ACELABS
SYNCRO GROUP

In **partnership** with
CUGHER

BSD

Broken Screen Detection System

BSD is a system designed to detect breakage in the silk-screen frame by monitoring the presence of paint on a white roller installed in the glass conveyor. The system identifies paint as the glass moves from the silk-screen station to the oven, passing over the white conveyor roller.

OPERATING PRINCIPLE

BSD utilizes high-resolution 4K linear cameras that capture detailed images of the detection roller with exceptional clarity. The system is also equipped with a focused green illuminator, which highlights even the smallest dots of enamel, whether black or silver.

MAIN FEATURES

INSTALLATION

The system is installed immediately after the silk-screen printing machine. It features a white roller that captures any enamel contamination on the underside of the glass. In the stand-alone version, this white roller can be a dedicated unit integrated into the system's supporting structure. Alternatively, the white roller can serve as the first roller of the conveyor following the printing machine.

RESOLUTION

A 'Blob Analysis' algorithm is used to detect dark paint spots (blobs) on the roller. The algorithm is configured to identify blobs with a minimum area, which can be defined in the system's setup. The smallest detectable paint drop corresponds to a 1mm diameter circle on a conveyor that is 2000mm wide.

In the event of blob detection, the system alerts the operator with the message 'Processing result: Fail! Silk Screen broken!' displayed in the message frame at the top of the application's main form. Additionally, a FAIL signal is sent to the PLC. If no issues are detected, the message 'Processing result: Good' is displayed, and a GOOD signal is sent to the PLC.