APPLICATION STORY

Using Infrared Technology to Maintain Uptime – Logistics and Warehousing

Maintaining vital equipment and safety are among the top priorities for engineers in the logistics and warehousing industry. The role engineers play in this field is especially crucial as they are the primary defense against operational downtime and ensure customers receive their order on time. Recently, a group of logistics engineers across Europe looked into how they could improve their maintenance and safety through a Condition Based Maintenance (CBM) program based on infrared imaging.

The challenge

While the engineers regularly used thermal imaging cameras, they realized they weren't taking full advantage of all thermal condition monitoring has to offer. As a result, they weren't accurately assessing the condition of their equipment, nor were they able to identify potential failures before they occurred. Most warehouse maintenance teams were using a low performance thermal camera to perform spot checks around their facility to analyze issues like blown fuses or malfunctioning equipment after failure had already occurred. Engineering teams were additionally slow to issue repairs due to manually consolidating large amounts of thermal data collected they collected from their inspections

Recognizing they could gain more from thermal inspections, the group of engineers investigated what resources were available to expand their use of thermal imaging and even built an entire preventative maintenance program around it.

The Solution

FLIR's technical sales team was able to address the above challenges by devising a tailored solution for the logistics and warehousing engineers. The solution was formed through three FLIR products: the FLIR T530 camera equipped with Inspection Route functionality, certified Infrared Training Center sessions delivered throughout Europe, and FLIR Thermal Studio Pro software, which includes the FLIR Route Creator feature.

FLIR T530 Professional Thermal Camera.

The optical block for FLIR T5xx and T8xx thermal cameras can rotate a full 180°, ensuring you can image both low and high targets from a comfortable working position.

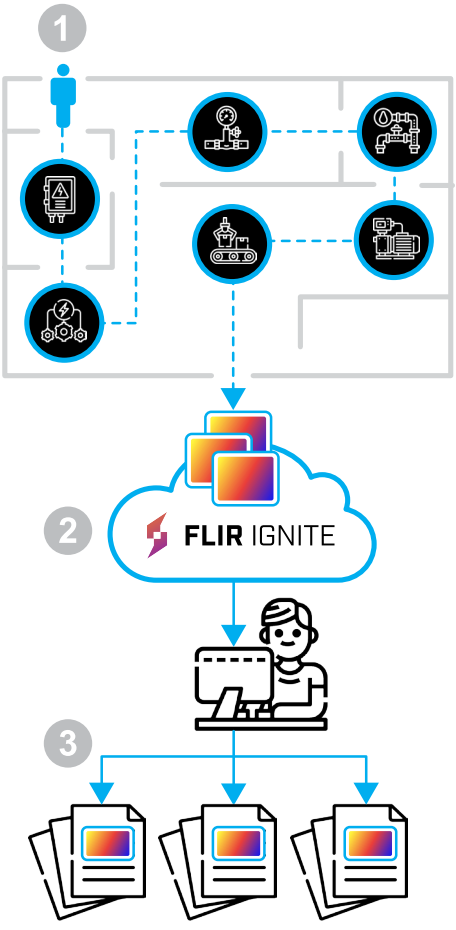
Infrared Training Center is available for both in-person and online training.

The FLIR T530 is a part of FLIR's premium T-Series of cameras that captures high resolution thermal images and is engineered to help diagnose components in any environment. The T530's MSX enabled thermal images provided the engineers with the detail needed to locate and diagnose issues before they resulted in equipment failure. The included Inspection Route functionality also provided inspectors with a step-by-step guide through the inspection route, including reference imagery to instantly spot changes over time and improve the consistency of image capture. Lastly, the camera features a rotating optical block, which was essential for inspectors to look around common obstacles without strain.

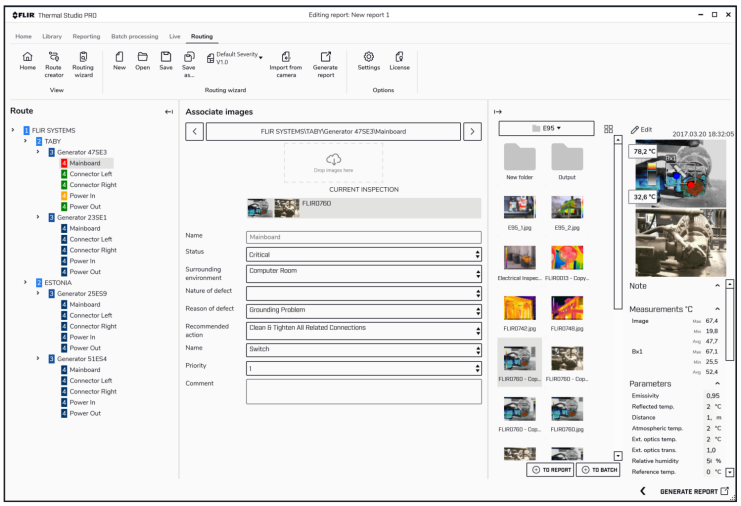
Training was critical to the team's understanding of their new FLIR T530 cameras, so FLIR provided access to certification courses through The Infrared Training Center. These courses focused not only on relevant camera features but provided a deeper dive into thermography, aimed at ensuring each user could accurately record thermal images during inspections. As a result, the inspection teams are better able to capture informative thermal images, understand the data collected, and make informed decisions on equipment repairs and replacements.

Lastly, FLIR Thermal Studio Pro gave maintenance teams the ability to speed up their post-inspection analysis by creating custom, auto-generated reports, automatically synchronizing images from thermal cameras into reports wirelessly through the FLIR Ignite platform. In this case, FLIR Thermal Studio featured a customized plug-in for uploading thermal data to a cloud database for in-depth analysis of asset conditions and rapid creation of corrective work orders to speed up the repair process. With the feedback provided from the client, FLIR was able to develop improved database integration architecture which will become available in the future.

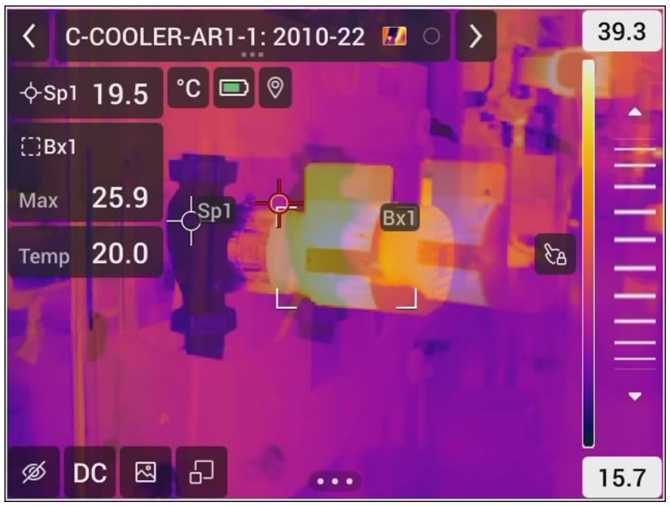
Thermal Studio Pro also features FLIR Route Creator with Reference Imaging, which allows maintenance teams to create a repeatable inspection guide that would be viewable on any current FLIR premium handheld for future inspections. The guide is created from an initial inspection performed by an experienced thermographer which provides less experienced inspection personnel with reference images and an efficient inspection route to follow.



Images recorded during the course of an inspection upload automatically to the FLIR Ignite cloud, where you can add them to quick reports or transfer them to FLIR Thermal Studio.



FLIR Route Creator allows you to pre-plan inspections for greater efficiency when performing regular inspections.



The Reference Imaging feature of Route Creator ensures you collect repeatable data every time you inspect a target asset.

The Results

Thanks to the suite of solutions provided by FLIR's technical team, the engineering teams were able to create an effective, preventative maintenance program across their multiple warehouses.

Pre-uploading inspection routes onto cameras with live guidance reduced the need for additional equipment, streamlining the process for engineers and enhancing inspection efficiency. Preloaded reference images made it easier for trained and untrained thermal camera users alike to record thermal data in a repeatable way over successive inspections, ensuring better historical data on the health of each asset.

Improved data consolidation and reporting efforts lead to increased operational savings by lowering the personnel costs on facilities. The average hourly cost of downtime was also improved thanks to implementing predictive maintenance practices to reduce production pauses.

Lastly, the engineers benefited from training provided by FLIR's Infrared Training Center, maximizing the effectiveness of the integrated solution, and establishing a recurring revenue stream.

FOR MORE INFORMATION ABOUT THERMAL IMAGING CAMERAS OR ABOUT THIS APPLICATION PLEASE VISIT: WWW.FLIR.COM/FACILITIES-MAINTENANCE

Teledyne FLIR, LLC
27700 SW Parkway Avenue
Wilsonville, OR 97070
USA
PH: +1 866.477.3687

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