



VERTICO

3D Printing

Concrete & Polymer

Who are we?

- Founded in January 2018
- Founded after the Made in Amersfoort 3D concrete printing experiments I now De Huizenprinters
- Projects completed: 8
- Current project: Tiny House I with De Huizenprinters
- Current location: Eindhoven, The Netherlands

Who am I?

- Volker Ruitinga
Founder





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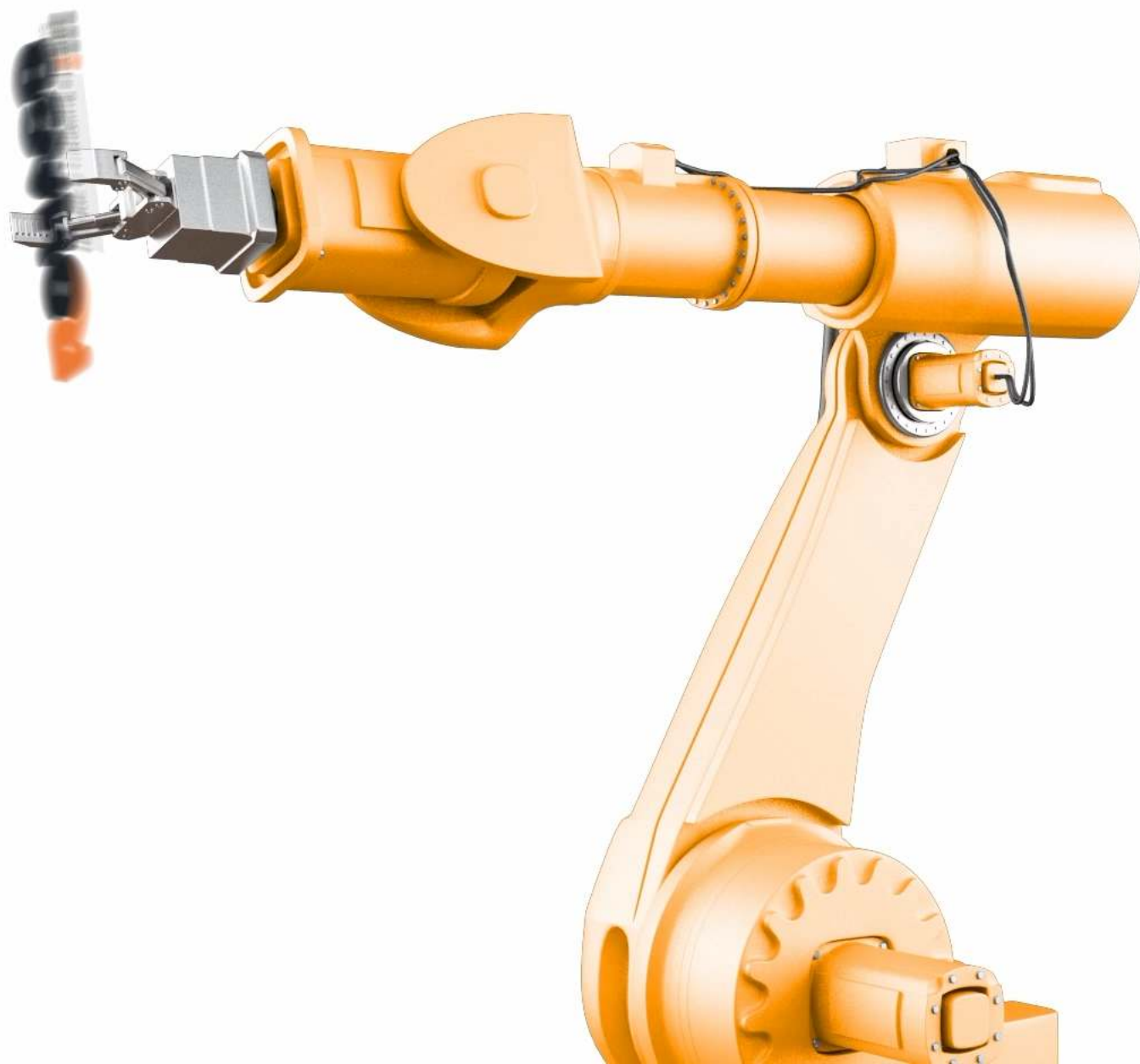
Introduction

Concrete

A man in a grey long-sleeved shirt and khaki pants is crouching next to a large, white, cylindrical 3D concrete printer. He is holding a black hose that is connected to the printer. The printer is positioned against a large, reddish-brown wall. In the bottom right corner, there is a partially visible orange sign with black text that reads "WAR", "ACH", and "ATTE".

XL 3D Concrete Printer

WAR
ACH
ATTE







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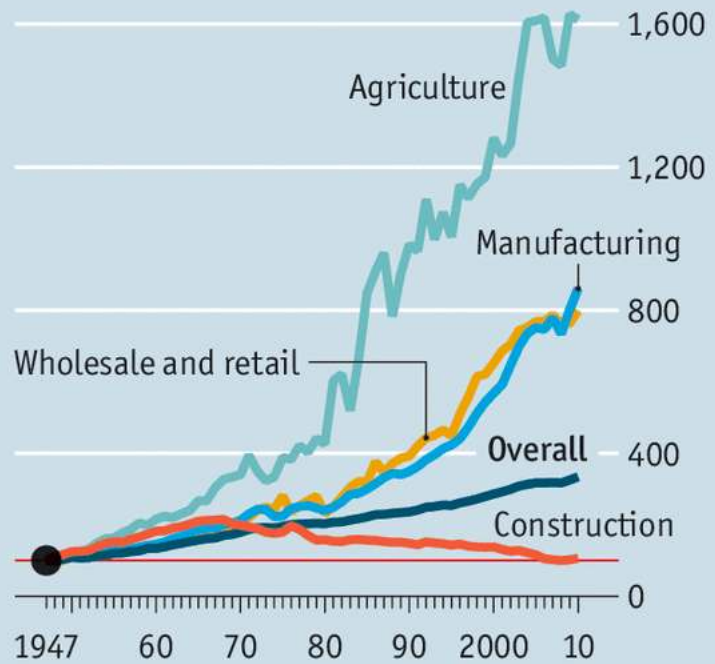
Problem

Mission / Vision

Problem

Unlearning by doing

United States, gross value-added*
Per hour worked, 1947=100



Source: McKinsey Global Institute

*At constant prices



Problem

- Automation in the construction industry
- Digitization in Construction
 - building information modelling*
 - parametric modelling*
 - topology optimisation*
- Lack of form freedom



Mission

To be a **pioneer** in the field of **3d concrete printing**, discovering its potential by realising concepts and designs that were **impossible** before.

Vision

Creating a **new paradigm** in **construction & architecture** by **removing the barriers** of conventional manufacturing.





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Projects

Concrete









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XL 3D printing





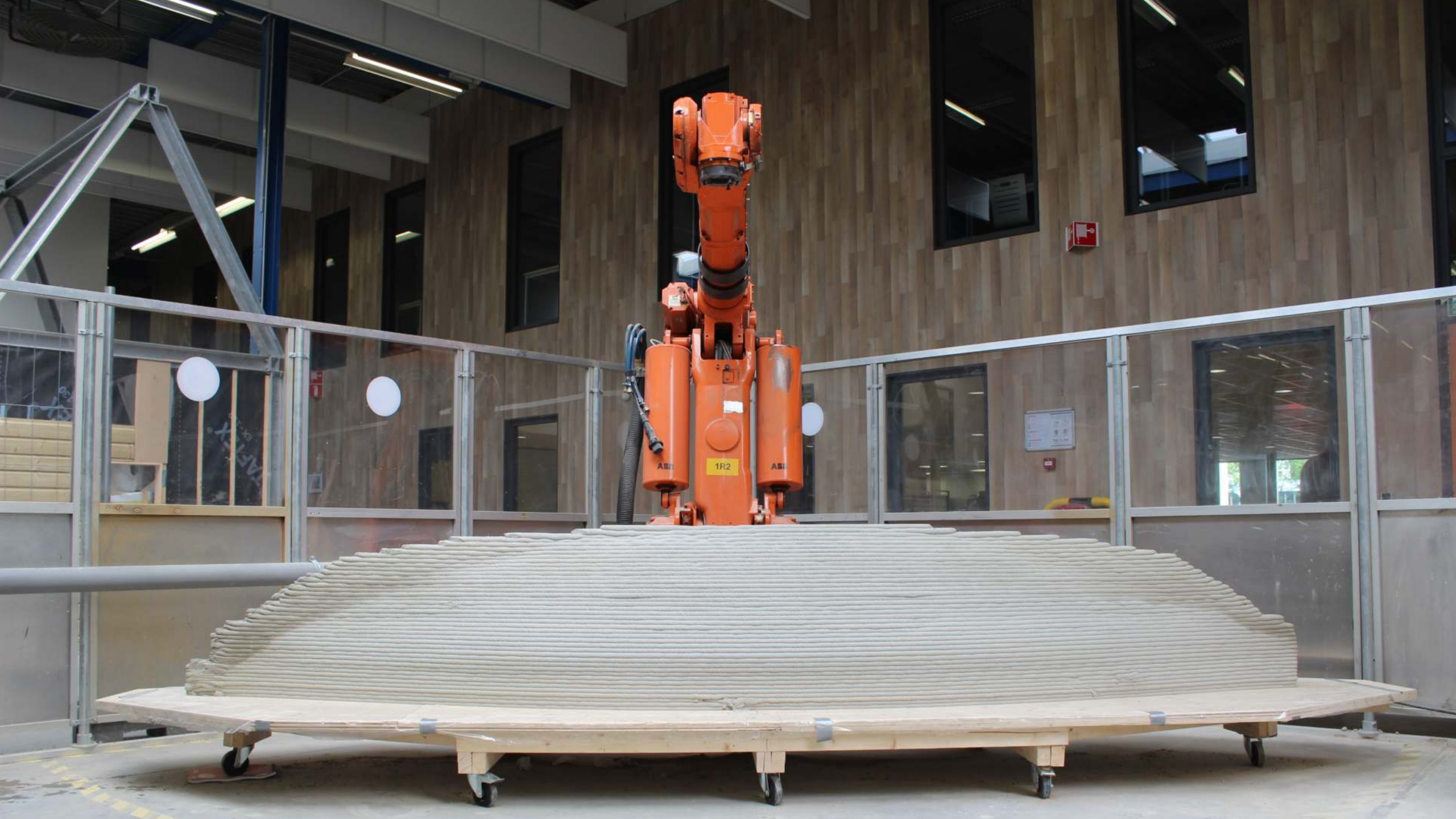
VERTICO
by 3DWORKING

STORIES
OF CHANGE

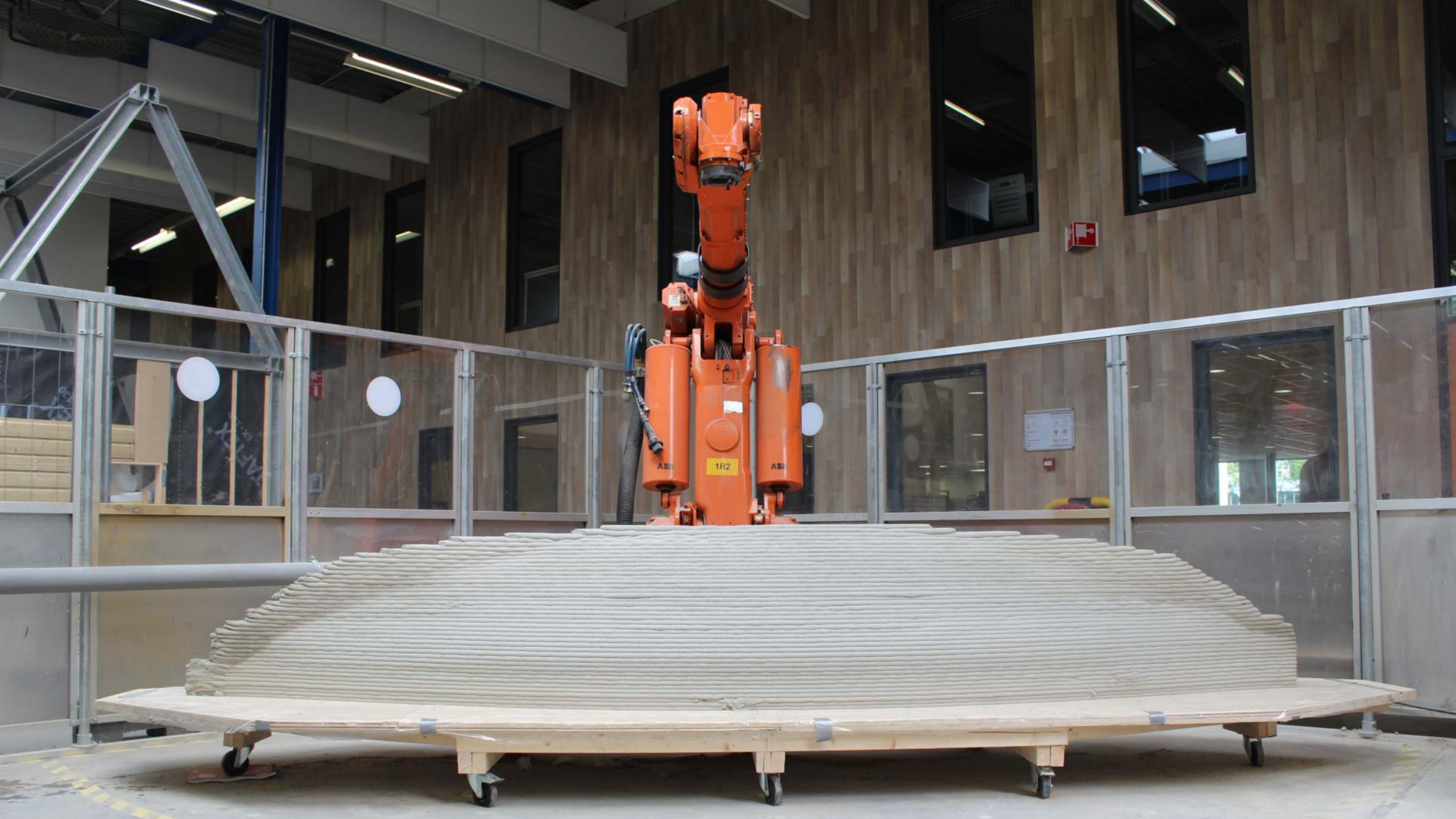
Monday 21 October
Exhibition sales

What is GEN?

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APIS COR



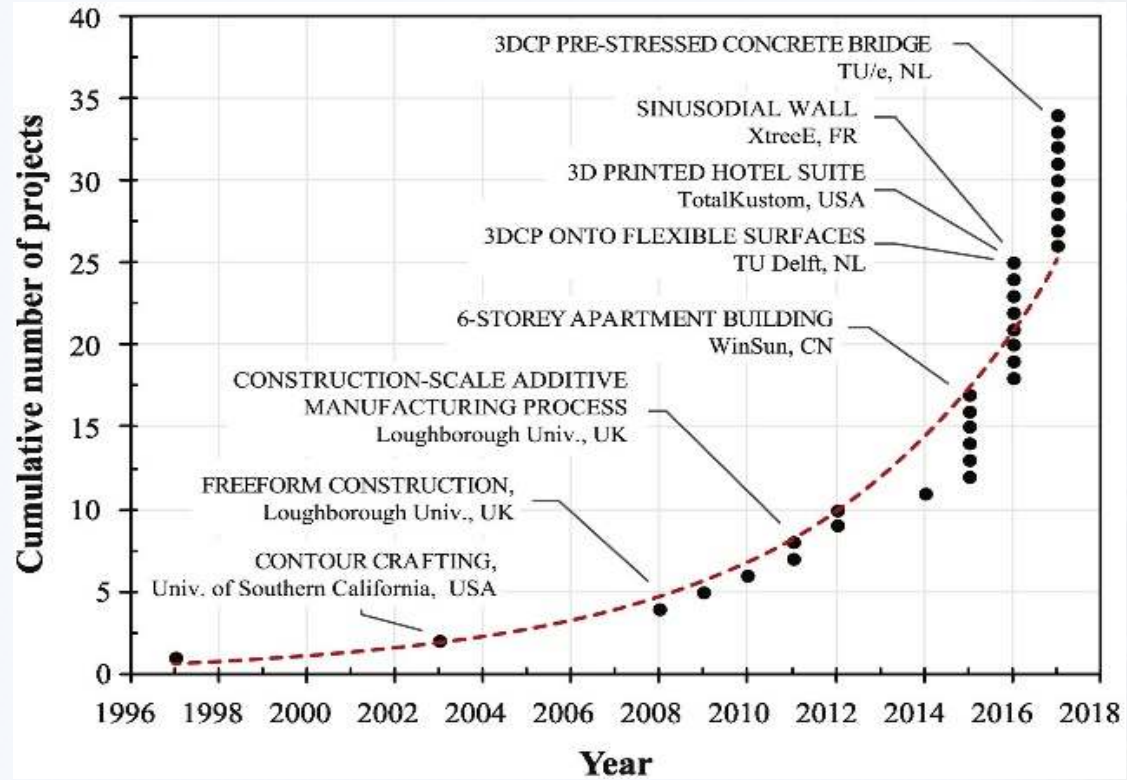


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Market

Concrete printing

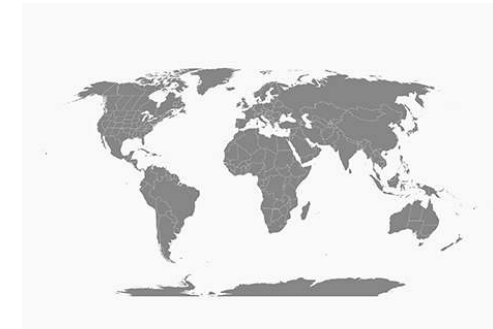
Market



Market

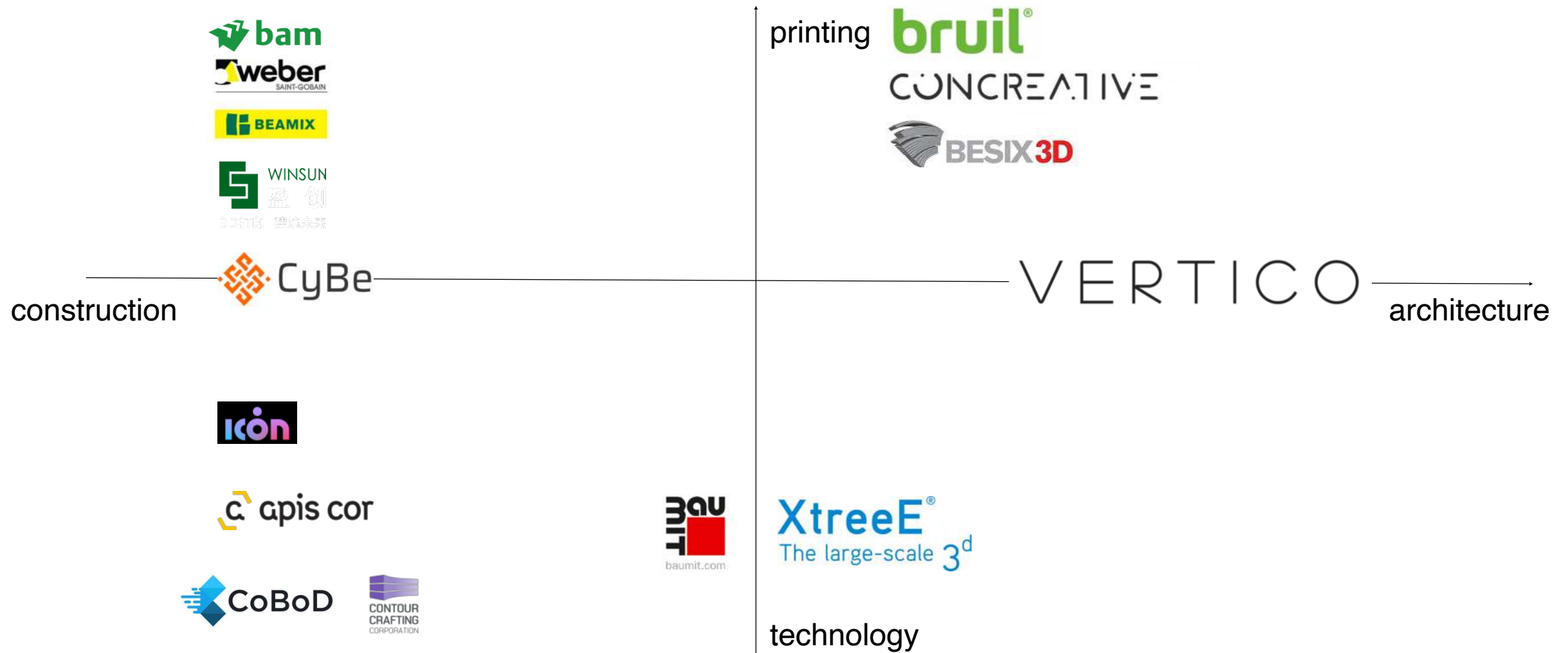


	country	printing	techn. provider
XtreeE	France	x	x
Apis Cor	Russia	x	x
ICON	USA	x	x
WinSun	China	x	
Contour Crafting	USA	x	
Incremental3D	Austria	x	
Concreative	Dubai	x	
Besix	Dubai	x	
Baumit	Germany		x
Mudbots	USA		x
CoBoD	Denmark		x



other
Witteveen+Bos
ETH Zurich
TU Darmstad
US Army Corps
Loughborough
Sika
WASP
Constructions3D
BetAbram

PMC - analysis





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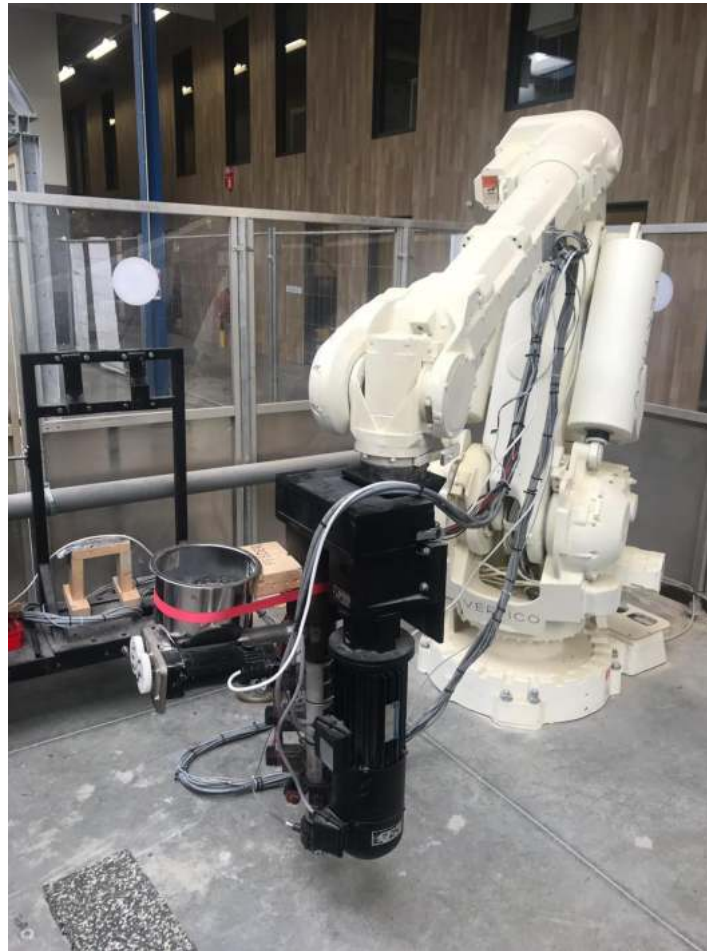
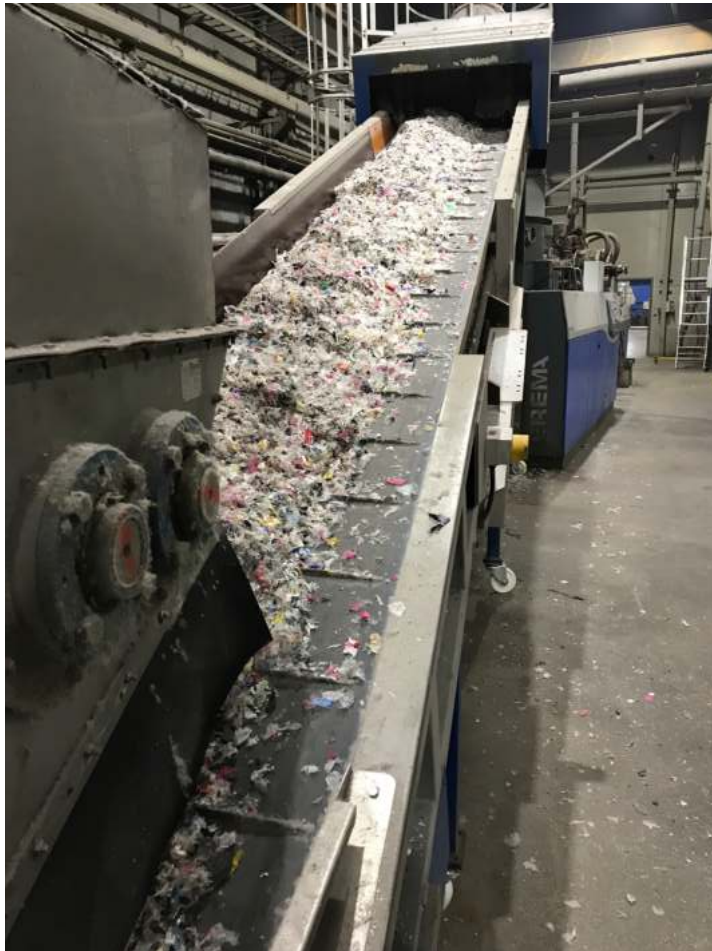
ReMake Plastics

Robotic Plastic

Printing

ReMake Plastics

Household plastics recycled and 3D printed





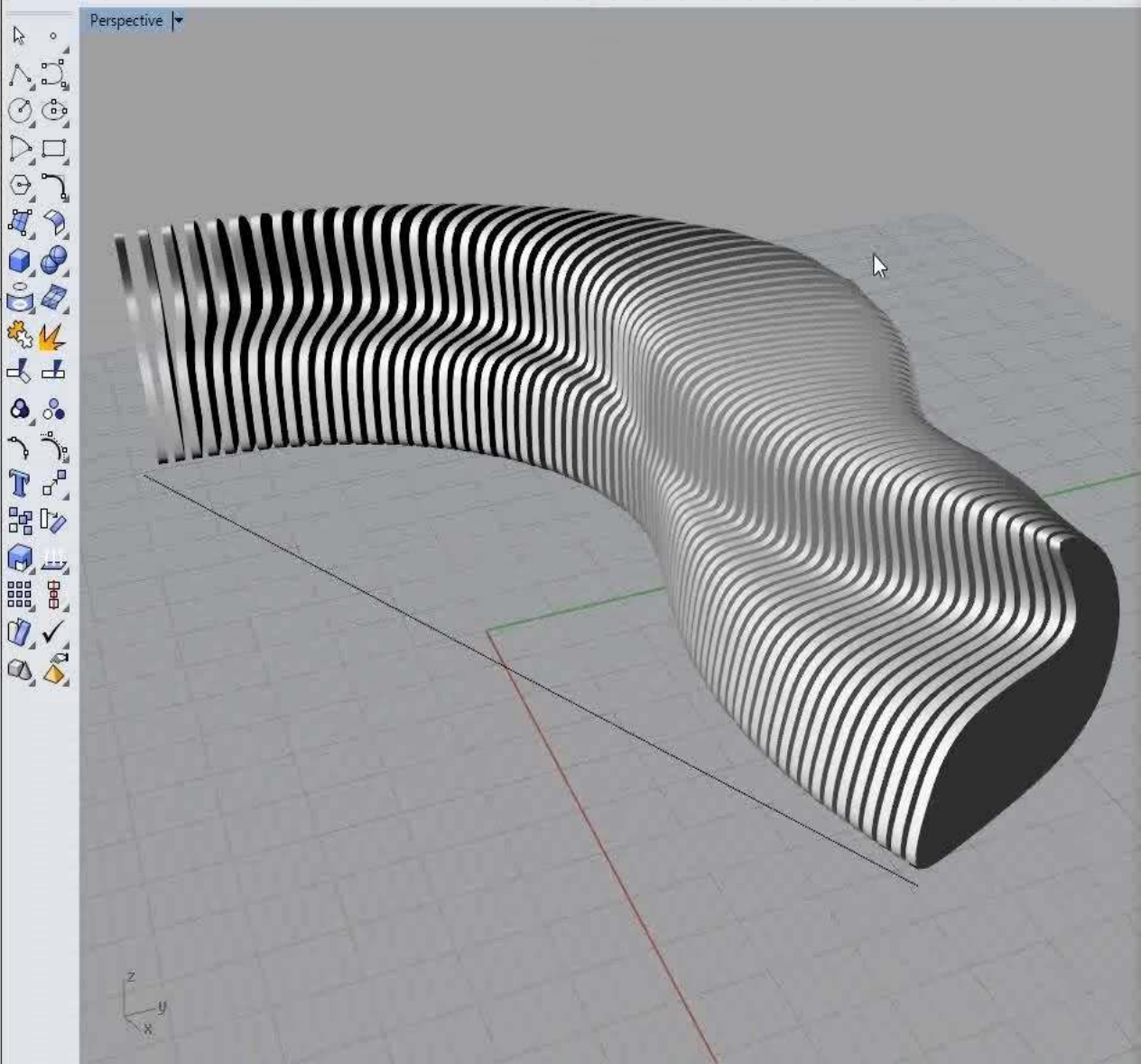


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Recap

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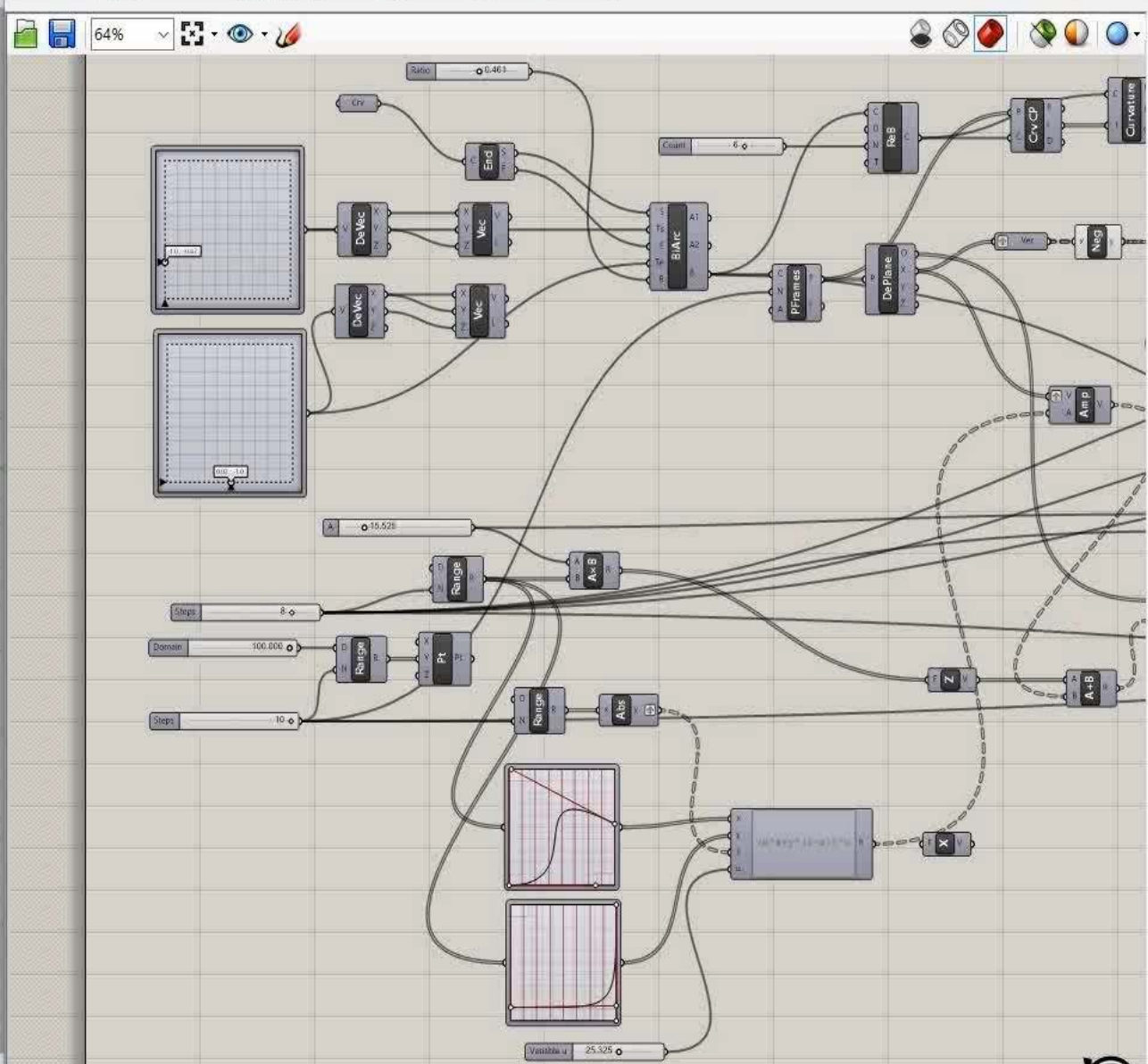
Command:

Perspective	Top	Front	Right	+
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☒ End ☐ Near ☒ Point ☒ Mid ☐ Cen ☐ Int ☐ Perp ☐ Tan ☐ Quad ☐ Knot ☒ Vertex ☐ Project ☐ Disable

CPlane	x-63.285	y 57.420	z 0.000	Millimeters	Default	Grid Snap	Ortho	Planar	Osnap	SmartTrack	Gumb
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Params Maths Sets Vector Curve Surface Mesh Intersect Transform Display Kangaroo Wb LMNts



Source: google / unknown



0.90076



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