

# CAPTURE MORE DEMAND WITH THE CAPACITY YOU ALREADY HAVE

## HOW REAL-TIME PROCESS OPTIMIZATION IMPROVES UPTIME AND HELPS BUILDING MATERIALS MANUFACTURERS TURN EXISTING ASSETS INTO MORE PRODUCTIVE CAPACITY

Building materials demand does not move in a straight line.

Construction activity changes by region. Housing and renovation cycles shift. A major weather event can quickly increase demand for roofing, siding, insulation, and other exterior products. Infrastructure investment can create its own periods of elevated production need.

**WHEN DEMAND RISES,  
MANUFACTURERS NEED  
TO RESPOND.**



The challenge is that more output does not always require more physical capacity. Many operations already have the equipment to produce more, but some of that capacity is lost through recurring stoppages and unstable line performance. Extended recovery time creates another drain on productive hours.

**That makes uptime a business issue.**

Real-Time Process Optimization helps manufacturers recover productive time from existing assets by continuously prescribing the operating settings required as production conditions change.

Higher uptime gives manufacturers more capacity to respond when the market needs it, without waiting for new equipment or additional headcount.



# IMPROVING UPTIME BY REDUCING RECURRING STOPPAGES

Lost uptime rarely comes from one source. A line may experience short process interruptions, recurring faults, or unplanned maintenance. Equipment wear can gradually affect performance.

On shingle lines, one example is a catcher jam. Small shifts in speed or timing can disrupt the handoff and stop production.

Individually, these interruptions may seem manageable. Repeated throughout production, the lost time becomes lost capacity.

## The settings that keep a line stable also change.

Material behavior shifts. Equipment condition evolves. Upstream variation affects how the process responds. Teams often address the immediate issue after production has slowed or stopped. The line restarts, but the operating drift behind the interruption may remain.

## BUSINESS IMPACT



*Recurring downtime has a significant financial impact across high-volume operations.*



*Lost run time reduces throughput. Labor and maintenance resources are pulled into repeated troubleshooting. Recovery can also create additional scrap or equipment strain.*



*The financial effect becomes especially important when demand increases.*



*A manufacturer may have enough installed capacity to capture that opportunity, but not enough reliable run time to use it.*



*Improving uptime releases more of that capacity and creates room for additional output without another capital project.*

## HOW REAL-TIME PROCESS OPTIMIZATION HELPS



Braincube evaluates the variables influencing line stability and uptime, including speed, timing, pressure, temperature, equipment condition, and material properties.



Real-Time Process Optimization determines which controllable settings matter most and generates the prescriptions required to maintain stable production.



Those prescriptions are recalculated as the process changes.



Teams no longer have to wait for a stoppage or performance loss to discover that production has drifted. Operators receive clear guidance during the run. Engineers spend less time investigating issues after output has already been lost.



That guidance keeps production more consistent and reduces the operating drift that leads to downtime.



The result is more productive run time from the same equipment, giving manufacturers greater capacity to increase output when the business needs it.

# HOW REAL-TIME PROCESS OPTIMIZATION WORKS

Real-Time Process Optimization continuously evaluates live production conditions and determines how controllable process settings should change to support the operation's objective.

Instead of relying on operating targets established under different conditions, Braincube continuously recalculates what the process should run toward now.

The prescriptions work with the production and control systems already in place, giving teams updated operating guidance without replacing existing infrastructure.

## OPERATIONAL IMPACT ON THE LINE

### 01. FEWER UNPLANNED STOPS

Operating settings stay better aligned with current line conditions, reducing the drift that leads to interruptions.

### 02. FASTER RESPONSE

Teams identify and correct changes earlier, reducing time spent troubleshooting after performance has already been lost.

### 03. MORE PRODUCTIVE RUN TIME

Less time is spent recovering from instability, allowing existing equipment to spend more scheduled time producing.

Higher uptime turns installed capacity into usable capacity. That creates more opportunity to increase output when demand changes.

## BUILDING MATERIALS RESULTS

One major building material manufacturer we worked with faced a common challenge: production teams had plenty of data, but investigating process issues took too long.

Engineers pulled information from different systems to understand what had happened.

By the time the cause was identified, production had already moved on.

With Real-Time Process Optimization, they shifted that work into production.



### FASTER PROBLEM-SOLVING

Issues that once required lengthy investigation are now addressed during production. Engineering teams spend less time analyzing past problems and more time improving performance.



### REDUCED MATERIAL WASTE

More precise process control help reduce conservative overfilling, lowering excess material use and improving production economics.



### FASTER RESPONSE DURING PRODUCTION

Issues that once required lengthy investigation are now addressed during production. Engineering teams spend less time analyzing past problems and more time improving performance.



### REPEATABLE IMPROVEMENT ACROSS THE NETWORK

The team expanded the approach beyond its initial application, creating a model that could be applied across its broader production network.

Variability remains, but teams no longer have to wait for lengthy analysis before adjusting how the process runs.



# SEE THE OPPORTUNITY IN YOUR OWN DATA

Every manufacturing process is different. That is why Braincube begins with a complimentary Value Assessment. Using a secure, one-time pull of historical production data, Braincube evaluates how Real-Time Process Optimization would perform against the realities of your own operation.

The assessment identifies where capacity is being lost and estimates the business value available from improving performance. It gives teams a data-driven case for investment before implementation begins.

## BRAINCUBE FOR BUILDING MATERIALS

Braincube's Real-Time Process Optimization helps building materials manufacturers turn more scheduled production time into productive run time.

By continuously adapting operating prescriptions as conditions change, manufacturers can improve uptime and make greater use of assets already on the floor.

The result is more flexibility to capture demand and stronger production economics without relying on additional capital investment.

The Braincube logo consists of the words "BRAIN" and "CUBE" stacked vertically in a bold, black, sans-serif font. A registered trademark symbol (®) is located to the right of the word "CUBE". The logo is centered within a solid yellow square.

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### LEARN MORE

To learn more, contact your Braincube partner or email [sales@braincube.com](mailto:sales@braincube.com).

