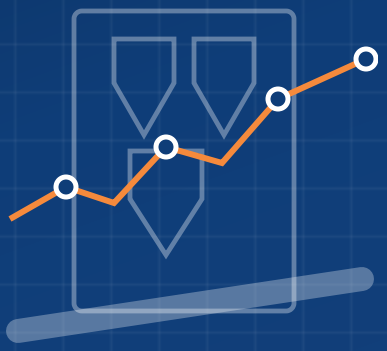
MACSIM

The cement operator training simulator built on your plant and your control system.

Operators practise start-ups, upsets and trips on an exact copy of their own control room screens and interlocks, driven by physics models calibrated to their own plant, without risk to production.



OUR UNIQUE VALUE · 100 % CUSTOMIZATION

Six ways MACSIM is your plant, not a generic one

1	2	3	4	5	6
Your tags	**Your screens**	**Your process**	**Your interlocks**	**Your chemistry**	**Your bypass**
Every value, drive and loop carries your DCS tag.	Redrawn from your DCS screenshots, look and feel.	Physics calibrated to your design and plant data.	Your permissives, trips and sequences.	Your raw materials, from quarry to clinker.	Your chlorine bypass design and behaviour.

No other cement training simulator replicates your control system 100 %, at a subscription price and delivered in weeks.

01 THE WHOLE PLANT, SIMULATED

- **Raw mill**: feed proportioning, grinding, separator and gas circuit.
- **Kiln system**: preheater, calciner, kiln and cooler, with fuel, draft, burnability and clinker quality.
- **Coal mill**, with drying, inerting and fire protection.
- **Finish mills**: ball mills or VRMs, fineness (Blaine and residue), recipes and grinding aid.
- Optional: **raw mix chemistry** from quarry to clinker, and **chlorine bypass**.

02 A TRAINING SYSTEM, NOT ONLY A MODEL

- **Instructor station**: load a plant state, freeze, speed up and inject any of 100+ faults.
- **Scenario library** plus scenarios built from the plant's own upsets and trips.
- **Automatic scoring** on 30+ objectives in five groups, with a printable session report.

03 WHAT PLANTS GET FROM IT

- **Faster onboarding** of new operators, without learning on the live kiln.
- **Safe practice of rare events**: kiln trips, cyclone blockages, mill chokes, fan trips.
- **Confident start-ups and shutdowns**, step by step with the plant's real permissives.
- **Consistent crews**: every shift trains and is scored on the same targets.
- **Knowledge kept at the plant**: experienced operators' best handling recorded as scenarios.

04 SIMPLE TO RUN

- Standard **Windows PCs**, fully offline, **no link to the live DCS**.
- **Annual subscription** with software updates and remote support included.
- Plant data kept in a separate, access-controlled package, never shared.

05 FROM YOUR DATA TO YOUR SIMULATOR · 10 WEEKS FOR THE WHOLE PLANT, 4 FOR ONE MILL

STEP 1	STEP 2	STEP 3	STEP 4
Data	**Build and calibrate**	**Scenarios and FAT**	**Go-live**
Flow sheets, best-day data, interlocks, DCS screenshots.	Screens redrawn, logic configured, models matched to plant data.	Plant scenarios reviewed with your supervisors, then factory acceptance.	Installed, site-accepted and handed over to your trainers.

Built by cement people. MACSIM is developed by Macprotec Engineering in Houston, whose team has designed, commissioned and operated cement plants around the world. Every model starts from real plant data.

MACPROTEC ENGINEERING
Makers of MACSIM · Excellence in Process

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