

AI-Quality Control

FOR THE AEROSPACE INDUSTRY



1. Overview

A leading aerospace recycling supply company had **previously relied entirely on manual quality control**, inspecting high volumes of mixed airplane components and parts to prepare them for redistribution.

With our product, this workflow is automated: parts are **identified, verified, and sorted in real time**, ensuring consistent, traceable data, a faster process, **reduced costs** by **minimizing the margin of error before global distribution**.

2. Challenges

The current workflow depends on two manual processes that are time-intensive and prone to human error. Operators must perform part number identification, requiring extreme concentration and a steep learning curve. Next, **each part undergoes a serviceability assessment to determine its potential for reuse**. This evaluation is extensive and requires specialized tests depending on the part family (nuts, bolts, washers, and separators). **A typical operator could do 70 pieces per hour excluding potential errors prior to our system being installed.**

3. Solution

Our solution is a compact, camera-equipped box that captures images analyzed by our Pixelabs AI-Engine. **It provides an automated workflow, where parts are identified, verified and sorted in real time.** It's able to quickly verify and sort the parts in real time ensuring consistent traceable data reducing costs by minimising the margin of error before redistribution. **The solution can analyze a part in 15 seconds, a total of 240 parts per hour with 97% accuracy. It has been able to:**

- A/ Reduce the cycle times and operating costs.
- B/ Provide real-time identification, verification and classification.
- C/ Enforce rigorous quality control and continuous improvement.

~15 seconds to inspect a part **~ 240 parts** inspected per hour **97%** of accuracy

Main Screen and close view of the camera-equipped box

1) Place a part in front of the camera. 2) Trigger the capture with a single button. 3) Instantly view the results on the main interface.

Detailed results screen and configuration options