

# Drones are disrupting the power & utilities industries

A new report illustrates how drones are disrupting the power and utilities industries build, operate and maintain their networks, and creating a global market worth \$9.46bn a year.

The latest report in PwC's *Clarity from above* series includes stories of how creative utilities managers around the world are turning to drones to solve some of the industry's most intractable problems, including increasing both reliability and worker safety. For example, in most countries monitoring vegetation growth and trimming trees near power lines is the single biggest maintenance cost for power companies. Drones can make the trimming process more efficient, as well as providing data that helps predict and avoid damage from falling trees.

Another example is a flame-throwing drone used to clear rubbish from power lines, which might not be very practical but does exhibit some creative thinking. While more prosaic applications range from geospatial surveys in pre-investment planning, through monitoring of the construction process and managing assets, to proactively dealing with threats such as overgrown vegetation.

## Under pressure from renewables

Global power transmission networks are forecast to increase to 6.8-million circuit kilometres in 2020, up 15% from the 2016 level, as energy production is reshaped by the rise of renewables, and demand grows in emerging markets such as China and India. Regulators are increasingly concerned about reliability, offering incentives to reduce outages and penalties for downtime. Every year the sector loses \$169bn due to energy network failures and forced shutdowns.

"The potential of drones to assist in maintaining power and utilities networks is significant. Not only can drones gather standardised tangible data in a more efficient way than people located on the ground, but also, unlike manned aerial vehicles, they can do it without risking human life. Furthermore, drone-based inspections can be carried out without having to halt the power supply," says Chris Bredenhann, power & utilities leader, PwC Africa.

"Such advantages are crucial, as more and more countries are implementing regulations awarding financial incentives to companies that improve reliability or imposing penalties on those that fail to meet targets."

"To remain competitive in the market, and stay current in the changing business ecosystem which is being challenged by new technologies, companies from the power and utilities sector need to broaden their horizons," says Bredenhann. They need to look at new technologies, such as drones, as opportunities to increase effectiveness reduce costs and improve internal processes."

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