

CASE STUDY DRC KOLWEZI INTERNATIONAL AIRPORT

PROJECT KEY FACTS

Airport: Kolwezi International Airport

Location: Democratic Republic of Congo

Application: International Airport

Runway: 2 420 m (7 940 ft)

Solution: Solar Airfield Lighting

Buyer: Local Government

Year of Installation: 2025



BACKGROUND & REQUEST

At the request of Her Excellency the Governor of Lualaba Province, Mrs. Fifi Masuka, an inspection and full report were commissioned to assess the modernization of Kolwezi International Airport's runway lighting system. The visit provided technical guidance to the Governor, the Civil Aviation Authorities, and Airport Manager Madam Jeanne Ditend on the feasibility of introducing solar-powered airfield lighting as a modern, sustainable, and ICAO-compliant solution.

The findings recommended the deployment of a permanent solar-powered runway lighting system, tailored to the airport's operational requirements.

CHALLENGE

Kolwezi Airport needed a reliable lighting system capable of withstanding tough Congo weather conditions while supporting growing night-time traffic. The airport is a key driver of regional development, so implementing a compliant, off-grid solution was essential.

The main challenge was to install the system without disrupting daily flight operations. This required close coordination between Sunsolutions Aeronautics, the local partner Kolela Trading, airport staff, and the Civil Aviation Authorities. In addition, hands-on training was critical to ensure that the system could be properly operated and maintained by local personnel.

SOLUTION

In 2025, Sunsolutions Aeronautics, in collaboration with Kolela Trading (DRC), successfully installed the S4GA solar-powered Airfield Ground Lighting (AGL) system at Kolwezi International Airport.

The system represents a historic milestone as the first permanent solar runway lighting system in the Democratic Republic of Congo. Fully ICAO-compliant, the solution provides:

- Reliable solar-powered runway and taxiway lighting
- Zero greenhouse gas emissions and reduced reliance on grid electricity
- Enhanced aviation safety for night operations
- Scalable infrastructure supporting future airport growth



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S4GA PRODUCTS



SOLAR APPROACH LIGHT



SOLAR RUNWAY EDGE LIGHT W/W



SOLAR RUNWAY EDGE LIGHT W/Y



SOLAR RUNWAY THRESHOLD END LIGHT



SOLAR TAXIWAY EDGE, TURNING PAD LIGHT



LED PAPI LIGHT



SOLAR RUNWAY GUARD LIGHT



LED AIRPORT BEACON LIGHT



ILLUMINATED TAXIWAY GUIDANCE SIGN



AIRFIELD WIND DIRECTION INDICATOR



DIGITAL INCLINOMETER



OCT-401 CHARGER



SOLAR ENGINE MINI



SOLAR ENGINE COMPACT



SOLAR ENGINE MAX



ALCMS CONTROL & MONITORING SYSTEM



UR-201 CONTROL & MONITORING UNIT



UR-101 HANDHELD CONTROLLER

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APPLICATION PHOTOS



OUTCOME

The deployment of the solar AGL system at Kolwezi International Airport sets a new precedent for sustainable aviation infrastructure in the DRC.

Operational Impact: The airport is now equipped with a fully functional runway lighting system that improves operational safety and efficiency.

Government Leadership: The Governor's initiative has demonstrated leadership in modernizing regional infrastructure while prioritizing sustainability.

Sustainability: The project eliminates dependency on the unreliable national grid and reduces carbon emissions.

Capacity Building: Local staff received training, ensuring long-term self-sufficiency in system operation and maintenance.

This project not only strengthens the aviation sector in Lualaba but also paves the way for similar sustainable infrastructure projects across the Democratic Republic of Congo.