

Bosch equips IncarPalm cardboard factory in Ecuador with video-based fire detection

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AI algorithms secure industrial sites handling flammable pulp and paper materials with fire detection within seconds, even in low-light conditions

- ▶ Aviotec fire and smoke detection cameras from Bosch protect large cardboard packaging factory in city of Machala, the capital of the country's banana export industry.
- ▶ Powered by AI algorithms, the video-based fire detection solution senses smouldering fires within seconds; faster than conventional point-type detectors.
- ▶ Integrated solution is customized toward client requirements and challenging environmental conditions inside factory.

Grasbrunn – Bosch Building Technologies has installed an innovative fire detection system at a key manufacturing site for corrugated cardboard in Ecuador: At the factory operated by Industria Cartonera Palmar (IncarPalm), the video-based fire detection system Aviotec provides around-the-clock fire safety amid challenging conditions thanks to innovative AI algorithms. IncarPalm is a key supplier of shipping materials for Ecuadorian export goods such as bananas, seafood and flowers. Typical for pulp and paper manufacturing, the factory deals with large concentrations of dust that lead to high flammability and low visibility. IncarPalm relied on Bosch partner Adeatel to install a system that complies with legal guidelines for high-risk manufacturing sites while exceeding the performance of conventional fire detectors and reducing false alarms. Integrated on the Bosch Video Management System (BVMS), the intelligent video sensors rely on machine learning algorithms to detect fires at their source within seconds, thereby ensuring safety and business continuity at the site in Machala, capital of Ecuador's banana industry.

“Designing and implementing a fire detection system including video analytics has been a very satisfactory achievement. Being able to count on different technologies that generate high added value for our client reinforces us as

certified installers and encourages us to promote these alternatives to the local market,” said Alberto Serrano, Project Engineer at Adeatel S.A.

Around-the-clock fire safety under challenging conditions

Before choosing the video-based solution from Bosch, IncarPalm was looking to comply with local legal requirements for the pulp and paper industry, which had been updated in collaboration with fire protection services. What’s more, the paperboard factory houses large amounts of industrial machinery while the paper-based raw materials generate a dry, dusty, and highly flammable environment. Plus, heat from machinery such as IR dryers and conveyor belts poses additional fire hazards to raw pulp paper sheets and finished cardboard products. As IncarPalm learned, conventional point-type detectors fall short of providing fire safety under these conditions. That’s because these devices rely on detecting smoke particles in the air, which can take several minutes to rise – especially when detectors are mounted on high warehouse and factory ceilings. But in that short time span, fire can already spread and potentially harm employees, while an entire business could literally go up in smoke.

Responding to IncarPalm’s specific requirements, the experts performed a thorough site assessment and conceptualized an integrated system based on a new generation of intelligent fire detection: It relies on light signals that travel much faster than smoke particles to spot smoke and fire even in the smouldering stages. Built-in machine learning algorithms, programmed to sound alarms for colour changes and visual patterns associated with fires, can detect fires within seconds. The Aviotec IP Starlight 8000 devices deployed at the warehouse are VdS-certified and highly resistant against false alarms; they can also operate in the dusty and low visibility environment that is typical for cardboard manufacturing. Additional challenges included vibrations from the machinery and pipes, solved by adjusting the position and sensitivity settings of Aviotec devices on the premises. As live tests confirm, the solution can now sense active flames within seconds.

The installation of the video-based fire safety solution is the first of its kind in all of Ecuador, but not the last: IncarPalm is currently expanding Aviotec coverage across its compound, including new infrastructure for cardboard manufacturing and storage. Meanwhile, other businesses in the region are noticing the added safety, and supply chain integrity afforded by the intelligent system.

Press photo: #c34d91b1, #11463fef, #3fdbef4

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Additional information is available online at <https://www.boschbuildingtechnologies.com>

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In der Fabrik des Herstellers Industria Cartonera Palmar (IncarPalm) sorgt das videobasierte Brandmeldesystem Aviotec dank innovativer KI-Algorithmen rund um die Uhr für Brandschutz unter schwierigen Umgebungsbedingungen.

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Dank KI-Algorithmen erkennt videobasierte Branderkennung
Schwelbrände innerhalb von Sekunden und schneller als herkömmliche
Detektoren.

Powered by AI algorithms, the video-based fire detection solution
senses smouldering fires within seconds; faster than conventional point-
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Bosch rüstet Fabrik für Kartonverpackungen in Ecuador mit videobasierter Branderkennung aus.

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