



BAYA

BUILD SMARTER.
BUILD FASTER.
BUILD WITH MERLIN.

Design. Check. Print.

The concrete 3D printing software that takes you from idea to machine program, for robotic and gantry printers.

ONE TOOL. EVERY PRINT. FROM IDEA TO MACHINE PROGRAM.

20

ROBOT MODELS WITH
DETAILED 3D

6

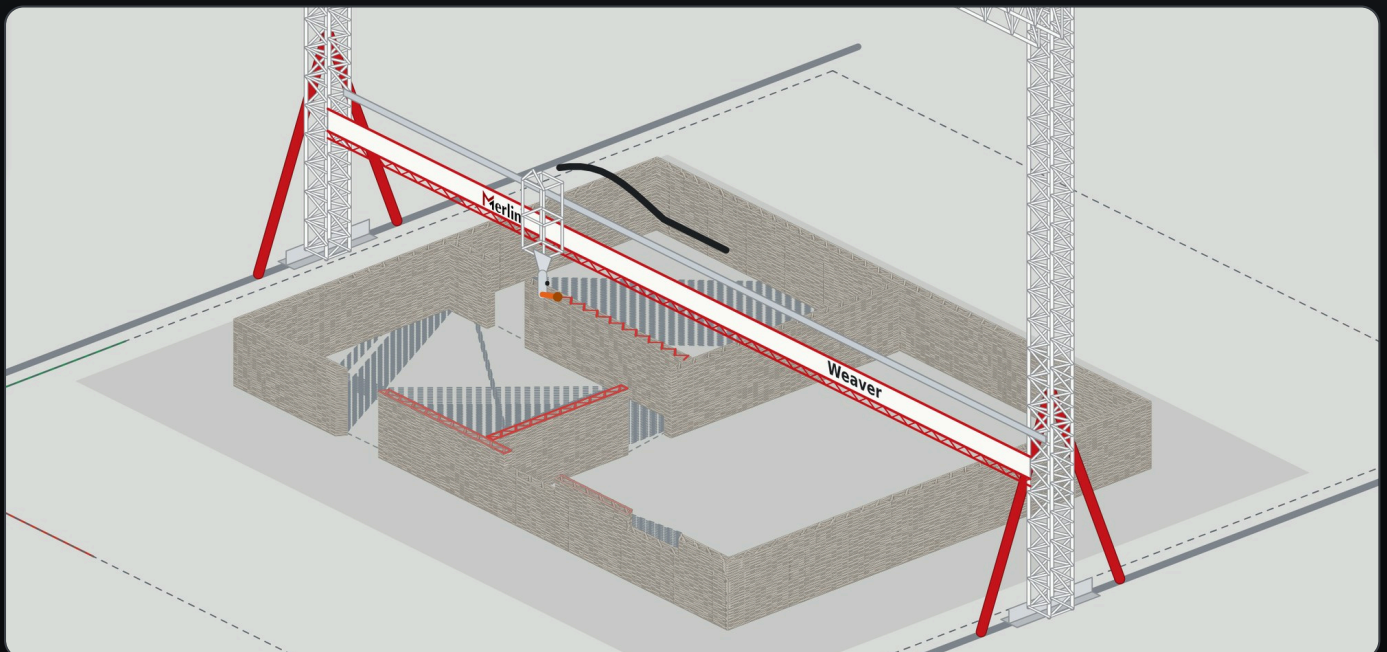
ROBOT AXES CHECKED ON
EVERY POINT

1000x

MAXIMUM SIMULATION
SPEED

2

PRINTER TYPES: ROBOTIC
AND GANTRY



BUILT FOR ROBOTIC AND GANTRY CONCRETE PRINTERS



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INTRODUCING BAYA

The concrete printing software, **engineered for real structures.**

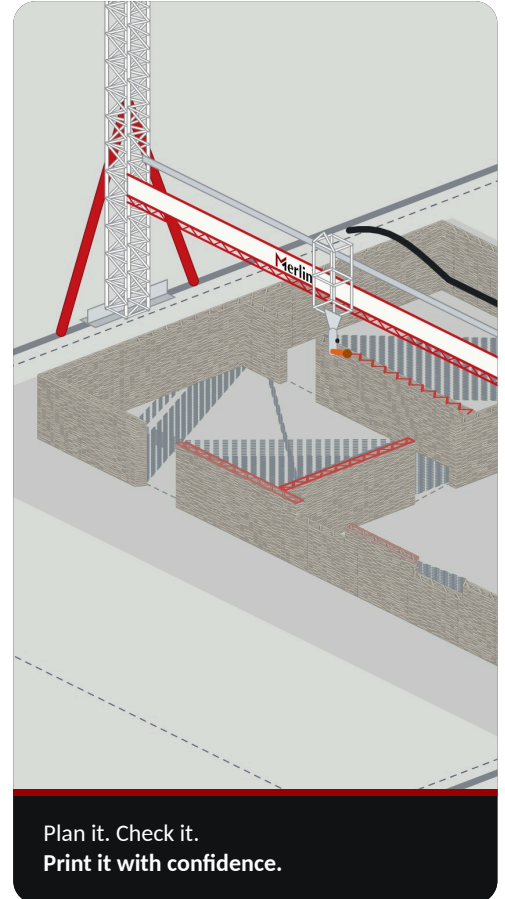
Baya is a complete planning tool for concrete 3D printing. Design or import a structure, check that it can be printed, watch the machine do it, and export the program for your robot or gantry.

It is built for concrete: layer time and cold joints, bead size, reach and axis limits, scaffolding and large structures are part of the tool, not an afterthought.

One tool serves both robotic and gantry printers, so a design, a plan and a set of settings move between them without starting again.

KEY CAPABILITIES

-  Design your own shapes, or import 3D models and G-code
-  Draw plans with walls, doors, windows and columns
-  Check reach, axis limits and layer time before you print
-  Simulate the robot or gantry with fresh concrete shown
-  Split big structures into sections with assembly sheets



APPLICATIONS

Built for a wide range of structures



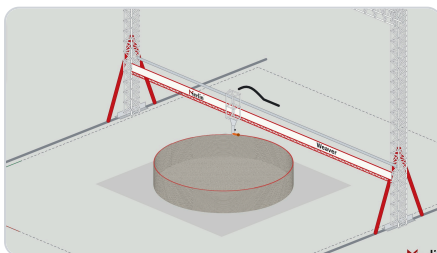
Houses & Buildings



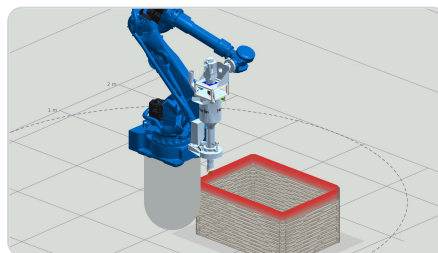
Tanks & Containers

Boundary & Partition
WallsCustom Shapes &
Landscape

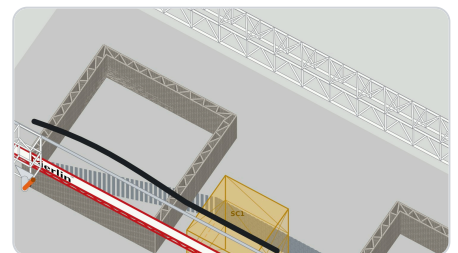
SEE IT IN ACTION



Gantry printer building a round tank



Robot printing a single-wall box



Gantry travel routed round scaffolding

BENEFIT-DRIVEN FEATURES

Problems found on screen, not on site

**Fewer surprises**

Reach and axis limits are checked on every point before export

**Better bonding**

Layer time warns of cold-joint risk before you print

**Fewer collisions**

Gantry travel is routed round scaffolding; the G-code carries it

**Less manual work**

Big structures are split into sections, with assembly sheets

**Staged prints**

Export by height range and carry on where you left off

WHY BAYA

Why a dedicated concrete printing tool?

**Built for concrete**

Layer time, bead size, lean and wall thickness are checked for you

**One tool, two machine types**

Robotic and gantry printers share the same design and plan

**From drawing to program**

CAD plan, DXF, slicing, checks, simulation and export in one place

**Works on your computer**

Windows desktop edition that works offline, licensed per computer

WHY CHANGE YOUR WORKFLOW

Separate tools vs Baya

CRITERIA	SEPARATE TOOLS	BAYA
Reach and axis limits	Found when the robot stops	✓ Checked on every point before export
Cold joints	Found when layers fail to bond	✓ Layer-time warning in the checks
Scaffolding	Routed by hand	✓ Travel avoids it, in the G-code
Large structures	Split by hand	✓ Sections, joints and assembly sheet
Staged prints	G-code edited by hand	✓ Export by height range
Robot and gantry	Different programs	✓ One tool for both

TECHNICAL SPECIFICATION

Engineered for precision. Built for performance.

20

Robots with detailed 3D models

6

Axes checked on every point

1000x

Maximum simulation speed

3

Gantry G-code styles

INPUTS & MODELLING

Design shapes	Sketch, round, rounded rectangle, polygon, star, wall along a path
3D models	STL and STEP
G-code	Import and convert
CAD plan	Walls, doors, windows, columns
Drawing files	DXF import and export
Units	mm, inch, feet and inch

PRINT PLANNING

Layers	Adjustable; defaults 15 mm layer, 40 mm bead
Wall types	Single wall or hollow with core
Base	Solid base layers, optional
Staged export	By height range
Large structures	Sections with joints (robot)
Scaffolding	Travel avoids towers (gantry)

CHECKS & SIMULATION

Robot	Reach, six axis limits, wrist singularity
Layers	Cold-joint layer time, lean, overhang
Structure	Early strength and buckling screening
Playback	1x to 1000x, fresh concrete highlighted
Joint angles	Live, with limit warning

OUTPUTS & PLATFORM

Robot programs	Native format of three major robot makes
Gantry	G-code in three controller styles
Sections	ZIP with programs and assembly sheet
Windows edition	Offline, licensed per computer
Updates	From a shared network folder

SYSTEM CONFIGURATION

Robotic printer (six-axis robot)

Gantry printer

Side-mounted extruder model

CAD plan module

Scaffold planner

Section splitter

DXF import / export

Windows desktop edition

Build smarter. Build faster.
Build with MERLIN.

Talk to our team about using Baya with your printer, your structures and your site conditions.



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DETAILED SPECIFICATION

Baya – Specification Sheet

SL. NO	DESCRIPTION	SPECIFICATION
1	Printer types	Robotic printer (six-axis industrial robot with side-mounted extruder) and gantry printer
2	Robot library	20 robots with detailed 3D models and real arm dimensions, payload classes 4 kg to 280 kg
2.a	Further robots	More built-in robots, plus a custom-dimensions option
2.b	Robot checks	Reach, all six axis limits (S, L, U, R, B, T) and wrist singularity warnings, on every sampled point
3	Gantry output	G-code in three controller styles, set to your machine: build volume, lift height and head clearance
4	Inputs	
4.a	Design	Sketch your own outline, round, rounded rectangle, polygon, star or wall along a path; twist, taper, bulge and surface waves
4.b	3D model	STL and STEP files
4.c	G-code	Import and convert for your robot or gantry
4.d	CAD plan	Walls, doors, windows and columns; DXF import and export; mm, inch and feet-and-inch units
5	Wall types	Single wall; hollow double wall with optional zigzag core; solid base layers; spiral mode
6	Print settings	Layer height, bead width, beads per wall, base layers, core spacing and angle. Defaults 15 mm layer, 40 mm bead
7	CAD tools	Dimensions and constraints; arcs; trim, extend, break, stretch, fillet, chamfer, offset, array, mirror
8	Reinforcement	Suggested reinforcement for walls, openings and columns
9	Scaffolding (gantry)	Towers placed in the plan. Travel is routed around them, or lifted over, and the G-code carries the path. Print clearance is checked
10	Printability checks	Layer time against cold-joint risk; lean and overhang; height-to-width ratio; bead and wall thickness
11	Structure screening	Early-strength and fresh-wall buckling during printing; in-service screening. Needs your mix and strength data. Screening only, not a design
12	Simulation	Playback from 1x to 1000x; fresh concrete highlighted; live joint angles; the robot or gantry is shown in the preview
13	Large structures (robot)	Automatic sections with straight, offset or toothed joints; robot position per section; ZIP with per-section programs, section list and assembly sheet
14	Staged printing	Export by height range; the next stage steps on by the same height
15	Output files	Robot programs in the native format of three major robot makes; gantry G-code; per-section ZIP; DXF; session and settings files
16	Platform	Windows desktop edition: works offline, licensed per computer, installs without administrator rights, updates from a shared network folder

Structural checks are screening aids that flag risks for your structural engineer. They are not a design, and results must be verified by a qualified engineer. Check every program in a dry run before it is used on a machine. Specifications are subject to change.