

DAY 1 WORKSHOP · MUNICH TECH EXPO

AI, the Kaizen way.

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Kaizen Institute: Who are we?

Our Mission

WE HELP LEADERS TO:

ACHIEVE DREAMS
OF **PERFORMANCE
IMPROVEMENT**

IMPLEMENT **CONTINUOUS
IMPROVEMENT CULTURES**

About Us



**Established
in 1985**



**45+
Sectors**



6 Continents



60+ Countries



**HQ in CH
55+ Offices**



30+ Languages

— Not a methodology. A mindset - applied every day,
by everyone, at every level of the organisation

$$\begin{array}{ccc} \text{KAI} & & \text{ZEN} \\ \text{改} & + & \text{善} \\ & & = \\ & & \text{KAIZEN™} \\ & & \text{改善} \end{array}$$

CHANGE

BETTER

CONTINUOUS
IMPROVEMENT

Everyone!
Every day!
Everywhere!

Our Clients

Automotive



Healthcare / Pharmaceutical



FMCG



Heavy Industry



Energy



Chemicals



Process Industry



Retail



Media/Service



Technology



— Today's Agenda

- 01** **AI, the Kaizen way**
The buzzword isn't enough
- 02** **Brainn.ai**
Kaizen's AI affiliate, how we build and shape AI
- 03** **Proof from the Field**
Real examples of how Kaizen and AI create value

PART ONE · AI, THE KAIZEN WAY

Every board wants AI.
But the buzzword
isn't enough.

Three Ways It Goes Wrong

1

Optimizing garbage

Train the perfect model, drop it into a broken process, and the process stays broken, just optimized.

2

Missing the business

Implement AI without understanding the business, and you won't succeed in changing behaviours or delivering value.

3

Going solo

Build a model without joining forces with the client's teams, and the tool won't be adopted: they never felt included in it.

KAIZEN™ + AI: the formula that holds after the consultants or FDEs leave.

PART TWO - BRAINN.AI

Kaizen's answer:
**AI built the same way we build
every habit - with the people
who'll use it.**

— Brainn.ai: AI With a Continuous-Improvement Core

Brainn is Kaizen Institute's AI affiliate. It doesn't sell algorithms - it builds AI the same way Kaizen builds every habit: starting from the real process, with the people who run it.

Kaizen Institute affiliate

Same continuous-improvement discipline, applied to data and AI.

“Tailored AI to continuously improve your business”

Brainn's own description of what it does - no off-the-shelf models.

Six industries served

Manufacturing, process industries, retail & e-commerce, insurance & banking, services, sales & marketing.

Six Ways We Put AI to Work

1 Recommender Systems

Real-time recommendations that optimize a process as conditions change.

4 Data Architecture

Governance and infrastructure so the data can be trusted.

2 Computer Vision

Automated visual inspection for quality and defect detection.

5 Interactive Data Apps

Dashboards and tools that put insight in front of the people who act on it.

3 Generative AI

Applied GenAI for automation, knowledge and decision support.

6 Process Automation

Automating the repetitive steps once the process itself is right.

PART THREE – PROOF FROM THE FIELD

Real examples of how Kaizen and AI create value

Case 1

Recommender System for Energy Efficiency

High pressure to meet **sustainability** targets and **quality** standards

Energy costs represent the largest share of industrial cost (**62%**)

Highly **complex** process, managed **empirically**

Optimizing furnace parameters to reduce **energy costs**.

CASE 1 • PROCESS OPTIMIZATION & RECOMMENDER SYSTEM

**Energy costs already eat
62% of industrial spend.**
**The process? Complex,
empirical, unstable.**

THE URGE • AND THE PROBLEM

THE URGE: BOLT ON A SHINY ML MODEL.

The reality: no clean data.
No stable process.

Stabilize the Process, Build the Data Foundation

→ STEP 1

Stabilize First

NOT YET STABLE

VSA and Lean stabilize the process first - you don't automate what isn't standardized yet.

Stabilize the Process, Build the Data Foundation

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→ STEP 2

Data Foundations

VALUE ALREADY FLOWING

Data architecture and ingestion run alongside stabilization - and start delivering value before AI even arrives.

Stabilize the Process, Build the Data Foundation

→ STEP 2

Data Foundations

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An **end-to-end data pipeline** and **digital twin** providing granular **sensor-to-enterprise KPI visibility**, laying the necessary foundation for AI-driven process optimization.

- **Universal Data Ingestion**
- **Intelligent Alarmistics & Audit Trails**
- **Real-Time Actionability**
- **Single Source of Truth**

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→ STEP 2

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→ STEP 3

Scale with AI

AI GOES LIVE

The recommender system goes live once the process is stable and the data foundation is in place.

Stabilize the Process, Build the Data Foundation

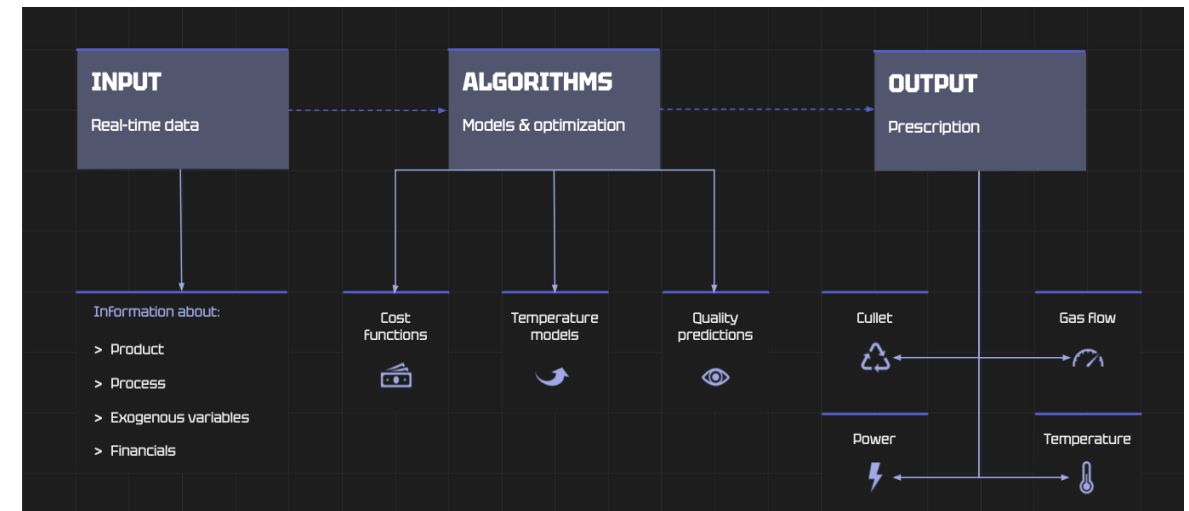
→ STEP 3

Scale with AI

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AI-driven **recommender system** that prescribes **real-time furnace parameters** to optimize energy consumption while simultaneously improving production quality indexes



Stabilize the Process, Build the Data Foundation

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— Impact

-3%
energy cost

-14%
CO2 emissions

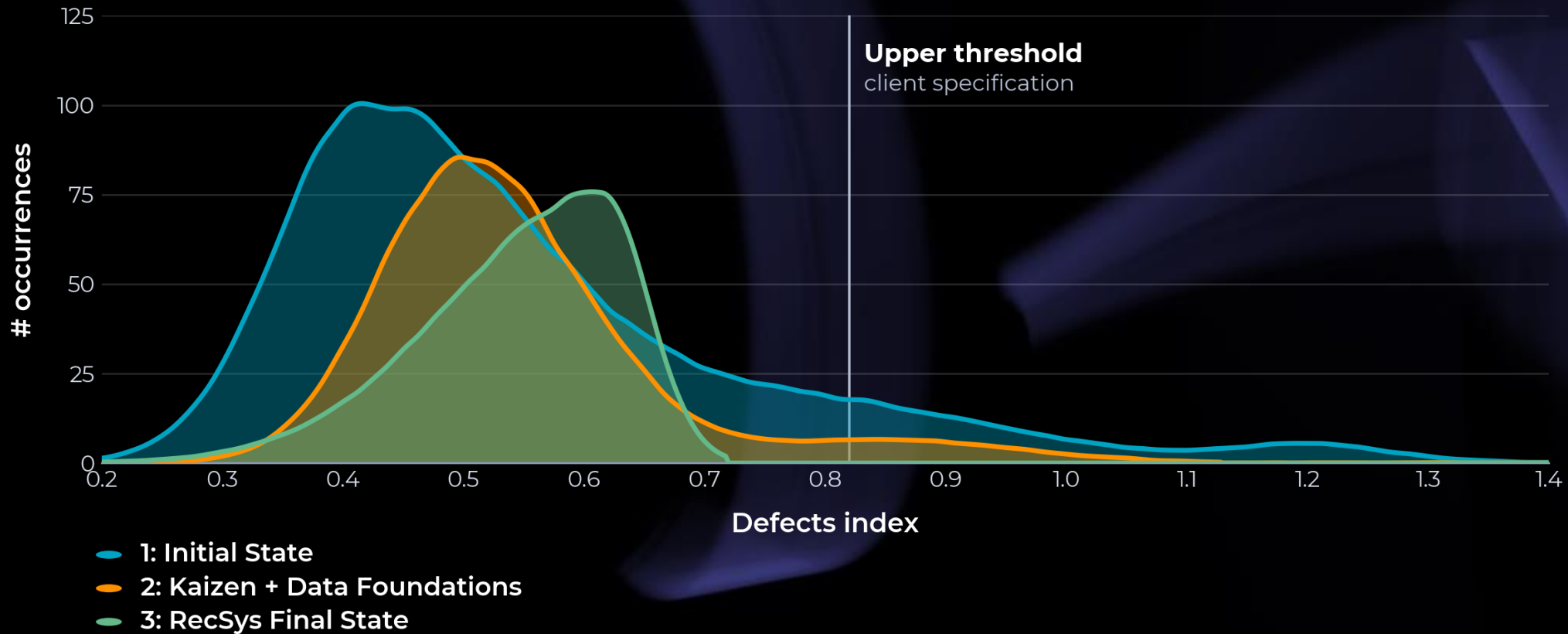
+518 k€
per furnace per year

- variability
quality index

+ knowledge
retention

Impact: Product Quality

The vast majority of occurrences now fall below the client's upper threshold.



Case 2

Computer Vision for Defect Detection

Manual inspection required: **high variability, low cadence**

Production complexity: **small batches**, no standardized patterns, **one-shot** productions

Highly complex process, managed **empirically**

Defect detection via CV to **reduce operational costs and waste**

CASE 2 · CV DEFECT DETECTION

**This time, AI comes
first. But without Kaizen
there is no improvement.**

AI Goes Live First, Kaizen finds the Root Cause



→ STEP 1

See It with Vision

AI GOES LIVE FIRST

Computer vision goes live first, catching most defects immediately - no waiting for a stable process.

→ STEP 2

Kaizen Enters

ROOT-CAUSE DRIVER

The defects that still get through drive the search for root cause - standardizing what vision alone couldn't fix.

→ STEP 3

Efficiency Gains

VALUE COMPOUNDS

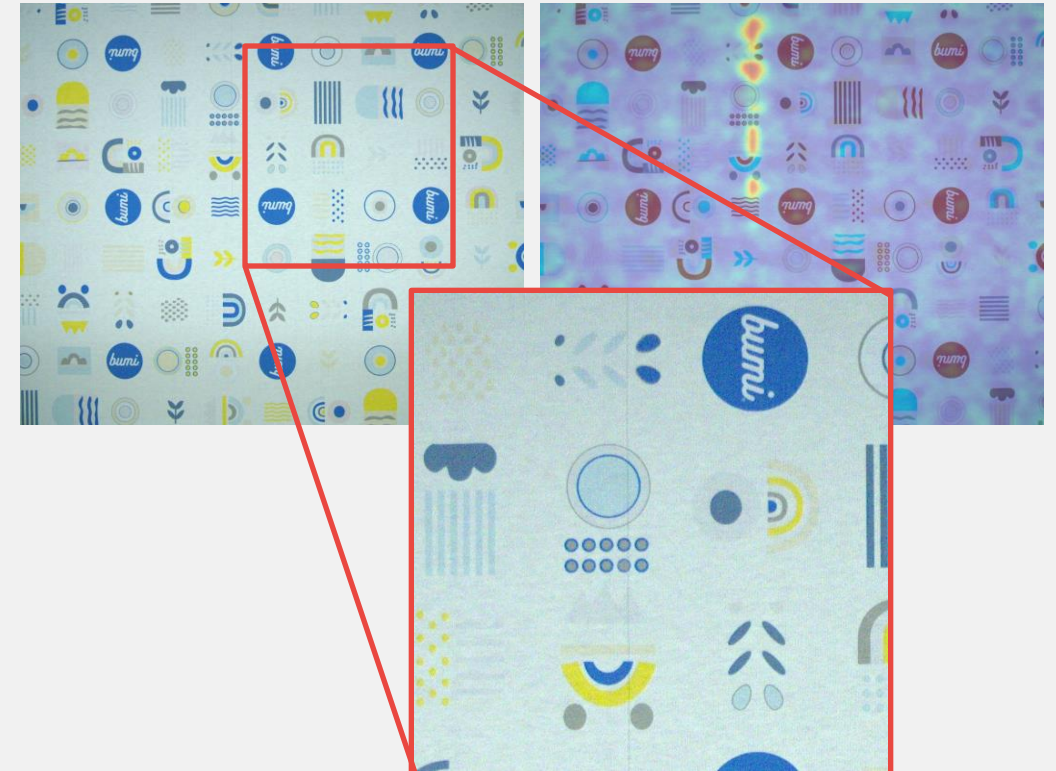
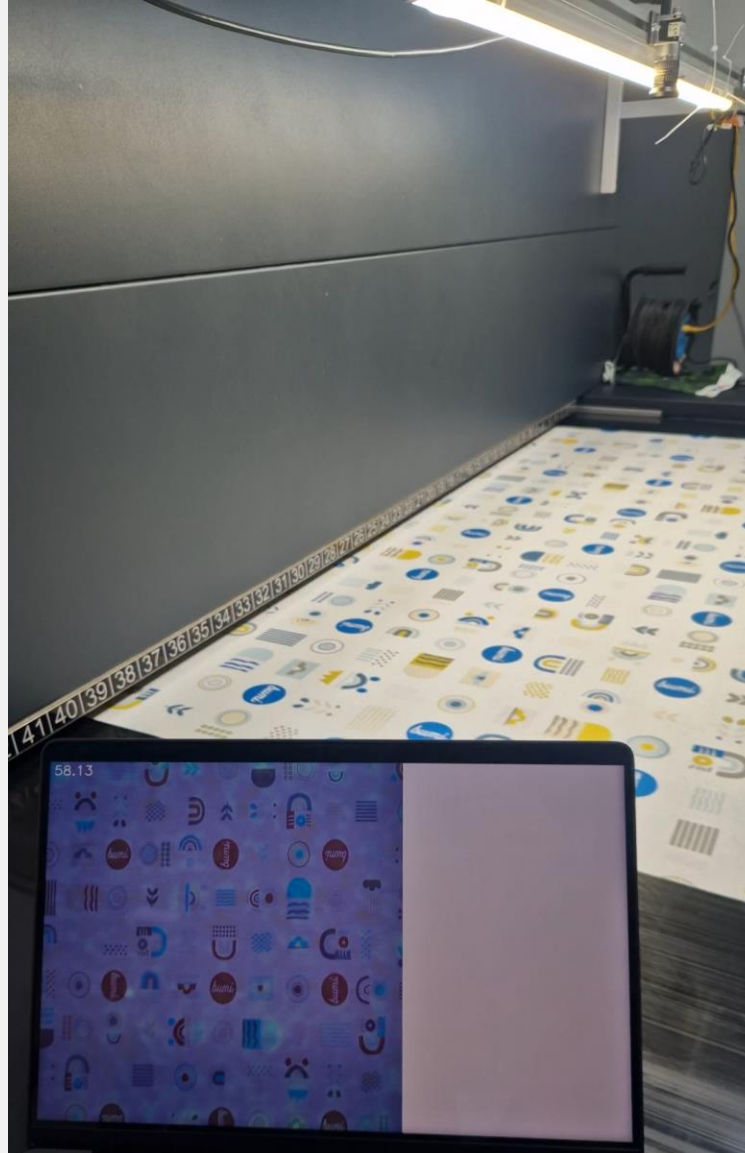
Value has been flowing since day one - and implementing Kaizen in the process finds still more efficiency.

Real-Time Defect Detection (Textile)

A computer vision system that identifies highly variable defects in complex, multi-reference production mixes, reducing reaction times by 82%.

AI needs to meet the real-world constraints:

- Few-shot learning
- Training on good objects, not defective parts



— Impact

+8%
efficiency

-13%
waste

+312 k€
per year

+23%
detection accuracy

-82%
reaction time

— Inline Defect Detection (Automotive Stamping)

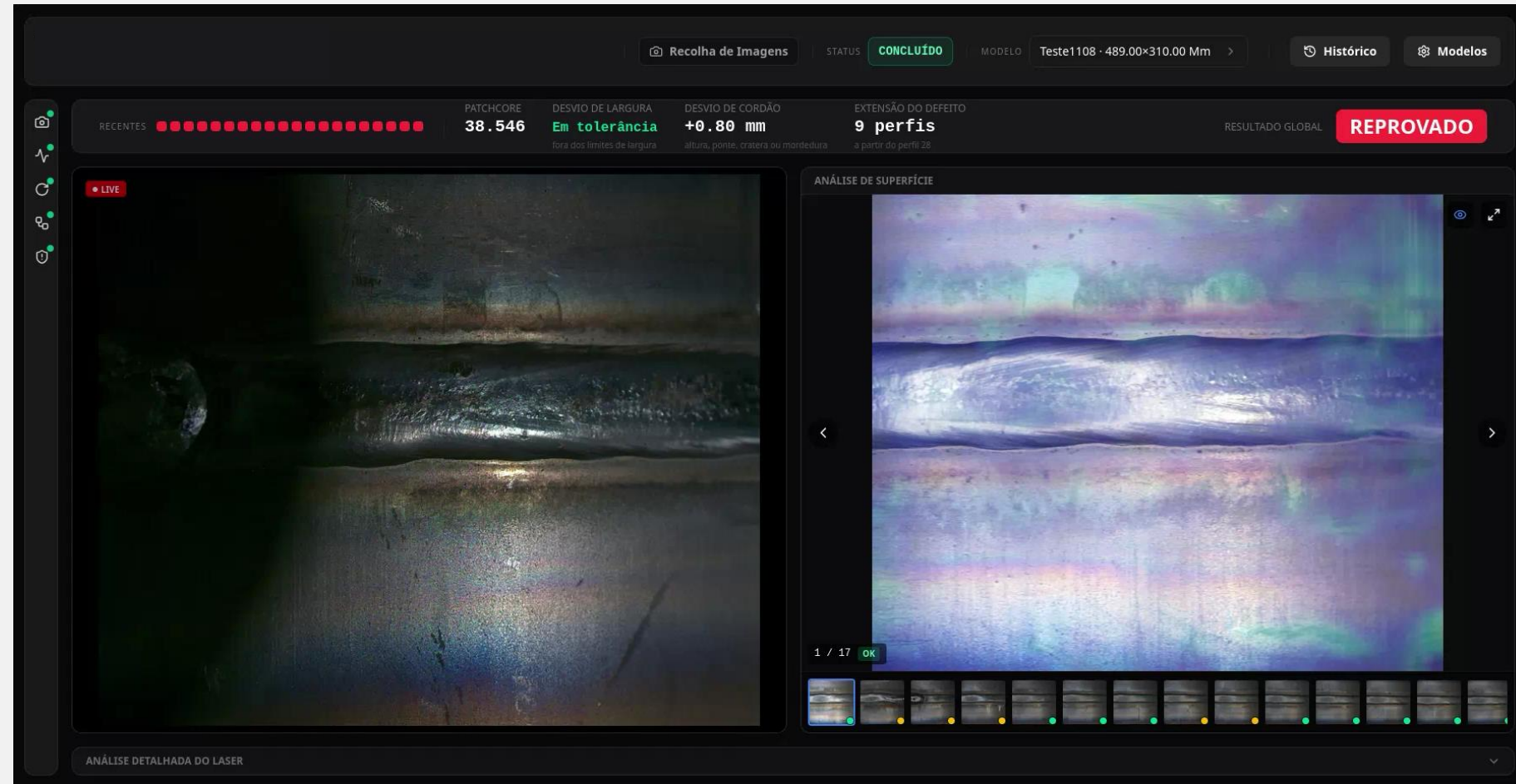
A multi-camera computer vision system that detects surface and structural defects in stamped parts in real time.

Inserir vídeo stellantis

CASE 2

Automated Welding Quality Control (Gas Bottles)

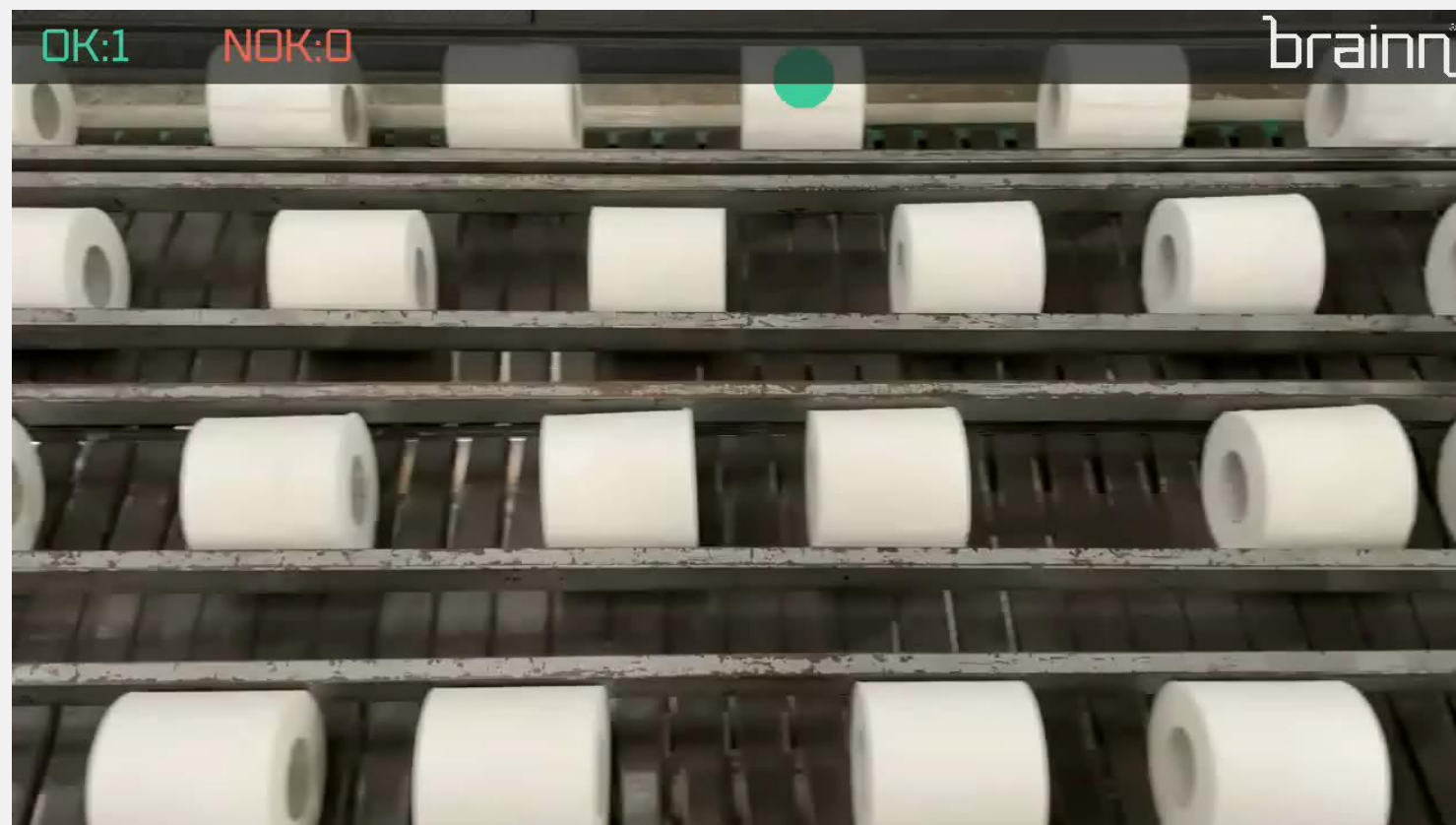
An integrated vision solution performing multi-dimensional weld quality assessments to guarantee structural integrity and safety of gas bottles



CASE 2

A last, funnier example

Wiping out some easier defects!



Case 3

Iterar corny punchline

CASE 3 · CV OBJECT DETECTION

You can't fix what you can't see. This time, only AI can see it.

AI Goes Live First, Kaizen finds the Root Cause



→ STEP 1

A new data source

VISION, NOT GUESSWORK

New visibility into where things move, interact, and slow down - data no one was tracking before.

→ STEP 2

Kaizen Process

PATTERNS BECOME EVIDENCE

That new data becomes the input for redesigning and optimizing a process nobody could fully see before.

→ STEP 3

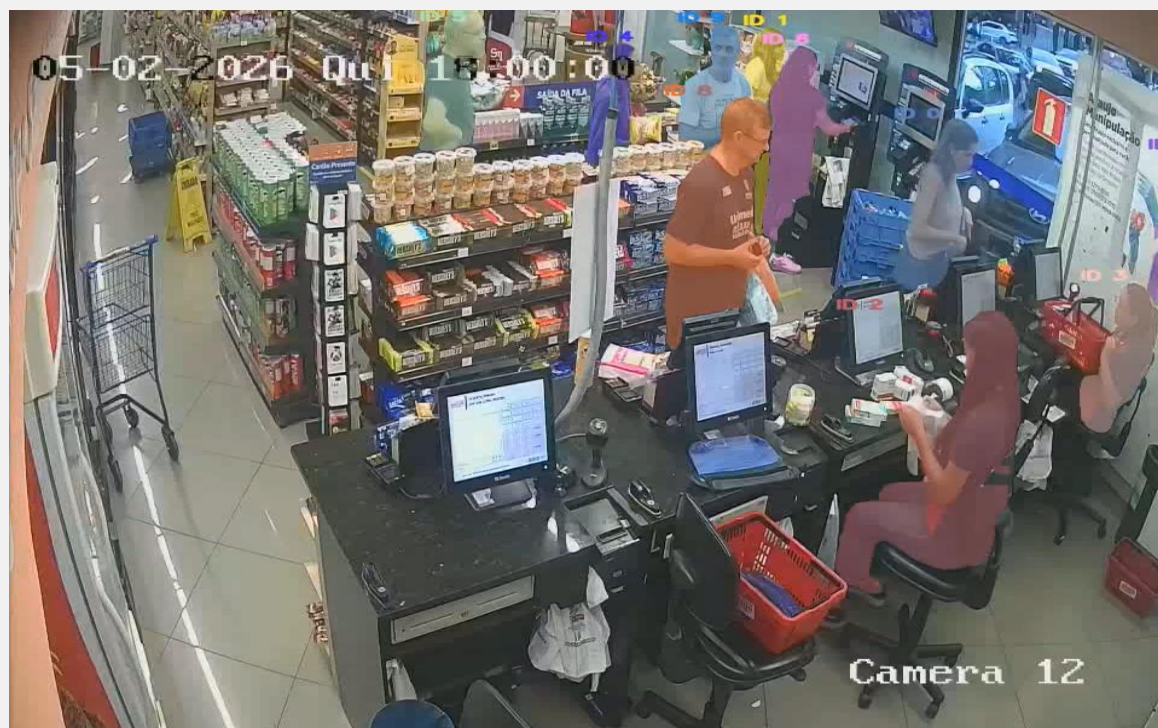
Efficiency Gains

VALUE COMPOUNDS

Action lands exactly on the bottleneck, and results compound because the same eyes keep watching.

Object Detection

Inserir vídeo KFC e fazer análise com heatmaps e afins



— Three Cases, Three Different Timelines

CASE 1

Kaizen → AI

DATA INGESTION + ML

Fix and standardize the process first -
AI scales what's already solid.

CASE 2

AI → Kaizen

CV DEFECT DETECTION

Vision catches the symptom first.
Kaizen goes after the root cause,
meanwhile.

CASE 3

AI Unlocks Kaizen

CV OBJECT DETECTION

Object detection reveals data that
never existed - the input Kaizen
needed to redesign the process.

— What to Take Back to Your Organization

1

Fix the process first

Lean before AI, always. Automating a broken workflow just makes the waste faster.

2

Build with your people

The teams who will use the tool are the ones who make it work - bring them in from day one.

3

Start small, prove it, scale

A two-month proof of concept beats a two-year mandate with nothing to show for it.

AI helps unlock Kaizen - and Kaizen is what makes AI deliver real value.

THANK YOU

Questions?
Let's talk AI,
the Kaizen way.