

Emulate3D for Consumer Product Groups

Dynamic simulation and digital twins for process, packaging & logistics lines

Andrew Parsons

Business Development Director, AutoLogic Systems

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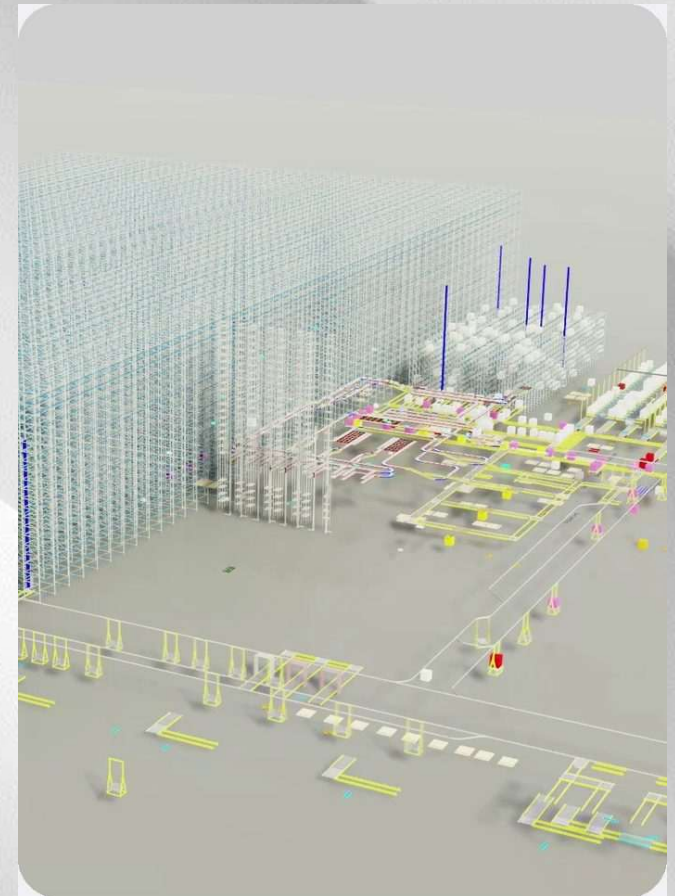
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Talking to your model in plain language

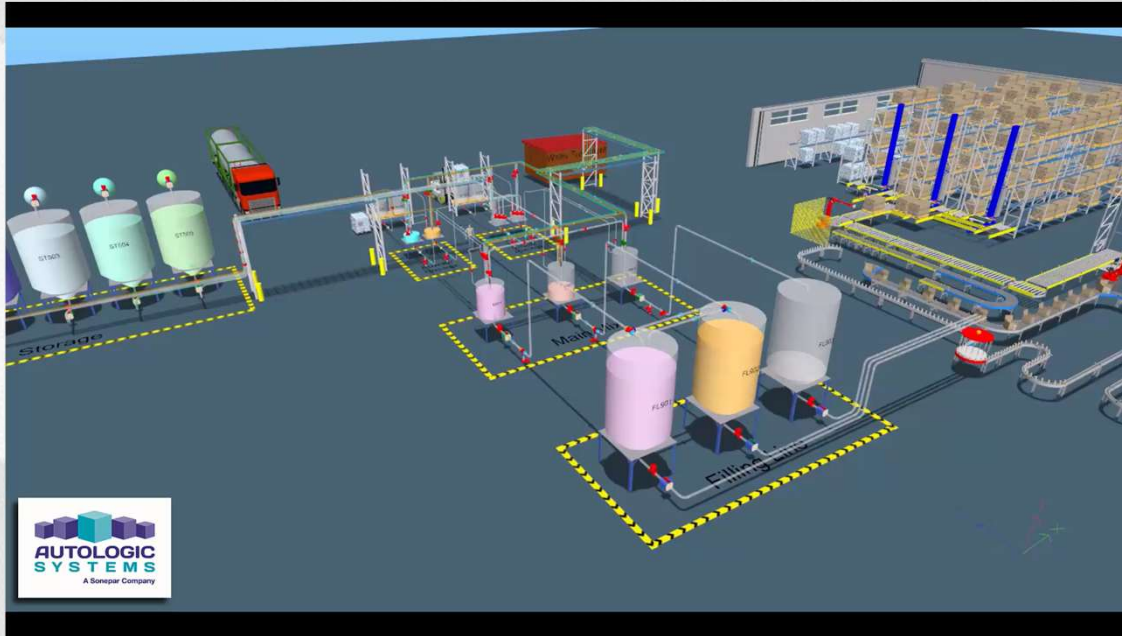


A quick word on who's talking to you

Thirty years of simulation software and consulting — the UK & Ireland partner for Emulate3D, part of the Sonepar Group.



What is an Emulate3D digital twin?



A CPG production line, modelled in Emulate3D before it was built

A working copy of your line, in software. Same layout, same speeds, same physics, same control logic — so you can test and learn before you touch anything physical.

- Geometrically accurate — built from 2D and 3D CAD designs
- Dynamic — respects time, mass, motion and gravity
- Can be pure discrete event simulation
- Connected — can talk to real automation controllers (PLC), robots, Material Flow software layer (MES/WMS)

What Emulate3D actually does

A physics-based dynamic modelling platform, used across the whole project life cycle — from first concept to daily operation.

Build

Create accurate, dynamic 3D models fast — drag-and-drop equipment catalogs, your own CAD, or both

Experiment

Run what-if experiments risk-free: throughput, buffer sizes, layouts, schedules and formats

Connect

Plug in real PLC, robot and MES/WMS code and test it against the virtual machine — before build

Share

Demonstrate in 3D and VR: design reviews, stakeholder demos and operator training

One model does all of it — no rebuilding between design, testing, commissioning and training.

Building the model is faster than you'd think



- Ready-made catalogs of intelligent equipment — conveyors, robots, vehicles, palletisers — drag, drop and configure
- Got your own machine CAD? CITM (“CAD Is The Model”) turns it into working components directly — one technique among several
- Imports all the major CAD and layout formats
- Physics built in — mass, friction, gravity and collisions, timed to the millisecond

Four ways CPG teams use it



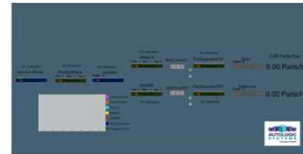
Demonstrate

Bring early concepts to life and win stakeholder buy-in before steel is cut.



Simulate

Find bottlenecks, right-size buffers, and test format & SKU changes risk-free.



Commission

Prove PLC, robot & WMS code against the model — before the real machine exists.



Training

Practice on the virtual line, including fault scenarios, in complete safety.

SPOTLIGHT

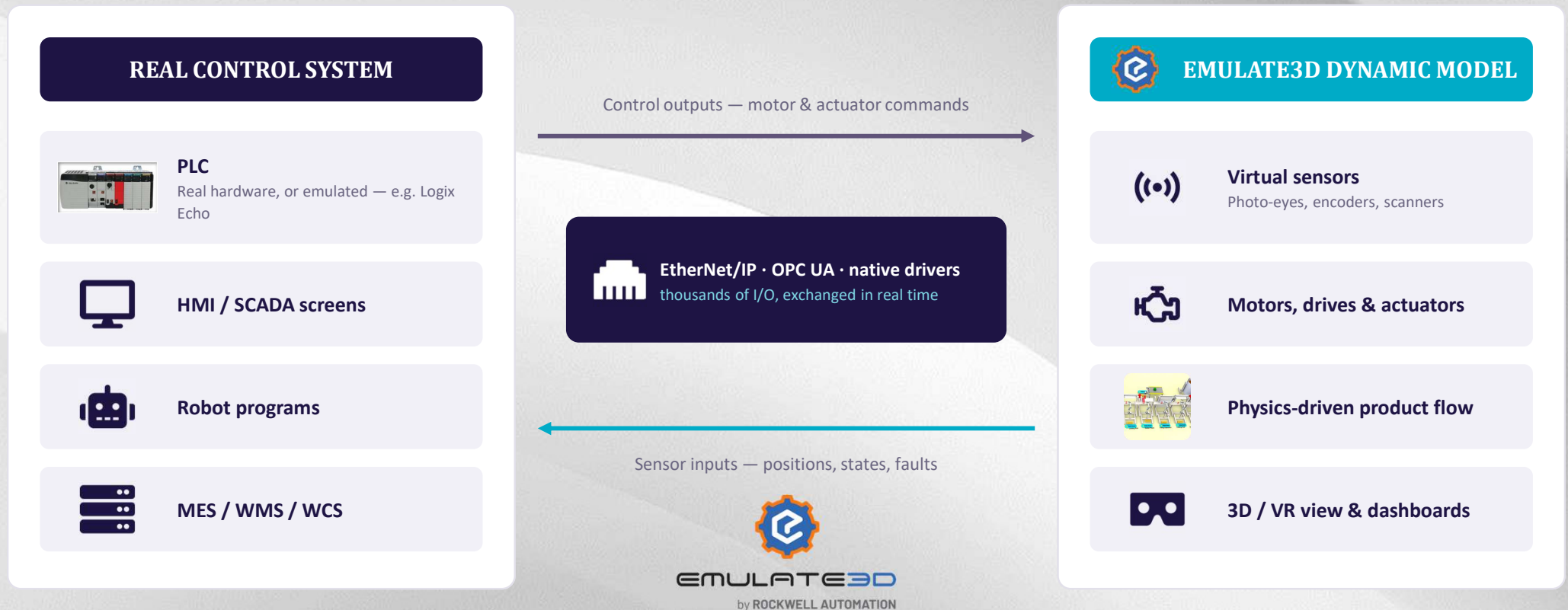
Virtual commissioning

Take controls testing off the critical path.



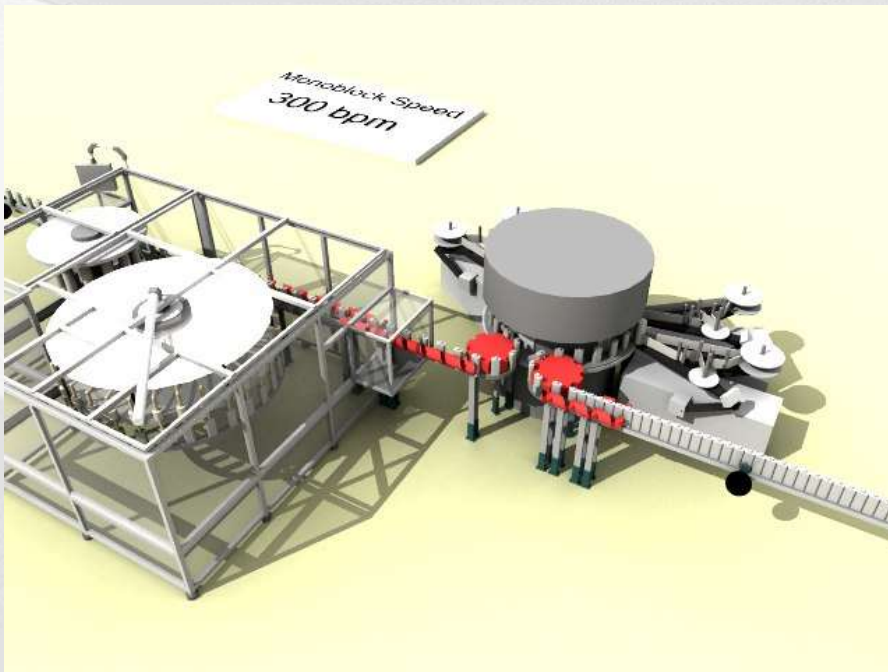
- Connect the dynamic model straight to your real PLC, robot and material flow software layer WMS/MES code
- Define test scenarios that automatically validate that code — before a machine exists
- Catch design and logic errors on a laptop, not on the shop floor
- Typical result: far less on-site commissioning time, far fewer surprises

Virtual commissioning: how it plugs together



The PLC can't tell it isn't running the real line — same code, same I/O, same timing. That's what lets you commission before the machine exists.

■ Why this matters for Consumer Product Groups



- **Frequent format & SKU changeovers**

Test them virtually first

- **Seasonal demand spikes**

Stress-test the line before peak season hits

- **High-mix packaging & palletising**

Prove product flow before committing floor space

- **Ageing lines needing upgrades**

De-risk changes without downtime you can't afford

- **New plant and equipment**

De-risk and get to market faster

The numbers

50%+

reduction in commissioning time

75%

less operator training time, at
best

Fewer

costly on-site surprises

Faster

lower-risk format changes

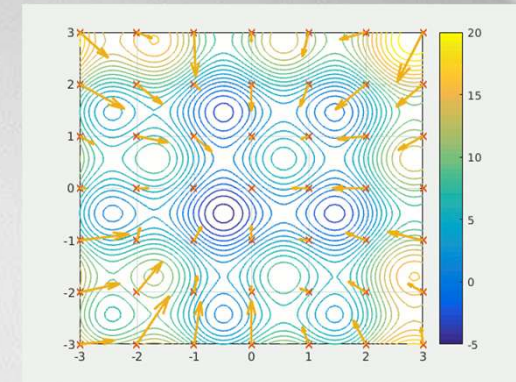
Based on results reported by AutoLogic's CPG and FMCG customers

Model Optimisation

Find combination of parameters that maximizes or minimizes some goal(s).

Optimizers built into Test Runner automatically vary parameters, run tests, and find solutions!

Metaheuristic optimization technique.



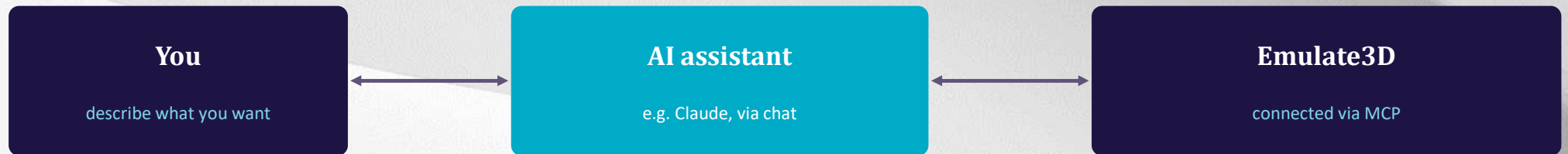
Functional Mock Up Interface

Co-simulation with third party multi-physics engines.



New in 2026

Emulate3D + AI



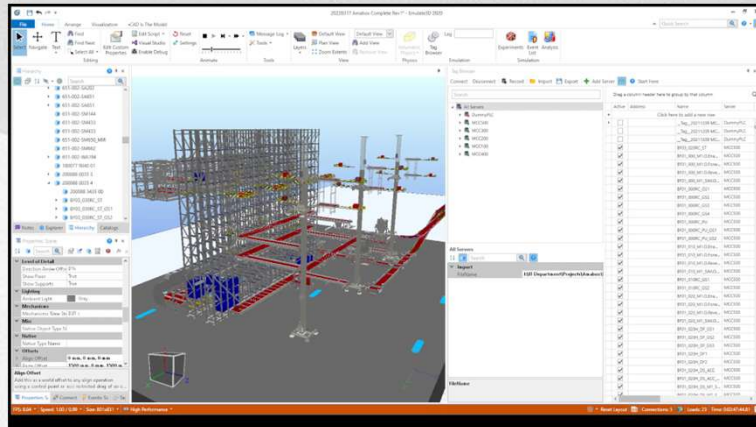
"Why did this model stop running?"

"Add a button that switches this conveyor on and off."

"Generate a test that checks this sensor never sees two loads at once."

Ask Emulate3D to build components, write control scripts, generate test scenarios, or diagnose a stalled model — in plain language, refined like any AI chat.

Real-world result: bulk mixing & filling



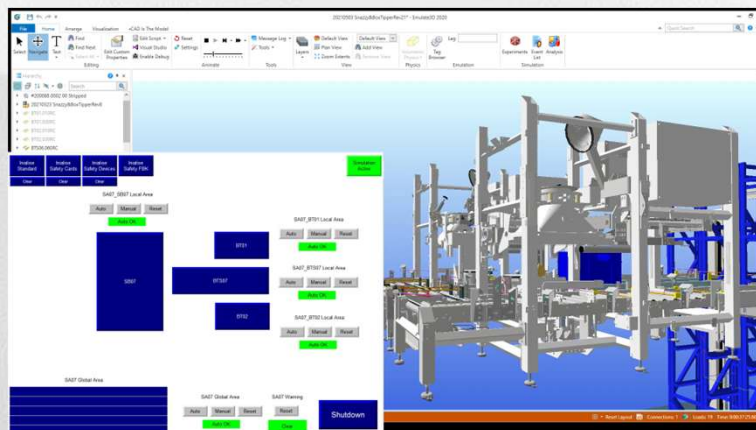
- UK private-label pet food manufacturer GA petfoods
- New automated bulk material mixing, storage & production line
- Emulate3D connected to five Rockwell PLCs plus the in-house MES

14 → 2

days to commission the machine

3-4

months shorter project timeline



“Placing our automated machines into a virtual testing world lets us test product flow risk-free.”

Key takeaways

- **See it before you build it.** Validate designs and win stakeholder buy-in early.
- **Prove it before you commission it.** Test real PLC, robot and WMS code against an accurate model.
- **Now, build and test it faster.** AI-assisted scripting and test generation speed up the whole process.



Thank you.

Questions welcome.

Andrew Parsons

Owner & Director, AutoLogic Systems

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