Real-time thermal phase tracking for industrial baking ovens

An abrasives manufacturer · Abrasives

An abrasives manufacturer had no real-time view of oven heating, soaking, and cool-down phases tied to work orders. Plantformance built an Ignition Vision application that detects each phase automatically and links it to the work order.

THE PROBLEM

Specialized industrial ovens bake abrasive materials through distinct thermal stages: a heating ramp, soaking at setpoint, and a cool-down ramp. Each stage had to be tracked precisely and linked to its work order. There was no real-time visualization tool to do it. Without one, the plant had little visibility into how each batch actually moved through its thermal cycle, or how one oven compared to the next.

HOW WE DID IT

Plantformance built a custom Ignition Vision monitoring application as a reusable template. Phase-detection logic automatically identifies the transitions between heating ramp, soaking, and cool-down. A clear interface lets users browse ovens and work orders, both active and historical. Because the same template runs on multiple identical machines, the data is consistent across ovens. Operators and engineers see each oven's thermal profile live, next to the work order it belongs to.

BEFORE

Operators and engineers had no single graphical view that could detect thermal cycle phases automatically or let them browse current and past oven work orders.

AFTER

Operators have immediate, clear graphical visibility into every oven's thermal profile and work-order history in real time.

RESULTS

- Delivered quickly, with immediate client satisfaction
- Reliable, real-time thermal phase visibility across the baking ovens
- Automatic detection of heating ramp, soaking, and cool-down
- Consistent data across identical machines let the factory build statistical process control (SPC) analysis

Plantformance products and services: Professional Services

PLANT FORMANCE

NEXT STEP

Planning a project like this?

Talk to an Ignition engineer about your sites, timeline and architecture. We will tell you honestly what it takes.

Contact Plantformance

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Plantformance is an Inductive Automation Alliance Partner that helps enterprises deploy, secure, and scale Ignition across sites through plug-and-play modules, turnkey zero-maintenance HMI hardware, and 24/7 managed infrastructure.

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