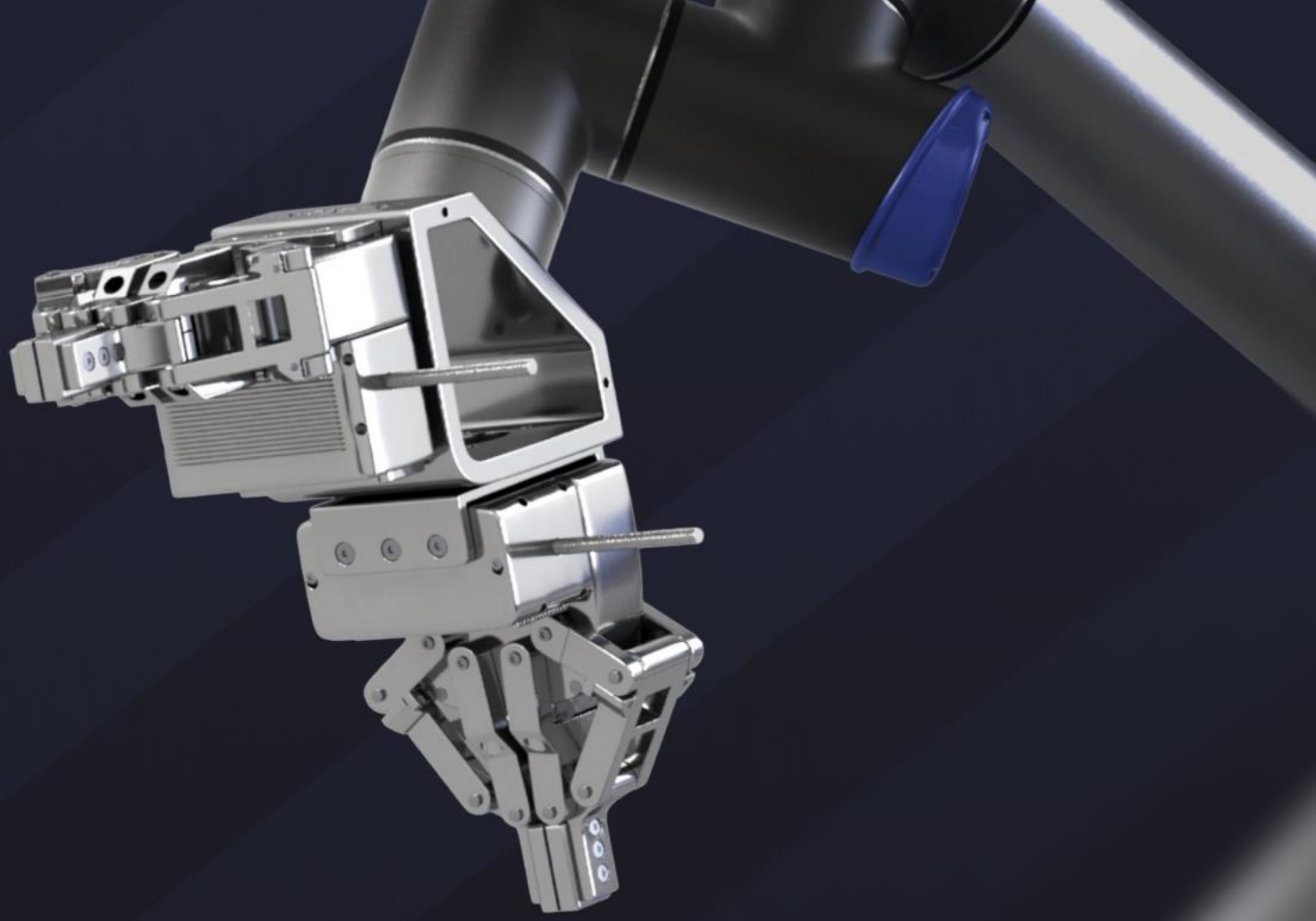
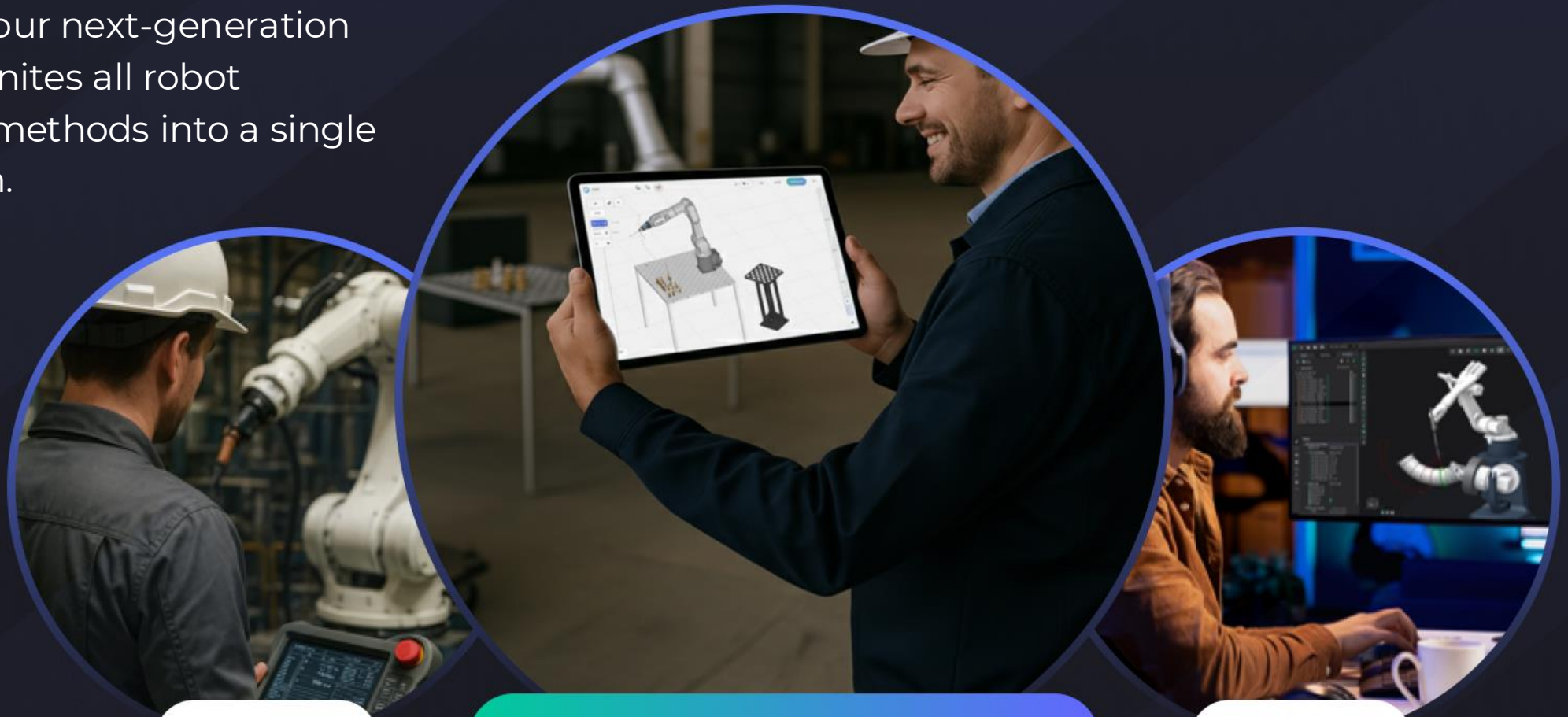
Developed by ENCY



ENCY Hyper: hybrid programming of industrial robots

HYPER

ENCY Hyper is our next-generation software that unites all robot programming methods into a single hybrid platform.



Online

Hybrid programming

Offline

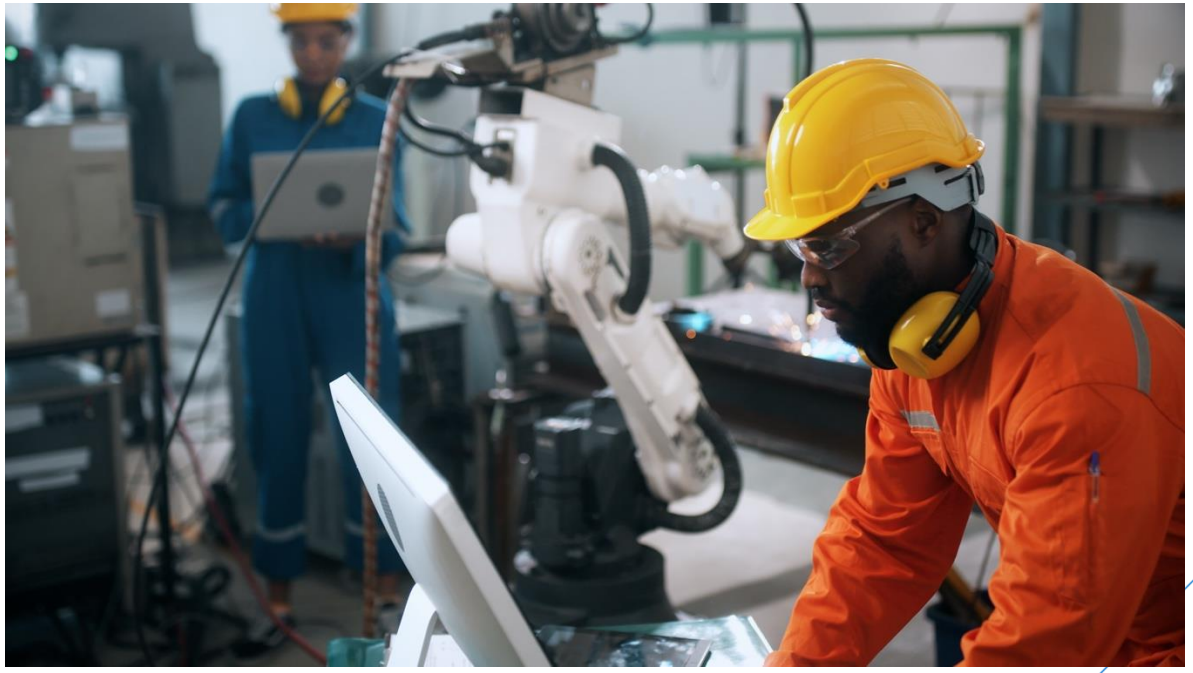

LCOME
ENCY WORLD
CONFERENCE

What is ENCY Hyper?

ENCY Hyper brings the power of a professional robot platform to the hands of every operator on the shop floor.

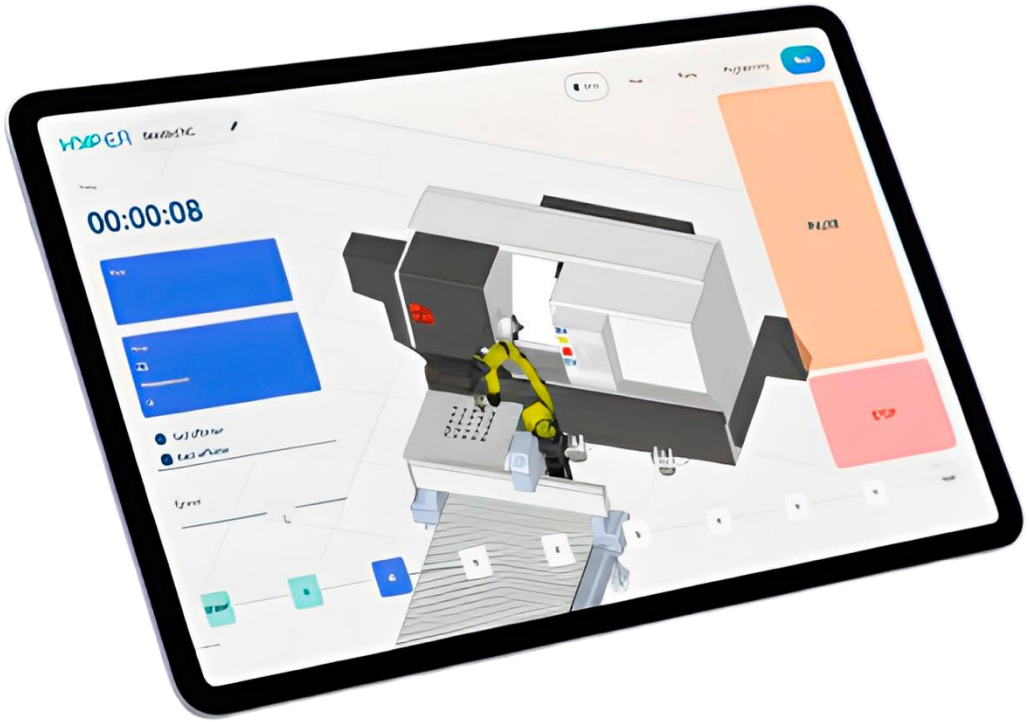
Key features:

- Touchscreen-optimized interface
- Block-based programming that requires no special expertise
- Real-time robot control
- Support for robots from various manufacturers
- Built-in collision avoidance system
- Full access to the advanced trajectory calculation engine of an offline CAD/CAM system
- Cross-platform solution



ENCY Hyper

ENCY Hyper can run completely independently — and this makes it perfect for everyday automation.



Applications:

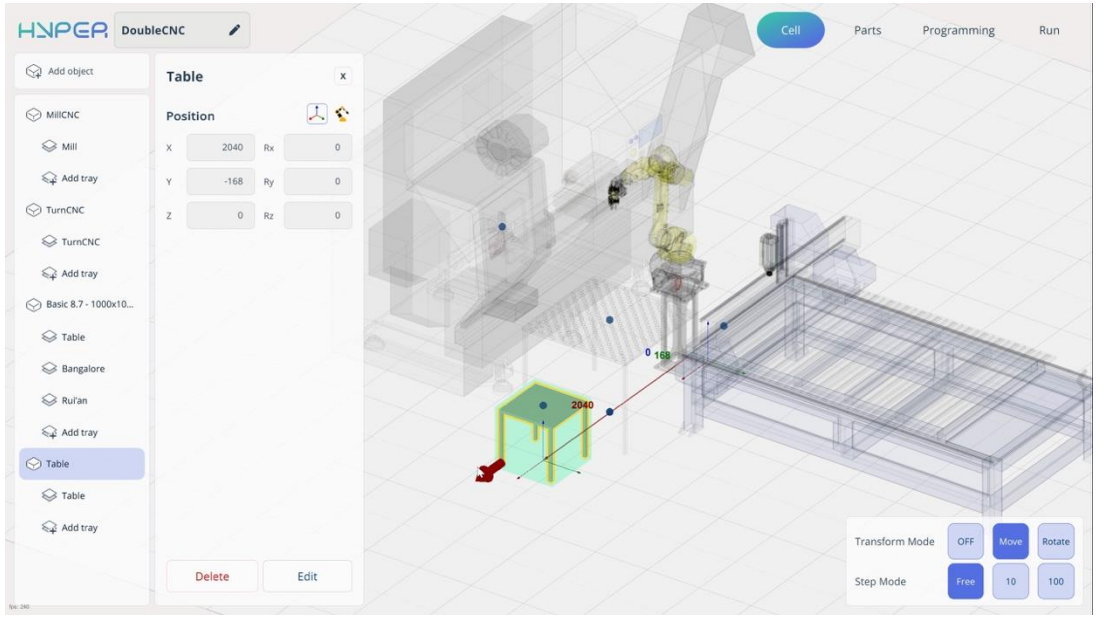
- pick-and-place
- machine tending
- palletizing
- packaging
- assembly
- nailing

Cell Mode

The robot cell can be created in ENCY MachineMaker, our digital twin builder, and then loaded into ENCY Hyper. Here, you can edit the robot cell — add or modify components and adjust layout parameters.

Features:

- Creation of parametric objects (table, box, machine, etc.)
- Positioning of objects either interactively or by entering precise coordinates obtained through robot calibration
- Specification of locations for parts and trays
- Import of tray templates in DXF format with defined part placement positions

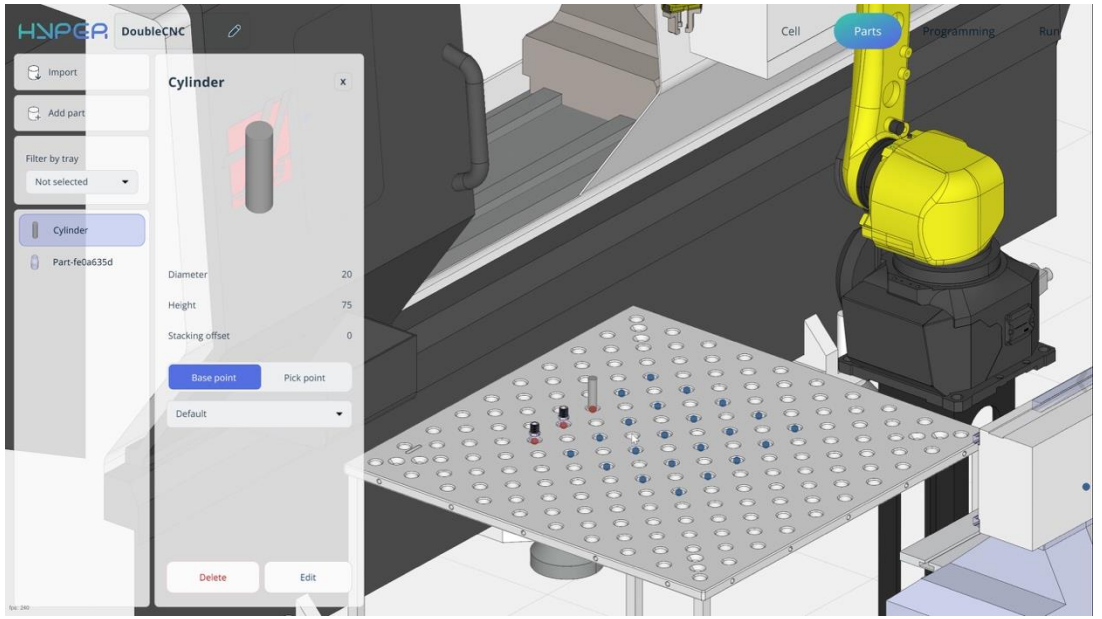


Parts Mode

In this mode, you define the parts. You can import a CAD model or build a parametric one directly. Then you set the gripping points and arrange the parts in the workspace — for example, on pallets or tables.

Features:

- Create parametric 3D part models or import existing CAD files
- Works even without a CAD model — ideal for pick-and-place or machine tending tasks created directly next to the robot
- Easily define initial part positions

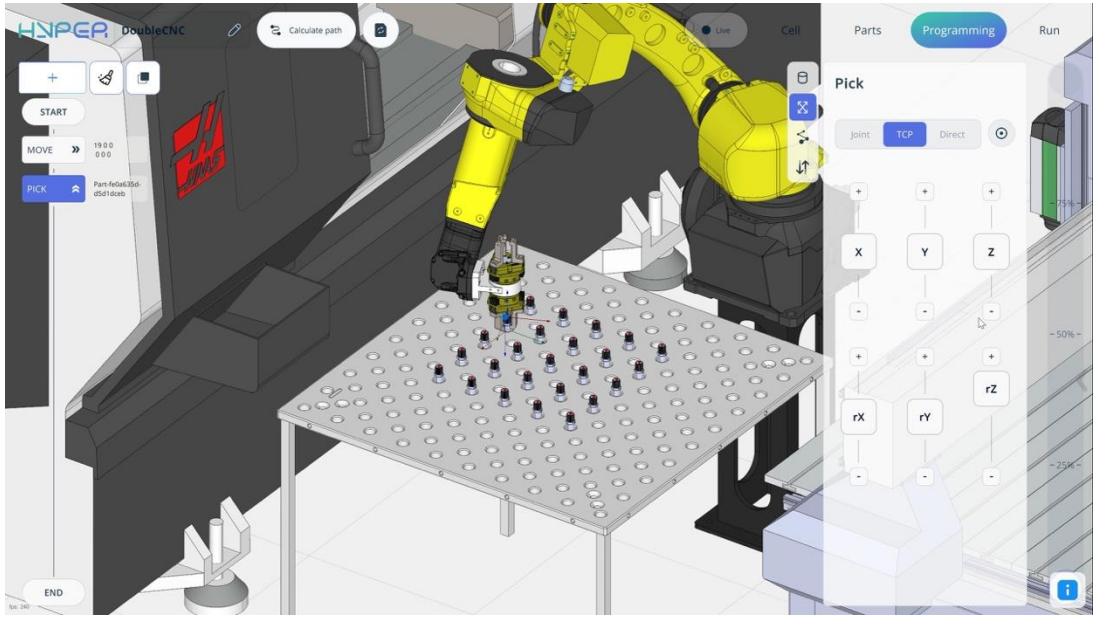


Programming Mode

You create your robot program visually by placing command blocks and connecting them in sequence. Once your sequence is ready, you can test it either in a virtual simulation or directly on the real robot — just press Live.

Features:

- No-code programming using drag-and-drop blocks and parameter settings
- Program debugging on a digital twin
- Program debugging on the real robot
- Part position calibration

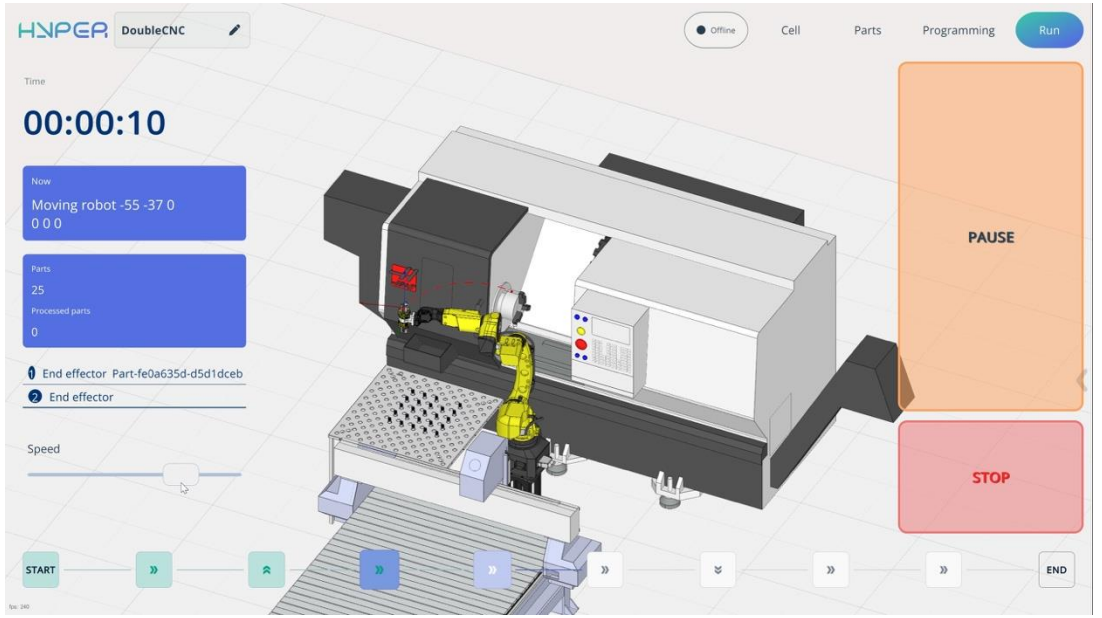


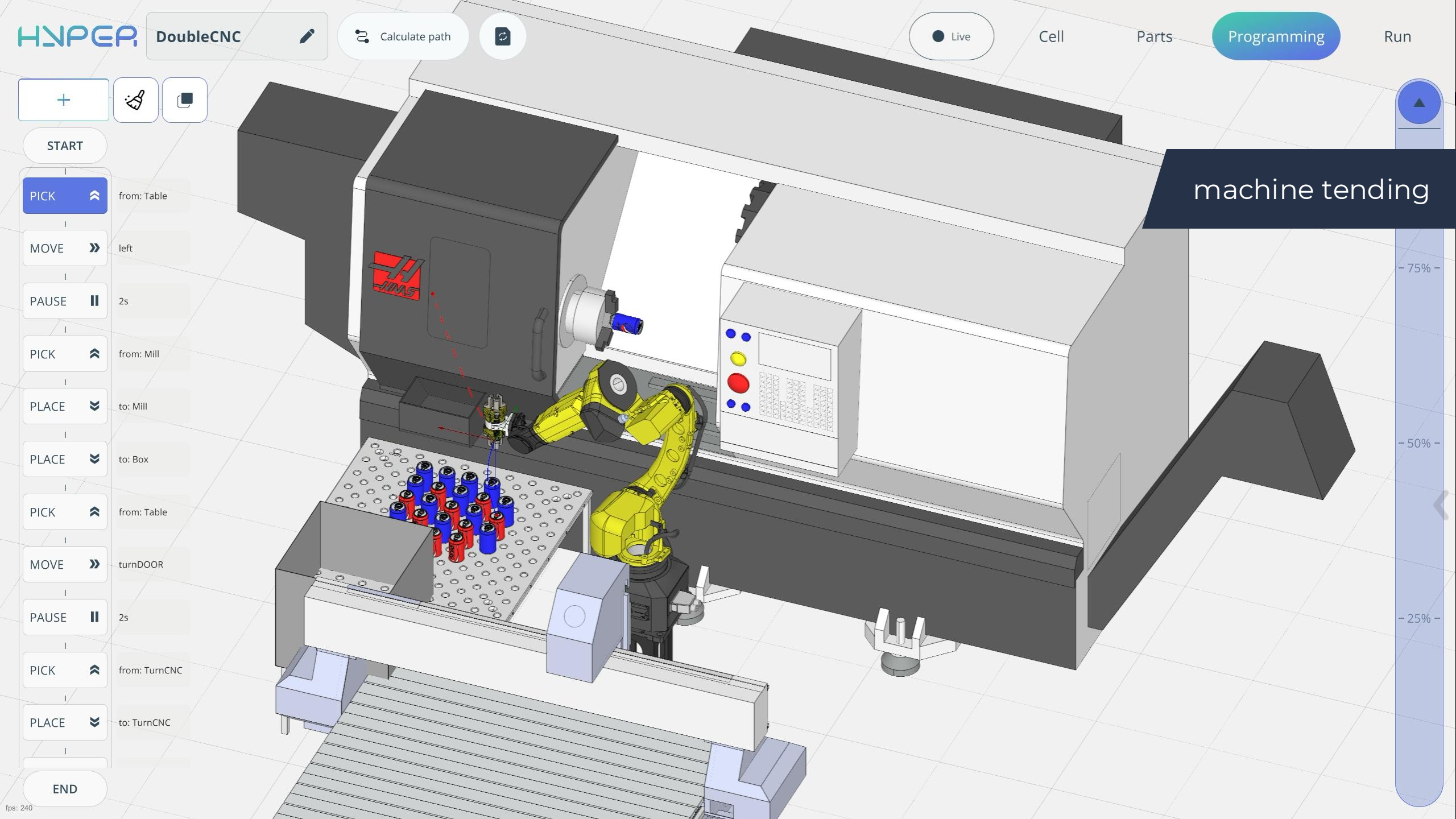
Run Mode

When the program is ready, switch to Run Mode to execute it on the real robot. Here, you can control the speed, monitor the current task, and track the tool status — all in real time. All robot movements in the real cell are simultaneously reflected in the digital twin and displayed in the software interface.

Features:

- Program execution with speed control and instant stop capability.
- Real-time status display: which part is in the machine, which is in the gripper, current operation step, number of processed parts, and robot uptime.




HYPER
DoubleCNC
Calculate path
Live
Cell
Parts
Programming
Run
START
PICK
from: Table
MOVE
left
PAUSE
2s
PICK
from: Mill
PLACE
to: Mill
PLACE
to: Box
PICK
from: Table
MOVE
turnDOOR
PAUSE
2s
PICK
from: TurnCNC
PLACE
to: TurnCNC
END
machine tending
75%
50%
25%
fps: 240

HYPER

Packaging

Calculate path

Live | Cell | Parts | Programming | Run

START

GROUP 8 — Place box

PICK — from: Screens

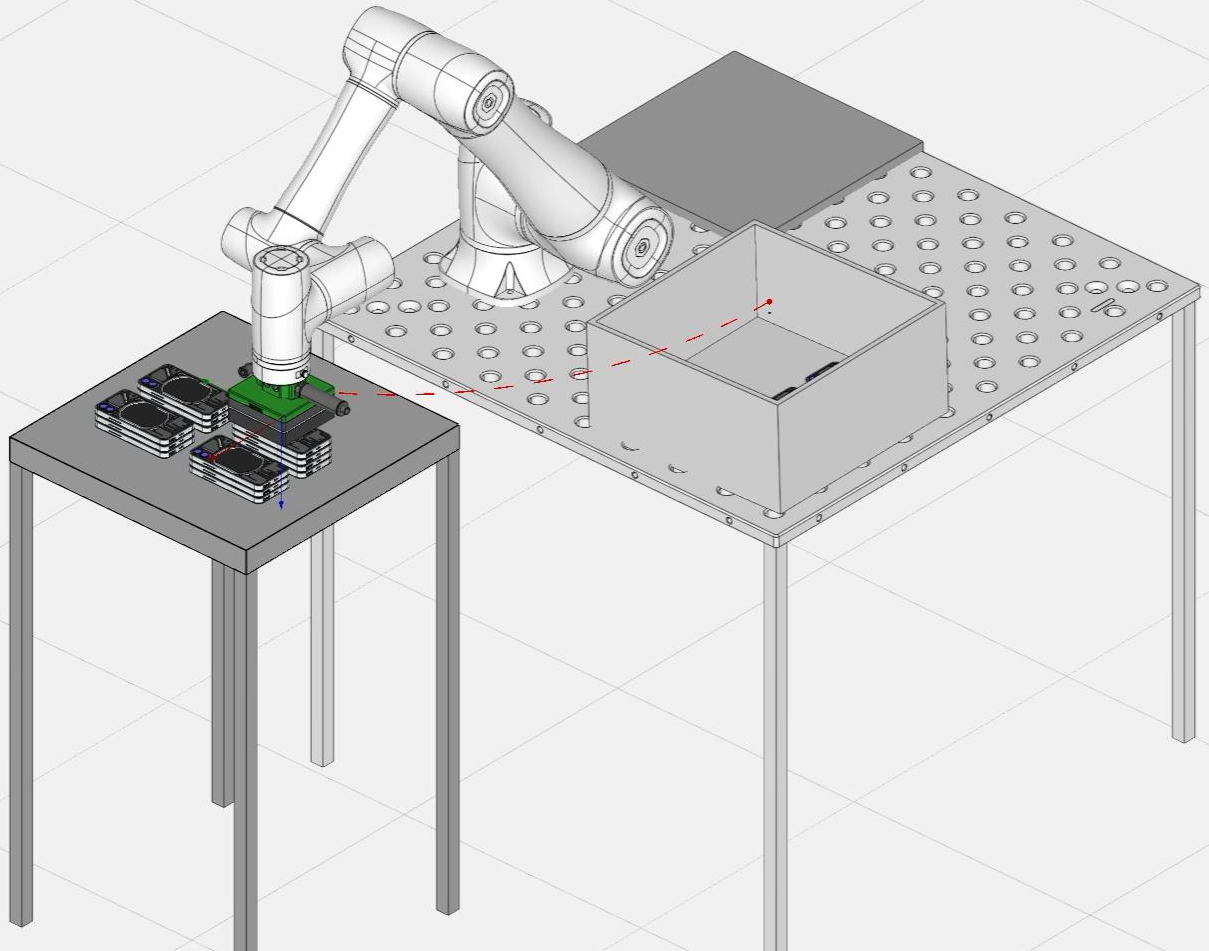
PLACE — to: Assembly Station

IF — Condition

PICK — Cover-69cfbace

PLACE — to: Cover2-5f1d936b

END



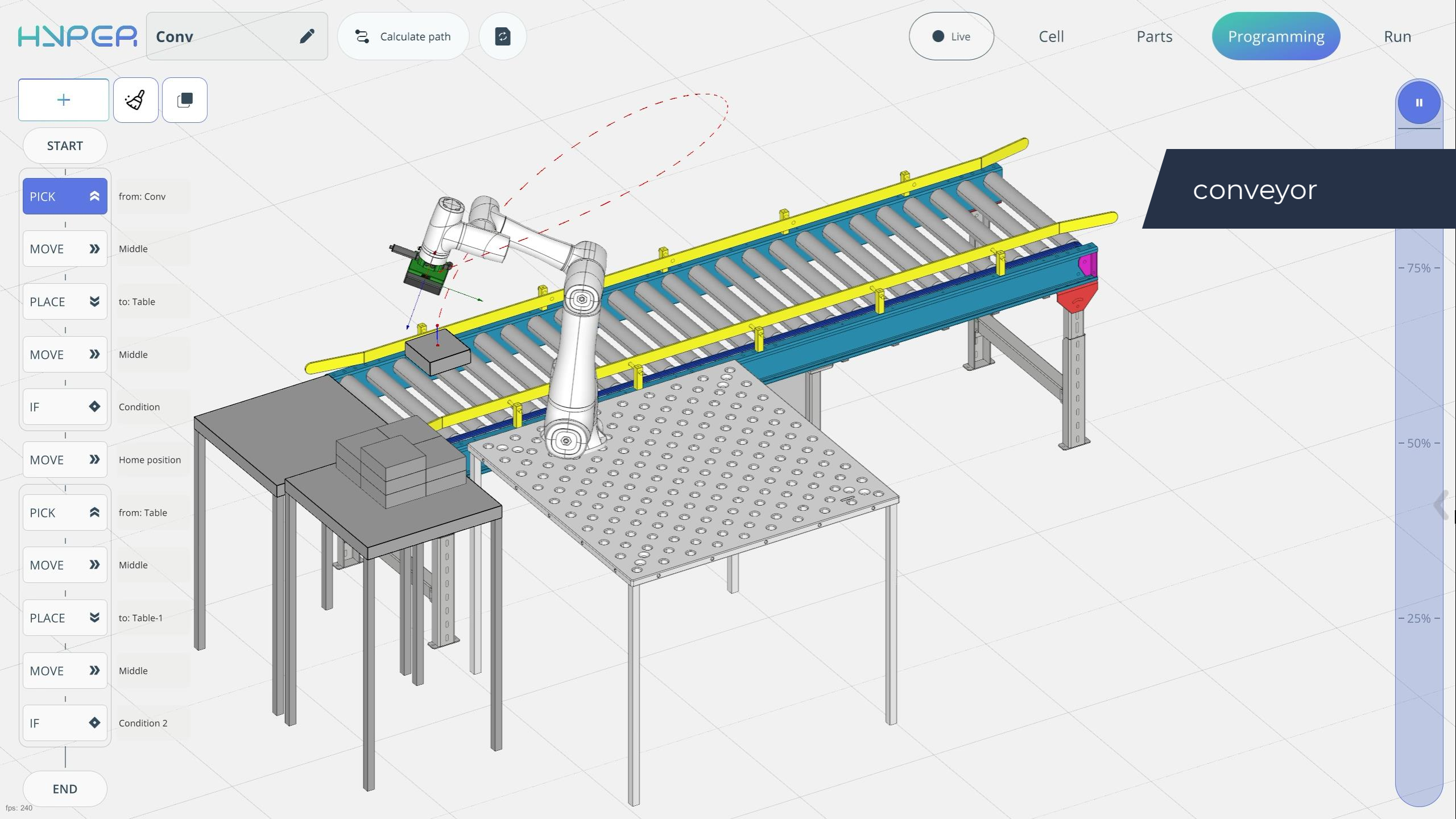
packaging

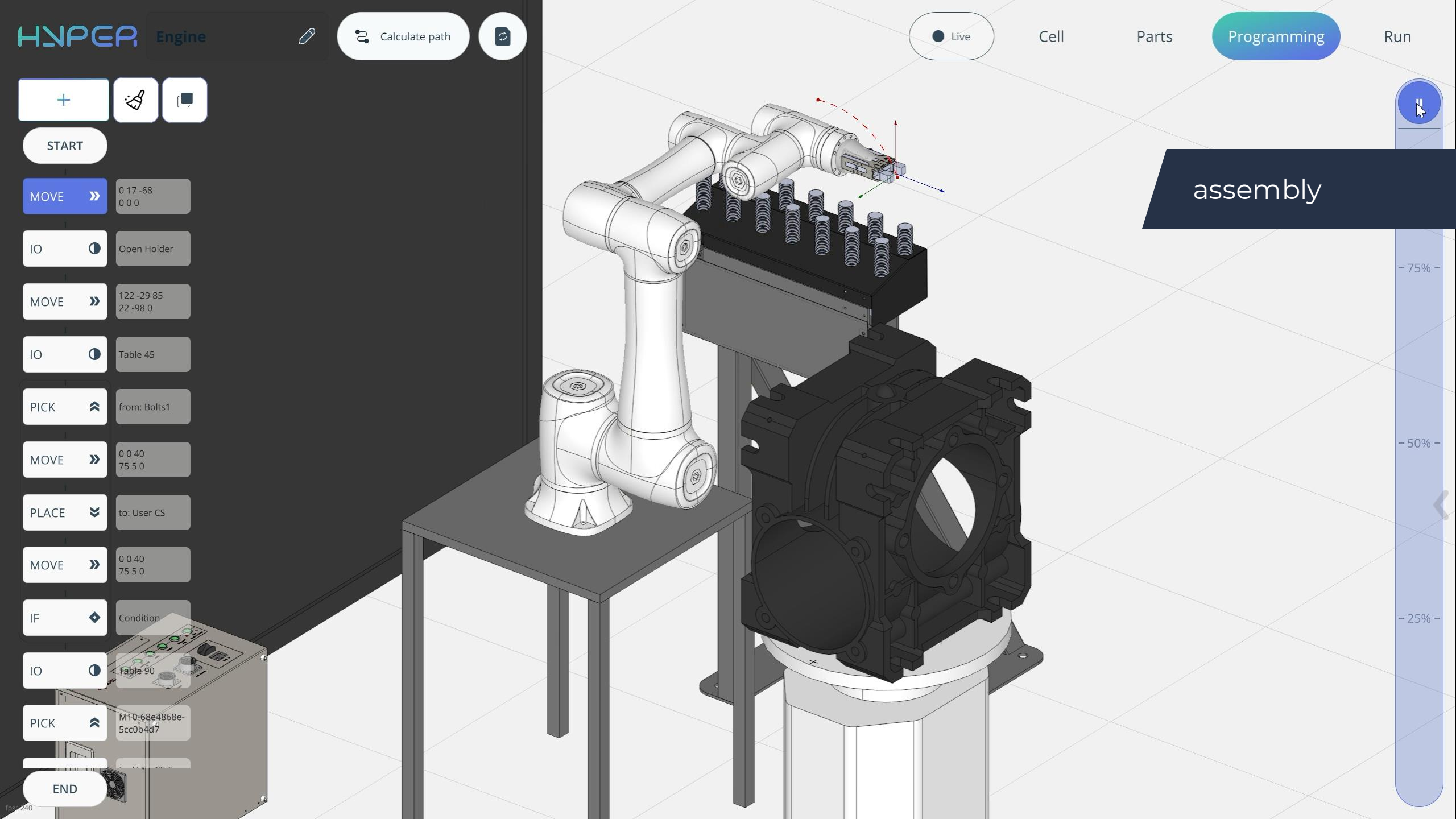
– 75% –

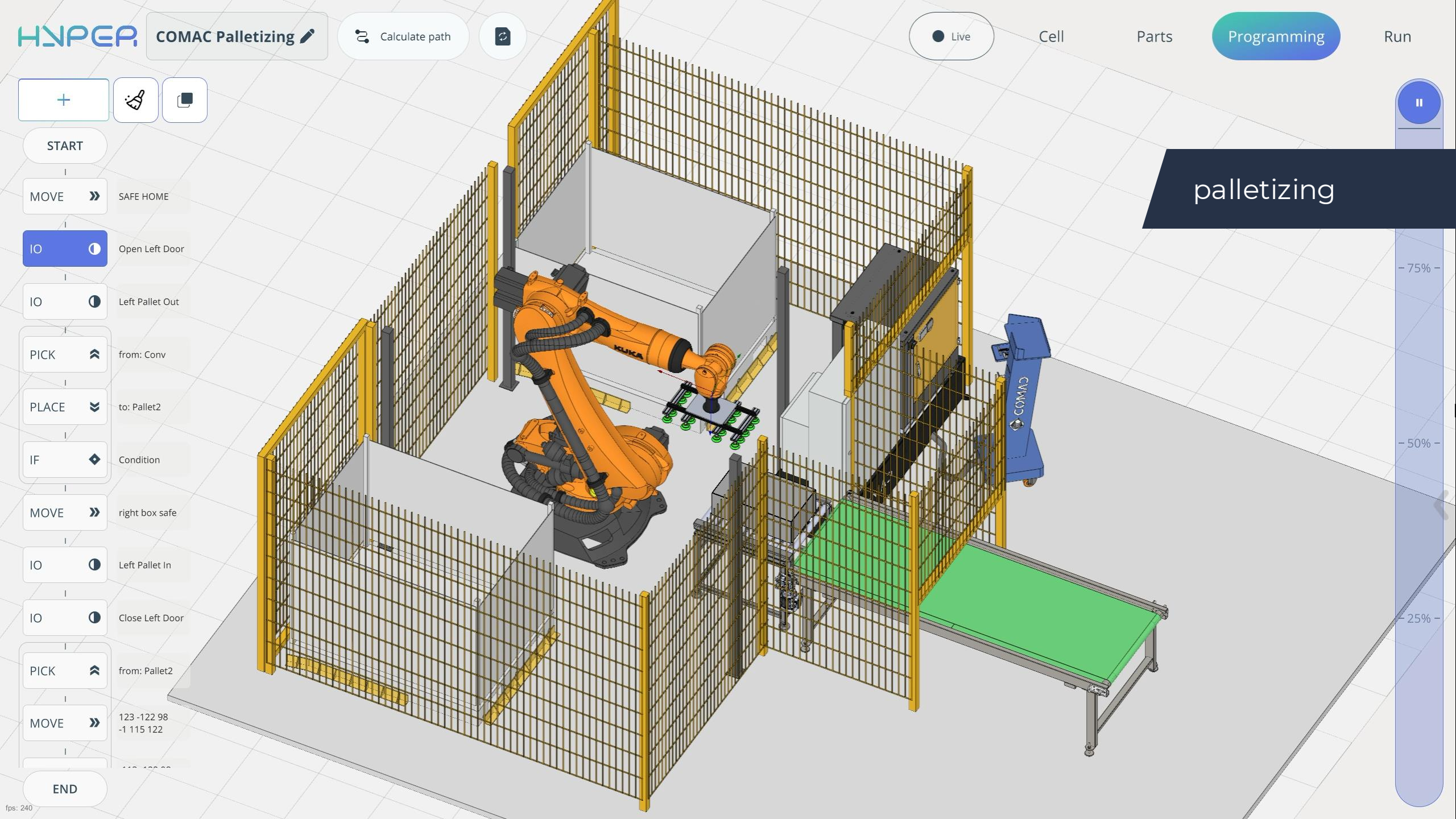
– 50% –

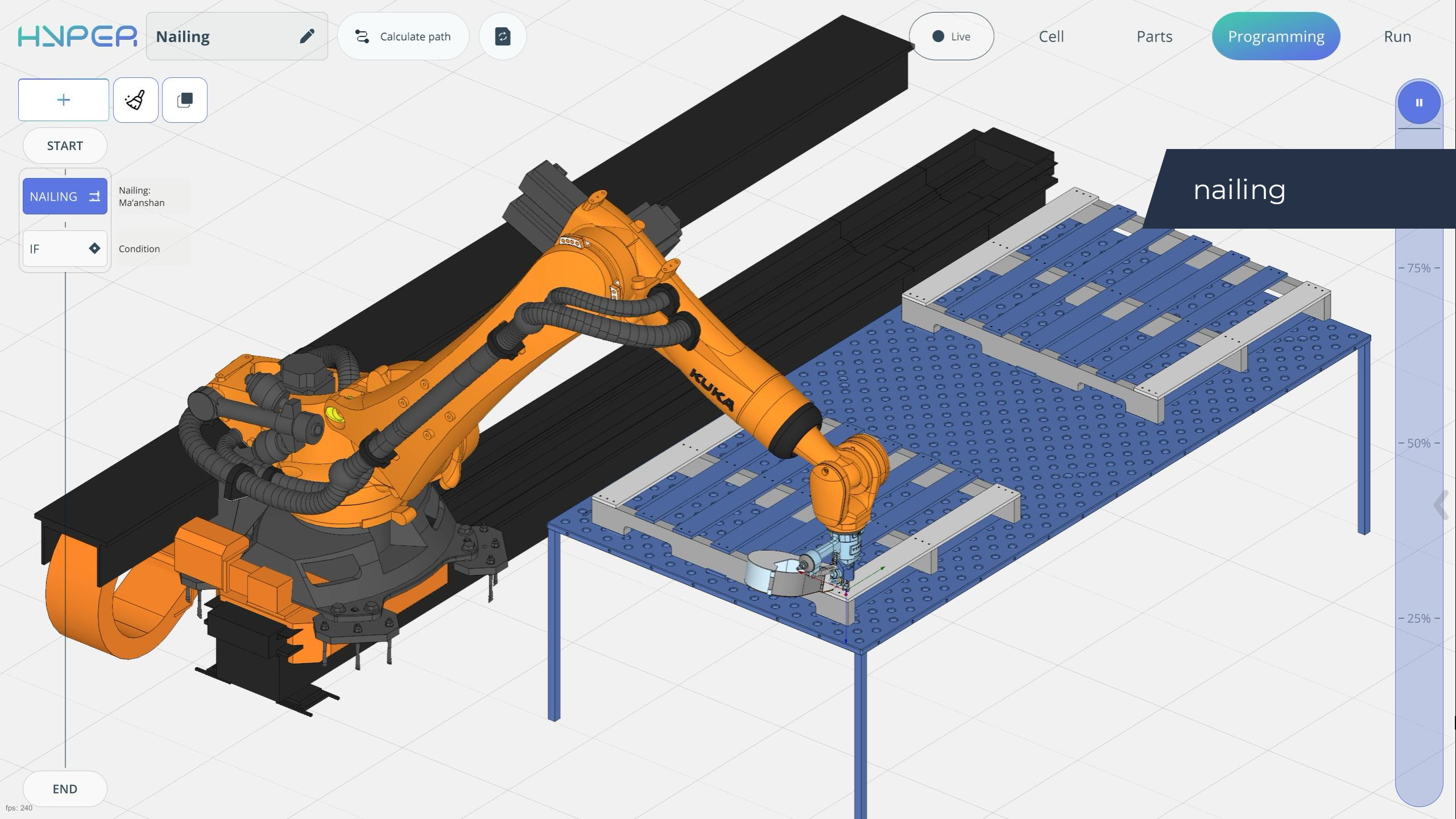
– 25% –

fps: 240


HYPER
Conv
Calculate path
Live
Cell
Parts
Programming
Run
START
PICK
from: Conv
MOVE
Middle
PLACE
to: Table
MOVE
Middle
IF
Condition
MOVE
Home position
PICK
from: Table
MOVE
Middle
PLACE
to: Table-1
MOVE
Middle
IF
Condition 2
END
conveyor
75%
50%
25%
fps: 240

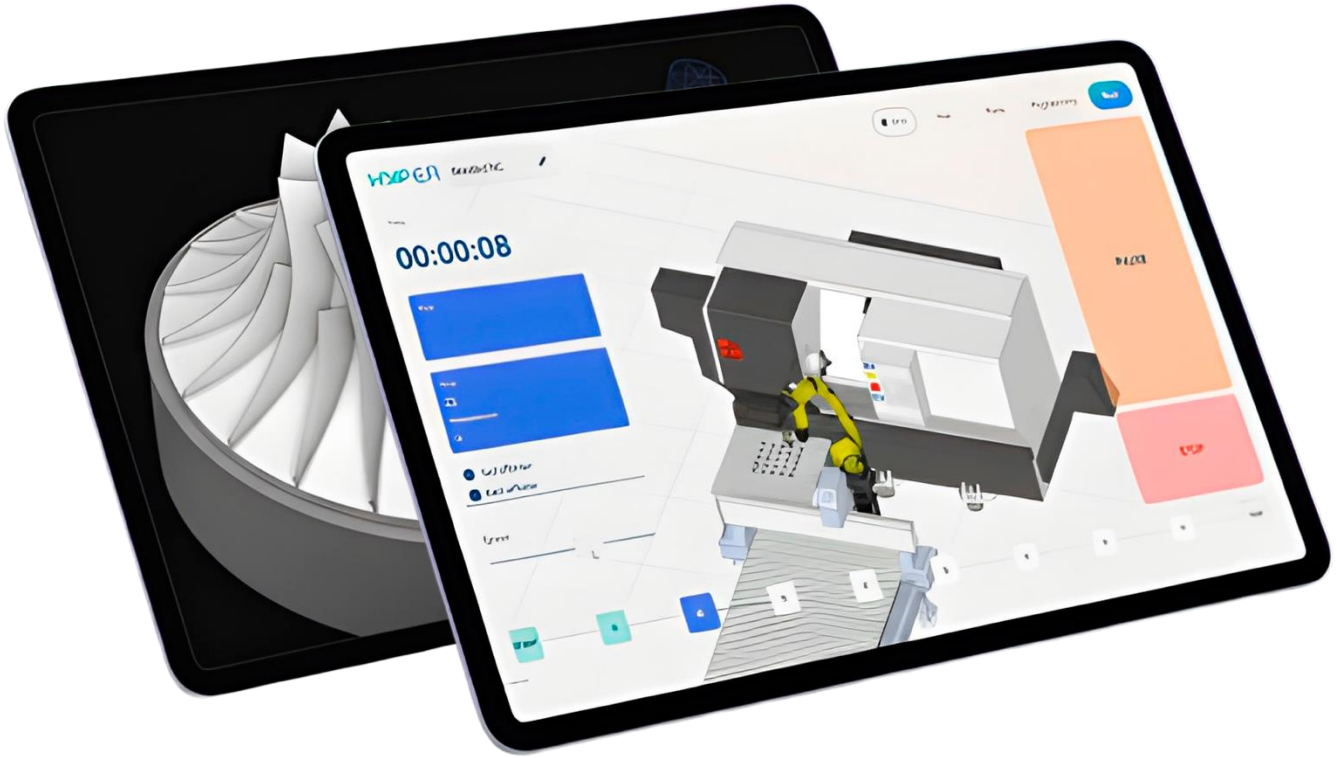

HYPER
Engine
Calculate path
Live
Cell
Parts
Programming
Run
START
MOVE
0 17 -68
0 0 0
IO
Open Holder
MOVE
122 -29 85
22 -98 0
IO
Table 45
PICK
from: Bolts1
MOVE
0 0 40
75 5 0
PLACE
to: User CS
MOVE
0 0 40
75 5 0
IF
Condition
IO
Table 90
PICK
M10-68e4868e-5cc0b4d7
END
assembly
75%
50%
25%


HYPER
COMAC Palletizing
Calculate path
Live
Cell
Parts
Programming
Run
START
MOVE
SAFE HOME
IO
Open Left Door
IO
Left Pallet Out
PICK
from: Conv
PLACE
to: Pallet2
IF
Condition
MOVE
right box safe
IO
Left Pallet In
IO
Close Left Door
PICK
from: Pallet2
MOVE
123 -122 98
-1 115 122
END
palletizing
75%
50%
25%
KUKA
COMAC
fps: 240


HYPER
Nailing
Calculate path
Live
Cell
Parts
Programming
Run
START
NAILING
Nailing:
Ma'anshan
IF
Condition
END
nailing
75%
50%
25%
KUKA
fps: 240

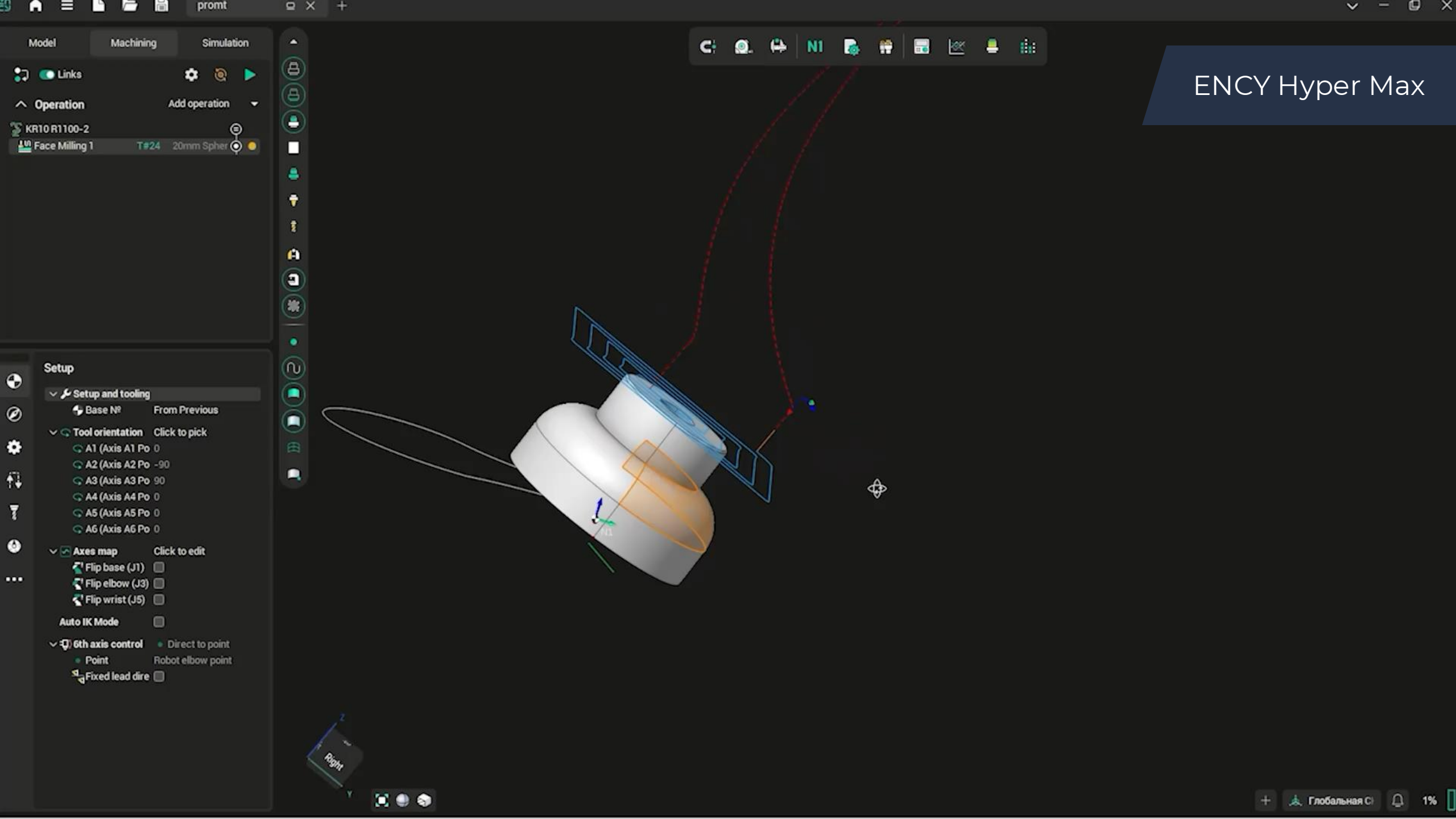
ENCY Hyper Max

ENCY Hyper acts as the operator interface, while ENCY Robot works in the background, handling heavy calculations and trajectory generation.

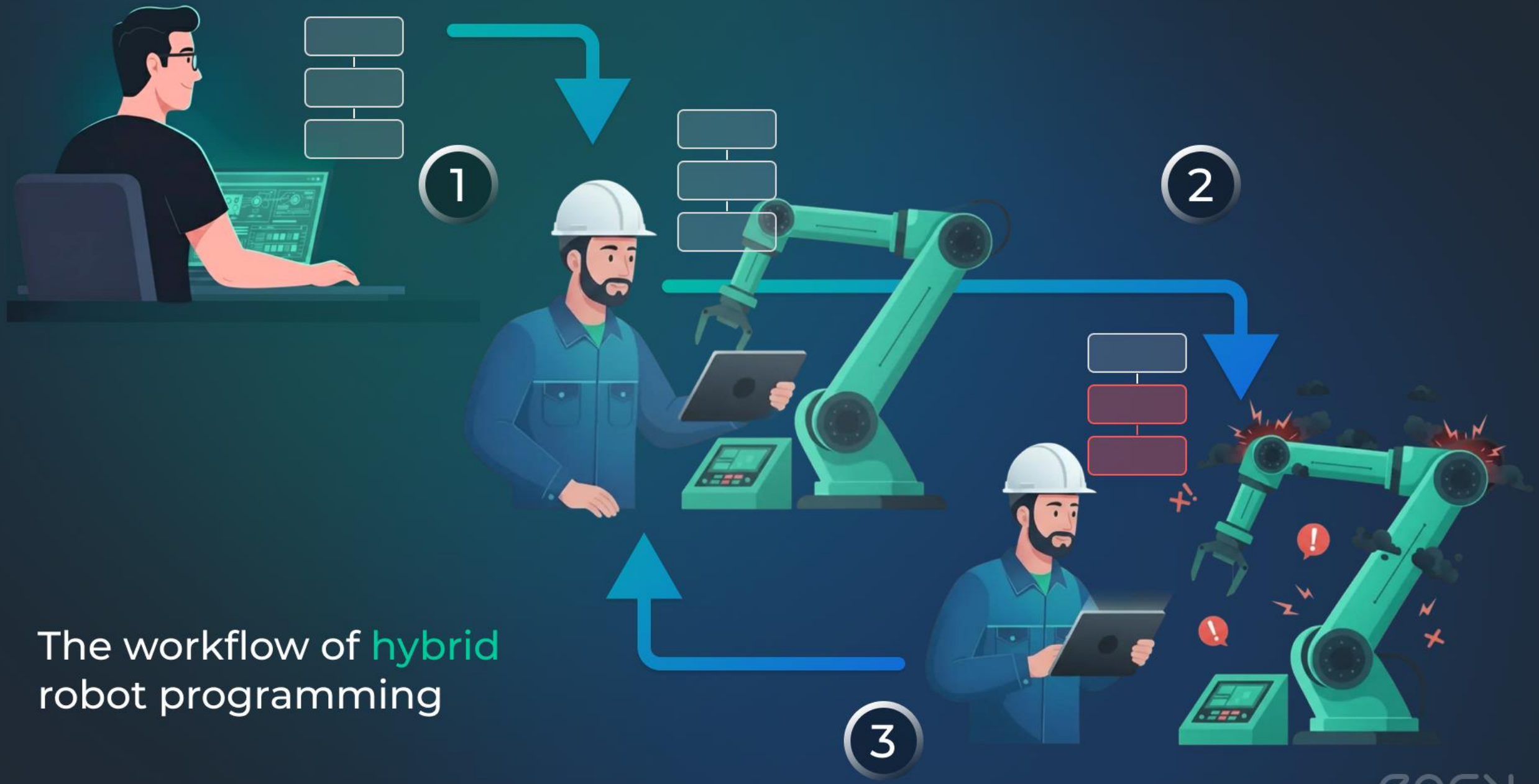


Applications:

- milling
- welding
- polishing
- coating
- additive

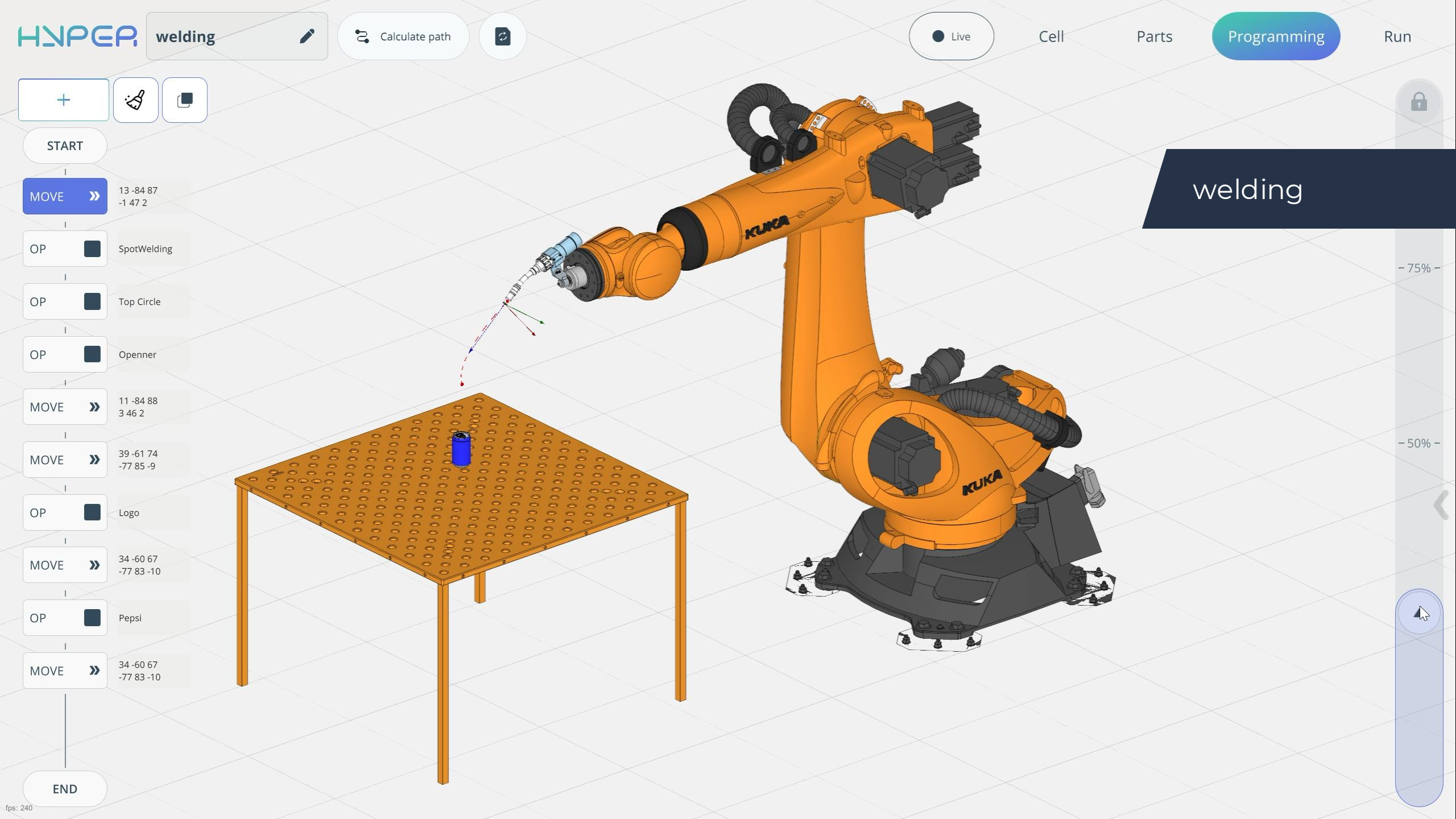

promt
Model
Machining
Simulation
Links
Operation
Add operation
KR10 R1100-2
Face Milling 1
T#24
20mm Spher
Setup
Setup and tooling
Base №
From Previous
Tool orientation
Click to pick
A1 (Axis A1 Po
A2 (Axis A2 Po
A3 (Axis A3 Po
A4 (Axis A4 Po
A5 (Axis A5 Po
A6 (Axis A6 Po
Axes map
Click to edit
Flip base (J1)
Flip elbow (J3)
Flip wrist (J5)
Auto IK Mode
6th axis control
Direct to point
Point
Robot elbow point
Fixed lead dire
Right
ENCY Hyper Max


1
2
3
4
The classic workflow of
offline robot programming
x!
!
x!
!



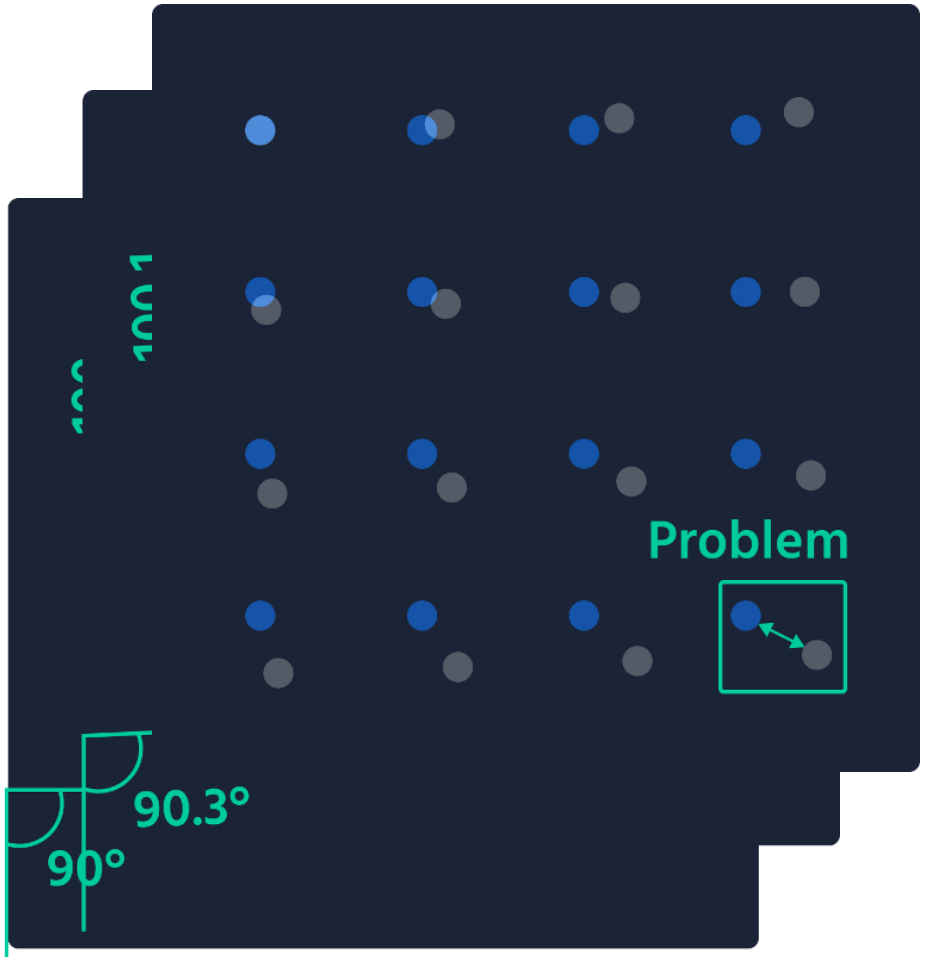
The workflow of hybrid robot programming

ency

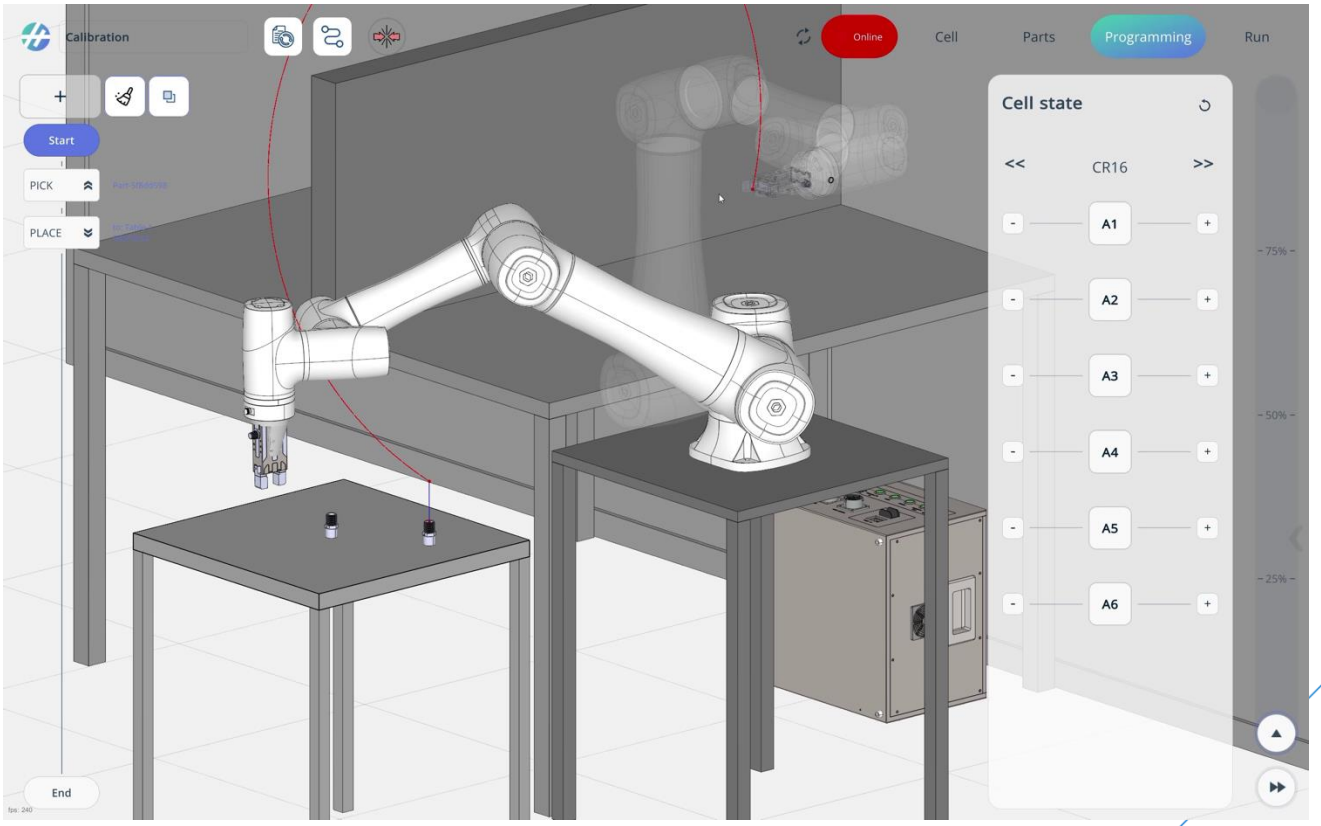

HYPER
welding
Calculate path
Live
Cell
Parts
Programming
Run
START
MOVE
13 -84 87
-1 47 2
OP
SpotWelding
OP
Top Circle
OP
Openner
MOVE
11 -84 88
3 46 2
MOVE
39 -61 74
-77 85 -9
OP
Logo
MOVE
34 -60 67
-77 83 -10
OP
Pepsi
MOVE
34 -60 67
-77 83 -10
END
welding
75%
50%
KUKA
KUKA
fps: 240

Easy and Fast Calibration

Calibration challenge



Solution

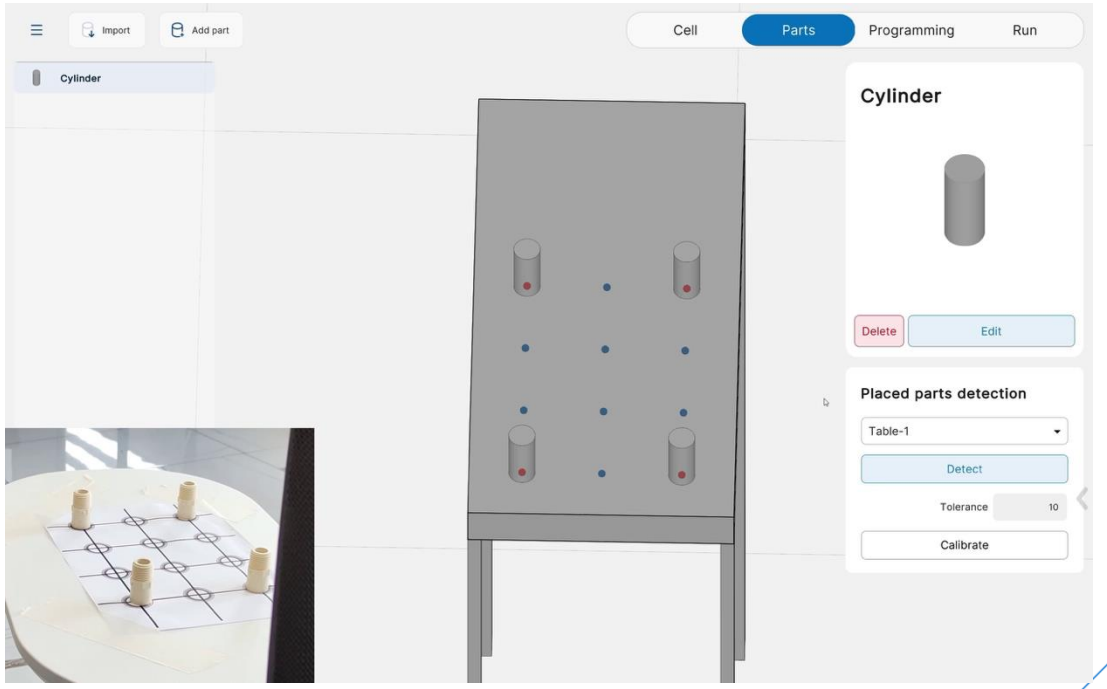


AI-enabled

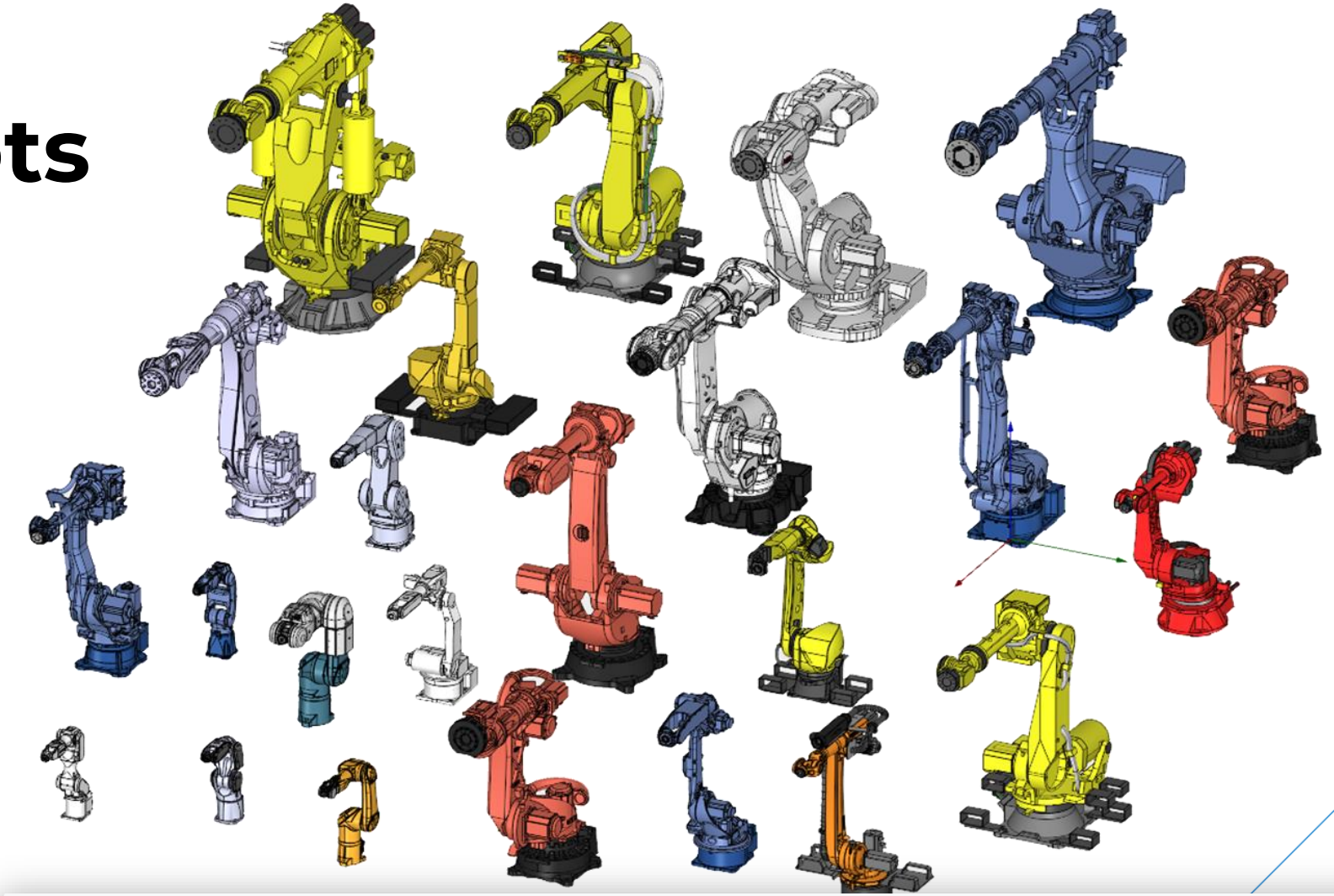
AI-powered vision automatically detects parts and their positions using a simple camera — no costly 3D scanners needed

The system instantly updates the digital twin to match reality, saving time and setup effort





Supported Robots



KUKA tested ✓

FANUC tested ✓

DOBOT tested ✓

FuzzyLogic



STÄUBLI ABB YASKAWA UNIVERSAL ROBOTS

For robot integrators

- A ready-to-use solution compatible with multiple robot brands
- No need to develop or maintain custom software anymore
- The integrator can prepare a project for the customer, and the customer can later adapt it easily without returning to the integrator
- The customer doesn’t need to learn complex CAM software
- Complete robot cells can be designed using components from a large online library, with process simulation and demonstration capabilities



For robot manufacturers

- Can be bundled with robots to provide customers a modern, flexible, and user-friendly programming solution — a strong value add
- There’s no need to develop or maintain custom software anymore
- A cross-platform application that can be installed on most industrial PCs, tablets, or even hand-held computers



For robot operators

- Offers a visual programming approach appreciated by operators and automation engineers
- Eliminates complex teach pendant routines — complete workflows can be designed with simple drag-and-drop logic
- Ensures safety through full cell simulation and automatic collision avoidance



For ENCY Robot users

- Serves as the perfect companion for users of ENCY Robot software
- Enables fine-tuning, testing, and execution of projects directly next to the real robot — without loss of data or time
- Supports integration with computer vision and real-time feedback from sensors and external devices




Cell
Online
Cell
Parts
Programming
Run

Why ENCY Hyper?

It’s not just another robot programming tool — it’s a new way of thinking about how humans and robots collaborate.

- Unlike traditional online methods, ENCY Hyper lets you program safely and productively — while the robot keeps working.
- Unlike pure offline systems, it doesn’t isolate programming from the real cell — you can adjust, calibrate, and improve on-site.
- And unlike AI-only tools, it gives you full transparency and control — the human always stays in charge.





ENCY Software Ltd.

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