FLIR T335 equipped with MeterLink speeds up thermal inspections at FIAT factory

FLIR T335 thermal imaging camera

FIAT cars are and have always been among the most popular cars in the world. Since the FIAT 124 was elected best car if the year in 1967, eight other models followed suit in the following years, including FIAT's current favorite: the FIAT 500 that won the best car of the year award in 2008.

At the FIAT factory in Melfi, Italy, where several different FIAT models are being produced, inspections with FLIR thermal imaging cameras play an important part in the predictive maintenance program. The information obtained during the thermal imaging surveys are used to predict electrical and mechanical faults so they can be fixed before they become production halting breakdowns.

The Italian car-manufacturer FIAT was founded in 1899 by the famous Italian entrepreneur Giovanni Agnelli. Since then, FIAT has not only produced consumer cars, but also manufactured railroad vehicles, tanks and aircrafts. Nowadays it is the largest car-manufacturers of Italy and one of the largest car-manufacturers in the world.

Given the fact that the FIAT factory in Melfi produces cars at the astounding rate of 250,000 per year it is crucial that the system keeps running all the time. To achieve that goal FIAT needs to ensure that every electrical or mechanical fault is spotted and repaired before it becomes a production-disrupting failure. Detecting those faults in time is the task of RAITECH Industrial Technologies Srl., a company specialized in technical assistance for industrial machinery.

RAITECH was founded in 2010 as a division of Raichim Srl that is dedicated exclusively to industrial sector. Rachim was founded in 1989. At first Raichim mainly provided technical support for precision machines in the chemical and pharmaceutical sector, but soon the company expanded its services to the entire manufacturing industry.

Since 2004 Raichim also works for the FIAT Group. Currently RAITECH takes care of the technological systems and industrial maintenance at FIAT Melfi. According to

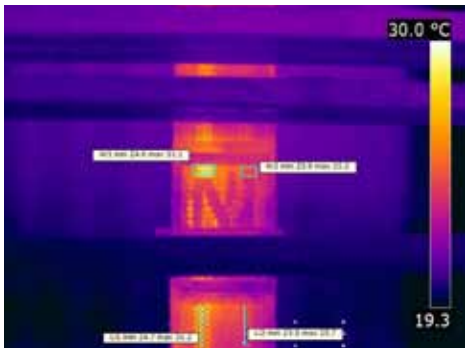
This thermal image shows an imbalance between the conductive strips.

RAITECH's thermography specialist Aldo Alliata the thermography inspections using thermal imaging cameras from FLIR Systems are becoming more and more important within the array of RAITECH's maintenance tools. "Thermal imaging technology is the only tool that really allows you to see the problem."

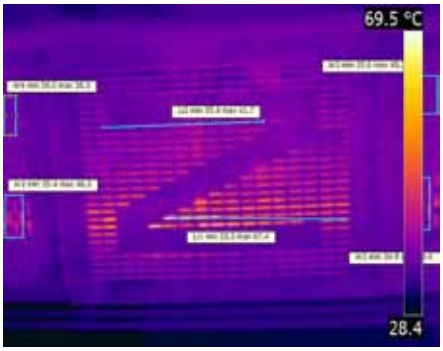
Recently Alliata has been able to add even greater value to his thermographic inspections at FIAT Melfi with FLIR's Meterlink connectivity solution. It consists of a Bluetooth connection between the FLIR thermal imaging camera and an external measurement device. The measurement data is automatically embedded in the corresponding radiometric thermal image. This new functionality greatly improves the accuracy and speed of the thermal imaging inspections, according to Alliata.

The correlation between temperature and electrical load is well established and for many years thermographers have included load ratings where relevant. Alliata explains: "The most common way of doing this is to take readings using a clamp meter, write the measurements down on paper and add them to the report later on."

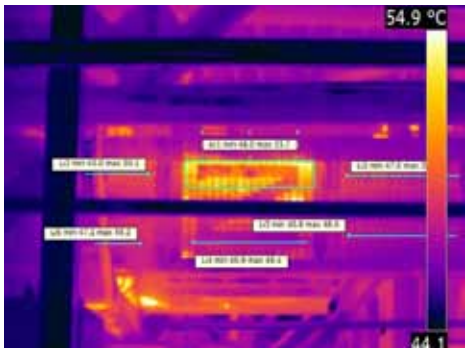
Alliata of RAITECH is a certified Level 3 thermographer and, just like most other consultants, he performs more than a hundred inspections per year. During all those inspections he processes a lot of data and it would be all too easy for readings from different instruments to get lost or be mixed up.



This thermal image shows an imbalance between the two bundles of cut lengths of busway.



The thermal image shows that the average temperature difference between the two groups of strips is about 5 ° C, with a peak of over 15 ° C.



This thermal image shows a significant increase of temperature on strips of the blind.

The FLIR Meterlink connectivity feature is available on a variety of FLIR thermal imaging cameras including the FLIR T335 thermal imaging camera used at the FIAT factory in Melfi. It is ideal for a wide range of electro-mechanical inspection tasks that are common at larger industrial plants such as this.

Easy to use

For Alliata, the FLIR T335 with Meterlink connectivity is a great asset. "The menu system of the FLIR T335 camera is intuitive and easy to use and it has many analysis tools that can be set up according to the needs of the job. The Meterlink feature allows the camera to receive data automatically from an Extech clamp meter and this is a function that is easier to use than I expected. Its effectiveness is obvious, both in the field inspection and at the post report processing stage."

Alliata confesses that due to the Meterlink he is much more likely to take the time to use the clamp meter as opposed to using paper notes. "I simply apply the clamp meter to the equipment I am inspecting and the Meterlink system will automatically embed that reading in the appropriate radiometric thermal image", explains Alliata.

No mix-up

The saved measurements are fully accessible in the FLIR analysis and reporting software FLIR Reporter and easily added in the results tables. This eliminates all possibility of any mix-up. "This combination of a FLIR thermal imaging camera and an Extech clamp meter completely rules out the possibility of confusing the location, the equipment or load data from individual faults," Alliata concludes. "In the field I can work more quickly, while it also reduces the amount of time I have to spend in the office, which in turn allows me to spend more time with customers."

For RAITECH's customers, such as the FIAT factory in Melfi, these benefits are equally valuable. The company has the assurance that the thermal imaging inspections are conducted more thoroughly, accurately and swiftly so that maintenance resources can be more effectively targeted.

For more information about thermal imaging cameras or about this application, please contact:

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