

Boost Sub-Station Reliability With Flir Thermal Optics

The return of an unreliable electricity supply in South Africa has much to do with the fact that the country's power distribution grid is said to be falling apart. While something of an overstatement, power outages were indeed up 100% in 2018. The challenges are set to continue with predictions of a further triple-digit increase in power outages across South Africa in 2019. However, it's far from all doom and gloom. Power utility Eskom has made significant progress in boosting the resilience of the power system over the past several years.

In particular, a willingness to bring on board world leading, best-of-breed technologies suggests a welcome spirit of innovation has taken hold at the state-owned enterprise. TeleEye SA, also, stands ready to up the innovation ante.

That's according to the thermal imaging, instrumentation and automation specialist's Managing Director, Philip Smerkovitz. He says that TeleEye SA is uniquely-placed to play a leading role in helping South Africa's electricity supply become more reliable.

"By using FLIR thermal imaging cameras and automation software, impending equipment failures that increase the incidence of load-shedding can be quickly detected, enabling early remedial action," Mr Smerkovitz explains.

The FLIR A310PT, for example, measures slight changes in surface temperature to detect hotspots in overheating substation equipment that may lead to blackouts and brownouts. The latter refers to a drop in voltage that leads to the familiar intermittent dimming of electrical users' lights.

When substation owners work with a dual imaging and security specialist such as TeleEye SA, their equipment is doubly-protected from both inadvertent failure and overt criminal acts.

FLIR A310F and A310PT cameras are the first in the world to combine thermal and visible light video security imaging with automated safety monitoring based on the detection of temperature measurement thresholds. "With FLIR and TeleEye SA, substation operators get the dual perimeter protection and critical equipment monitoring advantage," Mr Smerkovitz says. The net effect of pairing automation and temperature analysis is increased reliability and reduced cost, he adds.

Power utilities in South Africa and overseas are looking for cost-effective ways to quickly and safely address the issue of aging infrastructure. FLIR thermal imaging cameras and automation software can detect impending equipment

failures and security breaches at any remote monitoring location, 24/7. When it comes to substation perimeter security, FLIR enables pan and tilt dual thermal and visible payloads complete with analytics that provide best-in-class intrusion detection.

Insulation breakdowns and fluid leaks are relatively minor mechanical failures at substations that routinely cascade into massive electrical outages that simply didn't have to happen. "With remote thermal monitoring equipment that also increases asset security, impending electrical failures can be nipped in the bud. Erratically supplying banks, manufacturing plants, communication networks, food storage facilities, hospitals and others with electricity could put municipalities at risk of legal action," cautions Mr Smerkovitz. There's also the enormous cost of getting power systems up and running again after a outage, he adds.

All of this is unnecessary as thermal imaging technology improves the reliability and security of substations. Many utilities have, in fact, used handheld thermal imaging equipment for many years. Permanently-installed thermal equipment from FLIR represents the next phase in the evolution of this technology.

"The FLIR A310 is ideal for use in substations as it is mounted in an all-weather housing complete with internal heater to ensure it is kept frost and ice-free even in our most challenging climatic zones. These cameras even provide time-stamped 3D thermal modeling of critical equipment and areas," concludes Mr Smerkovitz.

Many components heat up before they fail. Make sure FLIR is standing watch to catch critical events before they become avoidable disasters.