

Martin Robinson



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CEO of IRISS

Interview with **Martin Robinson**



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Transformer Technology: What is an Electrical Maintenance Safety Device?

Martin Robinson: An Electrical Maintenance Safety Device (EMSD) is not just an inspection window; it is any device that enables you to get data or test samples—or anything that you require—in a safe condition.

The Japanese have a great term called Poka-Yoke—that means “mistake proofing.” What we do is find a way of making sure that necessary tasks are designed in such a way that you can’t hurt yourself or hurt the equipment. That leads to a number of things; you can take regular samples, you can do it safely, and the quality of the sample is excellent. When you start to look at what an infrared inspection window is, you start to think of it more as a way of completing a necessary maintenance task, but in a safe, efficient, more cost-effective way.

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TT What tools do EMSDs enable you to use when inspecting a dry-type transformer?

MR When you look at condition monitoring, you start to break it down to what are the failure modes on the equipment that you’re looking at. What can break? What tools do you have in your arsenal that enables you to find those faults? They say that if you’ve only got a hammer in your toolbox, every problem looks like a nail. You need multiple tools in a condition monitoring subset.

The technician really is your number one asset because the tools are only as good as the person that’s using them. When I look at a transformer, the infrared shows me overheating. The ultrasound would let me pick up arcing, tracking, and corona. A PD scan with transient earth voltage would give me any insulation defects. If I was using motor current analysis, maybe I’ll be picking up stuff on the circuit. If I was using a digital multimeter, I might be picking up issues with current resistance.

But the guy who’s doing the inspection can hear things that are going on and can smell things that are going on. An infrared camera can’t pick up dust or dirt, but the technician who’s looking in can see if there is anything that has encroached in there, such as rodent nests, spider webs, or a whole host of things.

Having an EMSD solution such as a window or inspection system fitted means that the technician can walk up, open up, plug in, take all the data, and move on.



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TT The industry is experiencing skill shortages on a global scale. How do you see EMSDs helping with those skill shortages?

MR Unfortunately, we've seen a huge impact on skill shortages globally. We just can't find skilled engineers. What that really means to us is that the risks involved with using unskilled engineers is thought to increase exponentially.

By utilizing condition monitoring techniques in a closed panel system, it's all about data. Having a technician that can go up to an inspection system and plug in ultrasound equipment and write down a number, then take an infrared image and write them the maximum temperature, then and look at the PD results and any visual verifications... we can get technicians doing that relatively simply, and then they're just going to react to alarms.

Believe or not, I've got places in London where I've got security guards doing condition monitoring inspection. They just plug in the instruments and write in the numbers, and if those numbers exceed a given alarm level, then they get on the phone and call the technician down.

EMSDs allow us to protect the equipment and the personnel. We can reduce the skill level required for data collection and bring in the skilled engineers when needed.

It's not one-size-fits-all, but it's a myriad tests and skill sets that we can adjust to match the risk.

TT When you look at the future of high voltage electrical systems for data centers, what do you see as the coming challenges?

MR For me the biggest challenge is change. Change management is the hardest thing we can ever do. If I had five bucks for every time someone said to me "we've always done it this way," I could retire.

The challenge is trying to get people to understand that you have to change. We've always had this time-based, calendar-based mentality. Trying to get people to understand that, if you look at failure curves, literally 12 to 15 percent of failures are time-based, but the huge majority of failures are condition based. Then we have to have condition-based protocols to find the majority of failures. The biggest challenge is getting people to understand where we are. And then you have some people jumping on the IoT bandwagon where they're going straight for sensor technologies and are ignoring the use of the biggest resource they have—staff. Staff are not part of the problem. They're part of a solution.

So, for me, the biggest challenge will always be change, and trying to get people to understand that.



Photo by IRIS

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