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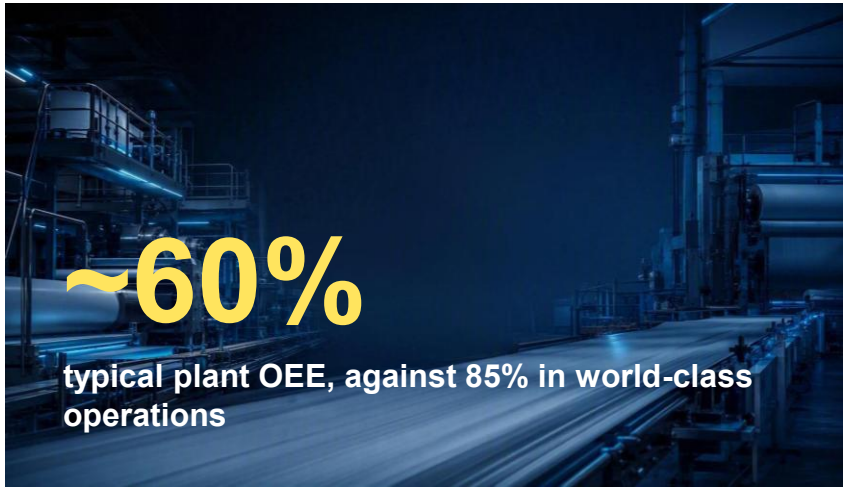
BRAIN CUBE

From Reactive Management to Autonomous Production

Increasing Productivity with Braincube's Real-Time Process Optimization Platform

The productivity gap sits on the shop floor

The losses are rarely dramatic - they are small, constant and largely invisible in monthly reports.



5-20% capacity lost to micro-stops

Short stoppages and speed losses rarely enter downtime reports, yet they dominate the loss profile.

~8% scrap and quality losses

Typical in fast-moving food and packaging lines - raw material, energy and machine time wasted at once.

Sources: OEE Lab Manufacturing Benchmark 2026; TeepTrak OEE Benchmark 2026 (450 plants); McKinsey, 2023.

The data already exists - around 90% of manufacturers struggle to turn it into decisions.

Where Polish plants stand today

Most food and paper plants are well instrumented - and still managed reactively.

Data rich, decision poor

Historians, MES and SCADA collect millions of records, but context across systems is rebuilt manually in spreadsheets.

Reactive by design

Teams analyse yesterday's shift; corrective settings arrive after the quality or energy loss has already happened.

AI is next on the list

Smart manufacturing in Poland keeps growing, and industrial AI is moving from pilot projects into production use.

Sources: Ken Research Poland Smart Manufacturing & Industry 4.0, 2025-2031; MarketsandMarkets Poland AI in Manufacturing, 2026.

The next gain does not come from more sensors - it comes from using the data in real time.

REAL-TIME PROCESS OPTIMISATION



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ARE YOU GETTING THE MOST OF YOUR 4.0 INVESTMENTS?

"Global manufacturing productivity has been declining for the past decade, with labor productivity growth averaging only **0.3%** per year in advanced economies."

McKinsey, 2023

Industry 4.0 has introduced new data streams, but **90%** of manufacturers struggle to convert data into actionable insights.

Forbes, 2023

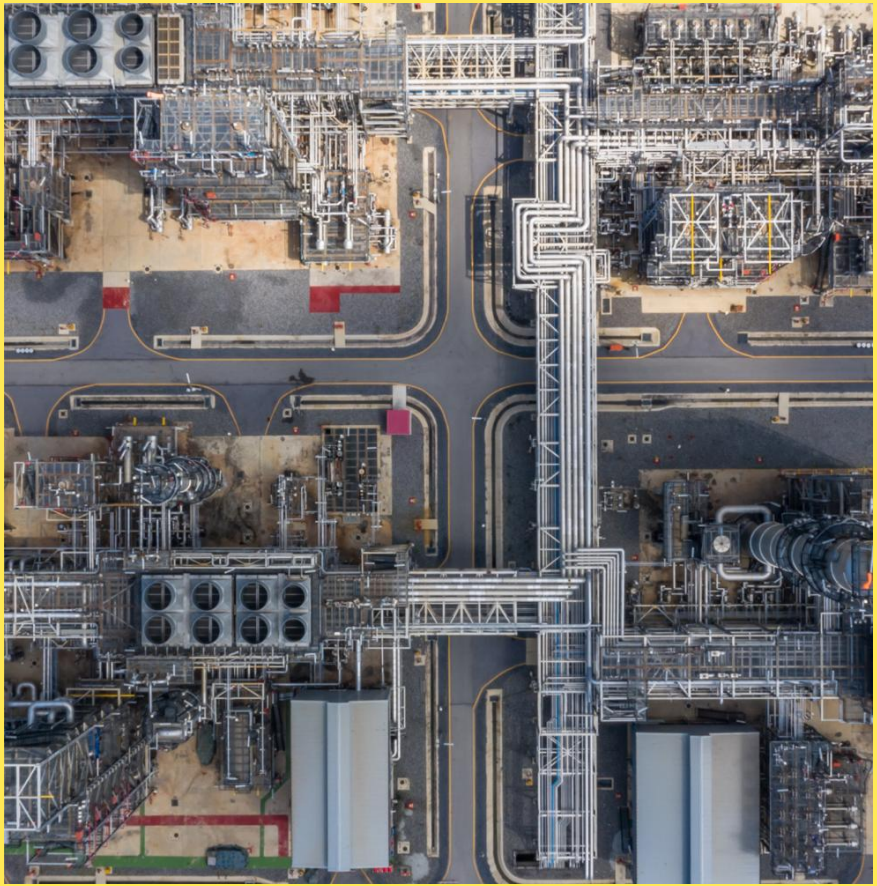
Plants have been running with less people for decades but, more and more, they also have to run with less experienced employees.

AI should be an opportunity to bridge the skill gap, not to make it even worse.

Laurent B., 2026

BRAIN CUBE

WHAT IF YOU COULD DO A LOT MORE WITH WHAT YOU ALREADY HAVE?



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The Product Clone: Transforming chaotic data into a unified reality

- **The Challenge:** Raw operational data is inherently machine-centric. It's easy to know what the temperature of a tank was at any given time, but hard to know what product was in that tank at that time.
If you want to understand product variability, you need to reconstruct the journey of your products over the minutes, hours, days, and sometimes weeks it took to manufacture them.

- **The Solution:** We re-align all production data at the product/batch level, using information contained in different silos: historians, MES, Quality, LIMS, ambient temperature/humidity, etc.

- **The Impact:** You can now understand precisely what is factually different between a good product and an average product,

But with hundreds to tens of thousands of variables, you need a smart algorithm to help you do that in just a few seconds.



The Engine: CrossRank AI

No guesses. Only data.
CrossRank AI is a deterministic, prescriptive algorithm, not a predictive machine learning model that may extrapolate.



Evaluates

Analyses the incoming data to understand the exact current conditions



Identifies

Identifies what really made the difference in comparable production contexts.



Calculates

Determines the optimal operating conditions for the current context and goal.



Prescribes

Outputs continuous, updated operating targets to obtain the best possible performance in the current context.

Recommendations are grounded in operating conditions that have actually been observed in the plant.

The Golden Batch is dead!

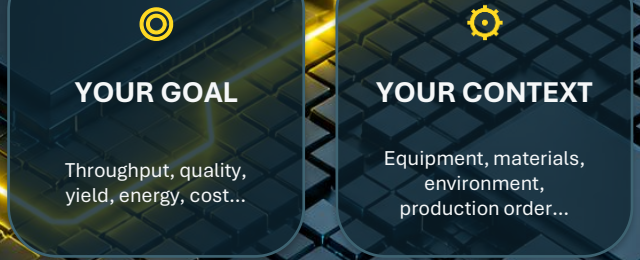
Long live an infinity of golden batches!!!

Production context varies all the time, even if it’s not noticeable for a human.

Machines wear down, filters get clogged, operators' attention may drift, etc.

But even your KPIs may change: one work order may require maximum throughput; another one may require higher quality.

Aiming at THE Golden batch is not just chasing a ghost, it’s hiding all the potential for optimization in all production contexts.

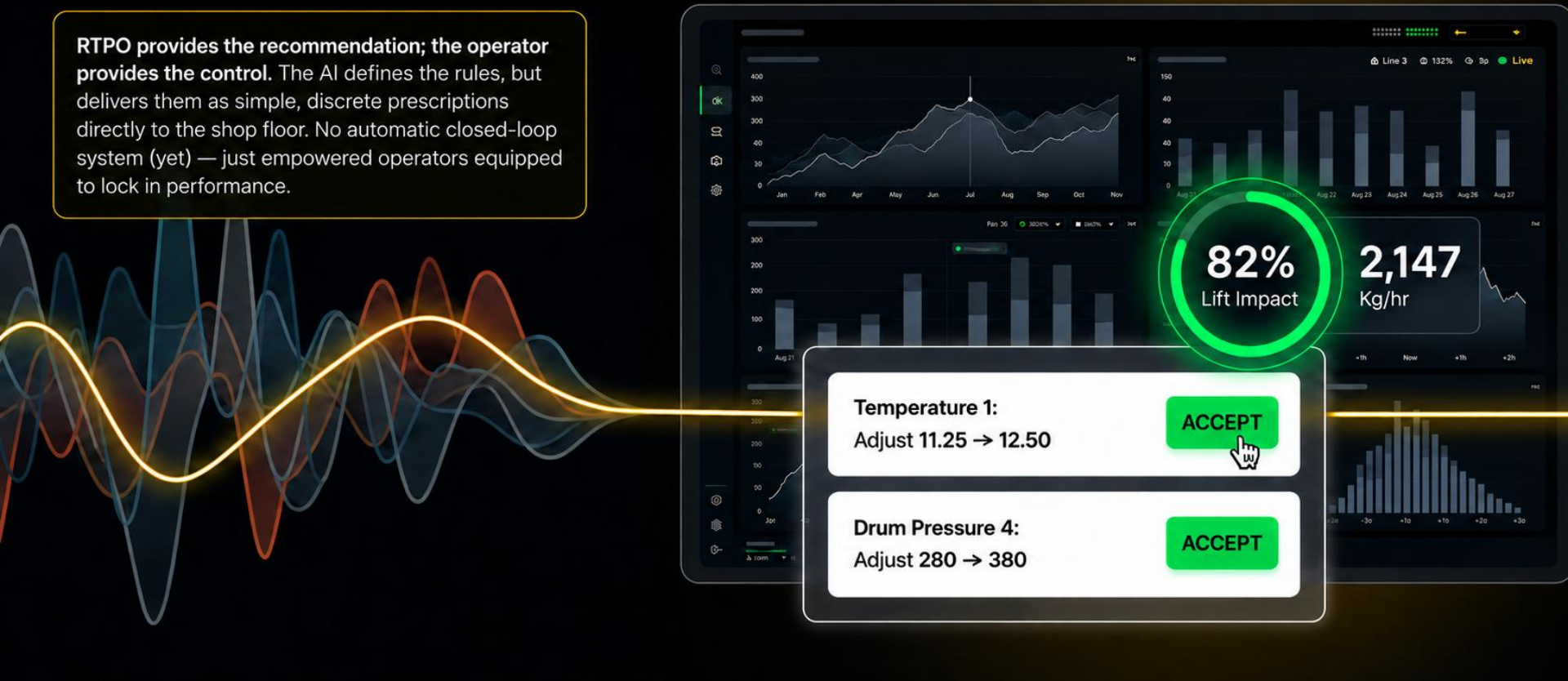


Different contexts. Different objectives.
A new optimum, every time.

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Next Best Action
directly on the shop floor in real-time.

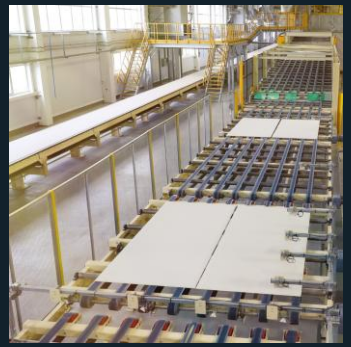
RTPO provides the recommendation; the operator provides the control. The AI defines the rules, but delivers them as simple, discrete prescriptions directly to the shop floor. No automatic closed-loop system (yet) — just empowered operators equipped to lock in performance.



MAIN INDUSTRIES WE SERVE



Pulp, Paper & Packaging



Building Materials



Tires & Elastomers



Food & Beverage



Mining & Metals

BRAIN CUBE

Customer Story

CERTAINTEED SPEEDS UP AND SAVES BIG

Operations Overview

Misalignment of corporate vision and operations	Fragmented data slowed decision making	Variability slowed shop floor agility

Optimized | Going Beyond

Optimized

$100,000 Annual Savings

Immediate savings by reducing raw material overuse

Amplified

6% Reduction in Stucco and Additive Costs

Driving efficiency and cost savings

Transformed

8% Increase in Line Speed

Boosting overall throughput, enhancing quality, and reducing material waste

BRAIN CUBE

certainteed SAINT-GOBAIN

Industry Proof: Transforming Coffee Extraction at [redacted]



The Challenge:

[redacted] faced high variability of instant coffee specific weight, negatively impacting product quality. Frequent saturations led to spray dryer stoppages and lower yield.

+5%
Throughput

$2M
Annual Gains

-75%
Density Variability

<2 Months
ROI

> “Results obtained well above expectations, reliable run after run. New potential discovered along the journey...”
>
> [redacted] Digital Manufacturing Senior Engineer, [redacted]

Turn production variability into margin

With RTPO, every shift gets clear guidance to reduce variability, protect quality and improve margin.

BRAIN CUBE®

The Braincube fast track: from objective to proven value

Five steps that take you from an agreed objective to a decision backed by your own data.



1

Discovery

We agree your business objectives, the KPIs that drive them and the process in scope.



2

NDA and data

You sign the NDA and extract the agreed process and quality data from your plant.



3

Value Assessment

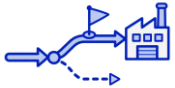
We work on your own data and demonstrate RTPO on your process. No charge.



4

Findings

Expose the improvment potential on your use case.



5

Decision

An agreed next step: the business case and the fast track into deployment.

THE POINT OF THE FAST TRACK

Prove the opportunity on your own data - in weeks, not in a multi-month POC.

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BRAIN CUBE®

Guidance for your operators…

…leverage for your engineers.