**F150–F200**
Frost resistance**W6**
Watertightness**≤ 3 %**
Water absorption

SAFETY AND SERVICE LIFE

INDUSTRIAL-GRADE SAFETY AND RELIABILITY

8

E-stop buttons

9

inductive sensors

7

braked servo
drives in the base
configuration

12-month

equipment warranty

- Rope-operated emergency stop switches along the gantry
- Automatic gantry levelling and homing sensors
- Spare parts kit for rapid replacement of wear components

BASE CONFIGURATION

FACILITY REQUIREMENTS

FROM 300 m²

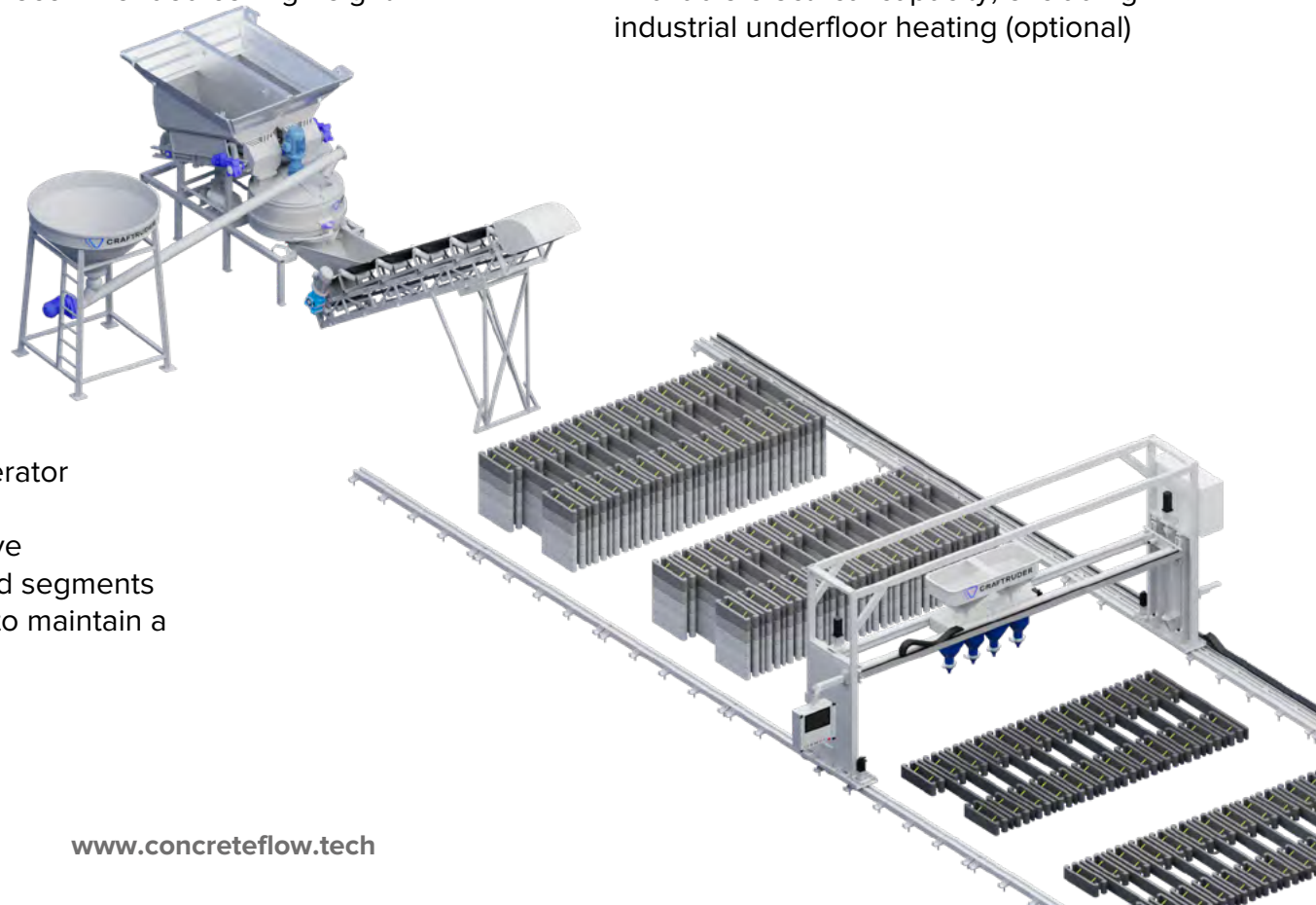
Floor area depending on configuration and finished product storage requirements

FROM 3 m

Recommended ceiling height

FROM 15 kW

Available electrical capacity, excluding industrial underfloor heating (optional)



- Hard-surfaced access roads and a storage area
- Approx. 2 m³ of water per shift, excluding steam-generator operation
- Recommended operating temperature: +10 °C or above
- Forklift, plus an overhead crane for large prefabricated segments
- Underfloor heating beneath the printer working area to maintain a stable production cycle and consistent print quality

OPERATION

A COMPACT TEAM WITH CLEARLY DEFINED ROLES

3—5

people per shift

PRINTER OPERATOR

Control program preparation,
calibration and print monitoring.

CBP OPERATOR

Mix design, batching, mixing and
consistency control.

ASSISTANT

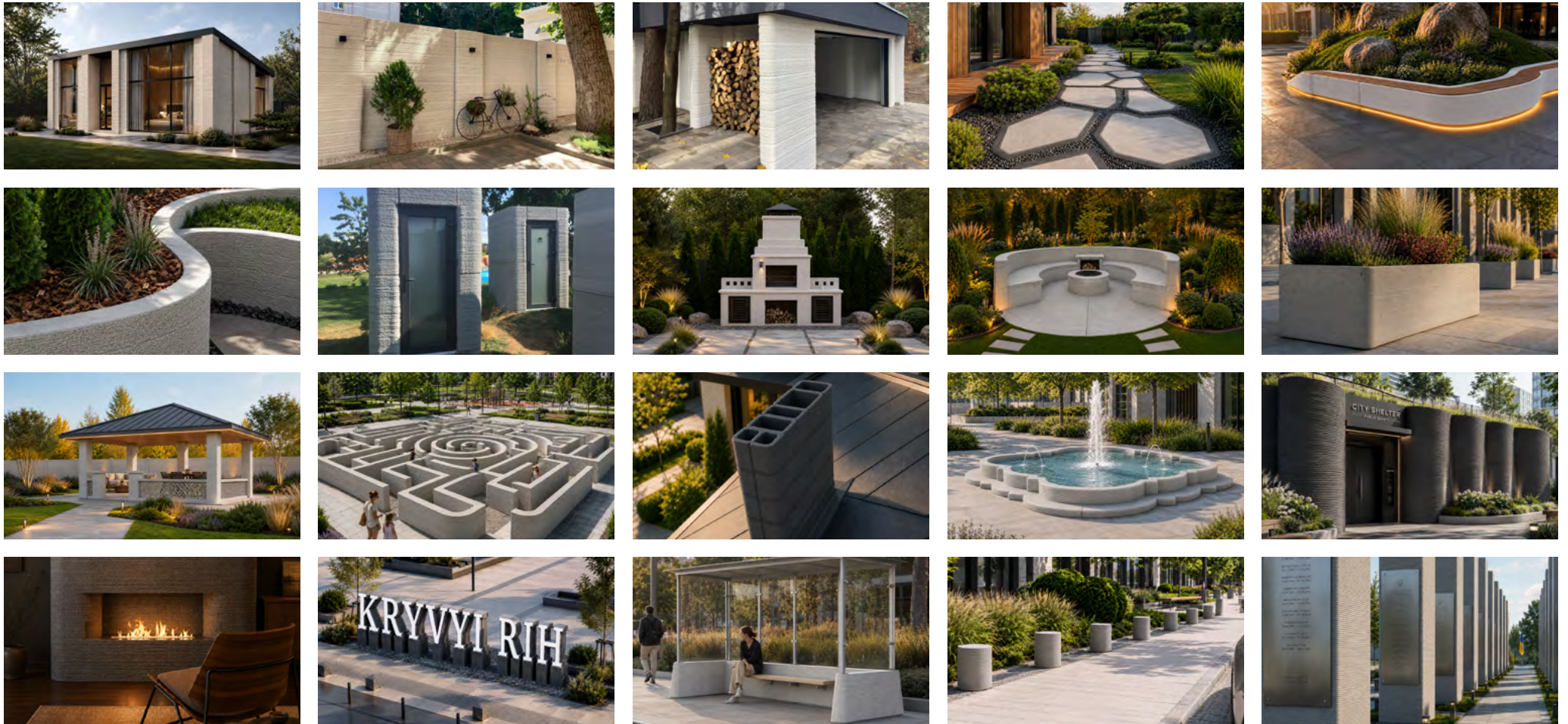
Print-bed preparation and
reinforcement.

LOGISTICS

Two additional team members.
Handling finished products, packaging
and supplying raw materials.

PRODUCTS

AN ECOSYSTEM OF 3D-PRINTED STRUCTURES



houses / fences / garages / garden paths / curved benches / retaining walls / toilets and showers / barbecues / patios / flower beds / gazebos / children's mazes / ventilation ducts / fountains / shelters / fireplaces / logos and lettering / bus stops / small architectural structures / memorials

DELIVERY PACKAGE

EQUIPMENT SUPPLIED WITH PROCESS KNOW-HOW AND TRAINING

INCLUDED

- Printer in the selected configuration
- Training at the CRAFTRUDER production facility
- Core printing technology and mix design
- Mix adaptation to local materials
- Remote support during start-up
- Training materials and spare parts kit
- 12-month warranty

OPTIONS

- CBP and concrete delivery system
- On-site commissioning and installation supervision
- Industrial underfloor heating
- Concrete pump and concrete delivery line
- Steam-curing chamber
- Transport to the customer's site

CONCRETE 3D PRINTING EXPANDS ARCHITECTURAL FREEDOM AND AUTOMATES KEY CONSTRUCTION PROCESSES

A 13 mm layer height creates a distinctive tactile texture and a dynamic interplay of light and shadow.



LET'S BUILD YOUR DIGITAL PRODUCTION LINE

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