pixelabs

www.pixelabs-ai.com

Case Study
AI-Alt Fuel Cement

How AI is improving alternative fuels and the cement industry.

1. Overview

We've installed our **AI-Alt Fuel Cement product in one of Spain's leading cement plants** (and the start of a multinational deployment across ther sites) to **improve the efficiency, accuracy, and speed of alternative fuel assessment** (CDR and tire derivatives). This plant is capable of producing up to 5,000 tons of cement per day and to improve the quality of the fuel and reducing costs is essential for operational sustainability and profitable production. **Our product AI-Alt Fuel Cement , based on artificial vision, allows for improved alternative fuel in real time.**

2. Challenges

The plant wants to improve several aspects of alternative fuel quality control. **Composition, moisture content, and particle size makes it difficult to obtain a reliable real-time data**, as manual analyses cause delays. In addition, the process of accepting or rejecting trucks can sometimes be slow. Using **poor-quality alternative fuel is that production can be affected by temperature fluctuations in the furnace**. The material they receive for fuel can vary in composition, and both seasonal changes and the lack of real-time analysis of fuel from suppliers can affect its quality.

3. Solution

AI-Alt Fuel Cement incorporates high resolution cameras and controlled lighting; it works with our **AI platform to identify fuel characteristics such as moisture, agglomeration, and particle size for RDF and impurities for tires.**
The deployment consisted of creating a checkpoint to analyze waste **without interfering with operational processes.**
The product is installed in the fuel reception area, so that each truck is scanned upon arrival and the results are processed automatically. Our **AI-Alt Fuel Cement compares the quality indicators with the thresholds defined by the plant and decides whether to accept or reject the material instantly.**

4. Results

Pixelabs AI platform **increase the size of the samples analyzed at the control point, maximize the automation of the inspection process and improve supplier quality.** In compliance with the specifications and metrics established after deployment, we list the main advantages obtained:

A/ Real-time decisions: ensuring compliance while maximizing the calorific value potential of the fuel.

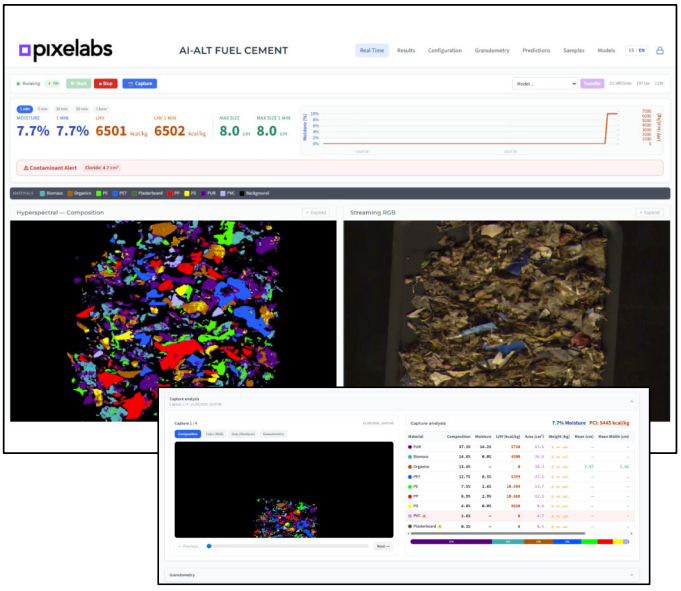
B/ Our technology ensures that alternative fuels are used with maximum energy value.

C/ Structured and analytical database: fuel quality can be compared by supplier, allowing risks to be anticipated.

80% time reduction

75% in savings

95% accuracy



(1)The data reflects how our client currently uses the system. Keep in mind that this information is shared based on mutual understanding. We've also estimated potential cost savings using details from our clients, keeping everything within the agreed terms and conditions. We recommend contacting us for detailed information. (2)This is a simplified explanation of the product's functionality and may not fully represent the complete process involved. These representations are intended for the purpose of clarity and ease of understanding. We recommend contacting us for detailed information. (3) All images used in this brochure are for illustrative purposes only. Any resemblance to real products is purely coincidental.