

December 9, 2022

St. Cloud, MN

The future of circuit boards is always on the minds of the employees at IRT. How can we do it better? How can we be more efficient? How can we get information to our customers that takes the guess work out of how to sort? The answer is the use of artificial intelligence combined with a user-friendly application. This patented technology will revolutionize the way circuit boards are understood. Steve Budd, CEO of IRT, proclaims, "We want our customers to understand the values of the material they are collecting and dismantling, allowing them to know what is profitable and what is not without the guessing game." Transparency will be at the forefront from the moment customers download the IRT app. Pictures taken with the IRT app will identify what category the board belongs in and its current value per pound. A packing slip along with a PO will be created in the same app for the customer to sign. Once electronic signatures are collected, IRT will hedge the gold, silver and palladium for the customer taking out all market volatility and pricing issues.

How is this all possible? Our high-speed vision software employs deep learning technology to classify image content for automated visual sorting. We utilize a custom state-of-the-art imaging station for consistent high-pixel image collection. The deep learning software and images help guide the automated robotic sorting system, ensuring the highest level of sort accuracy. Historical fire assay data points from refining values and IRT's metallurgical lab makes this the most precise circuit board sorting system ever used. The efficiency and accuracy of sorting would be challenging to match using today's manual processes. IRT has developed a patent-pending, vision-based robotic system that enables robots to continuously learn using images, thereby creating automation opportunities that would be impossible using conventional robotic solutions. IRT's customers will no longer have to guess what category their boards fall under, what changes have occurred within those categories, or how to train their employees.

Every year companies manually sort through tons of printed circuit boards (PCB). A key step in the process happens on fast-moving conveyor belts, where workers must identify PCB into categories manually. With that in mind, the team at IRT has developed a deep-learning robotic system that can detect the type of PCB and sort the PCB into the correct category without the need for human interaction. The "ABIS" system uses deep learning and state-of-the-art robotics to detect a PCB category type.

This project is on its way. The information is being loaded, the app is being programmed, and we are full steam ahead. The technology will be rolled out by the end of 2023 and in our customers hands!