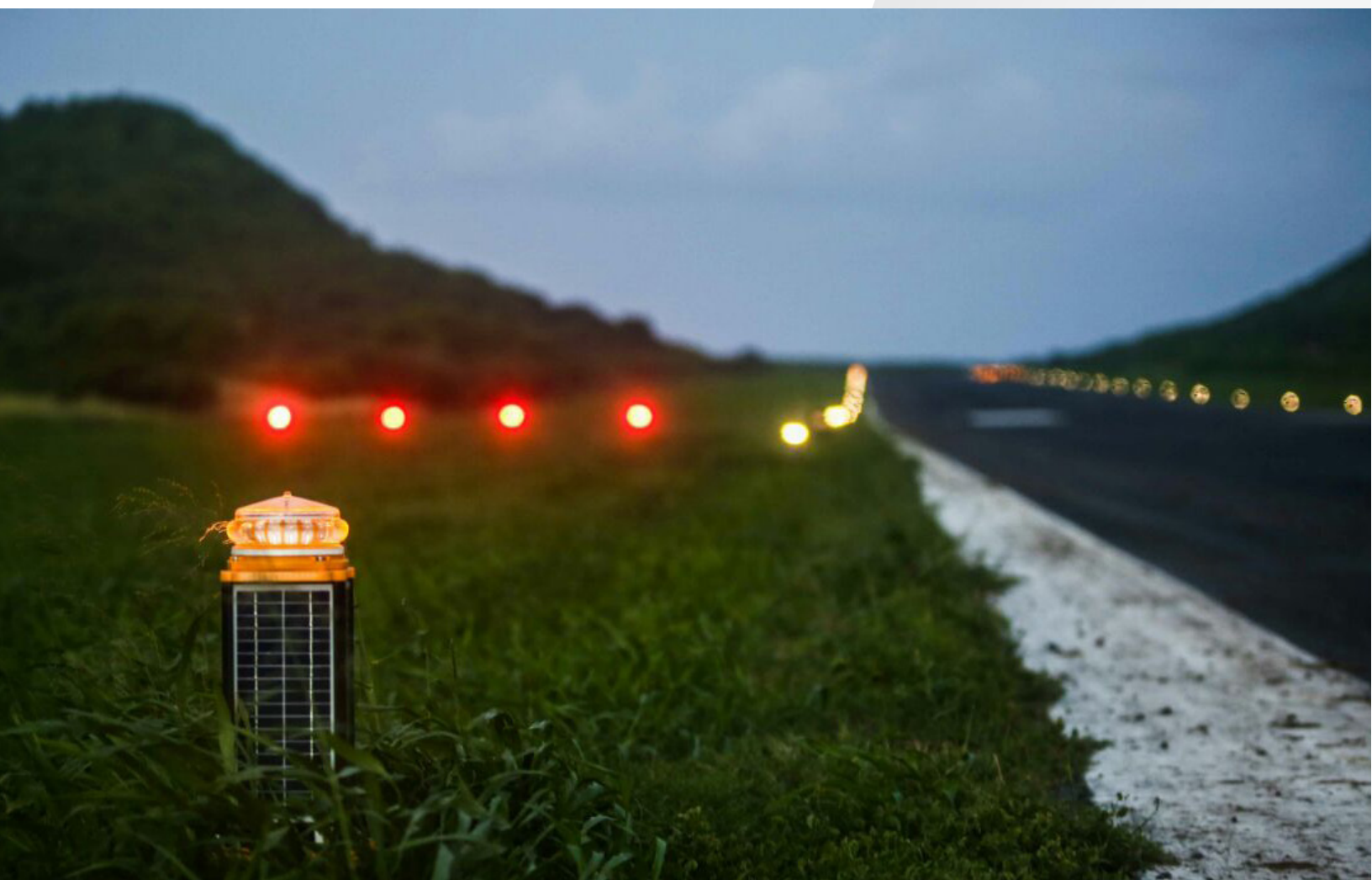




CASE STUDY

New LED Airfield Lighting Benefits Island Republic

Madagascar, East Africa



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Project Overview



Application

New Airfield Lighting Benefits Island Republic



Products

- AV-426 Threshold/Edge Light
- AV-70 Taxiway Light
- Precision Approach Path Indicator (PAPI) Series 3
- L-807 Solar Wind Cones
- LED Sign
- Solar Power Supplies



Location

Madagascar, East Africa



Date

2019



Background

The government of Madagascar identified a critical need to better connect its people to important services and regional economies. This is essential during the hot, rainy season from November through April as tropical cyclones cause damage to crops and road infrastructure. The result is restricted transport and limited access to medical care for the island republic's 27.5 million people.

Airports needed to be rebuilt, expanded, maintained, and operated to provide better access between the main island and its surrounding islands. The government urged public-private partnerships for the national airport redevelopment projects as a way to stimulate economic growth and business development. It was also a way to create new jobs, accommodate larger aircraft, and link remote regions to one another during the rainy season. Another important goal was to expand the valuable tourist trade, which accounts for 16% of Madagascar's economy.

Challenge

A major hurdle in the redevelopment of Madagascar's airports was the lack of electrical service. Only 23 percent of the country has access to electricity, so powering traditional, hardwired airfield lighting would be difficult and expensive.

With restricted access to main roads as well as limited air transportation, equipment and material delivery of a traditional hardwired airfield lighting system would also be challenging.

There were several requirements for new airfield lighting:

- Fully operational without connection to limited electrical grid
- Easy installation without need for heavy equipment
- Lights operate independently, without the need for wired connections or trenches in which to run them
- Comply with the ICAO's international lighting standards



SERIES 3 LED PAPI

A New Choice in LED PAPI Technology

- Global applications: Intertek certified to FAA AC 150/5345-28H, ICAO compliant; Buy American listed
- Available in FAA Style A & ICAO - Voltage Powered Systems; Available in ICAO - Constant Current Systems (Certification pending for FAA Style B)
- Standard digital inclinometer, tilt switch, heated lens
- For commercial, government/military and general aviation applications





Avlite's LED Precision Approach Path Indicator (PAPI) Series 3 with solar panels in background for ICAO installations.



The versatile, ICAO and FAA compliant AV-426 Threshold Lights on frangible mounts identify the beginning/end of a runway.

Solution

Avlite supplied a suite of RF controlled, solar, LED airfield lighting products for several of Madagascar's airport renovation projects. All the airfield lighting utilized Avlite's encrypted RF Control for convenient, remote operation from on-field or air traffic control tower locations. Supplied products included:

- Threshold lights
- Runway lights
- End lights
- Taxiway lights
- Precision Approach Path Indicator (PAPI)
- LED Sign

Avlite's versatile AV-426 was utilized to suit runway threshold, edge and end light configurations. Easily deployed and operated, the AV-426 is completely self-contained, features multiple light intensities and operational modes, and outputs from 650cd to 700cd.

Taxiway lighting featured Avlite's AV-70, the only FAA certified solar LED taxiway light. Featuring two, high-performance solar panels, it is available in a high-intensity version ideal for high sunlight areas. It also features automatic dusk to dawn operation, and user-replaceable batteries. The LEDs have a life expectancy of over 100,000 hours providing a low cost-of-ownership over the products' life.

Avlite's new Series 3 LED PAPI's were also installed at several of Madagascar's airports to provide precise glideslope information to approaching aircraft. The Series 3 PAPI is Intertek certified to FAA AC 150/5345-28H. It also has an approved FAA National Buy American waiver. The Series 3 features the sharpest red/white transition line of any LED PAPI currently available, thereby enhancing pilot, aircraft, and passenger safety. Energy-efficient LEDs offer the industry's lowest power consumption, making it an ideal approach lighting choice for solar applications.

The Madagascar airports also installed Avlite's LED L-858 Signs. Their seamless, impact-resistant panels display information without spaces, joints or the associated distortion. Minimal light bloom or ground splash ensures information is clear for immediate recognition by pilots.

Outcome

Madagascar's renovated airfield projects and the new Avlite airfield lighting solutions helped regional and local economies. New jobs were created, and tourism has increased 19%. The renovated airports can accommodate larger aircraft, with an 81% increase in seat capacity. Remote locations are now crucially connected with critical services as a result of the airfield lighting projects.

"Avlite is proud to have helped Madagascar stimulate important economic growth with our solar LED airfield lighting solutions."

– Victor Dennis, Managing Director, Avlite UK





A suite of complimentary RF controlled, solar, LED airfield lighting products were supplied for several of Madagascar's airport renovation projects.



Internally lit L-807 Wind Cones provide surface wind direction to approaching aircraft.



Seamless panels used in Avlite's LED Signs ensure critical runway information is clearly presented without distortion.

- ✓ Experienced & Trained Personnel
- ✓ Worldwide Distribution Team
- ✓ Agile Manufacturing
- ✓ Product Innovation
- ✓ Precision Construction
- ✓ Total Quality Management
- ✓ ISO 9001:2015
- ✓ Rapid Turnaround

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