‘Thermal imaging cameras are a great tool for predictive maintenance inspections’

Coservices combines thermal imaging with other technologies to attain the maximum result

Thermal imaging cameras from FLIR Systems are increasingly used in industrial environments for predictive maintenance inspections. Gunther Willems, Technology Manager at one of Europe’s largest condition monitoring consultancy agencies – Coservices, part of GP Allied’s reliability group – explains why thermal imaging is the fastest growing predictive maintenance technology on the market today. “It is simply the only technology that allows you to immediately ‘see’ what’s wrong.”

With 70 employees and offices in Belgium, France and the Netherlands, Coservices is the largest condition monitoring agency of the Benelux. Coservices is also one of the largest of its kind in Europe and it is still expanding. “We perform inspections at regular intervals so that we pick up faults as they develop, so repairs can be planned accordingly, allowing companies to fix issues before they disrupt the production process.”

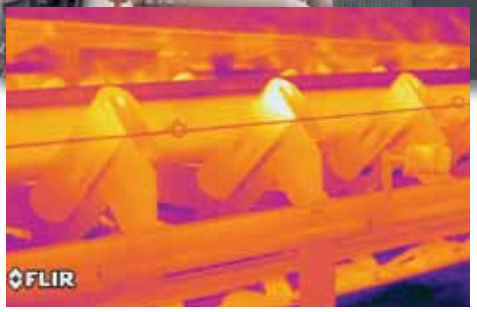
Without predictive maintenance inspections companies are forced to use a method called preventive maintenance, explains Willems. “This means that every piece of equipment is replaced in regular intervals to prevent breakdowns. But in many cases pieces of equipment are replaced before their time, just to be on the safe side.”

PM inspections using thermal imaging technology save money

“With the PM inspections using thermal imaging technology we perform for such companies, we can accurately determine whether a piece of equipment needs to be replaced or not. This is important information for these companies, for the continuity of production is guaranteed without unnecessary equipment replacement, leading to cost savings of thousands of Euros”, claims Willems.

Stop guessing, start seeing

The service provided by Coservices is not limited to thermal imaging alone. “For the maximum effect we combine several technologies: vibration analysis, ultrasonic tests, oil analysis and inspections



This roller bearing is overheated and should be replaced.

using thermal imaging cameras. The main advantage of thermal imaging is that you can locate mechanical and electrical problems very quickly and accurately. With thermal imaging you will be able to immediately see which component is causing the problem.”

Thermal imaging speeds up the inspection

Thermal imaging cameras are also crucial to allow swift inspections. “In some cases there are also simply too many pieces of equipment or equipment components to test using vibration analysis or other methods. If a production plant features a row of conveyors the fact that you can walk

along this row of conveyors and swiftly scan them with the thermal imaging camera is a mayor time-saver. The same goes for electrical equipment: if you are inspecting an electrical cabinet with thirty fuses, you don't want to go and check each individual fuse using a spot pyrometer to find out which one is going to fail first."

And according to Willems for some types of equipment thermal imaging really is the only technology you can use. "With refractory linings, for instance, thermal imaging cameras are the only practical condition monitoring tool available. So what I'm trying to say is that a company that provides condition monitoring services cannot be complete without thermal imaging technology."

Why FLIR?

One of the reasons why Willems opted for thermal imaging cameras from FLIR systems is the ergonomic design. "If you use a piece of equipment as often as we use the FLIR thermal imaging cameras ergonomics and ease of use are crucial. All FLIR thermal imaging cameras are relatively compact, lightweight and easy to use."

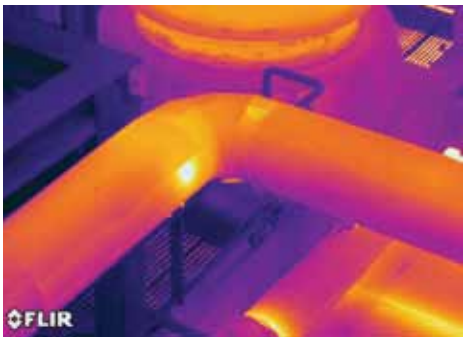
Another important factor is the optics. "The interchangeable optics of the FLIR T-Series are very important to us, because it is very difficult to do everything with just one lens. Sometimes there's not enough room to take a step back to capture a piece of machinery in one image, so you need to change to a 90° wide angle lens. And in other cases you cannot get too close due to safety hazards, for instance, and you need to switch to a 7° telephoto lens. Being able to make these switches in lens gives the operator much more flexibility."

The importance of training

The fact that thermal imaging technology is visible and intuitive also makes it very easy to learn for new employees. That can also be quite deceptive, however, according to Willems. "The thermal imaging cameras from FLIR are so easy to use that you might think that it is just a matter of pointing the camera and pressing the right button. It is very important, however that you know what you're doing. You need to know how to accurately correct for emissivity and reflection, for instance. Otherwise you might draw false conclusions."

The refractory on this ladle shows signs of wear and if it degenerates further needs to be replaced. Thermal imaging cameras are the only practical tool available for refractory inspections.

This electromotor is overheated and needs to be inspected and repaired before a failure occurs.



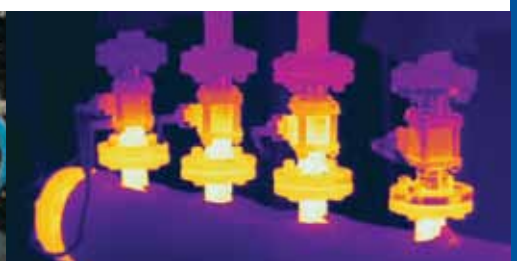
The thermal image shows faulty pipework insulation. This can disrupt the production process and cause dangerous accidents.

FLIR Systems therefore not only provides top of the bill thermal imaging cameras, but also good training in co-operation with the Infrared Training Center (ITC), Willems explains. "We make sure that all of our maintenance consultants have at least followed the level 1 ITC training course and preferably also the level 2 course as well."

Software

Another important factor in the use of thermal imaging cameras is the software, according to Willems. "It goes without say that the reports we produce are of vital importance to us, for that is what the client will receive. And I must say that I'm very pleased with the FLIR Reporter software. The fact that it is completely compatible with Microsoft Office is an important advantage for us. We have tailor-made Word templates for each of our clients, so the fact that we can import the thermal images in Word and alter the level and span right there in the Word file is a major plus."

"There simply is no other thermal imaging supplier that delivers the same combination of image quality, good design, service, training and software", concludes Willems.



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