

CASES
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Rwanda airport a shiny star in deep, dark Africa

Shining light Kigali

Kigali International Airport faced two challenges when it decided to improve the illumination of its apron. Firstly, the airport was obliged by law to use LED technology. Secondly; the long distance to the nearest port would make importing new masts a costly affair. AAA-LUX technology provided the solutions.

Rwanda is one of the continent's most competitive economies yet almost 50% of its population lives in poverty. Communities face acute electricity shortages as the national public electricity utility struggles to meet the demand. According to the World Bank every watt of electricity counts in this country.

In May 2011 the Rwanda Civil Aviation Authority

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announced a major upgrade for Kigali International Airport. As the Rwandan government had issued a directive that instructed every company to consider alternative technology to reduce the pressure on the

electricity grid, Management of Kigali International Airport simply had no other option than choosing LED technology to illuminate the apron. "LED technology for illuminating large areas is available these days but most manufacturers have opted for increasing the size and weight of their luminaire to house all technical components required to achieve sufficient lighting over considering the implications for the masts that will carry the luminaires," says Laurent Tholl, an airfield ground lighting expert with over 17 years of experience. Tholl helped translating the International Civil Aviation Organisation Annex 14 and design manual part 4 requirements into floodlights project for the airport. "The masts at Kigali Airport were in relatively good shape and replacing them to accommodate larger or heavier luminaires was considered being a waste. Due to the location of Rwanda, importing new masts would also have come with considerable implications," Tholl continues. Being landlocked, Rwanda would have to rely

on the ports or Mombasa in Kenya or Dar es Salaam in Tanzania to import the masts. From here the masts

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would have to be transported overland to Kigali. “It would have taken days to cover the 1,400 km distance which could also have included the administrative paperwork of crossing multiple borders before the masts would reach Kigali. In short; costs associated to this exceptional convoy would have been enormous.”

One-on-one replacement

Instead, Kigali International Airport selected AAA-LUX LED technology. “AAA-LUX has always ensured to contain its technology in luminaires that have a weight and size that is similar to conventional luminaires. To date AAA-LUX is still the only manufacturer of LED technology for illuminating large areas that has

managed to produce a one-on-one replacement for conventional 2.2 kW metal halide luminaires,” Michel van Dooren of AAA-LUX explains. “The quality of the illumination they produce is undisputed and their technology also contributes to significant energy savings. Most importantly, these luminaires didn’t add additional weight to the masts, enabling Kigali airport to continue using the existing infrastructure,” Laurent Tholl adds. Thanks to the AAA-LUX LED illumination the airport’s apron is now brightly lit at night. “It has improved the safety and increased the visibility for pilots arriving or leaving the terminal. Kigali airport reported several accidents in the past where planes moving towards or away from the terminal bumped into a mast or another plane due to poor visibility. This problem has now been solved while total energy consumption has also been reduced significantly. Most importantly, Kigali airport was saved from having to invest in new infrastructure to accommodate improved illumination. That money saved can now be spent for additional upgrades either at the airport or elsewhere in the country.”



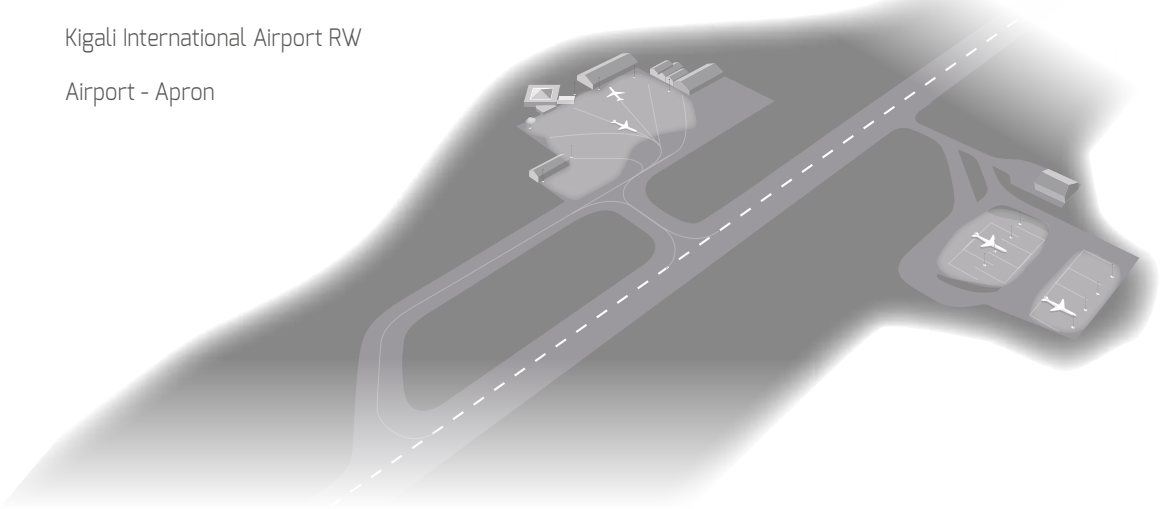
Kigali International Airport Rwanda

Kigali Airport is a key entry point for Rwanda. Thanks to the airport, international investors and entrepreneurs can comfortably and quickly access one of the fastest growing economies in Africa. With African nights being notoriously dark, artificial light is vital to safely guide inbound and outgoing planes to the terminal or overnight parking places.

Installation details

Light plan

Kigali International Airport RW
Airport - Apron



Led Luminaires used



40 x AL 60/70/90
4 x AL360
7 x JT 01

Illumination level:
20 lux, 0.25

More information:
<http://www.aaa-lux-lighting.com/products/al-serie-luminaires/>



LCMS



Touchscreen (control tower)



Switch Box (at the aprons)



AAA-LUX project partner

LTH Lighting

