

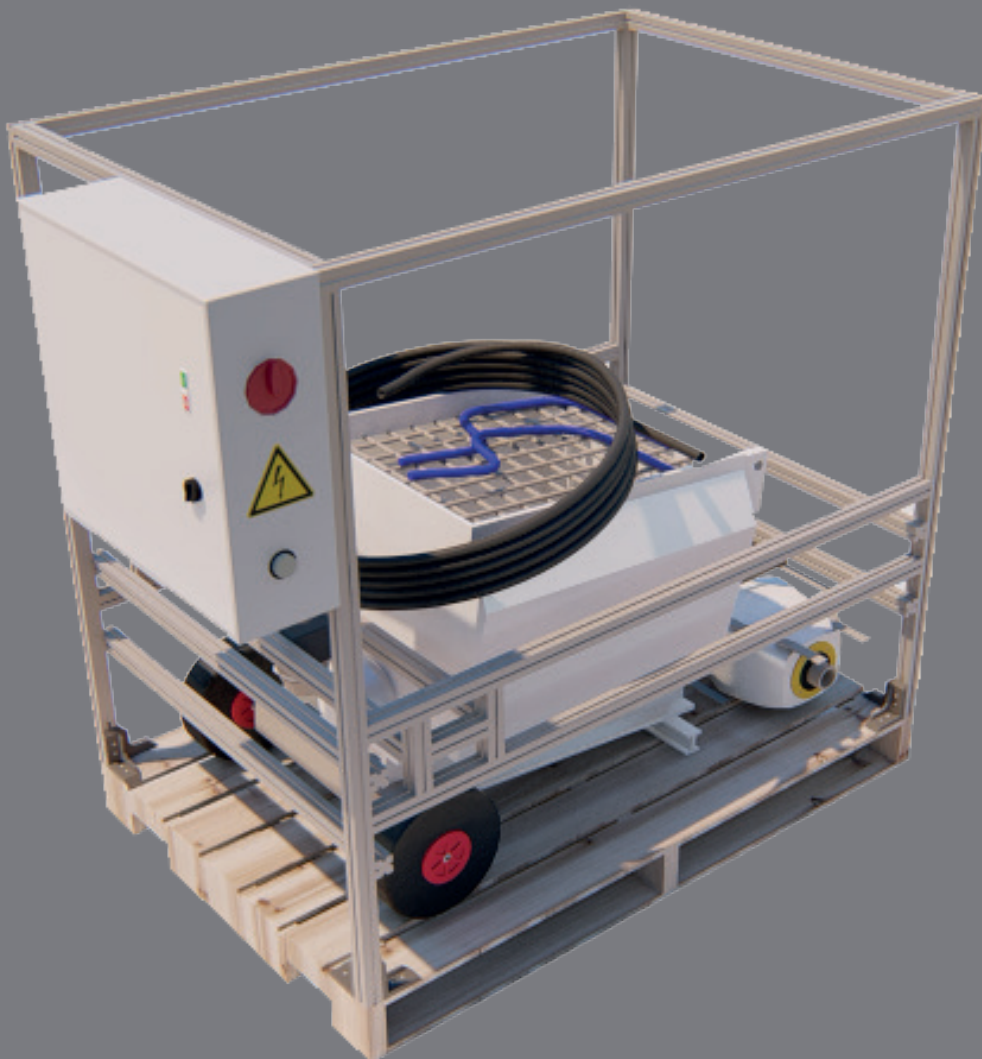


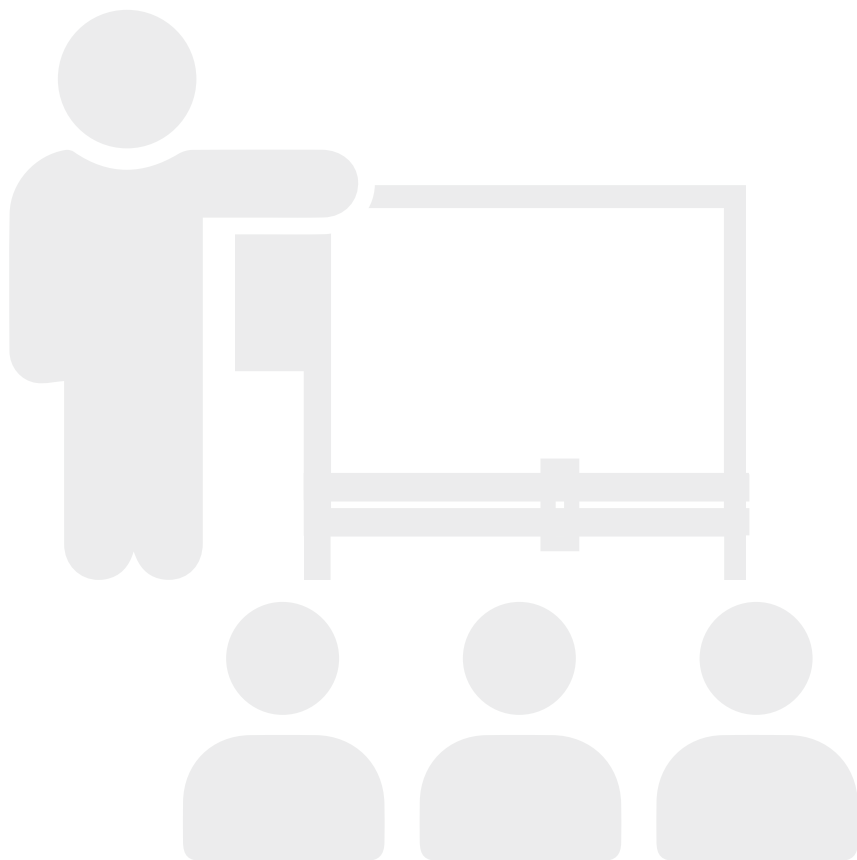
Mini Printer

www.constructions-3d.com

3D print
and discover

1 compact 3D printer developed for the EDUCATION sector





SUMMARY

What's a Mini Printer?	4
A learning tool	6
Revitalization of the structural work sector	8
Open up to the potential of 3D printed buildings	10
In the continuity with the BIM	11
Examples of Mini Printer's 3D prints	14
Contents of the pack	16
Technical specifications	18
About Constructions-3D	24

What's a Mini Printer?

1

A small scale mortar 3D printer designed for the
education



2

A tool for tomorrow's
builders.

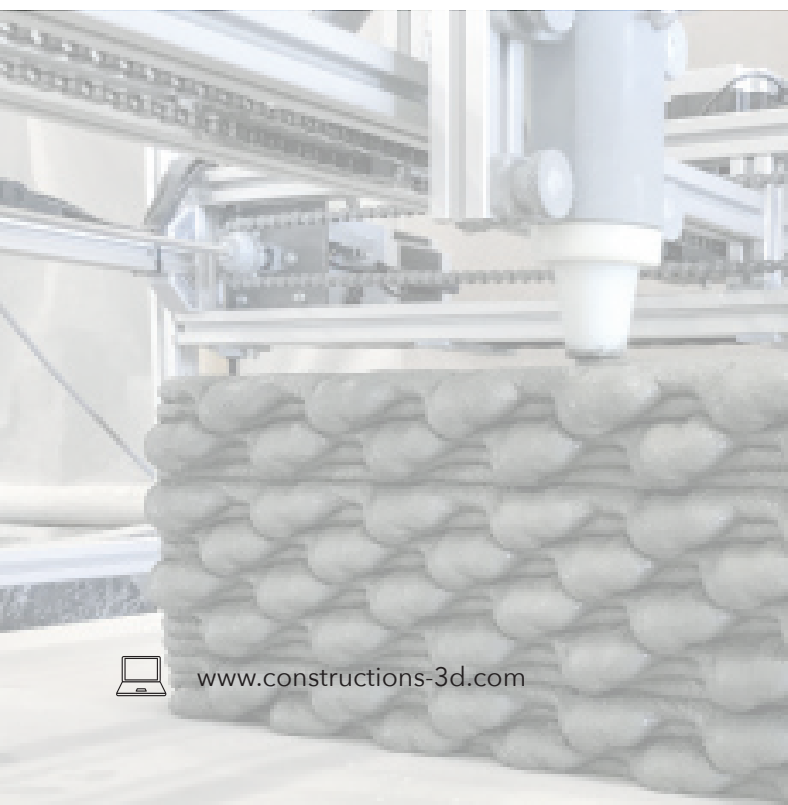


4 A turnkey solution

Developed in concert with construction training professionals, the Constructions-3D Mini Printer is designed to answer the need of the education and research sectors looking to develop the construction skills of their students and teams regarding 3D digital tools.

The Mini Printer is a complete pedagogical tool that meets the new stakes of construction training. This compact tool has been designed to train tomorrow's builders in new and disruptive construction technics. The Mini Printer makes it possible to harness the possibilities of large structures 3D printing within the commodity of a small format and therefore explore the vast potential offered by digital building tools.

Constructions-3D's turnkey solutions include all the necessary accessories and pedagogical resources required to suit a large array of student profiles, from the beginners to the most experimented.

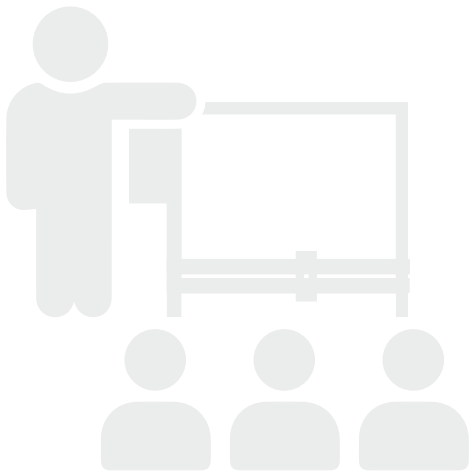


3

A machine built to meet the needs of the education professionals



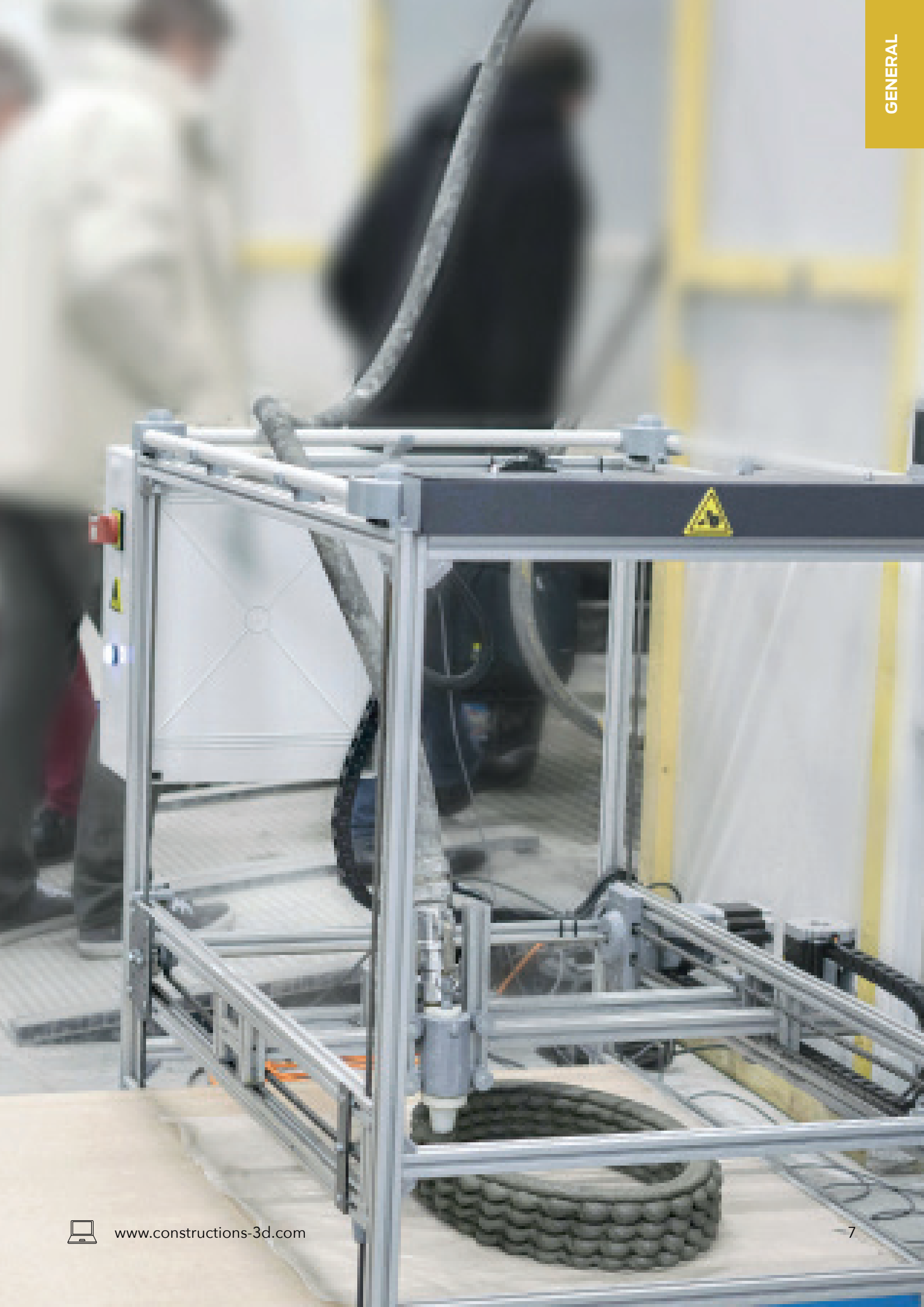
An educational tool

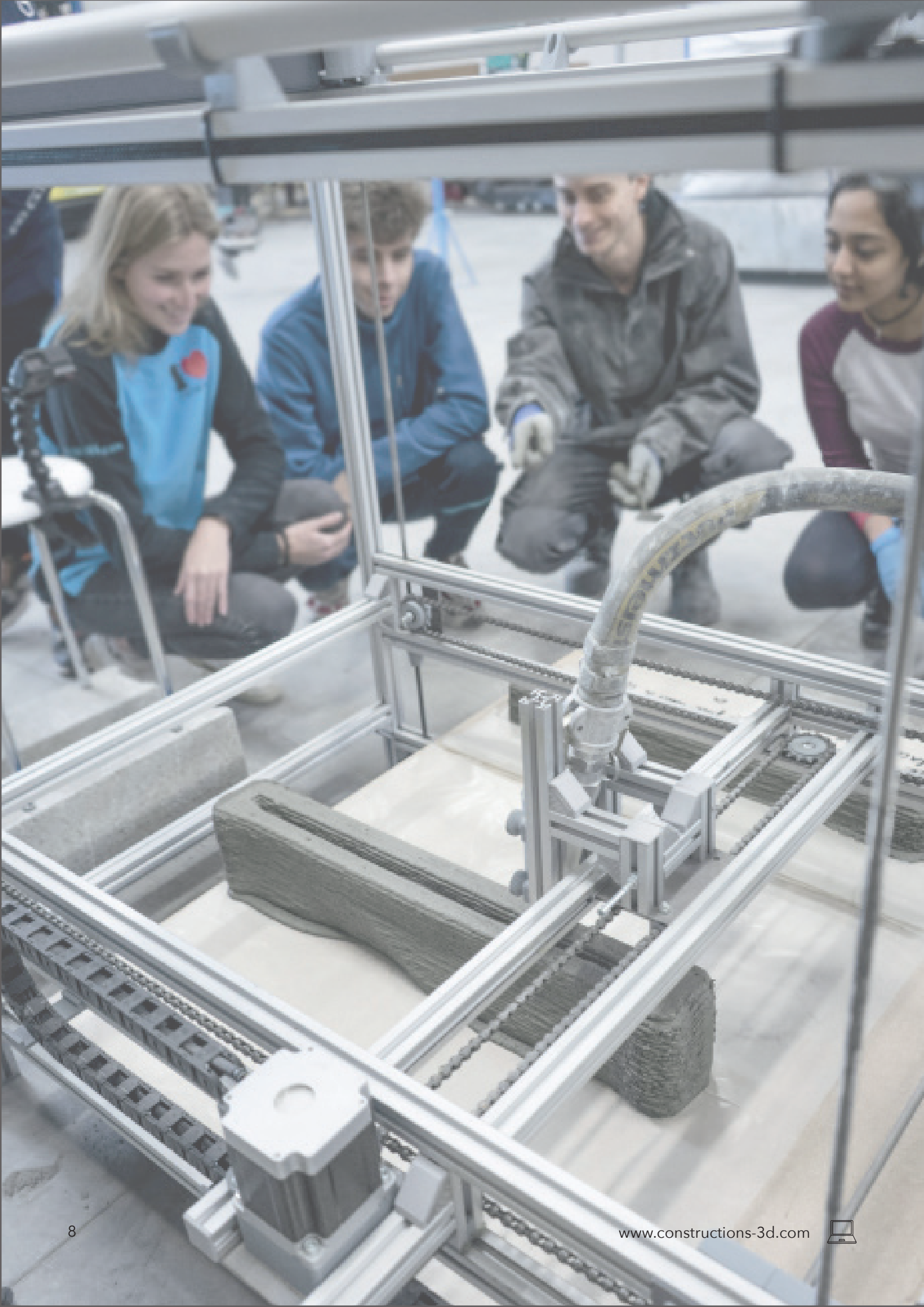


The Mini Printer Education Pack enables students to become familiar with the numerous stakes of the digital construction processes.



- ✓ *Master new automated construction technics*
- ✓ *Learn about ways to reduce the ecological footprint in the construction sector*
- ✓ *Control costs and execution times*
- ✓ *Reduce the exposure to occupational hazards and drudgery*





The transition to digital construction methods

Digital creation tools have made their ways into the workflow of a new generation of builders across a variety of projects. The construction sector's revolution triggered by building 3D printing is pushing forward the digital transition in the construction industry. To stay relevant, construction professionals are looking to be trained in the new possibilities offered by large scale structures 3D printing. Our training tool makes it possible for education professionals to offer cutting edge courses, accessible to all levels of degrees.



Open up to the potential of building 3D printing

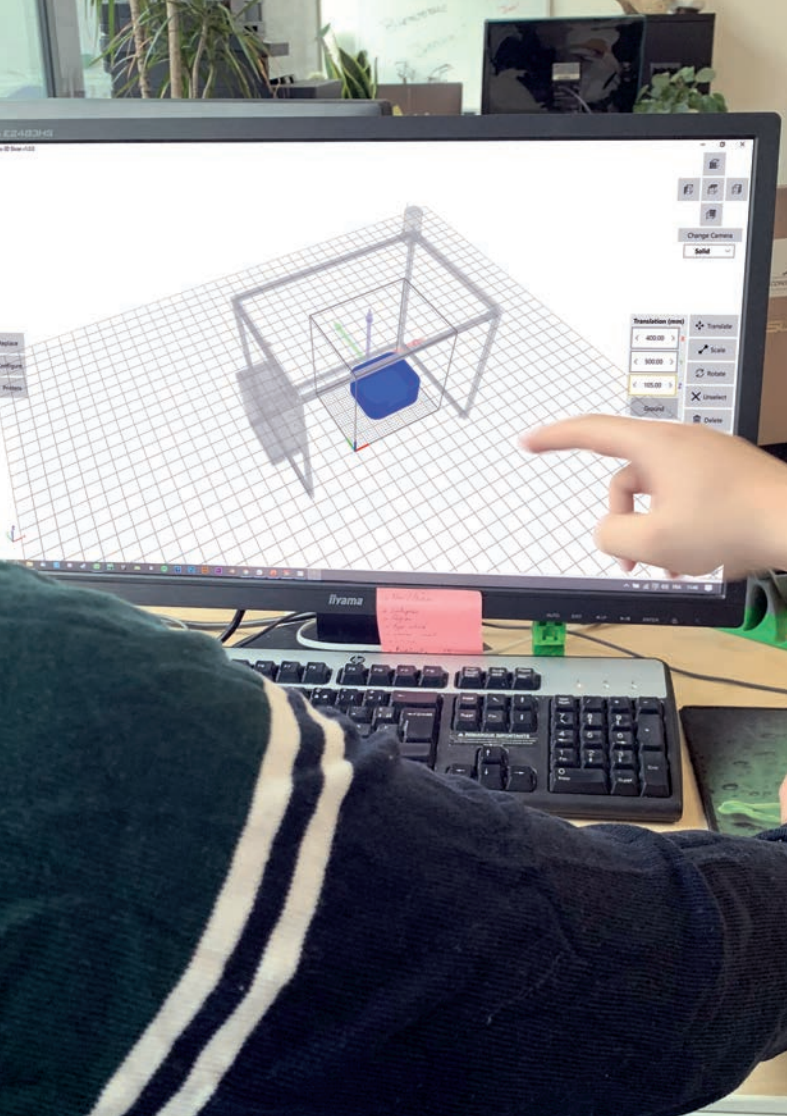
Construction of 3D printed buildings has already begun : in 2019, Constructions-3D built the first building which is entirely 3D printed by using its large scale mortar 3D printer, the Maxi Printer. This 60 m² (645 sq. ft) building, called Le Pavillon, has been 3D printed in a total of 28 hours. This achievement is a testimony to the maturity of Constructions-3D printing technologies. In the short term, such technologies will be an integral part of either public and private work. To meet the demand for developing skills in the digital construction field, we have created a tool that makes it possible to learn the general principles of 3D printing construction on a smaller scale, developed with educational needs in mind. The Mini Printer Education Pack has been designed to enable tomorrow's builders to master mortar 3D printing process, from knowing how to conceive and read a 3D model to materializing it in concrete.



In continuity with the BIM

Working hand in hand with our teams, education professionals can deploy a complete training course fitted to their specific branches. The Mini Printer Education Pack is an ideal training tool to approach the different challenges of the BIM. It offers the missing link between the digital conception phase and the concretization of the project on-site. From producing a 3D model with our software to its real-time realization with the concrete 3D printer, your students will have the opportunity to study the whole production chain. They will also have the joy to see their digital creation materialize before their eyes.





Bring together the
different trades
around one
complete and
compact tool.



Examples of Mini Printer's 3D prints





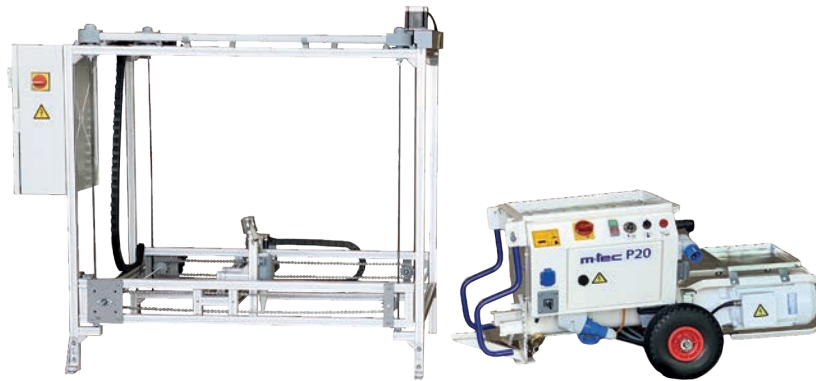
Content of the Pack

The Mini Printer Education Pack includes a piloting software, its 3D printing slicing software, a library of 3D print-ready files as well as all the tools and accessories needed to start 3D printing immediately.

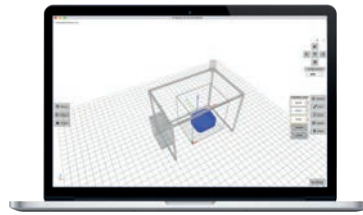
Our teams are always at your disposal to help you while you get to know the machine and harness its full potential. You will receive the advices of a team of engineers and mortar 3D printing experts.

Constructions-3D is offering a ready to use technical mortar, specifically designed to meet the needs of concrete 3D printing. The Mini Printer remains open to experimentation with different kinds of materials.





1 Mini Printer 3D printer
+ 1 pump + pipes + stator and rotor



1 piloting software + 1 slicer + 1 library of concrete
3D printing ready models



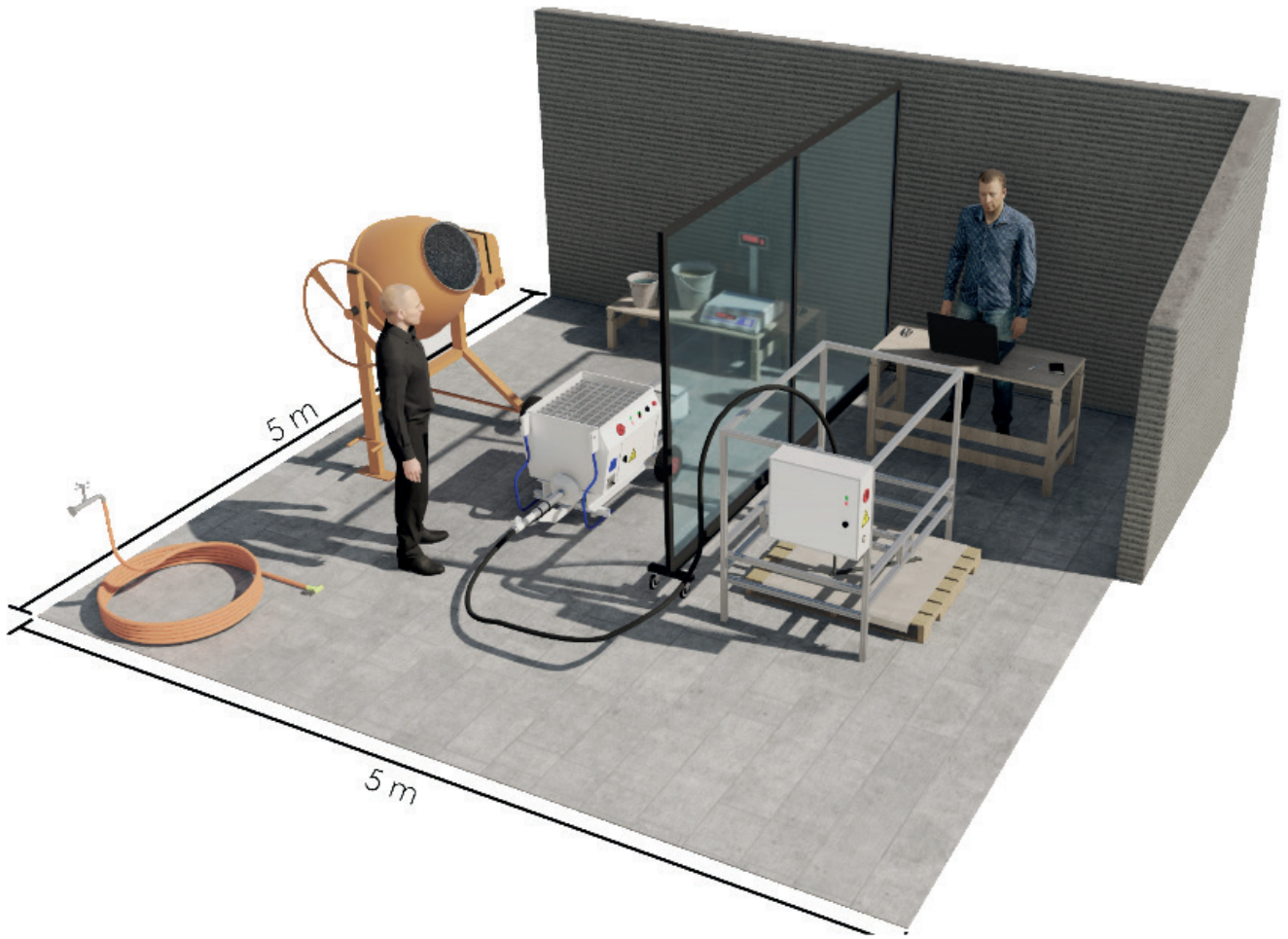
Training



Support, technical advices
and follow-ups

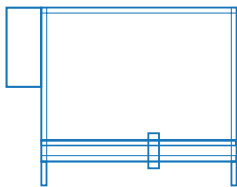


Printing material



Technical specifications

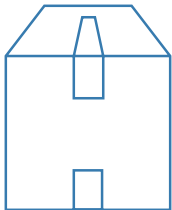
Physical specifications



Machine

143 x 106 x 126 cm (56,2992 x 41.73 x 49.60 inches)

Weight: 53 kg (116.84 pounds)



Package

Pallet delivery

Total weight: 168 kg (370,37 pounds)

Pump: 95 kg (209,43 pounds)

accessories: 20 kg (44,09 pounds)

Printing

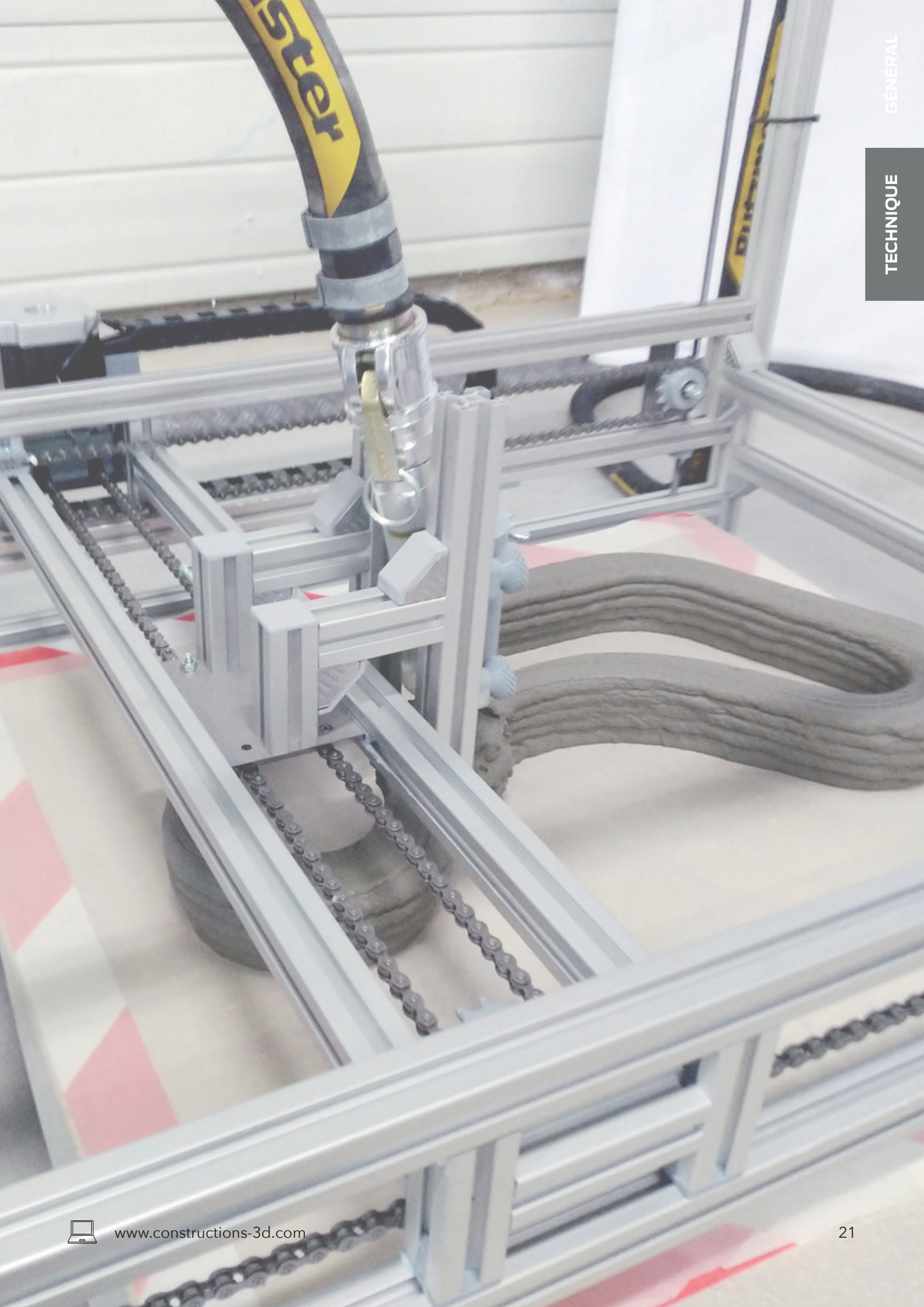
Accuracy	0.5 cm (0,19 inches)
Printing dimensions (XYZ)	615 x 520 x 600 mm (242,12 x 204,72 x 236,22 inches)
Printing speed	Up to 300 mm/s (11,81 inches/s)
Power	220V single-phase



Pumping system

Pumping system	Spray pump
Materials compatibility	Mortars, plasters, adhesives
Pump filling	By batch
Power	230 V
Transport maximum pressure	30 bars (435,11 Psi)
Transport maximum distance	30 m (98,42 feet)
Pumping power	4kW, 230V, 50Hz
Usual material flow	5L / min (1.32 gallons)
Maximum flow rate	50L / min (13.20 gallons)
Minimum flow rate	1L / min (0.26 gallons)
Grain size	6 mm (0,23 inches)
Fiber compatibility	Yes, up to 25 mm (0,98 inches) and 2% in mass





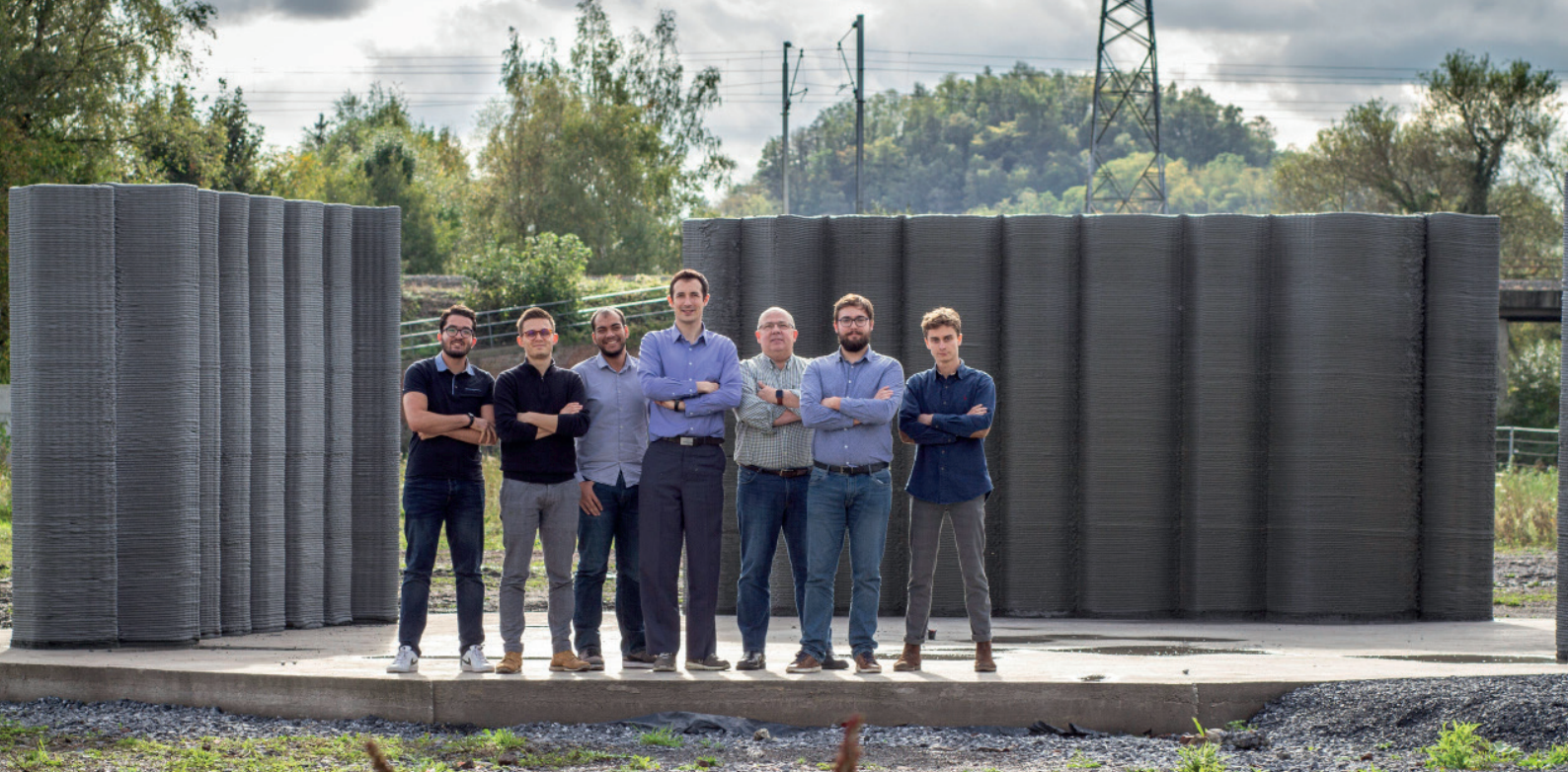


Constructions-3D material

Type	Specific cement-based mortar Dry material
Minimal ambient temp	+ 5°C (41° F)
Maximal ambient temp	+ 35°C (95° F)
Setting temperature starts at 20° (68° F)	30 min
Mechanical bending resistance	12 Mpa
Mechanical compression resistance	75 Mpa
Granulometry	0 - 2 mm (0 - 0,078 inches)
Concrete slump test (Abrams cone)	2.5 cm (0,98 inches)
Density	2.2
Displacement under tensile stress 75kN	< 0.6 mm (0,02 inches)
Container type	BigBag of 1.2 T (2645,55 pounds) or 25
Conservation	kg (55,11 pounds) bags 12 month starting from the date of fabrication in its unopened packaging
Quantity of materials for 1L of water	8.8 kg (17,63 pounds)

We provide C3D MIX material, though the machine remains open to third party materials.





Who are we?

Constructions-3D is a french company that specializes in creating automated 3D printing construction tools geared toward professionals and education institutions. Since 2017, Constructions-3D is maturing solutions to better meet the new technological challenges faced by the construction field. Proud of its roots and humans values, Constructions-3D sets a long term goal to help resolve the worldwide housing crisis.

We believe our technology to be a concrete answer to some of the high stakes of our time: lowering the construction sector's environmental footprint, decreasing the production of waste, reducing drudgery as well as occupational hazards and maintaining costs and completion time to a minimum.

We have developed two products:

The Maxi Printer, a mobile mortar 3D printer capable of printing large scale buildings.

The Mini Printer, a fixe mortar 3D printer capable of printing everyday objects or products on a smaller scale. With its Education Pack, the Mini Printer becomes a full training tool, ideal to open up the potential of construction 3D printing to the students.





5 education institutions
equipped with our
machines



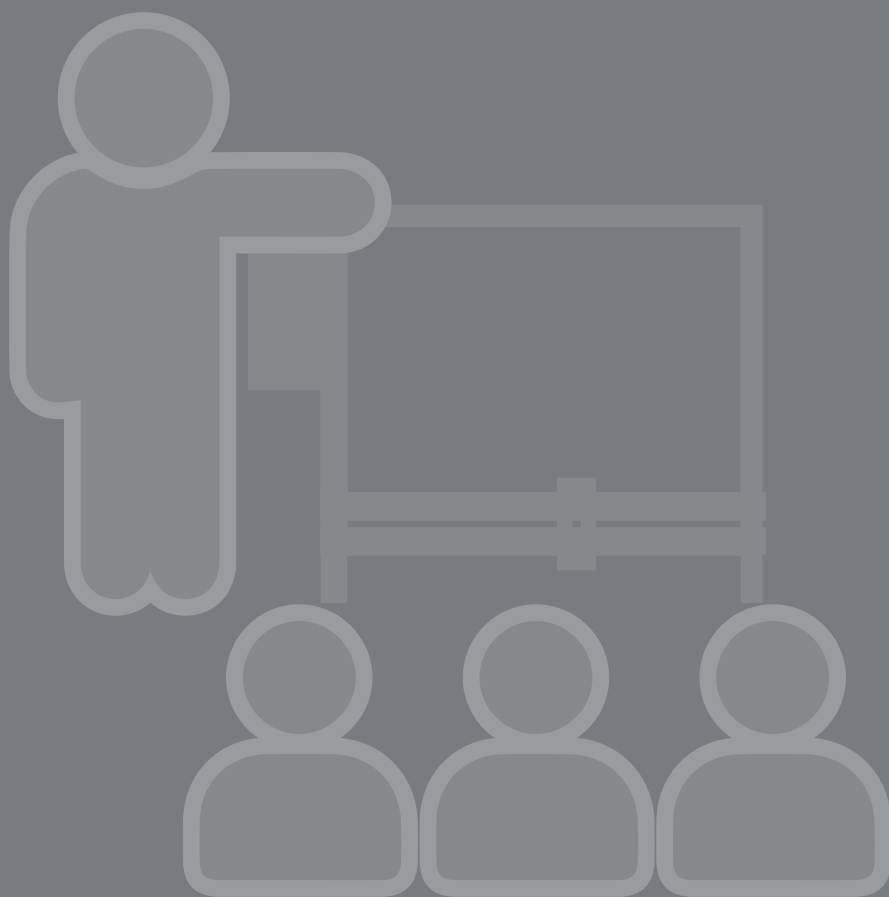
5 years of
experience



1 thesis



Made in
France



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